

EXPLORING THE COMPLEX RELATIONSHIP BETWEEN POSTTRAUMATIC GROWTH, SPORT, AND
ATHLETES WITH ACQUIRED DISABILITIES

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EXECUTIVE SUMMARY

Posttraumatic growth has received growing attention in the past decades, partly due to the rise of positive psychology. The idea of *what does not kill us makes us stronger* is age-old; however, only more recently has scientific research started to rigorously investigate this phenomenon.

One such area of interest among sport scholars has been posttraumatic growth in athletes with acquired disabilities. Research has accelerated during the past decade, enriching understanding around the topic. However, several gaps in the literature remain; namely the role of the body and adaptive team sport in the process and outcomes of growth. Furthermore, as the field of posttraumatic growth research is expanding, so are the various definitions of trauma and adversity; which has made our explorations of growth trajectories more complex.

To address these gaps, this thesis utilising exploratory sequential mixed methods design presents three sequential exploratory studies, which aim to illuminate the complex nature of posttraumatic growth in athletes with acquired physical disabilities. The thesis will explore this in the very specific socio-cultural context of adaptive team sport. Employing mixed methods enables novel and insightful understandings around how growth evolves within adaptive team sport athletes.

The thesis culminates in three essential interconnected areas of findings that will complement existing frameworks of posttraumatic growth within the context of sport: the complexity of trauma, the essentiality of the body, and the growth facilitative potential of the adaptive team sport environment. The findings also highlight the severe challenges that adaptive team sport environments can have for not only growth processes and outcomes, but for athletes' physiological, social, and psychological wellbeing. The thesis offers suggestions for future research as well as practical implications stemming from the findings.

DECLARATION OF PRIOR PUBLICATION

This thesis includes material, findings and discussions that have been published in conferences, journal papers or are in preparation as manuscripts.

Kampman, H., Hefferon, K., Wilson, M., & Beale, J. (2015). "I can do things now that people thought were impossible, actually, things that I thought were impossible": A meta-synthesis of the qualitative findings on posttraumatic growth and severe physical injury. *Canadian Psychology/Psychologie Canadienne*, 56(3), 283–294. <https://doi.org/10.1037/cap0000031>

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In compliance with the University of East London Manual of General Regulations, Part 9, section 19, clause 19.8, copies of already published work (Kampman et al., 2016b; Hefferon & Kampman, 2021; Kampman et al., 2015) are included within the appendices of this thesis.

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Table of Contents

CHAPTER ONE	1
INTRODUCTION	1
1.1. Individuals with Acquired Physical Impairment(s) and Adaptive Sports	1
1.1.1. From a Pathogenic to a Salutogenic Perspective	3
1.2. Posttraumatic Growth	6
1.2.1. Trauma in Post-traumatic Growth	8
1.2.1.1. <i>The Origins of the Word Trauma</i>	10
1.2.1.2. <i>Trauma, the Body, and Acquired Physical Disability</i>	14
1.3. Different Models of Posttraumatic Growth	17
1.3.1. The Transformational Model of Posttraumatic Growth	18
1.3.1.1. <i>The Janus-Face Two Component Model</i>	20
1.3.1.2. <i>The Organismic Valuing Theory</i>	21
1.3.1.3. <i>Action Focused Growth</i>	22
1.3.1.4. <i>Corporeal Posttraumatic Growth</i>	24
1.3.1.5. <i>Affective-Cognitive Processing Model</i>	25
1.3.1.6. <i>Positive Personality Change</i>	25
1.4. The Process of Growth in the Transformational Model	27
1.4.1. The Person Pre-Trauma – Before Acquired Physical Disability	27
1.4.2. Potentially Disruptive Event – Acquiring a Physical Disability	29
1.4.3. Challenges – Facing the Acquired Physical Disability	30
1.4.4. Intrusive Rumination – The Initial Challenges with a New Physical Disability	31
1.4.5. Deliberate Rumination – Making Sense of the Acquired Physical Disability	32
1.4.6. The Role of Disclosure and Social Support in The Adaptive Team Sport	32
1.4.7. Posttraumatic Growth as an Outcome - Gaining Wisdom	34
1.4.8. Some Enduring Stress from Trauma – Mortality Awareness	35
1.5. Posttraumatic Growth as an Outcome in Transformational Model	36
1.5.1. Personal Strength	38
1.5.2. Appreciation of Life	39
1.5.3. Relating to Others	40
1.5.4. New Possibilities	41
1.5.5. Spiritual and Existential Change	42
1.6. Adaptive Sports, Athletes with Physical Impairments and Posttraumatic Growth	45
1.7. Core Aims and Rationale for this Thesis	47
1.7.1. Understanding Severe Injury and Posttraumatic Growth	48

1.7.2. Constructing a Model of the Complex Relationship Between Acquired Physical Disability, Body, Adaptive Team Sport and Posttraumatic Growth	48
1.7.3. Exploring the Complex Relationship Between Trauma, Body, Team, Growth and Wellbeing.....	48
CHAPTER TWO	49
METHODOLOGY	49
2.1. Introduction	49
2.2. An Exploratory Sequential Mixed Methods Design Utilising Methodological Eclecticism	49
2.2.1. Worldviews and Epistemological Assumptions	51
2.2.1.1. <i>Postpositivist Worldview</i>	51
2.2.1.2. <i>Constructivist Worldview</i>	52
2.2.1.3. <i>Transformative Worldview</i>	53
2.2.1.4. <i>Pragmatist Worldview</i>	53
2.3. Conceptual Framework or Theoretical Rationale	55
2.4. Research Design	58
2.4.1. Basic Terminology in Mixed Methods.....	58
2.4.2. Core Characteristics of Mixed Methods Research	59
2.4.3. Three Core Mixed Methods Designs.....	60
2.4.3.1. <i>The Exploratory Sequential Design</i>	61
2.5. Procedures for Enhancing, Evaluating, and Demonstrating the Quality of Mixed Methods Research	64
2.5.1. Quality in Mixed Methods Research.....	64
2.5.2. Limitations in Mixed Methods Research.....	66
CHAPTER THREE	68
PHASE I: A META-SYNTHESIS OF THE QUALITATIVE FINDINGS ON POSTTRAUMATIC GRWOTH AND SEVERE PHYSICAL INJURY.....	68
3.1. Introduction	68
3.1.1. Humble Beginnings	68
3.1.2. Defining Severe Injury for Phase One	70
3.1.3. Previous Work Informing Phase One	71
3.2. Method	75
3.2.1. Qualitative Synthesis – a Meta-Ethnography.....	75
3.2.1.1. <i>Technique of Analysis</i>	76
3.2.1.2. <i>Inclusion Criteria and Search Strategy</i>	77

3.2.1.3. <i>Screening</i>	78
3.2.1.4. <i>Synthesis</i>	82
3.2.2. Determining Quality in Qualitative Meta-Synthesis.....	84
3.3. Results and Discussion	86
3.3.1. Post-traumatic Growth and Severe Injury	87
3.3.1.1. <i>THEME 1 – Existential Reflection</i>	87
3.3.1.2. <i>THEME 2 - Humanity</i>	90
3.3.1.3. <i>THEME 3 - Meaningful Leisure Engagement</i>	94
3.3.1.4. <i>THEME 4 - New Abilities: New Awareness of Physiological and Psychological Potential</i>	98
3.4. Conclusion of Findings	103
3.4.1. Considerations and Lessons Learned.....	103
3.4.2. Concluding Words and Implications for Phase Two	103
CHAPTER FOUR	106
PHASE II: A THEORY OF THE COMPLEX RELATIONSHIP BETWEEN ACQUIRED PHYSICAL DISABILITY, BODY, ADAPTIVE TEAM SPORT AND POSTTRAUMATIC GROWTH	106
4.1. Introduction	106
4.1.1. Setting the Scene for Phase II.....	106
4.3. Literature Review.....	109
4.3.1. Defining Leisure and Elite Athletes for this Study	109
4.3.2. Previous Findings Around Adaptive Sport and Posttraumatic Growth	110
4.3.3. Team as a Natural Social Environment After Trauma	112
4.3.4. Meaningful Leisure Engagement	113
4.4. Methodology.....	115
4.4.1. Design	117
4.4.1.1. <i>Participants</i>	118
4.4.1.2. <i>Data Collection</i>	121
4.4.1.3. <i>Data Analysis</i>	122
4.4.1.3.1. The Initial, Focused, and Axial Coding	124
4.4.1.3.2. Memo Writing	124
4.4.1.3.3. Theoretical Sampling and Saturation	125
4.4.2. Assessing Validity	127
4.5. Results.....	128
4.5.1. Overview of the process: Upward spiral of Awareness, Attentiveness, Acceptance & Aspiration	130
4.5.2. Categories and Analysis	133

4.5.2.1. <i>Category 1: Entering the Safe Team Sport Environment</i>	133
4.5.2.1.1. New Normality, our Normality	133
4.5.2.1.2. Being Seen, Valued, Encouraged, and Expected from - Respected	135
4.5.2.1.3. Socializing, Camaraderie, Humour, Sharing Knowledge – Collective Wisdom	137
4.5.2.1.4. Social Leveller, Versatility of Abilities, Level Playing Field - Freedom	140
4.5.2.2. <i>Category 2: The Evolution of The Body through Team Sport</i>	141
4.5.2.2.1. Facing and Understanding the Limitations of the Body - Awareness & Acceptance	142
4.5.2.2.2. Listening, Caring, Respecting the Body – Body Wisdom	143
4.5.2.2.3. Progress, Skills, Strength, Power - Aspiration	145
4.5.2.2.4. Breaking Barriers, Thriving with the Body - World Class	147
4.5.2.3. <i>Category 3: Finding Purpose and Meaning Through Adaptive Team Sport</i>	148
4.5.2.3.1. Coping, Resilience, Psychological Skills - Mental Toughness	149
4.5.2.3.2. Opportunities, Achievements and Development - Purpose	150
4.5.2.3.3. Being True to Yourself, Integrated Sense of Self - Authenticity	151
4.5.2.3.4. Humanity, Giving Back and Affecting Change - Meaning	152
4.5.2.3.5. Reminders of Mortality, Vicarious Trauma - Perspective	154
4.5.2.4. <i>Category 4: Fast-tracking to Elite Sport</i>	155
4.5.2.4.1. Elite Sport as a Selfish Environment - Rivalry	156
4.5.2.4.2. Conflicts, Overpowering the Individual - Loss of Autonomy	157
4.5.2.4.3. Neglecting the Body Well-being, Additional Injuries – Body Ill-being	159
4.5.2.4.4. One Dimensional Identity - Loss of Complexity of the Self	159
4.5. Discussion	162
4.5.1. Discussion Around the Category 1: Entering the Safe Adaptive Team Sport Environment.	163
4.5.2. Discussion Around the Category 2: The Evolution of The Body Through Team Sport	167
4.5.3. Discussion Around the Category 3: Finding Purpose and Meaning Through Adaptive Team Sport	170
4.5.4. Discussion Around the Category 4: Fast-tracking to Elite Sport	176
4.6.1. Considering the Limitations of Phase II	178
4.6. Conclusions	179
CHAPTER FIVE	184
PHASE III: INVESTIGATING TRAUMA, BODY, WELLBEING, AND GROWTH IN ADAPTIVE TEAM SPORT – A CROSS-SECTIONAL CONVERGENT MIXED METHOD DESING	184
5.1. Introduction	184
5.1.1. Setting the Scene for Phase III	184
5.1.2. The Trauma Profiles and Posttraumatic Growth	185

5.1.3. Wellbeing, Post-Traumatic Growth, and Adaptive Team Environment.....	187
5.1.4. Rationale and Aims	192
5.2. Methodology.....	195
5.2.1. Design	195
5.2.1.1. <i>Cross-Sectional Convergent Design</i>	195
5.2.1.1.1 Rationale for Correlational Design	197
5.2.1.1.2. Rationale for Reflexive Thematic Analysis	198
5.2.1.1.3. Participants.....	199
5.2.2. Quantitative Measures	200
5.2.3. Qualitative Survey Questions.....	204
5.2.4. Procedure	207
5.2.4.1. <i>Ethical Considerations</i>	207
5.2.4.2. <i>Inclusion and Exclusion</i>	208
5.2.4.3. <i>Sampling Procedures for Convergent Design</i>	209
5.3. Quantitative Study.....	212
5.3.1. Quantitative Data Analysis.....	212
5.3.2. Quantitative Results	213
5.3.2.1. <i>Descriptive Statistics</i>	213
5.3.2.2. <i>The Relationships Between Variables</i>	214
5.3.2.3. <i>Predicting Posttraumatic Growth and Wellbeing</i>	217
5.4. Qualitative Study	219
5.4.1. Qualitative Data Analysis	219
5.4.1.1. <i>Procedure for Analysis</i>	221
5.4.2. Qualitative Results	224
5.4.2.1. <i>Master Theme 1 - The Complex Nature of Trauma</i>	226
5.4.2.1.1. Cognitive vs. Physical.....	226
5.4.2.1.2. External vs. Internal.....	227
5.4.2.1.3. Sudden vs. Gradual vs. Finite.....	227
5.4.2.1.4. Unintentional vs. Intentional	228
5.4.2.1.5. Multiple/Various vs. Single Event	228
5.4.2.2. <i>Master Theme 2 - Psychosocial World of Adaptive Team Sport</i>	229
5.4.2.2.1. Psychological Elements of Adapted Team Sports.....	229
5.4.2.2.2. Social Elements of Adapted Team Sports	231
5.4.2.3. <i>Master Theme 3 - The Diverse Embodiment</i>	232
5.4.2.3.1. Acceptance, Appreciation and Alternative Ways of Doing Through Adapted Team Sports	233
5.4.2.3.2. Conflicts and Challenges Within the Body in Adapted Team Sports	234
5.5. Mixed Methods Data Analysis	235
5.6. Discussion.....	236
5.6.1. Trauma and Posttraumatic Growth in Adaptive Team Sport.....	237

5.6.2. Wellbeing, Body Appreciation and Growth in Adaptive Team Sport	240
5.6.3. Posttraumatic Growth and Wellbeing	242
5.6.4. Transparent Reflections on Limitations and Lessons Learned	245
5.6.5. Concluding Words and Implications for Further Research	246
CHAPTER SIX.....	248
DISCUSSION.....	248
6.1. Towards an Understanding of the Complex Relationship Between Posttraumatic Growth, Body, and Adaptive Team Sport in Athletes with Acquired Physical Disabilities	248
6.1.1. Overview of the Main Argument and Findings	248
6.1.2. Complexity of Trauma - Implications for Theory, Research, and Practice	250
6.1.2.1. <i>Practical Implications Stemming from Trauma Findings</i>	253
6.1.2.2. <i>Trauma-Informed Practice for Adaptive Team Sport</i>	254
6.1.3. The Essentiality of The Body - Implications for Theory, Research, and Practice.....	259
6.1.3.1. <i>Practical Implications Stemming from Findings Around the Body</i>	261
6.1.4. The Growth Facilitative Potential of Adaptive Team Sport - Implications for Theory, Research, and Practice	265
6.1.4.1. <i>Practical Implications Stemming from the Findings Around Adaptive Team Sport</i>	267
6.1.5. Acknowledging and Evaluating the Limitations of this Thesis	271
6.1.6. Concluding Words.....	274
REFERENCES.....	275
APPENDICES	296
Appendix A - Study Flow	296
Appendix B - The Guidelines to Bring Quality to Mixed Methods Research.....	299
Appendix C - Example of Analysis – Collating the Themes of Each Paper	304
Appendix D: Prevalence of Final Themes.....	311
Appendix E - The Ethics Approval for Study 2	313
Appendix F - The Original Semi Structured Interview Guide	315
Appendix G - Example of the Participants Lifeline Method Drawing, Method Kampman.....	317
Appendix H – Example of Memo Writing	318
Appendix I - Extracts From all the Transcripts	320

Appendix J - Example of Line-by-Line Codes, Clustered into Initial Themes.....	325
Appendix K – Constant Comparison	336
Appendix L – Example of Memo writing.....	337
Appendix M – Original Tentative Categories	339
Appendix N – Example of Further Developed Categories.....	342
Appendix O – Initial Drawing of the Process of Growth in Phase II.....	343
Appendix P – Initial Questions After Theoretical Sampling	344
Appendix Q – Final Qualitative Questions for Phase III and the Number of Responses.....	345
Appendix R – The Route to the Qualitative Questions	346
Appendix S – Ethical Approval from UREC for the Phase III.....	348
Appendix T - Recruitment Advertisement Examples	351
Appendix U - Analysis Focusing on Individual Questions and Participants	352
Appendix V - Example of a Mind Map After the Question Around Trauma	353
Appendix W – An Example of Grouping the Initial Themes and Higher Order Themes	354
Appendix X - Example of Reflective Notes Kept Throughout the Analysis.....	356
Appendix Y - Copies of Already Published Work	357

List of Tables

Table 1 - Study Characteristics of Papers Included in the Synthesis Listed in Chronological Order by the Year Published.....	79
Table 2 - Example of Analysis With First Order Quote, Second Order Analysis and Theme, and Third Order Interpretation Leading to Themes	83
Table 3 - Demographics of the Participants' Physical Impairments and Years in Sports.....	118
Table 4 - Categories and Subordinate Categories	128
Table 5 - Demographic Information Around Participants in the Quantitative Study	199
Table 6 - Quantitative and Qualitative Constructs and the Data Collection Methods	206
Table 7 - Shapiro-Wilk Tests for Normality of the Data, with Cronbach Alpha Values	214
Table 8 - Pearson Product Moment Correlations for the Study Variables (Mean Totals of Scales).....	215
Table 9 - Master Themes, Subordinate Themes, and Prevalence of the Qualitative Data in Phase III	225
Table 10 - Check List to Consider Around Trauma When Planning a Posttraumatic Growth Study	251
Table 11 - A Preliminary Framework for Trauma-Informed Adaptive Sport	258
Table 12 - Check List to Consider When Researching Posttraumatic Growth	270

List of Figures

Figure 1 - The Latest Model of Posttraumatic Growth	20
Figure 2 – Three Core Mixed Methods Design	60
Figure 3 - An Exploratory Sequential Mixed Methods Design Utilising a Methodological Eclecticism.....	63
Figure 4 - Illustration of the Adapted Lifeline Interview Method (aLIM – Example)	121
Figure 5 - The Process of Recruitment, Sampling and Analytic Process	123
Figure 6 - The Process of Growth in Athletes with Acquired Physical Disabilities Participating in Adaptive Team Sport	129
Figure 7 - A Procedural Diagram of Convergent Mixed Methods Design Utilised for Phase III	197
Figure 8 - A Model Illuminating the Linear Predictions Between Psychological Wellbeing (PWB), Body Awareness (BAS-2), Self-Transcendence (STS), and Posttraumatic Growth (PTGI-X).	218
Figure 9 - The Predictions According to the Linear Regression with Illuminating Quotes.....	237

CHAPTER ONE

INTRODUCTION

1.1. Individuals with Acquired Physical Impairment(s) and Adaptive Sports

Between 2008 and 2016 there were approximately 1.6 million people with different disabilities participating in sports every week in England (Lange, 2018). Disability Sport UK reports that over 80% of people acquire their disability and only less than 20% are born with a disability (2014). This suggests that many of the individuals with a disability participating in sport have an acquired physical impairment. Disability is an umbrella term, including 1) impairments, 2) activity limitations, and 3) participation restrictions, which were most likely caused by illnesses or injuries (WHO | Disabilities, 2016, para. 1). Thus, having an acquired physical impairment that led to a disability means that these individuals participating in sports have encountered a potentially highly stressful life situation where their bodies and abilities have been physically altered.

Acquiring a physical disability can have a profound, lasting effect on an individual's life, abilities, and identity. Individuals may face changes in physical functioning, problems with prosthesis use, alterations to body image, challenges to their concept of self and enduring chronic pain (Gallagher et al., 2019; Tackett & Ullrich, 2019). Additionally, acquired physical disability can impact an individual's employment status, lifestyle, and other valued activities such as leisure (Bush & Rush, 2019). Physical disability could include a variety of conditions where the physical ability to move, perform tasks, or coordinate actions is impaired. However, for individuals participating in sports, a physical impairment has a separate additional meaning and implication attached to it due to the sport participation. A "*physical Impairment*" in sport

denotes to the body instead of the cognitive, thinking part of the human experience or visual perception (sense). Therefore the definition of physical impairment in the context of sports excludes visual impairments and intellectual impairments, to enable 'approximately the same amount of disadvantage in the sport' (Tweedy et al., 2016, p.122). The other way of conveying this is that the aim is to provide a level playing field for all the athletes participating in adaptive sports. This thesis explores the experiences of individuals with acquired physical disabilities in the context of adaptive sports, adhering to this additional sport specific definition. Thus, from this point onwards in the text the term 'acquired physical disabilities' is used to refer to this additional sport specific definition.

Adaptive sport, disability sport, sport for people with disabilities, inclusive sport, Paralympic sport, and para-sport, are all ways of describing sport participation that can be practised by individuals with different abilities. Often the aforementioned terms are used interchangeably, however, some of these terms do have slightly different meanings. These sports can be adapted from existing forms of sports or particularly designed for people with varying levels of ability (Blauwet & Willick, 2012). *Adaptive sports, disability sport or sport for people with disabilities*, all refer to any common individual or team sport that can be practised recreationally or competitively, which have been adapted in some way to enable participation for people with different abilities (Disability Sport UK, 2014). *Inclusive sport* is aimed at enabling both athletes with and without disabilities to participate in the same sport as equals (Disability Sport UK, 2014). *Paralympic sport* and *Para-sport* have a reference to "para" meaning parallel to or next to the Olympic sports (Brittain, 2016). A sport can be adaptive sport and Para-sport (e.g., sitting volleyball also known as para-volleyball) or sport for the disabled but not included

in the Paralympics (e.g., Wheelchair dancing). For the purposes of this thesis, when referring to any form of these sports in general the term '*adaptive sports*' will be used.

Adaptive sport has had an integral role in the rehabilitation process for acquired physical disabilities since World War II. Sir Ludwig Guttman, the founding father of the Paralympic movement, saw sport as a natural remedy to many of the challenges facing individuals with acquired physical disabilities. Largely due to Sir Guttman's vision, sport has been used to regain physical strength, endurance, and facilitate social reintegration after acquired physical disabilities since 1943 in Great Britain (Brittain, 2016; Tweedy et al., 2016). This thesis is interested in the experiences of these individuals who are participating in adaptive sports and have faced an acquired physical impairment(s) which led to a disability. However, the following section will highlight a need for a paradigm shift when exploring these athletes' experiences. The aim of this thesis is to move away from the deficit model and overreliance on seeing sport as rehabilitation. It will be argued that research should be as interested in understanding the positive psychological changes and growth experiences among athletes with acquired physical disabilities participating in adaptive sport to bring more balanced view to the surface (Wehmeyer, 2013; Wehmeyer & Shogren, 2014). The following section will start by discussing how acquired physical disabilities have been generally viewed and researched from the pathological perspective. Later this literature review will note similar issues in the adaptive sport context where the emphasis has been on rehabilitation.

1.1.1. From a Pathogenic to a Salutogenic Perspective

The aftermath of an acquired physical disability has largely been investigated from a pathological perspective and for a long time guided by the medical or individual model of

disability (Haegele & Hodge, 2016; Townsend et al., 2015). According to the medical model, an individual is 'disabled' due to their impairment, thus any psychological or physiological issues arise directly from the impairment (Goodley & Lawthom, 2006). In fact, disabilities in the field of psychology have been traditionally studied under 'rehabilitation psychology', with the emphasis being on 'cure, rehabilitation, and normalisation' (Goodley & Lawthom, 2006, p.xv). In the mid-1950s, adjustment to severe physical impairment was initially seen as a process akin to bereavement, and bound to involve a period of depression (Dembo, Leviton, and Wright, 1956 in (Dembo et al., 1975; Kennedy & Smithson, 2012). In 1983, Beatrice Wright questioned the 'requirement of mourning' (p.78) and expectation of 'suffering' (p.79) that was automatically assumed to happen after acquiring a physical disability. Wright suggested that expecting someone to suffer is a form of '*empathetic requirement of mourning*' (p.79) as the outsiders *perceive* the disability as something which requires the person to suffer. Wright's views were partly supported by the rise of the social model of disability which moved away from the medical model's focus on impairment, arguing that it is the society which is causing the disability. In the social model of disability, disability is *created* by excluding people with disabilities through 'social, economic, political, cultural, relational, and psychological' structures (Goodley & Lawthom, 2006, p.3). Society is thus failing to support the individual needs of people with impairments or disabilities (Hargreaves, 2000; Howe, 2011; C. Thomas, 2004).

The initial findings by Wright in the 80s have since been supported and developed further. For example, research conducted during the last two decades suggests that individuals can exhibit very differing trajectories of adjustment after acquiring a disability (Bonanno et al., 2012; Kennedy & Smithson, 2012; Pollard & Kennedy, 2007; Quale & Schanke, 2010). Post-impairment depression has been found to be less common than initially suggested. For

example, only 30% of individuals with spinal cord injuries experienced clinically significant levels of depression according to a review conducted in the late 90s by North (1999). Similarly, utilising the Beck Depression Inventory and the State Anxiety Inventory Kennedy and colleagues found that only 25-35% of the sample showed clinically significant levels of depression (Kennedy et al., 2000). Further supportive evidence for the above discussed contemporary views arose from a longitudinal study which found that individuals appear to deal with the after-effects of their disability 'without significant levels of psychopathology' and in fact, two-thirds of the sample did not exhibit signs or symptoms of depression (Pollard & Kennedy, 2007, p. 347). The findings suggested that anxiety and depression levels stayed quite stable throughout the 10-year study which led the researchers to conclude that the findings disconfirm the previous idea that individual will always go through a stage of depression after acquiring a spinal cord injury (Pollard & Kennedy, 2007). Correspondingly, more contemporary models of disability have also risen, such as the social-relational model (Reindal, 2008; C. Thomas, 2004) and Nordic social relational model of disability (Reindal, 2008; Tøssebro, 2004) which recognise the potential challenges that the impairment might bring, whilst acknowledging the role of environmental, cultural, social, political and power structures in disabilities (Tøssebro 2004; Thomas, 2004).

In 2010 Quale and Schanke studied a sample of inpatients in a rehabilitation hospital with a severe injury. The researchers found that 54% reported low distress and high positive affect both at admittance and discharge from rehabilitation. Quale and Schanke (2010) called this the 'resilience trajectory' (p.14) where resilience was defined as not reporting major distress, having a stable trajectory of healthy functioning and reporting positive emotions throughout the study (Bonanno, 2004). Furthermore, 24% of the individuals were on the 'recovery trajectory' where the individuals had some symptoms of distress originally, however,

these decreased during the rehabilitation. Finally, only 21% reported ongoing distress throughout rehabilitation. The trajectories were based on the work of Bonanno and his colleagues where they argued that there are 'multiple and sometimes unexpected pathways' to resilience among bereaved individuals (Bonanno et al., 2005, p.20). The findings have since been partially questioned by Infurna and Luthar who reanalysed existing data from various studies containing diverse adversities in adulthood, and found that whilst the different trajectories were still evident, the recovery trajectory was more common than resilience (Infurna & Luthar, 2018). Nevertheless, these different trajectories are worthy of our attention as clinicians and researchers often do overlook the 'potentially valuable experience of acquiring a disability' (Elliott et al., 2002, p.687). Rath and Elliott (2012) have suggested that when considering the outcomes of acquired disabilities, we should also be 'sensitive to differential trajectories of *growth*, adjustment, and development over time' (p. 42, italics added). Thus, whilst some individuals might exhibit enduring distress after acquiring a physical impairment, others might adjust well with time, and some even move beyond adjustment and grow from their experience.

1.2. Posttraumatic Growth

The above-mentioned *growth* trajectory, namely Posttraumatic Growth (PTG), can be seen as a transformative positive change(s) which can be 'cognitive, emotional, behavioural, and, more recently, biological' and is a result of a struggle with traumatic or highly challenging life circumstance (Tedeschi et al., 2018, p.25). The term posttraumatic growth was coined and first used in 1995 by Tedeschi and Calhoun (1995) in their textbook 'trauma and transformation'. The first handbook on Posttraumatic Growth (PTG) appeared in 1998. In the handbook Tedeschi and Calhoun suggested that the term posttraumatic growth best described

the phenomenon where individuals 'have developed beyond their previous level of adaptation, psychological functioning or life awareness, that is, they have grown' (p.3). Originally, they suggested that PTG is a significant beneficial change in one's cognitive and emotional world, which could have behavioural implications as well (Tedeschi et al., 1998). It was and still is essential that this change is transformative for the individual. The transformative changes can manifest in five different domains often referred to as outcomes of growth: *personal strength, relating to others, new possibilities, appreciation of life and the spiritual and existential change* (Tedeschi, et al., 2018). Essential to *the Transformational Model* (Tedeschi & Calhoun, 2004) is that it is not the event itself where the growth comes from, rather it is when the individual is trying to come to terms with the aftermath of it. In the Transformational Model of PTG the original struggle stemming from the traumatic experience turns into purposeful engagement with difficult losses. The engagement with the losses produces the transformative change, however, this change (i.e., process of growth) can often take years to cultivate. The initial aim for the individual is often to survive and cope with the trauma. Therefore, PTG does not focus on the reactive, abrupt changes in the immediate aftermath of trauma, but rather the processes and outcomes which require development of new ways of 'thinking, feeling and behaving' because the experience does not 'permit a return to baseline functioning' (Tedeschi et al., 2018, p. 5). In other words, these individuals surpass the previous levels of functioning in some way, for example reporting greater appreciation for life or feeling stronger than before. These 'gradual' changes are part of a lengthy and unfolding process (Tennen & Affleck, 1998, p.86).

The Transformational model of PTG by Tedeschi and colleagues (2018) will be discussed at length later in this literature review (section 1.4.) as well as other conceptualisations of growth which we need to understand to create the definition for this thesis. For us to truly

understand PTG, we must first understand the experience of trauma and define what is trauma, to be able to discuss what is meant by *posttraumatic* and *growth*. The following section will thus first introduce how trauma is seen in the theory of posttraumatic growth. After this it will be discussed why PTG research might benefit from more precise definitions. The section will introduce the origins of trauma research in psychology and discuss some of the controversies with the terminology surrounding it. The section after that will describe the specific challenges of acquiring a physical impairment to contextualise the participant pool in this thesis.

1.2.1. Trauma in Post-traumatic Growth

The word 'trauma' currently holds many meanings and definitions in both Post-traumatic Growth (PTG) research as well as in wider trauma research; thus, it is essential that this term is discussed in order to understand the participants in this study better, and to situate trauma within the theory of PTG.

Tedeschi and colleagues (2018) define trauma as 'a highly stressful and challenging *life-altering* event' (p.4). Calhoun and Tedeschi (1999) stated that these (life-altering) events 'have a seismic impact on individuals' worldview and functioning' (p.2). They used a metaphor of an earthquake which shakes the foundations of the individual's worldview. In this 1999 book, for clinicians, they state that they prefer to use more open descriptions of the adversity over any terms with specific definitions such as trauma, traumatic event, or crisis. With this distinction (i.e., seismic/life-altering instead of trauma or crisis), they wish to emphasise the subjective nature of the adverse events: what is traumatising to one individual, might not be for others and vice versa. Therefore, it is also suggested that what is traumatic to any given person cannot be defined objectively beforehand (Tedeschi et al., 2018). However, they also state that they

define what is traumatic both subjectively and *objectively*. Tedeschi and Calhoun emphasise that it 'is important that the events are challenging enough to the assumptive world to set in motion the cognitive processing necessary for growth' (Tedeschi & Calhoun, 2004, p.7-8).

The assumptive world mentioned by Tedeschi and Calhoun is referring to Janoff-Bulman's (1992) shattered assumption theory, an essential reading for anyone exploring growth after adversity. Many of the contemporary models of PTG lean on her work to define trauma. Janoff-Bulman suggests that individuals have three fundamental assumptions about the world and that it is this assumptive world which is shattered in the face of trauma. The three core assumptions are: 'the world is benevolent, the world is meaningful, and the self is worthy' (p.6). The theory suggests that these shattering events are 'outside the range of human experience' and 'will produce psychological difficulties not in a vulnerable few, but in large numbers of people exposed to them' (p.50). Janoff-Bulman refers to Robert Lifton's words to describe survivals 'jarring awareness of death' (p.57) as the individual comes face to face with their mortality.

The latest textbook written by the leading experts in the field of PTG Tedeschi, Shakespeare-Finch, Taku and Calhoun (2018) still holds this initial definition of trauma in PTG. They explicitly state: 'we will use the term *trauma, crisis, and major stressor as well as related terms, as essentially synonymous expressions* to describe circumstances that significantly challenge or invalidate important components of the individual's assumptive world' (Tedeschi et. al., 2018, p.4, italics added). This broad definition of trauma in PTG has had implications for the PTG research conducted thus far, as terms such as **stress, trauma, highly stressful events, traumatic events, and psychological trauma**, are often used almost interchangeably. When the trauma in PTG research is defined broadly, it can potentially mean that scholars are comparing results and trajectories between quite different psychological challenges. It could therefore be

beneficial for PTG research to rely more on the vast knowledge of wider trauma research and literature, bringing further understanding to the differing challenges and thus trajectories to diverse events. The aim here is not to suggest that these different forms of adversity should not be studied, rather that researchers need to clearly define and critically discuss the studied phenomenon. To illuminate why defining trauma broadly (as in Tedeschi et al., 2018) might potentially impose some issues, we need to visit the complexities and history of the word trauma in psychological research briefly.

1.2.1.1. The Origins of the Word Trauma. The term ‘gross stress reaction’ after being exposed to ‘severe physical demands or extreme emotional stress’ was originally listed as a temporary personality disorder in the Diagnostic and Statistical Manual of Mental Disorders (APA, 1952, p.40). It was understood as a reaction to civilian catastrophe (such as fire, explosion, or earthquake) or as an aftermath of combat exposure. The language at the time was suggesting that the diagnosis was applicable to ‘more or less “normal” persons who have experienced intolerable stress.’ (APA, 1952, p.40). The original DSM-1 (APA, 1952) suggested that the gross stress reaction was different from other disorders as it did not often include a clinical history. Furthermore, the reaction was *reversible*, especially when treated promptly and proficiently. Gross stress reaction was considered as ‘transient’ in nature, however, with a potential of developing longer issues requiring a further diagnosis (APA, 1952, p.40).

The original definition evolved from gross stress reaction and the third Diagnostic and Statistical Manual of Mental Disorders (DSM-3; APA, 1980) included the term Posttraumatic Stress Disorder (PTSD). The definition in the DMS-3 also entailed situational factors such as being in an accident. Further evolving in the DSM-4 (APA, 1994, pp. 427-428) the definition of trauma included both the objective elements of trauma (e.g. ‘the person experienced,

witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others') as well as the subjective reaction to the event (e.g., 'the person's response involved intense fear, helplessness, or horror'). However, the latest version, DSM-5, controversially includes only the nature of the event (e.g., death, threatened death, actual or threatened serious injury, or actual or threatened sexual violence) and the presence of PTSD symptoms (e.g., intrusion, avoidance) not the subjective experience of the event (DSM-5; APA, 2013). What is noteworthy here is that within the DSM, *trauma* is continuously defined through PTSD, a disorder that is a potential trajectory of trauma.

In part potentially due to the various definitions arising from the DSM noted earlier, often a traumatic *event* is discussed as a trauma and used interchangeably with a specific severe negative reaction to it: posttraumatic stress disorder (PTSD). PTSD has been recently reclassified from an anxiety disorder and is now seen as trauma and stressor-related disorder in the DSM-5 (e.g., Pai et al., 2017). Currently PTSD symptoms in the DSM-5 fall under four categories: 'intrusion, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity' (Pai et al., 2017)(Pai et al., 2017, p.4). Therefore, PTSD is diagnosed when an individual is exhibiting the aforementioned behaviours for a prolonged time after trauma exposure (Hardy & Mueser, 2017). Hardy and Mueser (2017) additionally note that psychotic symptoms (hallucinations and delusions) are also common in people with PTSD. However, research findings suggest that the majority of people that go through trauma do not develop PTSD (Hardy & Mueser, 2017). Thus, it is essential that we separate trauma from one of its potential outcomes.

Some psychological trauma experts suggest that the terminology used in defining PTSD and trauma might be the source of the above-mentioned confusion. According to Kidler (1999)

the term posttraumatic *stress* disorder might instead be described as post *trauma* disorder. Similar confusion arises from posttraumatic growth, where the title suggests inclusion of trauma. However, as discussed earlier the definition of posttraumatic growth does not always segregate from other challenging life events (i.e., highly stressful situations). On the other hand, if we do define trauma according to the DSM-5 (which has often been the case in PTG research), posttraumatic stress disorder then becomes an essential part of the process of growth as well because trauma is defined through PTSD in DSM-5.

As suggested before, PTSD is only a potential outcome, a disorder following a traumatic event, much like PTG is a positive one. Both have similar elements of being a process and an outcome. For example, not all negative symptoms after traumatic events lead to a diagnosis of PTSD. Similarly, it could be argued that not all positive accounts after traumatic events lead to PTG. In fact, Bonnano has reviewed data on loss and violent or life-threatening events and found that the majority of individuals exposed to potentially traumatic events do not have chronic symptom profiles and are exhibiting healthy functioning (Bonanno, 2004; Bonanno et al., 2005); thus the evidence is strongly supportive of the notion that individuals exhibit different trajectories to adverse events. The four commonly found trajectories of psychological adjustment according to Long and Bonanno (2018) are 'chronic dysfunction, recovery, delayed reactions, and resilience' (p.127).

One of the potential problems arising from unclear definitions of trauma as an event and as a potential outcome (PTSD and PTG) is that scholars are at times trying to differentiate concepts that have the same roots. PTSD and PTG could be seen as different branches (or trajectories) of the same tree: the traumatic event. Hence, in the beginning when the individual is dealing with the aftermath of their trauma, the growth and distress are inevitably intertwined. Even when time passes and the traumatic experience evolves, both distress and

growth are part of the same tree. In line with this, Joseph and Linley (2008) have called for an 'integrative psychosocial framework' (p.3) synthesising the two branches of research on trauma response: posttraumatic stress disorder and posttraumatic growth. Congruently in 2014, Shakespeare-Finch and Lurie-Beck examined the relationship between posttraumatic stress disorder (PTSD) and perceptions of posttraumatic growth (PTG) in a meta-analysis of forty-two studies (N = 11,469) examining both PTSD and PTG. The authors found a significant linear relationship between PTG and PTSD symptoms. Perhaps even more interestingly they found significantly stronger evidence for a curvilinear relationship. Moreover, the strength and linearity of these relationships differed according to *trauma type*, and stronger relationships were found among civilians in conflict zones, and survivors of natural disasters than other trauma types (Shakespeare-Finch & Lurie-Beck, 2014). Thus, these findings also suggest that the type of traumatic event matters and can potentially create different psychological trajectories after trauma. Correspondingly, Tedeschi and colleagues (2018) have revised their earlier conceptualisation on this matter and their current model suggests that PTG and distress do coexist. They additionally conclude that despite this coexistence of distress, wellbeing can also arise from PTG.

It has been argued frequently now in the literature that different traumas within differing contexts can potentially lead to differing growth experiences (Chopko et al., 2018; Hefferon et al., 2009; Karanci et al., 2012; Ibrahim A. Kira et al., 2013; Kılıç et al., 2016; Shakespeare-Finch & Armstrong, 2010; Shuwiekh et al., 2018). Our understanding of the trauma, as well as the context of trauma, is essential for us to understand how growth processes evolve and what elements they entail. Currently, researchers in the area of PTG are calling for further research into different trauma types and profiles; for example, Hefferon and

Kampman (2021) suggest that physical internal or external transgressors (e.g., cancer, amputation) to the body can lead to unique corporeal features in the trauma trajectories.

Thus, in light of the aforementioned trauma conceptualisations and to further the understanding around different growth trajectories, it could be beneficial to a) clearly define the trauma/adversity in any PTG research, b) focus on specific traumas c) acknowledge the complexity and context in which the growth occurs c) collect in-depth data to understand the individual trauma experiences and their potential impact on current growth experiences. The following sections will aim to address these aspects from the acquired physical disability perspective.

1.2.1.2. Trauma, the Body, and Acquired Physical Disability. The complexity of acquired physical disabilities is acknowledged in this thesis and it is not suggested that all acquired physical disabilities are equal or produce the same challenges or positive outcomes for that matter. For example, spinal cord injury (SCI) is often sustained through ‘traumatic circumstances’ (Kennedy & Smithson, 2012, p. 285-298), often co-morbid with a diagnosis of traumatic brain injury (TBI), and these would inevitably have a transactional process between them. Similarly, individuals returning from combat might have a physical injury, suffer from PTSD as well as deal with a moral injury. Moral injury is defined as a betrayal of what is right, either by authority or by the individual themselves and poses an increased risk of mental disorders and suicidal ideation (Griffin et al., 2019) Furthermore, an individual might have experienced other traumas in their lives prior to their acquired physical disability, which would again impact both the process and outcomes of any potential PTG as discussed earlier within trauma profiles (e.g. Kira et al., 2013). However, there are overarching elements in acquiring a physical impairment leading to

a disability, especially the severe and direct impact to the body as well as often the visibility of the impairment and/or disability.

Acquired physical disability can impact interpersonal relationships as the individuals negotiates their identity, roles, and relationships (Gallagher et al., 2019). Their occupational situation might change through losing a job due to the changes in abilities or the role in that occupation might be amended to accommodate these changes. General lifestyle could alter, as an individual might have to change some of the practical elements of socialising to fit their new abilities (Bush & Rush, 2019). The many implications of acquiring a physical disability have been described as a social death: 'loss of social identity, of social connectedness' as well as 'losses associated with the disintegration of the body' (Králová, 2015, p. 237).

The latter is at the centre of the experiences of acquired physical disabilities which have been shown to cause changes in physical functioning, pain, prosthesis use, challenges, or alterations to body image and thus concept of self (Kennedy & Smithson, 2012). For example, Gallagher et al., (2007) suggest that losing a limb demands changes and adjustment to the images one holds of their body. Moving from the 'complete' or 'familiar body' to the 'traumatized body', 'the healing body', and finally to the 'extended body' (i.e., a body supplemented with prosthetic devices and/or mobility aids)' (p.206). Many of the above-mentioned difficulties associated with the acquired physical disabilities are emerging directly from the body or are related to the body. Additionally, the novel and varied physical challenges require the individual to learn new skills or compensatory techniques in order to manage their new physical existence (Kennedy & Smithson, 2012). As Novotny (1991) suggests 'Experiences of one's own body are the basis for all other life experiences' (Novotny, 1991, p.380). It should be acknowledged therefore, that the growth is likely to be experienced through the body as

well. The above literature is highlighting that it is essential that we explore the role of the body in individual's growth processes and outcomes.

Interestingly, the aspect of trauma which has been continuously overlooked in PTG research is the role of the body. The role of the body in trauma and trauma recovery is well recognised in wider trauma research and therapy (Levine, 2008, 2010; van der Kolk, 2015). For example, the renowned Psychotherapist Peter Levine talks about traumatic shock which is frozen into the body (2010). Levine's approach to dealing with trauma is called somatic experiencing, focusing on the individual's body sensations to work with traumatic experiences and alleviate traumatic stress symptoms. Levine's work places the body in the centre of trauma work, helping individuals to reconnect with their traumatised bodies. Body therapies and somatic psychology emphasises the centrality of the body in any psychological phenomena, such as psychological distress, trauma, or mental health challenges (Marlock et al., 2015). Thus, it can be argued that the body should also be central in any investigation considering positive psychological phenomena as well, such as psychological resilience, posttraumatic growth and wellbeing. Correspondingly, a quite recent doctoral thesis by Spilkin (2017) explored the role of the nervous system in post-traumatic growth and, echoing the above-mentioned ideas and leaning on findings from neuroscience, suggests that psychological trauma is not only a cognitive experience but physiological as well. To the best of the author's knowledge, Spilkin's work is first to examine PTG through a somatic theory lens aiming to understand the role of the nervous system in the experiences of growth. Based on the accumulating evidence from somatic psychology, the body is *always central to the trauma*, therefore making the body an essential part of any exploration of growth.

Ellingson (2017) states that ‘researchers begin with the body’, and we often select participants according to their bodies (p.1), such as here, individuals with acquired physical disabilities participating in adaptive sport. Thus, the body becomes the focal point of not only the trauma, but for theory and research as well (Ellingson, 2017). The *Body* is essential in this thesis as these *sporting bodies* with acquired physical disabilities are often ‘looked upon, identified, judged and represented primarily through their bodies, which are perceived in popular consciousness to be imperfect, incomplete and inadequate’ (Hargreaves, 2000, p. 185). Powis (2017) calls for research to have ‘an embodied approach to disability sport’ (Powis, 2017, p.28) and he places the body in the centre of ‘the disabled athlete’s embodied, socialised experiences of impairment.’ (p.28). Powis’ work is moving away from the binary definitions of impairment and disability, creating a more fluid description for the embodied experiences of athletes with acquired disabilities (Powis, 2020). Thus, the trauma of acquiring a physical impairment leading to a disability is very much an embodied experience physically, socially, and psychologically.

The following section will highlight that despite the essential role of the body in trauma, most of the models of growth do not consider the body in their conceptualisation of growth. Among the current theories of growth, only Hefferon’s and colleagues Corporeal Posttraumatic Growth (C-PTG) addresses the essential role of the body in the growth experiences (Hefferon et al., 2010; Hefferon, 2012, 2013; Hefferon et al., 2009).

1.3. Different Models of Posttraumatic Growth

The following section will explore the different conceptualisations of growth which we need to understand to create the definition for this thesis. Prior to the introduction of the term PTG,

growth after adversity has been explored with accommodating measures¹ as *Positive Changes in Outlook* (Joseph et al., 1993); *Stress Related Growth* (SRG; Park et al., 1996), *Positive Illusions* (PI; Taylor & Armor, 1996), *Benefit Finding* (BF; Affleck & Tennen, 1996) and *Thriving* (O’Leary & Ickovics, 1995)². The aforementioned ideas are often referred interchangeably in research; however, they differ in the ways they define adversity as well as in how they conceptualise growth. The following section will introduce the most known models of growth since the introduction of the term PTG. The models are introduced in chronological order to illuminate how growth research has been critically investigated and evolved since its creation. The section will start with the *Transformational Model of Posttraumatic growth* (Tedeschi & Calhoun, 1995, 2004; Calhoun & Tedeschi, 1999, 2006). The section will then move on to the *Janus-face Two Component Model* (J-FTCM; Maercker & Zoellner, 2004), the *Organismic Valuing Theory* (OVT; Linley & Joseph, 2004), and *Action Focused Growth Theory* (AFG; Hobfoll, Hall, Canetti-Nisim, Galea, Johnson & Palmieri, 2007). Finishing with the *Corporeal Posttraumatic Growth Theory* (C-PTG; Hefferon, Grealy & Mutrie 2009), *Affective-Cognitive Processing model of Posttraumatic Growth* (A-CPMPTG; Joseph, Murphy & Regel, 2012) and the most recent development in the area, the theory of *Growth as Positive Personality Change* (GPPC; Jayawickreme & Blackie, 2014).

1.3.1. The Transformational Model of Posttraumatic Growth

¹ Changes in Outlook Questionnaire (Joseph et al., 1993), the Stress-Related Growth Scale (Park et al., 1996), the Perceived Benefit Scale (PBS; McMillen & Fisher, 1998), and the Thriving Scale (TS; Abraido-Lanza et al., 1998).

² As these theories are not informing this thesis, they will not be discussed further. For a review on these please see: Joseph, S., & Butler, L. D. (2010). *Positive Changes Following Adversity*. American Psychological Association.

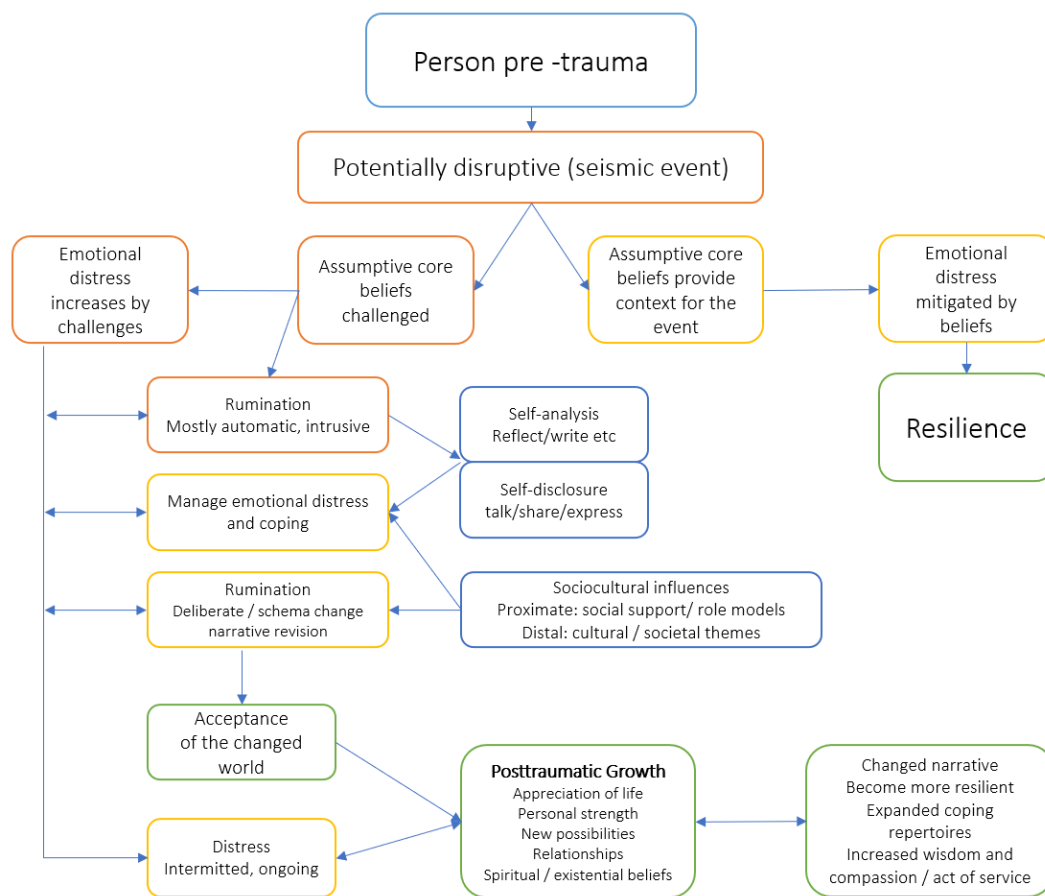
<https://doi.org/10.1037/e667352010-002>

Jayawickreme, E., & Blackie, L. E. R. (2014). Post-traumatic Growth as Positive Personality Change: Evidence, Controversies and Future Directions. 28(4), 20. <https://doi.org/10.1002/per.1963>

Zoellner, T., & Maercker, A. (2006). Posttraumatic growth in clinical psychology—A critical review and introduction of a two component model. *Clinical Psychology Review*, 26(5), 626–653. <https://doi.org/10.1016/j.cpr.2006.01.008>

As discussed briefly earlier, in 1995 Tedeschi and Calhoun coined the term Posttraumatic growth (PTG). The transformational model of posttraumatic growth is still one of the most dominant in the field (Tedeschi & Calhoun, 1995, 2004; Calhoun & Tedeschi, 1999, 2006; Tedeschi, et al., 2018). Essential here is that PTG is seen as both a process and an outcome, even though the latter often is discussed and reported more. As an ongoing process, PTG is evolving as the individual deals with the aftermath of the highly stressful life altering event (see figure 1 for the latest model of posttraumatic growth). It is not the traumatic event itself causing the positive changes, rather the changes appear when the individual is trying to cope with the emotional and cognitive challenges of their trauma. In this thesis particularly these challenges are also stemming from physical and social aspects of the trauma, which could be argued to be the case with all traumas. As this thesis is leaning mostly on the Transformational Model, both the process and outcomes of growth in this model will be discussed with depth after the introduction to the other models.

Figure 1 - The Latest Model of Posttraumatic Growth



Note: Adapted from Tedeschi et al., (2018, p.44)

1.3.1.1. The Janus-Face Two Component Model. In 2004, Maercker and Zoellner questioned the adaptive significance of the PTG model. Their Janus-face model suggests that PTG contains two sides: a constructive and an illusory side, that is, adaptive, and maladaptive. The ‘functional, self-transcending and constructive’ (p.640) side of PTG is evident as an acknowledgment of losses whilst recognising the tangible benefits. The constructive element of PTG is connected to healthy psychological functioning and adjustment. The ‘illusory, self-deceptive, or dysfunctional’ side of PTG is akin to a coping mechanism and connected to denial or even self-deception. The illusory side is not seen as simply maladjustment rather it can also be an effective coping strategy if combined with deliberate thinking and coping actions

(Maercker & Zoellner, 2004). The illusory PTG is akin to Janoff-Bulman's (1992) ideas of denial as a tool that individuals might use to 'pace their recovery' (p.100). When discussing denial and intrusive thoughts as reactions to stressful events, Janoff-Bulman makes an important point suggesting that too often we consider them as 'abnormal responses to stressful events rather than adaptive responses to abnormal events' (p.95). The constructive and illusory sides of PTG in this model can be seen as coexisting: individuals might first engage in ideas of growth as a coping mechanism, and these could turn into functional PTG with time. Zoellner and Maercker (2006) suggest that the Janus-face model could explain some of the contradicting findings in studies exploring PTG and mental wellbeing, where PTG is not always connected to better mental health outcomes (e.g., (Shakespeare-Finch & Lurie-Beck, 2014). Thus, the Janus-face model offers a valuable critical perspective on PTG and highlights the complex nature of growth (Maercker & Zoellner, 2004).

1.3.1.2. The Organismic Valuing Theory. Joseph and Lindley's (2005) cognitive-behavioural 'organismic valuing theory' (OVT) also known as 'adversarial growth' suggests that trauma is not essential for growth to occur. The model posits that people are growth-orientated organisms and intrinsically motivated to cognitively accommodate their experiences. The adversarial growth model leans on the principles of humanistic psychology and Carl Roger's actualising tendency theory which suggests that people are innately motivated to grow (Joseph, 2004). According to Roger's theory, people are evaluating their needs and values continuously to live a more fulfilling life.

The OVT (Joseph & Lindley, 2005) has four principles. Firstly, *Completion tendency* which refers to the need to integrate trauma-related information. Next is *Accommodation* versus *Assimilation*, where an individual either revises their existing schemas to accommodate

trauma information or assimilates the trauma memory. *Meaning as comprehensibility* versus *meaning as significance* refers to the individual originally wondering why the trauma happened to them and accommodating or assimilating the new information. This contemplation, however, later turns into searching for understanding the significance of the event and its implications for one's life. If accommodated positively, these questions will lead to growth. Finally, the fourth principle suggests the growth experience is likely to *foster eudaimonic wellbeing*, with deeper connections, self-acceptance, and spirituality, rather than hedonic wellbeing (focusing more on pleasure and decreased pain). Joseph and Lindley (2005) connect their cognitive-behavioural 'adversarial growth' model to Ryff's (1989) concept of psychological well-being (PWB). This particular PWB model consists of six domains of wellbeing: *autonomy, self-acceptance, positive relationships, environmental mastery, purpose and meaning in life, and personal growth*. Joseph and colleagues (2012) conceptualise growth as an increase in psychological wellbeing as defined by Ryff (Joseph & Linley, 2005; Joseph et al., 2012; Ryff, 1989), thus leaning on 'an existing theoretical architecture to provide a much needed framework for growth' (Joseph et al., 2012, p.426). The new conceptualisation led to a Psychological Well-Being Post-Traumatic Changes Questionnaire (PWB-PTCQ; Regel & Joseph, 2010; Joseph et al., 2012). The model brings an essential critical point to the growth discussion by highlighting the importance of defining wellbeing more broadly.

1.3.1.3. Action Focused Growth. The first substantial critique of PTG was written by Hobfoll, Hall, Canetti-Nisim, Galea, Johnson and Palmieri (2007). The authors highlighted the potential issue with reported versus actual growth, specifically the need to demonstrate objective behavioural change in order to claim post-traumatic growth. Their 'action focused growth' model suggests that the actions of an individual after the traumatic event will reveal the actual

growth rather than the individual merely perceiving that they have grown. These findings were based on their studies conducted in New York and Israel following a time of terrorism and violence. Later, Hobfoll et al. (2017), whilst investigating the relationship between growth and distress, found that posttraumatic growth (measured using a six-item survey created by the team) was related to 'greater psychological distress, more right-wing political attitudes, and support for retaliatory violence' (p.345). However, what is noteworthy here is that their measurement for PTG was not any of the validated questionnaires available, and as such the six-item survey which the research team created might not capture PTG as defined by Tedeschi and Calhoun (Tedeschi et al. 2018) or other researchers in the PTG area. Furthermore, the cultural context of the study was very specific with a long history of violence and it is currently recognised in PTG research that different contexts can lead to differing PTG outcomes (Chopko et al., 2018; Shuwiekh et al., 2018). Nevertheless, the concept of action focused growth could provide part of the answer to contradicting findings in the PTG research, such as the illusory growth discussed earlier (Maercker & Zoellner, 2004). Hobfoll and colleagues (2007) conceptualise PTG as 'salutogenesis through action growth' where individuals are *actualising* their cognitive growth processes or that an individual 'reifies their illusions through action' (p.360). The requirement for growth to be actualised in behaviour was already suggested by Victor Frankl in 1959, a holocaust survivor and founder of logotherapy³. According to Frankl (1959) 'we needed to stop asking about the meaning of life, and instead to think of ourselves as those who were being questioned by life— daily and hourly. *Our answer must consist, not in talk and meditation, but in right action and in right conduct*' (Frankl, 2004, p.62; *italics added*). The action-focused growth theory gives researchers a way to bring 'validity' to their

³ Logotherapy is focused on the pursuit of finding meaning in one's life. Logotherapy leans on the idea that human motivation stems from their purpose in life.

explorations of growth through investigating ‘positive behavioural changes’ as well as cognitive processes and outcomes (Shakespeare-Finch & Barrington, 2012, p.433).

1.3.1.4. Corporeal Posttraumatic Growth. Following multiple explorations into the role of physical activity in PTG with breast cancer survivors Hefferon and colleagues (2008) called attention to trauma-specific benefits and the essential role of the body in post-traumatic growth in the breast cancer population. Hefferon et al. (2009) further explored the existing qualitative literature and proposed a sixth domain for PTG: *the new awareness of the body*. Hefferon (2012) additionally conducted a follow up study among women 5 years post cancer diagnosis, interviewing the participants about their long-term experience of engaging with physical activity. The findings supported Hefferon and colleagues’ initial findings (Hefferon et al., 2009) and she proposed a new more embodied theory of ‘Corporeal Posttraumatic Growth’ (C-PTG; 2012). C-PTG posits that when individuals face a physical trauma due to an internal (e.g., illness) or an external (e.g., accident) transgressor, the process can lead to more embodied outcomes of growth (Hefferon, 2012; Hefferon, Greal, & Mutrie, 2009, 2010; Hefferon & Kampman, 2021).

C-PTG (Hefferon, 2012) is building on the ideas of Frank (1995) who proposes that individuals tend to travel through life without acknowledging the body and its role in their lives. However, a physical trauma often calls attention to the body and enables the individual to become re-embodied (Hefferon et al., 2010; Hefferon, 2012, 2013). This model includes having a ‘new relationship with the body’ after negating the initial trauma and relationship with it; ‘changes in health behaviours’ where the individual has a new appreciation for the body; and ‘the somatopsychic principle’ where a stronger body builds a stronger mind. Gorven and du Plessis (2018) leaned on the work of Hefferon and colleagues in order to create a questionnaire

to measure C-PTG and defined C-PTG as a 'reclaimed and renewed connection to the body through increased appreciation of the physical self, a new sense of bodily responsibility, positive health changes, and a new sense of positive identification with the body' (p.1). Hefferon and colleagues work is an essential and critical addition to the growth literature as it is the first PTG model to highlight the importance of the body in the growth processes and outcomes.

1.3.1.5. Affective-Cognitive Processing Model. After developing the OVT, Joseph et al., (2012) modified their original ideas to address the complex relationship between post-traumatic stress and post-traumatic growth; suggesting that theoretically one of the most pressing issues in PTG research is the complex relationship between posttraumatic growth and posttraumatic stress (PTS). Leaning on the wider humanistic psychology literature, particularly the person-centred approach, Joseph et al. (2012) suggested that many of the negative symptoms connected to PTS are in fact natural ways of processing trauma and are indicative of cognitive processing. The Affective-Cognitive Processing model (ACPM) suggests that growth emerges after successful affective–cognitive processing of the trauma. Moreover, the post-traumatic stress is seen as “the engine” beginning the PTG process (Joseph et al., 2012). The Affective-Cognitive Model emphasizes the importance of the stressor in the growth process. The model highlights the need for further discussions around what is seen as ‘highly stressful’ in PTG, that is, stressful enough to initiate the growth process.

1.3.1.6. Positive Personality Change. One of the most influential contemporary theories on PTG was raised by Jayawickreme & Blackie (2014), who suggested that post-traumatic growth is a form of positive personality change and called further investigation into this area. The idea of

personality change in PTG has been discussed already by Tennen and Affleck (1998); however, they considered it as a possible moderator of growth experiences rather than the growth itself (Tedeschi et al., 1998). Similarly, both the transformational model and the organismic valuing theory view post-traumatic personality as a predictor of growth rather than growth as personality change (Joseph, 2012, Tedeschi et al., 2018). Even the Stress-related Growth Scale has items that tap into personality such as optimism and openness to experience (park et al., 1996). However, because the theories of PTG describe meaningful changes in individuals' characteristics, behaviours, thoughts, and feelings, Blackie et al., (2017) argue that this essentially describes a positive personality change. What is less clear is what is understood as 'positive' personality change (Tedeschi et al., 2018, p.78). As Tedeschi and colleagues have argued, a clearer definition of positive personality is required, which illuminates when has a person's personality has changed for the better.

Indeed, it is often the trauma, mechanism and outcome of the growth process that is debated rather than the occurrence of growth; a point which various scholars agree upon (Hefferon, 2012; Jayawickreme & Blackie, 2014; Joseph et al., 2012; Tedeschi et al., 2018). This thesis subscribes to the position that PTG is seen both as a process and as an outcome; which in turn both depend on various events and individual specific characteristics. Furthermore, this transformative change is both action-oriented and embodied.

The following section will discuss the Transformational Model both as a process and as an outcome, situating the participant pool within the model. The section will highlight the specific challenges that acquiring a physical disability can cause and how the process of growth could unfold.

1.4. The Process of Growth in the Transformational Model

1.4.1. The Person Pre-Trauma – Before Acquired Physical Disability

As discussed, the Transformational model of posttraumatic growth is the most dominant and rigorously studied model of growth in the field (Tedeschi & Calhoun, 1995, 2004; Calhoun & Tedeschi, 1999, 2006; Tedeschi, et al., 2018). Transformational model of PTG acknowledges the individual characteristics potentially affecting the growth experiences. Tedeschi and colleagues (2018) divide these into four categories; 1) demographic characteristics 2) individual differences, personality traits and cognitive tendencies 3) mental health status prior to the event and 4) the individuals assumptive world prior to the seismic event. Thus, demographic characteristics such as the age when an acquired physical disability occurs is an essential element to consider. Current conceptualisation of PTG suggests that there needs to be a clear understanding of “before and after” as well as ability to think dialectically to appreciate the paradox of growing from trauma (Tedeschi et. al., 2018). Currently, evidence suggests that the individual has to be at least the age of 9 to have a clear sense of before and after as well as be able to contemplate purposefully around the trauma experience (Kilmer et al., 2014; Meyerson et al., 2011). In addition to demographic variables, individual differences impacting growth processes can be also found in personality traits. For example, individuals high on levels of openness to experience and extroversion - commonly connected to PTG - might help individuals locate resources and novel ways to deal with their new physical existence. Similarly, cognitive tendencies, such as effective coping styles, may impact growth process as individuals might more readily adopt problem focused coping styles after their acquired disability. For example, *engagement coping* (i.e., planning, seeking social support and active problem solving) has been connected to better adjustment in individuals with spinal cord injuries (Tackett &

Ullrich, 2019). Thus, these traits might more effectively pave a way for growth trajectories as well.

Individual's prior mental health status before acquiring the physical disability can also have implications. It is worth considering whether other stressors are present prior to the event as well as mental health is general. Acquiring a physical disability, for example via limb loss, is connected to higher prevalence of depression and anxiety in those affected compared to general population morbidity rates (Gallagher, et. al., 2019). Therefore, one's ability to journey onwards and grow can be influenced greatly by whether they were already diagnosed with depression or anxiety prior to acquiring a disability. This aspect is also connected to the complexity of defining trauma (see 1.2.1.): acquired physical disability could be just one trauma among many for some individuals. Thus, the complexity of the journey is stemming from personal resources which are likely to impact the growth process.

Another essential factor impacting the growth process before, during and after adversity are sociocultural influences. These sociocultural influences entail both proximate (e.g., individual access to social support) as well as distal (e.g., cultural, and societal parameters regarding physical disability) elements (Tedeschi et al., 2018). Acquired physical disability can pose challenges for the original 'primary reference groups' which can include anything from friends and family to work teams or sports groups (Calhoun et al., 2012). Therefore, how these proximate primary reference groups view disability can impact the individual's journey onwards. More distal influences on the other hand include broader cultural views and narratives in relation to adversity, disabilities, and growth (Calhoun et al., 2012). As discussed earlier, in European populations, for example, religious themes are less often found in reports of growth (e.g., Shaw et al., 2005). Furthermore, British cultural narratives include phrases such as 'keep calm and carry on' - which can reflect common attitudes towards how to handle

difficult times. These cultural narratives can therefore influence the individual and create expectations for their behaviour when facing adversity. Both proximate and distal sociocultural elements are discussed throughout this thesis as adaptive team sport offers a unique setting for both types of influence.

Finally, Tedeschi et al. (2018) suggest that an individual's assumptive world pre-trauma will have implications on whether or not the growth process is initiated. The following section will discuss the role of assumptive world in the process of growth further.

1.4.2. Potentially Disruptive Event – Acquiring a Physical Disability

As discussed in the earlier section of the literature review (see section 1.2.1.), trauma, the disruptive (seismic) event, in the theory of PTG by Tedeschi et al. (2018), is seen as a significant cognitive challenge. It is important to acknowledge that acquiring a physical disability does not automatically mean that the event is seismic for the individual. Individuals' assumptive beliefs about the situation will matter (Tedeschi, et al., 2018). Physical impairment that leads to disability can be gradual or sudden and severity of the impairments can vary greatly. For example, an individual might face a sudden amputation due to an accident or the amputation could be a part of a care plan of a longer disease (diabetes). If the assumptive world⁴ provides a framework for the acquired physical disability and the individual is adjusting to their situation relatively well, they are likely to engage with and experience resilience (Bonnano et al., 2018; Tedeschi et al, 2018).

Resilience is defined as a dynamic process before, during and after adversity leading to a positive adaptation (Chmitorz et al., 2018; IJntema et al., 2019). This means that resilience

⁴ As discussed in the section 1.4.1.1. - Janoff-Bulman (1992) suggests that trauma shatters three core assumptions: 'the world is benevolent, the world is meaningful, and the self is worthy' (p.6).

can be at times the ability to stand strong in the face of adversity or the ability to recover relatively quickly with minor impairment, and often in some way strengthened and more resourceful. A traumatic event on the other hand shatters at least some of these assumptions: 'the world is no longer benevolent, or meaningful, and/or the self is not worthy' (Janoff-Bulman, 1992, p.6). Calhoun et al. (2010) describe these assumptions as constructs which help the person to understand how things should unfold whilst having a sense of control amidst of the event, that is, being able to influence these events. Tedeschi et al. (2018) emphasise that other people cannot determine from the outside what is or is not traumatising for someone else. As discussed earlier in this chapter, acquired physical disability, such as spinal cord injury, is often reported as requiring a significant amount of adjustment due to various physical, social, and psychological changes (Tackett & Ullrich, 2019). Thus, these various changes might shatter assumptions and could leave the individual feeling that they are losing a sense of control. Correspondingly, gaining back an initially lost sense of control (e.g., via sports) could facilitate the growth process after acquiring a physical impairment. Some evidence of this is already emerging in the area of para-sport. For example Hammer and colleagues found that whilst participants initially noted a sense of loss of control due to their disability, they also felt that via para-sport they experienced a re-emergence of empowerment and control in their lives (Hammer, et al., 2019).

1.4.3. Challenges – Facing the Acquired Physical Disability

The challenges that the individual faces due to the traumatic event are seen as an essential part of the process which initiates the emotional distress and consequent rumination. Tedeschi and Calhoun (2013) use a metaphor of an earthquake, which shatters aspects of life that one has been building for a lifetime. Acquired physical disability can take away previously known

abilities, might impact jobs and hobbies as well as have implications to known ways of interacting with one's social world when 'existing social support systems' diminish (Crawford et al., 2014, p.404). Of course, it is essential to acknowledge that the experience of acquiring a physical disability and the implications which follow are always subjective as well. One individual might find their core beliefs being shattered whereas others might not. The subjective nature of the trauma requires us to acknowledge this personal perspective in our research explorations. Researchers working in this field should be therefore mindful that they are recruiting individuals who perceive that acquiring a physical disability was shattering to their core beliefs rather than assuming that it was.

1.4.4. Intrusive Rumination – The Initial Challenges with a New Physical Disability

The initial rumination that the challenged core belief initiates, is intrusive and involuntary as the person is dealing with their emotional distress (Tedeschi et al., 2018). According to Tedeschi et al. (2018) unwanted thoughts might occupy the individual's mind, and they might experience flashbacks about the initial traumatic event (e.g., accident). Individuals entering rehabilitative services after an acquired physical disability, are frequently assessed to see if they would benefit from psychological interventions (Bush & Rush, 2019). The assessment often focuses on 'cognition, behaviour, emotional state, personality traits, daily functioning, insights/new awareness and coping skills' (Bush & Rush, 2019, p.53). Therefore, the initial emotional distress and intrusive rumination in this participant pool stems from various interconnecting aspects of acquiring a physical impairment (Tedeschi et al., 2018; Bush & Rush, 2019). Cognitive challenges for example might stem from the impact of sleep problems, medication, pain, and emotional distress (Bush & Rush, 2019). Behaviourally, frustration and confusion are often reported, potentially leading to harmful behaviours (e.g., self-harm),

withdrawal or apathy (Bush & Rush, 2019). Bush and Rush additionally highlight that people's lives after acquired physical disability may change in dramatic and fundamental ways, and even the rehabilitation itself can cause emotional distress, anxiety, and disappointment. The intrusive rumination often leads to self-analysis in order to manage the initial emotional distress.

1.4.5. Deliberate Rumination – Making Sense of the Acquired Physical Disability

The above-described experience of intrusive rumination can be very distressing as the individual might for example relive the experience of initially realising that they have lost a limb due to an emergency operation or ruminate around the aspects of rehabilitation that were unsatisfactory (Tedeschi et al., 2018; Bush & Rush, 2019). However, this intrusive rumination is likely to turn into deliberate contemplation with time; and particularly if social support (e.g., family members, adaptive sport team) are present and where professionals can offer evidence-based education to the key individuals in the affected person's life after the impairment (Tedeschi et al., 2014; Tedeschi et al., 2018; Bush & Rush, 2019). Deliberate reflection requires the individual to engage in in-depth contemplation around the trauma. It is purposeful cognitive work and occurs when the individual is purposefully trying to make sense of the traumatic event and the implications that this has for their life. Deliberate rumination has been consistently found to be an essential component of the process of growth (e.g., Kramer et al., 2020; Taku et al., 2009).

1.4.6. The Role of Disclosure and Social Support in The Adaptive Team Sport

A key component for deliberate rumination and for the PTG process in general, is *self-disclosure* in relation to the traumatic event. As discussed before, the aspects of the acquired physical disability which are traumatic can be both universal (e.g., most people with acquired physical disability would be challenged by losing abilities) and personal (e.g., losing a job or a relationship). Disclosure can occur in various ways, such as talking to others or writing about the experience. It can also take more abstract forms such as expressing oneself through art, drawing, dance, or sport (Tedeschi et al., 2018). In a study of accidentally injured Chinese patients, self-disclosure and social support were strong predictors of PTG (Dong et al., 2015). Self-disclosure can be seen as a coping mechanism as well as precursor for the cognitive processing that fosters PTG.

Disclosure and social support are interesting aspects to explore in adaptive sporting populations, particularly team sports, which offer a unique setting in terms of the individual being around others in similar situations. This could potentially facilitate self-disclosure if the environment is supportive enough. Some evidence of the benefits of self-disclosure and PTG among wider sporting populations is already emerging. For example, Howells and Fletcher (2015) found out that among Olympic swimming champions there exists a known culture of “non-disclosure” about adversities. The non-disclosure was found to be working initially, however, this approach appeared maladaptive in the long term. Correspondingly, seeking social support and disclosing challenges to trusted teammates lead to growth outcomes (Howells & Fletcher, 2015). In fact, quite recently Hammer and colleagues (2019) suggested that emotional self-disclosure should be further investigated in adaptive sporting populations as it might offer insights into understanding the relationship between challenged core beliefs and PTG. This relationship is recognised in the PTG model (Tedeschi et al., 2019) and that self-disclosure should indeed have an integral role in the process of growth. However, it would be

interesting to explore the role of the adaptive sport environment in facilitating or hindering self-disclosure. Particularly, despite the many valuable studies in the area of adaptive sport and PTG (e.g., Day & Wadey, 2016; Day, 2013; Hammer et al., 2019), it is still not understood how the *process* of growth potentially *evolves* through adaptive *team* sports.

1.4.7. Posttraumatic Growth as an Outcome - Gaining Wisdom

The process of growth facilitates both direct PTG outcomes (discussed later in this review) as well as increases abilities towards future challenges. Transformative change can enable individuals to be more resilient when facing future challenges, partly due to developed core beliefs and new coping mechanisms (Tedeschi et al., 2018). The process of growth is also closely linked to the concept of wisdom and the journey often leads to having more compassion towards fellow others and willingness to act in the service of others (Tedeschi et al., 2018). Calhoun and Tedeschi (1998) suggest that PTG is naturally ‘wisdom-facilitative’ (p.362) due to its affective, cognitive and paradoxical nature (meaning it requires the individual to engage with various emotions, active thinking and come to terms with aspects of life that are counterintuitive such as pain and growth). Tedeschi and colleagues recognise that there are various conceptualisations of wisdom, however they lean on literature in the area of wisdom suggesting that it is most commonly referred to as ‘knowledge of life, prosocial values, self-understanding, acknowledgment of uncertainty, emotional homeostasis, tolerance, openness, spirituality, and sense of humor’ (Bangen et al., 2013, p.421).

Whereas Tedeschi and colleagues (2018) perceive wisdom as a reciprocally related concept to PTG, Linley (2003) has proposed that wisdom should be considered as both a process and outcome of growth. Linley (2003) defines wisdom through the Berlin paradigm of wisdom which refers to individual’s expertise in the fundamental pragmatics of life (Baltes &

Staudinger, 2000; Linley, 2003); which are 'high level abilities of knowledge and judgment about the essence of the human condition, and the ways and means of planning for, managing, and understanding how people might best lead their lives, within the context of whatever values they may hold to be important' (Linley, 2003, p.602). Linley (2003) suggests that there are three dimensions where wisdom show as recognition and management of uncertainty; integration of affect and cognition; and as recognition and acceptance of human limitation. Wisdom can also be seen as the skills to understand self and others better, open-mindedness, better communication skills and sensitivity (Kramer, 2000). Furthermore, in positive psychology, wisdom is considered a virtue which includes specific strengths such as creativity, curiosity, open-mindedness, love of learning, and perspective (Peterson & Seligman, 2004).

1.4.8. Some Enduring Stress from Trauma – Mortality Awareness

Perhaps often the most misunderstood part of the model is the role of distress. The theory of post-traumatic growth does not suggest that with growth the distress disappears (Tedeschi et al., 2018). Often what happens is that some distress stays with the person, reminding them of their original trauma. This can be particularly true with physical traumas where the body is a constant reminder of what has happened (Hefferon & Kampman, 2021) and an individual might never be 'post trauma'. Tedeschi and Calhoun (2004) have always included distress in their Transformational Model and suggested that 'continuing personal distress and growth often coexist' (p.2). Therefore, when exploring growth experiences, it is essential to recognise that the existence of distress does not mean that the process of growth is not evolving. Equally, if an individual is reporting a growth outcome, this can coexist with deep distress, particularly in

the early stages of growth. It is good to perhaps remember that one can recognise growth whilst still being in psychological pain.

1.5. Posttraumatic Growth as an Outcome in Transformational Model

Originally, Tedeschi and Calhoun (1995), described PTG as an outcome in three general areas: *Changes in philosophy of life, Views of self, and Relationships with others*. However, the development of the Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996) revealed five different domains: *personal strength; appreciation of life; relating to others; new possibilities; and spiritual change*. This measure and conceptualisation of PTG has been the most accepted and employed to date, although not without controversies. Linley and Harris (2009) utilised a principal components analysis to investigate three multidimensional measures in the area of growth after adversity. These were the Post-Traumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996), Perceived Benefit Scale (PBS; McMillen & Fisher, 1998), and the Thriving Scale (TS; Abraido-Lanza et al., 1998). These scales had 20 subscales combined to explore the concept of growth. The loadings appeared to support the original three broad definitions: changes in perception of self; changes in relationships with others; and changes in philosophy of life. The same study also found evidence that growth could be one dimensional.

Currently, the five domains have been supported in various qualitative and quantitative studies (Tedeschi et al., 2018). However, there have been some concerns around the spiritual change domain, due to its focus solely on spirituality and religion (Joseph, 2011). Joseph (2011) noted that including the religious items in a PTGI scale confounds the measure as it is tapping into religious coping (Joseph, 2011). Further evidence of the problematic nature of this religious domain has stemmed from cultural differences. Some people and cultures such as for

example in Germany, have a low affiliation to church and religion, and tend to report low means in the spiritual domain (Wagner & Maercker, 2010). Similarly, Weiss and Berger (2010) suggest that posttraumatic growth has both universal and culture specific characteristics. Therefore, cultures and individuals with lower affiliation with religions might be more comfortable reporting more existential growth experiences (Wagner & Maecker, 2010; Weiss & Berger, 2010). The inventory has since been revised and the last domain is currently called 'spiritual and existential change' (PTGI-X; (Tedeschi, et al., 2017, p.11).

PTG is most often researched as an outcome and currently there is evidence cumulating that different traumas have been suggested to lead to differing PTG outcomes (Chopko et al., 2018; Hefferon et al., 2009; Karanci et al., 2012; Kira et al., 2013; Kılıç et al., 2016; Shakespeare-Finch & Armstrong, 2010; Shuwiekh et al., 2018). The following subsection will therefore discuss the five domains with depth, connecting these to the current findings in the area of acquired disabilities, physical activity and adaptive sport.

1.5.1. Personal Strength

‘cause a lot disabled athletes have done you know – you know done stuff like you know had to learn to walk again or faced a lot of random challenges and stuff and you’re quite strong mentally -- you can deal with you know setbacks and defeats and all that sort of thing I think a lot easier.’ (Anthony in Kampman & Hefferon, 2020, p.79)⁵

The first domain, *personal strength*, can be summarised by seemingly paradoxical aspects of human experience, the co-existence of vulnerability and strength. Individuals discuss understanding the fleeting nature of life, thus connecting to their vulnerability (Tedeschi et al., 2018). However, at the same time, individuals recognise their personal strength, as they perceive that they survived something unimaginable (Hefferon et al., 2009; Tedeschi et al., 2017). The descriptions in this domain often entail ideas about understanding own values better, living an authentic life according to own values and having a sense of strength i.e., *‘I am more vulnerable than I thought, but much stronger than I ever imagined’* (Calhoun & Tedeschi, 2006, p.5). Tedeschi et al. (2018) suggest that this newfound knowledge can lead to behavioural changes such as seeking to learn something new. Items which relate to the personal strength outcome in PTGI-X ask the participant if they feel they are ‘stronger than they thought they were’ and if they are ‘being able to accept how things work out’ (Tedeschi et al., 2017, p.15). The PTGI-X additionally asks if individual perceive they can ‘handle difficulties’ better and have a sense of ‘greater self-reliance’ since the traumatic event (Tedeschi et al., 2017, p.15)

In sport this has been reported as having mental toughness due to the trauma experience and being able to handle the competitive environment better because of this new

⁵ This study is researchers study conducted prior to the PhD.

perspective (Crawford et al., 2014; Day & Wadey, 2016; Kampman & Hefferon, 2020). Paralympic athletes have also reported gaining personal strength through sport, such as the opportunity to ‘expand upon their previous identity’ (Hammer et al., 2019, p.679), parasport empowered people to overcome their fears and ‘living life to the fullest’ (Allan et al., 2018, p.173). These preliminary findings suggest that it would be valuable to investigate the sport environment to understand better how the behavioural changes manifest and develop in athletes.

1.5.2. Appreciation of Life

‘I have a greater appreciation for things. I didn’t realize how lucky I was until. I mean with my type of injury I shouldn’t be able to move my arms. I got really lucky and I have full use of my upper body.’ (P11 in Crawford et al., 2014, p.402)

Individuals reporting growth after trauma are often referring to a greater appreciation of life in general as well as for the aspects of life that are still existing. This domain is often described as relating to being able to appreciate the facets of life that before were insignificant or mundane. Often the appreciation is extended towards the people in one’s life (Tedeschi et al., 2018). When facing a trauma, people often ‘experienced, witnessed, or were confronted with an event or events that involved actual or threatened death or serious injury (APA, 1994, pp. 427-428). The sudden mortality awareness caused by the trauma can sometimes lead to appreciation for even the smallest aspects of human existence and is quite commonly reported among individuals (Calhoun & Tedeschi, 2006; Tedeschi et al., 2018). To tap into how if at all individuals feel they have changed in this domain since their traumatic event, the PTGI-X asks the individuals whether they feel that they can ‘better appreciate each day’, if they have a

‘greater appreciation for value of own life’ and if perhaps they have ‘changed’ their ‘priorities’ (Tedeschi et al., 2017, p.15).

For individuals with spinal cord injuries this domain has manifested as a feeling that one has been ‘spared from the death’ or ‘given another chance in life’ (Crawford et al., 2014, p.402). After an injury, the appreciation of life often displays as having a greater perspective, clarity, and a will to stay present in one’s life (Crawford et al., 2014; Wang et al., 2013). Already in an interview study done in 1956 an injured man stated ‘I have a sharper appreciation of things I valued before—health, happiness, comfort, friendship. I am a hedonist. I feel lucky for just being here.’ (Dembo, Leviton, and Wright, 1956 in Dembo et al., 1975, p.57). Furthermore in adaptive sports, individuals also felt that ‘sport allowed them to appreciate their bodies’ and ‘recognize the importance of strength and endurance’ (Crawford et al., 2014, p.403). These findings indicate the importance of understanding the corporeal growth experiences among athletes with acquired disabilities better and the role of the body in these growth outcomes.

1.5.3. Relating to Others

“My outlook on life is so different now. I go down to the gym and I’ve got great friends, people who really mean something to me, I’ve got something to aim for and something that I’m good at. But overall, I’m a much nicer person.” (Andrew in Day, 2013, p.2069)

Individuals reporting PTG often describe closer and more authentic relationships with family, friends, or other communities in their lives. This can be seen spending more time with important people, investing time into one’s relationships and experiencing closeness. Questions related to this domain in the PTGI-X include items around appreciating people: ‘Learned a great deal about how wonderful people are’; and investing into existing

relationships: 'I put more effort into my relationships'; and experiencing closeness towards others: 'I have a greater sense of closeness with other' and 'I can count on people in times of trouble' (Tedeschi et al., 2017, p.15). Furthermore, relating to others could exhibit as having more empathy and kindness towards fellow humans and thus the PTGI-X includes an item asking if individuals 'have more compassion for others' (Tedeschi et al., 2017, p.15).

This domain has been a common finding in individuals with severe injuries, people reporting appreciating interpersonal relationships in their lives more such as *family and friends* (Crawford et al., 2014; Lau & van Niekerk, 2011; Roundhill et al., 2007; Wang et al., 2012), *hospital staff and community* (Salick & Auerbach, 2006; Roundhill et al., 2007; Lau & van Niekerk, 2011; Wang et al., 2012; Crawford et al., 2014) and *church leaders or spiritual guides* (Lau & van Niekerk, 2011; Calder et al., 2011).

In adaptive sports, research shows evidence of individuals developing new meaningful sport-based social experiences. Athletes are benefitting from being around others in similar situations (Day & Wadey, 2016; Hammer et al., 2019) which creates a base for 'deep and meaningful relationships' (Hammer et al., 2019, p.679), leading to a sense of community, cultivation of relationships, camaraderie, and support (Day, 2013; Kampman & Hefferon, 2020). However, further research is required around the process of growth as well, to understand how and when the adapted sport environment elicits positive transformations in individuals.

1.5.4. New Possibilities

All the different opportunities that have come my way that I know never would have happened and so, overall, it probably has been the best thing that has ever happened to me, just because so much of my life right now, so much of how I see myself, somehow links back to that. (Gwen in Hammer et al., 2018, p.679)

As discussed earlier, the traumatic event(s) can pose various challenges for the individual and people often lose some aspects of their lives, such as careers, hobbies or even physical abilities and skills, which is the case in acquired physical disabilities. Within these losses sometimes lies an opportunity to create new pathways for one's life. Different paths can manifest for example as *new careers* (Wang et al., 2013; Griffiths & Kennedy, 2012; Crawford et al., 2014), *going back to forgotten hobbies* (Chun & Lee, 2010) or *starting completely new hobbies which turn into careers, such as becoming a Paralympic athlete* (Kampman & Hefferon, 2020). A career as an athlete can be one of these new possibilities and there have been some reports by athletes with acquired disabilities acknowledging this. For example, in Kampman & Hefferon (2020) Becky stated that without her trauma she *'never would have been competing at this level'* (p.74). Sport has been found to provide opportunities for growth through new roles, such as coaching a sports team (Allan et al., 2018) and has helped individuals recognize possibility through first 'recognizing the boundaries of their capabilities' that is, what they cannot do and then engaging in what they can do, such as participating in adaptive sport (Day, 2013, p.2068).

1.5.5. Spiritual and Existential Change

I think my view of the world is much more open than it used to be... my acceptance and tolerance for other people and other views and lifestyles and religions, like, I think all of that, I've become a little more open and accepting, tolerant of different ways of life. (Sara in Hammer et al., 2019, p.679)

Originally titled as 'spiritual change' this domain in the PTGI asked if individuals have a 'better understanding of spiritual matters' and if they 'have a stronger religious faith' (Tedeschi & Calhoun, 1996, p.460). These items in the spiritual change domain were developed based on the literature findings of common reports of people having their beliefs strengthened due to the adversity experience (Andrykowski, 1992 as cited in Tedeschi & Calhoun, 1996). When the

original PTGI was developed, three broad categories of growth after trauma identified in the literature were used as the basis of the scale: perceived changes in self, a changed sense of relationships with others and a changed philosophy of life (Tedeschi & Calhoun, 1996), the latter entailing religious themes. However, the principal component analysis revealed a five-factor scale, one of which was the 'spiritual change' domain. Since then, subsequent research (Wagner & Maecker, 2010; Weiss & Berg, 2010) has revealed the need for increasing the item numbers as well as broadening the definition to include 'a diversity of perspectives on spiritual–existential experiences that are represented in different cultures' (Tedeschi, et al., 2017, p.11) as well as the potential growth experiences of agnostics and atheists. Currently within the revised PTGI-X scale, this PTG outcome is entitled 'Spiritual and existential change' and now reflects ideas around harmony and mortality as well as interconnections with others (Tedeschi, et al., 2017).

Tedeschi and colleagues (2017) argue that individuals reporting growth in the new domain would perceive having better understanding about life's meaning, able to face questions about life and death, feel more connected with all of existence and have a greater sense of harmony with the world (Tedeschi, et al., 2017, p. 24). The new items ask individuals if they have a 'greater sense of harmony with world', or if they are 'more connected with existence'. Furthermore, the items tap into mortality salience by asking if individuals are 'better able to face questions about life/death' and if they have 'greater clarity about life's meaning' (Tedeschi, et al., 2017, p. 15).

This update to the domain is relevant as some qualitative studies are already reporting findings which are reflecting, harmony, mortality, and existential changes. For example, Paralympic hopefuls have reported that sport helped them to achieve 're-established meaning' in their lives and produced 'enhanced meaning' (Day, 2013, p.2069), and elite female athletes

have reported *searching and finding meaning* from their adversities and *gaining a desire to help others* (Tamminen et al., 2013). Leisure, including physical activity, has been found to aid *meaning making* and *harmony* in individual lives (Iwasaki, 2016) and swimmers have identified the need for finding *meaning* behind their adversities (Howells & Fletcher, 2015).

Hefferon et al. (2010) on the other hand found that the body became 'a transient reminder of mortality' in breast cancer patients (p.226). The body was a reminder of death, but it also became a reminder of life in female breast cancer survivors and as such a facilitator of growth (Hefferon et al., 2010). These reminders of death can be linked to the Terror Management Theory (TMT; e.g., Routledge & Vess, 2018), which suggests that the 'awareness of death is a critical motivating force in human behavior' (Vail et al., 2012, p.304). Much of the previous work has focused on the negative aspects of mortality awareness such as how people might be willing to harm themselves or others to hold on to cultural structures and religious belief to keep the death anxiety at bay. However, Positive Terror Management Theory (PTMT) adds to these ideas and defines PTMT as 'existentially motivated attitudes or behaviours that minimize harm to oneself and others, and promote well-being in physical, social, and psychological domains' (Vail et al., 2012, p.305). Vail and colleagues argue that mortality awareness can potentially foster 'growth-oriented behaviours' (Vail et al., 2012, p.303). Therefore, as Hefferon et al. (2010) suggested a bodily illness can be a permanent reminder of trauma, making the body itself a mortality salient environment and perhaps a route to growth. The role of mortality salience in PTG among athletes with acquired physical disabilities has not been explored and could offer a valuable avenue for understanding better the growth processes and outcomes in this participant pool.

1.6. Adaptive Sports, Athletes with Physical Impairments and Posttraumatic Growth

Much like research around acquired physical disabilities in general, the vast majority of the original work among individuals with acquired physical disabilities participating in sports has focused on adjustment and recovery, with an emphasis being on rehabilitation (Brittain & Green, 2012). Adaptive sport has evolved from its original rehabilitation roots, towards leisure and elite sport (McCann, 1996). However, only during the last decade have scholars started to truly investigate the potential role of adaptive sport through the lens of PTG (Crawford, Gayman, & Tracey, 2014; Day, 2013; Day & Wadey, 2016; Hammer et al., 2018, 2019; Kampman & Hefferon, 2013; 2020; Wadey et al., 2021). Thereby shifting from the traditional deficit model to a focus on strengths and positive attributes gained after an acquiring a physical disability (Wehmeyer, 2013; Wehmeyer & Shogren, 2014)

In addition to the findings explored throughout this literature review, athletes with disabilities have reported that adaptive sport facilitates their growth by ‘recognizing possibility by acknowledging limitations’ (Day, 2013, p. 2064) and helps them to ‘process their injuries’ (Crawford, et al., 2014, p. 399). Furthermore, through adaptive sport, athletes have recognised their ‘responsibility for choice and consequences’ (Day, 2013, p. 2064), gained ‘independence’ and ‘self-identity’ (Crawford, et al., 2014, p. 399), as well as ‘competence’ and ‘empowerment’ (Hammer et al., 2018, p. 674). Athletes have observed that adaptive sport has helped them to ‘re-establish and enhance meaning in their lives (Day, 2013, p. 2064.) and provided them with improved ‘clarity and perceptions of life’ (Crawford, et al., 2014, p. 399). These are promising findings and as such demand further research.

Several gaps in the literature remain. Firstly, the role of acquired physical impairment leading to a disability in sport as well as in the wider PTG literature requires more attention.

Secondly, the majority of research to date has been cross-sectional, in-depth and exploratory, providing an excellent overview of the characteristics of PTG among athletes with acquired disabilities, but without elucidating how the *process of growth evolves* among athletes with acquired physical disabilities who participate in adaptive sports. Additionally, a more critical stance could be adopted into these investigations to explore the potential challenges of these adaptive sport environments for the growth process and outcomes. Furthermore, to date there is only one study (Kampman & Hefferon, 2020) which has explicitly explored the role of the body in PTG and C-PTG in adaptive sport environments, even though the body is at the centre of both acquired physical disability and adaptive sport. Leading experts in the area of adversity and sport have called for more investigation on this area (Wadey et al., 2021). In a similar vein, the role of the team and team environment in PTG and C-PTG has not been purposefully investigated, or as Mellalieu (2021) states ‘there has been little consideration of growth from adversity at the relational, group or organisational level’ (p.235). However, the team and the team environment could offer a range of benefits for the process and outcomes of growth.

For example, some investigations show promising outcomes for participating in physical activity and sports in a team setting (Chen et al., 2020; McDonough et al., 2011). Several sociocultural facilitators of growth have been found which could be due to the team setting; such as athletes reporting having a support network or ‘sport family’, connections with similar others (i.e., people with disabilities), belongingness and engagement (Allan et al., 2018), feelings of kinship and support, opportunities to learn from others, ‘sense of community’, and relating to individuals with similar circumstances (Hammer, et al., 2018, p.678), enhanced relationships (Day & Wadey, 2016), contributing to others in similar situations, and the opportunity to meet new people and learn from them (Crawford, et al., 2014). However, a

comprehensive exploration of the benefits of adaptive teams for growth process and outcomes has not been conducted. As eluted in the literature review, the process of PTG can take various shapes, through emotional and cognitive processing, as well as relating to the social and contextual setting (Tedeschi et al., 2018). Thus, athletes with acquired physical disabilities reporting PTG could potentially have both unique trauma-specific outcomes of growth, and a unique process of growth facilitated by the team sport environment.

There is also a call from within the field that researchers studying PTG should employ more methodological pluralism in their examination of growth (Tedeschi et al., 2018; Wadey et al., 2021). Rather than focusing solely on qualitative or quantitative methods, researchers are encouraged to employ mixed methods designs to investigate the theory (Wadey et al., 2021; Hefferon & Kampman, 2021; Lomas et al., 2020). More embodied research methods, such as immersing oneself into the sports or using creative ways to capture growth during interviews are required to explore such a complex phenomenon as PTG (Wadey et al., 2021, Hefferon and Kampman, 2021).

1.7. Core Aims and Rationale for this Thesis

Due to the gaps in the literature noted above, and the request for mixed methods designs in research, the aim of this exploratory sequential mixed methods design, employing methodological eclecticism (Johnson & Onwuegbuzie, 2004b), was to explore the role of adaptive team sport in the process and outcomes of Posttraumatic Growth (PTG) in athletes with acquired physical disabilities in Great Britain. Therefore, looking specifically at the potential role of the team and the body in the process and outcomes of PTG after the trauma of acquired physical impairment leading to a disability. This qualitatively driven mixed method design comprises three sequential phases:

1.7.1. Understanding Severe Injury and Posttraumatic Growth

Phase I: A meta-synthesis of qualitative findings around severe physical impairments and posttraumatic growth, to elicit further understanding around the embodied elements of PTG associated with this trauma type. Thus, the aim of the first phase⁶ of this thesis was to synthesise the qualitative findings in this area. The exploration around the trauma in this participant pool was a strong vein throughout this thesis in each phase.

1.7.2. Constructing a Model of the Complex Relationship Between Acquired Physical Disability, Body, Adaptive Team Sport and Posttraumatic Growth

Phase II: Due to the gaps located in the literature, phase II utilised a Constructive Grounded Theory to form a preliminary model around how the process of growth evolves among athletes with acquired physical disabilities participating in an adaptive team sport. Particularly exploring the role of the body and team in the process and outcomes of growth among both leisure and elite athletes.

1.7.3. Exploring the Complex Relationship Between Trauma, Body, Team, Growth and Wellbeing

Phase III: A cross-sectional convergent design, utilising correlational design, and reflexive thematic analysis to explore the role of trauma, body, team, and self-transcendence in the wellbeing and post-traumatic growth of athletes with acquired physical Impairments. Thus, in addition to this thesis being an exploratory mixed methods design, the final phase of this thesis adopted a cross-sectional convergent design to look at the complex relationship between trauma, body, wellbeing and PTG in the adaptive team sport context.

⁶ The word *phase* is used instead of study, to highlight the mixed methods nature of this thesis and to adhere to the rhetoric stance recommended by leading mixed methods researchers (see e.g., Creswell & Plano Clark, 2018)

CHAPTER TWO

METHODOLOGY

2.1. Introduction

The chapter two will introduce and justify the use of the exploratory sequential mixed methods design utilising methodological eclecticism. The chapter will provide an overview of the common worldviews used in mixed methods research and justify the use of pragmatism in this thesis and argue why we should stay curious in our research endeavours, even and perhaps particularly, when it comes to methods and methodologies.

2.2. An Exploratory Sequential Mixed Methods Design Utilising Methodological Eclecticism

Mixed methods research has been described as the ‘third methodological movement’ (Tashakkori, & Teddlie, 2003, p. 697) and a ‘research paradigm whose time has come’ (Johnson & Onwuegbuzie, 2004, p.14). Leading experts in the field, Creswell, and Plano Clark (2018) suggest that the popularity of the method has its roots in the way people collect information in real life: both qualitatively and quantitatively, finding different ways to increase our understanding of a given phenomenon.

The mixed methods approach was chosen for this thesis because the research question required different ways of inquiring it, some which needed to be explored via qualitative inquiry, others which required hypothesis testing and the use of quantitative methods. Larkin (2015) suggests that when researcher is choosing a method, they are choosing to bring ‘a particular view into the foreground’ (p.249). According to Larkin, some researchers are eclectic in their endeavours, and follow the unanswered questions which require variety of tools (i.e., methods) to find answers to these questions. This is in line with this thesis, where the researcher’s pragmatic approach to this thesis guided all the method

decisions, moving from one research question into another. The true shape of this thesis can be only seen now, after the whole journey has been completed.

This chapter will discuss the four levels of designing a mixed methods research study, following the order which was conceptualised by Crotty (1998). At the broadest level we need to acknowledge our *worldviews and philosophical assumptions*. After this we will discuss the *theoretical lens* for this thesis followed by *methodological strategy*, and the *research design*. Finally, all this will then lead to *methods*, the very techniques to collect the data. Researchers approach mixed methods designs in various other ways as well. Tashakkori and Creswell (2007) noted that there are two ways in which mixed methods designs are most commonly approached: 1) collecting and analysing two types of data (i.e., quantitative, and qualitative); and 2) integrating two approaches to research (quantitative and qualitative). The latter approach is closer to Crotty's conceptualisation and thus more in line with this thesis. Tashakkori and Creswell (2007) continue that these approaches come with four, often overlapping, perspectives: the method perspective, the methodological perspective, the paradigm perspective, and the practice perspective.

In the *method perspective*, mixed methods are approached by focusing on the methods, i.e., using different ways of collecting and analysing data. Here the emphasis is heavily on the collection of data in different ways. However, the *methodological perspective* argues that methods cannot be separated from methodology in mixed methods. This includes the philosophical assumptions, questions asked, how the data is collected, analysed, and interpreted. Thus, the methodological perspective aligns more closely with Crotty's conceptualisation and this thesis. Even stronger emphasis is placed on the philosophical assumptions with the *paradigm perspective* which argues that mixed methods research is 'less about methods or the process of research and more about the philosophical

assumptions that researchers bring to their inquiries' (Tashakkori and Creswell, 2007, p.305). However, in this thesis methods and process were essential aspects of the mixed methods inquiry even though the research was clearly informed by the philosophical assumptions. Furthermore, this thesis also acknowledges *the practice perspective*, which suggests that the need for using mixed methods emerge naturally from the questions that the researcher has.

All the above-mentioned approaches have value, and the key is to be transparent in what has been done as quite often a mixed method is a mix of these perspectives. Cuba has written that 'having the term not cast in stone is intellectually useful and allows for reshaping understandings' (Cuba, 1990, p. 17). In this thesis, the need for mixing methods emerged from the research questions and practicality. However, the researcher's worldview informed each decision, guiding the decision making around which questions would be explored.

2.2.1. Worldviews and Epistemological Assumptions

There are four commonly used worldviews that inform mixed methods research: the postpositivist, constructivist, transformative, and pragmatist (Creswell & Plano Clark, 2018). The following section will briefly describe all four and then build an argument to justify the use of the pragmatist worldview to inform this thesis. The section will discuss pragmatism with more depth as it is the worldview informing this thesis.

2.2.1.1. Postpositivist Worldview. The postpositivist worldview relies on empirical observation and measurement to verify and refine a theory. Researchers conducting research under the postpositivist worldview are often quantitatively driven, thus mainly relying on determinism (cause and effect) and reductionism (focusing on specific variables) to inform

the study design (Creswell & Plano Clark, 2018). A post-positivist study could for example aim to understand a studied phenomenon through longitudinal design, collecting both cross-sectional and experimental data or qualitative and quantitative data to triangulate the findings (Panhwar et al., 2017). Post-positivism utilises multi-methods to understand the phenomenon. It does not suggest that absolute truth exists (c.f. positivism), rather it uses different methods to get a more in-depth understanding of the studied phenomenon (Cuba, 1990). The emphasis, however, is to understand the results 'in the context of involving the experiences of the majority' thus, relying more heavily on the quantifiable data (Panhwar, et al., 2017, p.253).

2.2.1.2. Constructivist Worldview. A quite different set of assumptions are embraced when researchers work from a constructivist worldview. Here the aim is to understand multiple meanings generated by participants shaped by social interaction and their own histories (Creswell & Plano Clark, 2018). This qualitatively driven exploration is interested in the participants' subjective views and in generating a theory. Mason (2009) suggests that a 'qualitatively driven' approach to conducting mixed methods can illuminate the complexities as well as the context of a given phenomenon. Qualitative research can bring depth into the research knowledge generated and therefore add tremendous value into quantitative generalization, illuminating context and proving explanations (Mason, 2006). Taking a qualitatively driven approach to mixing methods has implications on how the researcher approaches 'meshing' of the qualitative and quantitative data. Rather than integrating the results, a constructivist worldview would aim for 'looser formulations' thus 'linking' the findings derived from qualitative and quantitative data streams (Mason, 2006, p.20).

2.2.1.3. Transformative Worldview. The transformative worldview is oriented towards change fuelled by the need for social justice (Creswell & Plano Clark, 2018; Mertens, 2010). Working from this worldview there is an aim to empower and aid human rights. Research informed by the transformative worldview is focused on specific communities in the ‘margins of society’ (Creswell & Plano Clark, 2018., p.37). Here the emphasis is on collaborations with the participant pool, interacting within the community. Mertens (2010) suggests that through recognising that ‘realities are constructed and shaped by social, political, cultural, economic, and racial/ethnic values’ researchers acknowledge that power and privilege will also have implications for research, that is, which realities will be explored (Mertens, 2010, p.212). In transformative research, the qualitative explorations enable the researcher to immerse into the community to gather perspectives, whereas the quantitative data can illuminate the importance of the findings to policy makers, the wider community, and scholars (Mertens, 2010).

2.2.1.4. Pragmatist Worldview. Finally, the pragmatist worldview emphasises the consequences of the conducted research and is heavily problem focused, meaning that the research question at hand leads the research quest. Pragmatist epistemology emphasises the process of knowledge seeking, the *inquiry* (Legg & Hookway, 2020). Research conducted within the pragmatist worldview is pluralistic in its methods and has a real-world practical focus (Creswell & Plano Clark, 2018). Pragmatism has its roots in the philosophy of pragmatism which started in the United States with Charles Sanders Peirce (1839–1914) and was popularised by William James (1842–1910) (Legg & Hookway, 2020). William James suggested that the history of philosophy is ‘to a great extent that of a certain clash of human temperaments’: the ‘tough-minded’ and the ‘tender-minded’ (Legg & Hookway, 2020, para

8). The tough-minded were searching for the “the facts”, whereas the tender-minded were calling for ratiocinations i.e., reasoning. Thus, pragmatism was offered as an ‘mediating philosophy’ to reconcile ‘the scientific loyalty to facts’ with ‘the old confidence in human values’ (Legg & Hookway, 2020, para 9). The pragmatic theory of truth suggests that truth is partly defined based on its utility, that is, what works in a given situation. Thus, for example true statements could be those which are ‘useful to believe’, however, are a product of an inquiry and have been examined thoroughly (Capps, 2019, para 1).

This thesis adheres to **pragmatism**, thus valuing both subjective and objective realities. Pragmatism was considered the most fitting worldview for the research question rather than the alternatives: *post-positivism*, *constructivism* and *transformative*. When this thesis commenced in 2013, research in the area of posttraumatic growth and athletes with acquired physical disabilities was sparse. Furthermore, to the best of the researcher’s knowledge, no inquiries had been conducted looking at the specific role of team sport in this context. It was also unclear what role the body was in the growth process in this participant pool. Thus, the initial research question ‘what is the relationship between post-traumatic growth, adaptive team sport and the body, in elite athletes with acquired disabilities’⁷ required a flexible approach to methods as the researcher needed to explore the phenomenon and attempt to form a theory, prior to deciding how to move forward. As the initial research question was qualitative in nature (explore) the mixed methods design had to reflect a qualitatively driven design and worldview. The researcher focused on keeping their direction open, letting the research findings inform the next steps, asking continuously: which question(s) will emerge from the findings? Which question(s) require attention and

⁷ Final research question: Inquiring the role of the body and adaptive team sport in the posttraumatic growth experiences of leisure and elite athletes with acquired physical disabilities.

research? The researcher also asked *what is practical* and *possible* within the resources available? Pragmatism enables the researcher to conduct practical choices informed by the questions and resources available (Bishop, 2015; Yardley & Bishop, 2015). Thus, taking a pragmatist worldview, the researcher was able to study both multiple (constructivism) and singular (post-positivism) realities and collect data in a way “that works” for the question at hand (Creswell & Plano Clark, 2018, p. 37). The *axiology* and *methodology* of pragmatism is also eclectic in accordance with the methods, allowing the researcher to be engaged with their biases through interpretation and reflection (constructivism) as well as to take distance and eliminate bias (post-positivism). Pragmatism also shapes the stance of the *language* used during the research, analysis, and results: moving from informal to formal in different aspects of the thesis (e.g., personal, written memos, reflections), respecting the *rhetoric* stance in each methodology.

2.3. Conceptual Framework or Theoretical Rationale

This thesis utilised a qualitatively driven exploratory mixed methods design and as such it builds and proposes a new theoretical framework. The work complements the previous theories in the area of PTG; however, it enables posttraumatic growth to be understood in a acquired physical disability context as well as within the environment of adaptive team sports. The aim of this thesis was to explore the role of the body and adaptive team sport in the process and outcomes of growth in athletes with acquired physical disabilities. The previous work and theories in the area of PTG are recognised to a great extent during this thesis (Hefferon et al., 2009; Hobfoll et al., 2007; Jayawickreme & Blackie, 2014; Maercker & Zoellner, 2004; Tedeschi et al., 2018). The aim was always to build on these existing posttraumatic growth theories. More specifically, the aim was to *inquire* into the differing

roles that the experience (i.e., trauma type, visible physical trauma) and the context (leisure and elite adaptive team sport environment) had in the growth experiences of these athletes. This interest towards the differing routes and outcomes after traumatic events, rather than a critique of the existing models, was a driving force for this thesis.

Whereas disability studies and sport studies will inform to some extent the theoretical framework of this thesis, as they are essentially providing much of the context to this thesis, it is important to emphasise that this is not a disability study nor a sport study. The priority of this thesis was to understand the theory of posttraumatic growth better in this specific context. The findings from this thesis can inform to some extent both disability and sport disciplines. However, this must be done with criticality, as the aim of this study is mainly to understand the process and outcomes of growth better.

The theory of posttraumatic growth is often studied under the field of Positive Psychology, a field originally devoted to the scientific method (Seligman & Csikszentmihalyi, 2000). Hefferon and colleagues (2017) questioned this emphasis on a post positivist view when aiming to understand optimal human functioning and called for qualitative research. They asked the very poignant question: ‘Where is the “person” in positive psychology?’ (Hefferon et al., 2017, p.211). Whereas qualitative methods have now been slowly embraced by positive psychology and the latest text book from the leading experts in the field of PTG dedicated a whole chapter on qualitative methods (Tedeschi et al., 2018), mixed methods designs are still sparse. Thus, the natural next advancement in the field of positive psychology as well as in the study of PTG is utilising mixed methods designs in research (Tedeschi et al., 2018). This is supported by Lomas et al., (2020) and their call for the third wave in positive psychology. The second wave or positive psychology 2.0, embraced the ‘dark side’ of human experience, thus researching the role of negative experiences (such as trauma) in optimal

functioning (Wong, 2011). The third wave is now calling us to adopt further complexity in research, characterised 'as various types of epistemological 'broadening.' (Lomas et al., 2020, p.4). Particularly pertinent for this thesis is the call for 'diverse, inclusive, complex, and 'hospitable'' research, including new paradigms and various ways of knowing. Furthermore, the third wave is asking the researchers to move beyond the individual, to become interdisciplinary and embrace multicultural research endeavours (Lomas et al., 2020). Therefore, it is suggested that this could include researching a participant pool which is often left outside of optimal functioning: individuals with acquired physical disabilities. With this thesis, the author is asking the reader to think: who are you leaving out when you are defining optimal functioning? The experience of acquiring an impairment leading to disability has been investigated from the pathological perspective in various ways, however, the tide is turning on this research as well, and more scholars are starting to look at what it means to live a good life with an impairment and disability (Dunn et al., 2017; Wadey et al., 2021; M. Wehmeyer, 2013). The researchers are starting to ask how we can understand the 'potentially valuable experience of acquiring a disability' better (Elliott et al., 2002, p.687).

To understand the role of the unique trauma experience which has a substantial impact to the body, as well as the specific environment of adaptive team sport in posttraumatic growth, the exploration in this thesis required a bottom-up approach. Thus, the theoretical framework, a working theory of this thesis, grew together with the researcher with each step informing the next. As Creswell and Plano Clark (2018) suggested, a project can start 'with a qualitative orientation...used to inductively develop empirically grounded theoretical concepts and hypotheses', which is then followed by 'a quantitative examination of the applicability of the concepts to other or similar domains' (p.46-47).

The next section will discuss the research design rooted in pragmatism, informed by

the aforementioned theoretical framework; first by introducing some of the basic terminology in mixed methods and then discussing the different mixed methods research designs, before delving more deeply to the exploratory sequential design. Finally, we will move on to discussing the limitations and values of mixed methods research.

2.4. Research Design

This section will first define the key terminology around mixed methods designs i.e. *methodology*, *design*, and *methods*. It will introduce two common ways that mixed methods are approached: 1) collecting and analysing two types of data and 2) integrating two approaches to research. The section will justify the use of the latter in this thesis.

2.4.1. Basic Terminology in Mixed Methods

When approaching mixed methods designs it is useful to discuss what is meant with commonly used terms, which can be understood differently even among mixed methods researchers. Creswell & Plano Clark, (2018) suggests that clarification between *methodology*, *design*, and *methods* is essential prior to embarking towards a definition of mixed methods designs.

Methodology relates to the strategy used to conduct the research. It entails the fundamental assumptions that the research subscribes to. The chosen philosophical framework, acknowledging the worldview of the research(er) is the very foundations of any research endeavour (Creswell & Plano Clark, 2018). *Methods* are the tools and techniques that are fitting to collect as well as analyse data in accordance with the philosophical framework, and thus the methodology. *Design* is the plan of action, to utilise the fitting methods within a chosen methodology. The following section will explain what the core

characteristics of mixed methods research are before introducing the three designs that are often utilised in mixed methods research: *the convergent design*, *the explanatory sequential design*, and *the exploratory sequential design*.

2.4.2. Core Characteristics of Mixed Methods Research

Tashakkori and Teddlie (1998) take a stance that when the researcher combines qualitative and quantitative approaches in the methodology of a study this is called *mixed methods*.

However, they state that *mixed model* studies keep this approach throughout the different phases and include aspects of conceptualization, collecting and analysing data as well as consider the inference throughout the phases of the given research piece. Tashakkori and Creswell (2007) emphasise that in mixed methods research ‘the investigator collects and analyses data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or a program of inquiry’ (p.4). It is essential that the studies are integrated and analysed together to form a unified interpretation, rather than conducting separate analyses.

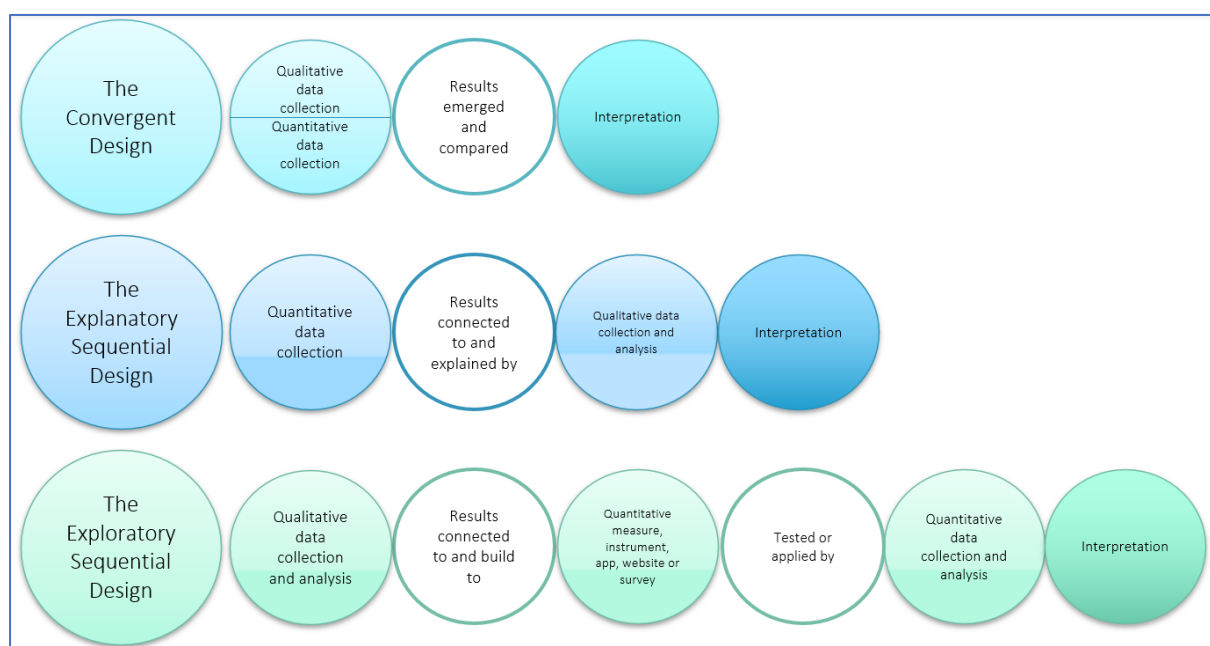
Cresswell and Plano Clark (2017, p.5.) suggest that there are four core characteristics of mixed methods research which should be visible in any mixed method endeavour. *Firstly*, the mixed methods study should collect and analyse both qualitative and quantitative data. In this thesis, the data collection was moving from qualitative towards quantitative. Following the good practises in mixed methods, the researcher approached all the chosen methods with rigour, seeking expertise in each phase from workshops and supervision team (Creswell & Plano Clark (2011; 2017). Furthermore, the methods reflected the research questions and hypothesis arising from previous phases, thus again adhering to the best practices in mixed methods research. *Secondly*, the two forms of data should be mixed, combined, or integrated

in the study results. Integration can be utilised in mixed methods through *the design, use of methods* and *in the way the interpretation of results* is done (Fetters et al., 2013). In this thesis, the integration was employed at the design level, thus the integration was embedded in each phase informing the next and finally in the last phase by collecting and analysing both quantitative and qualitative data simultaneously. *Thirdly*, a clear research design should be underpinning and organising the procedures, thus providing a clear logic for the study. *Fourthly*, the mixed method study should be framed according to a theory and philosophy, such as pragmatism as used in this thesis.

2.4.3. Three Core Mixed Methods Designs

Mixed methods *are a research design*, and according to Creswell and Plano Clark (2018), there are three core mixed methods designs: *the convergent design, the explanatory sequential design, and the exploratory sequential design*. As this thesis is following the latter, we will next focus on this design. However, for an overview of all three core designs, see figure 2.

Figure 2 – Three Core Mixed Methods Design



*Source: adapted from Creswell and Plano Clark (2018)

2.4.3.1. The Exploratory Sequential Design. Pragmatism starts with the question, that is, placing the research question in the centre of the studied phenomenon. The research question thus informed the decisions around the best methods to utilise during this thesis. To inquire in to the role of the body and adaptive team sport in the process and outcome of Posttraumatic growth (PTG) in athletes with acquired physical disabilities, this thesis employed an exploratory, qualitatively driven, sequential mixed methods design (Creswell, 2010; Creswell & Plano Clark, 2018). The complexity of the theory intertwined with subjectivity of the participants' experiences and the unique context of this study. The researcher needed to adopt various ways of seeing, hearing, feeling, cocreating and seeking knowledge to understand this complex phenomenon of posttraumatic growth within athletes with acquired physical disabilities participating in adaptive team sports. The process of research had to be organic because adaptive sport appeared to be 'like a living, breathing thing' for these athletes (Abby, phase II); thus, the researcher needed to live and breathe with it. The sequential design emphasised the exploratory nature of this thesis. The use of methods was in line with eclecticism, meaning 'choosing what appears to be the best from diverse sources, systems or styles' (Tashakkori & Teddlie, 2009, p.286). Beginning with constructivist philosophy and then continuing into post positivism, the exploratory sequential mixed methods design is utilising a '*methodological pluralism or eclecticism*', resulting in multidimensional perspectives of the phenomena (compared to research utilising a monomethod) (Johnson & Onwuegbuzie, 2004, p.14, *italics added*).

Integrating and linking both quantitative and qualitative methods brings additional value to the research design and analysis of the findings through both deepening and expanding the findings (Creswell & Plano Clarke, 2018; Fetters et al., 2013). In this thesis, the

integration of the qualitative and quantitative methods started at the design level as each completed study informed the next phase of the research (see Appendix A for study flow).

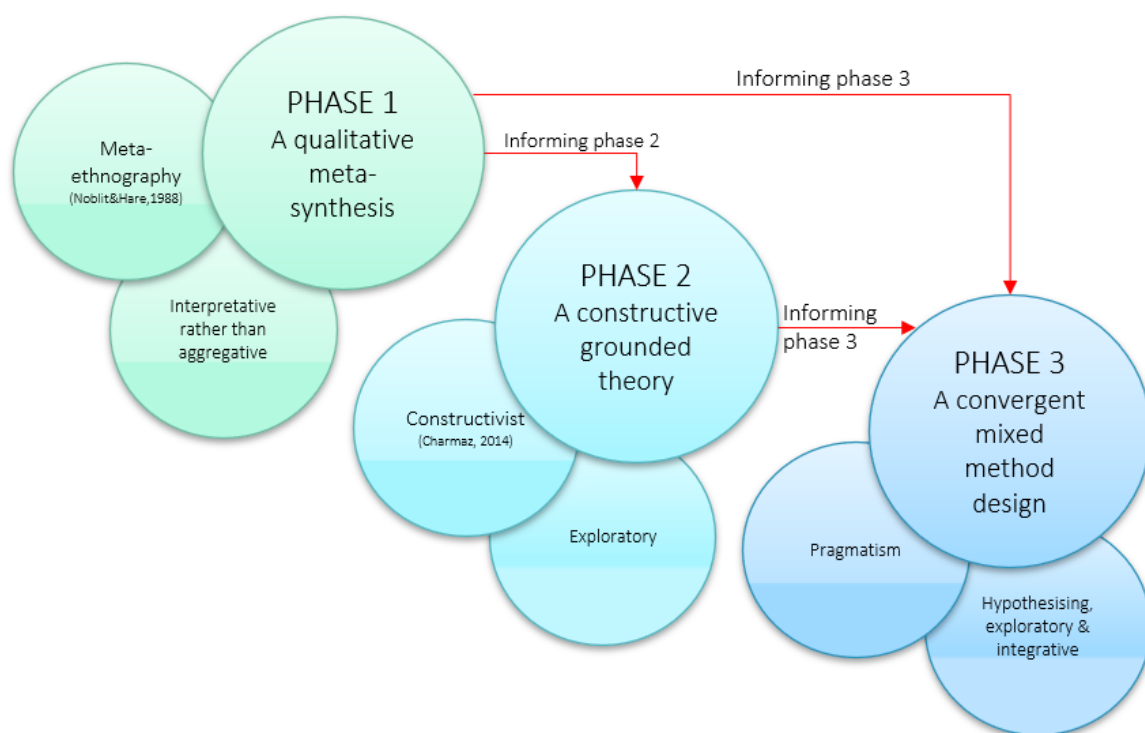
The thesis comprises of three sequential phases which were each approached with the quality and rigor expected from each methodology (see Figure 3), whilst keeping the overall inquiry mixed. This thesis is expanding on the previous work of Hefferon et al. (2010) where they found that body has an essential role in the PTG experiences of women after breast cancer. Hefferon's work additionally found that physical activity could potentially facilitate PTG experiences in women recovering from breast cancer (Hefferon et al., 2008). Leaning on Hefferon's work, the researcher explored qualitatively the role of sport and the body in PTG experiences of Paralympic athletes in her MSc dissertation (Kampman & Hefferon, 2013; 2015; 2020). Therefore, this thesis aimed to expand on the promising findings from the MSc dissertation as well as to build on Hefferon's previous work in the area.

Hefferon and colleagues conducted a qualitative meta-synthesis in the area of life-threatening illnesses (Hefferon et al., 2009) and it was argued that individuals reporting growth after severe injuries and impairment leading to disability, would potentially report differing outcomes due to the direct and often visible impact to the body. This led to the first phase of this thesis, which utilised a qualitative meta-synthesis to explore and synthesise the findings around severe physical impairments and posttraumatic growth, in order to elicit further understanding about the state of the qualitative knowledge in the area as well as around the elements of PTG associated with this trauma type. Phase II (informed by phase I and wider literature), was a qualitative exploration utilising a constructive grounded theory to form a preliminary model of the complex relationship between acquired physical disability body, adaptive team sport in the process and outcomes of growth in both leisure and elite environments. This phase employed semi structured interviews and an adapted lifeline

method to collect qualitative data from athletes (Boden et al., 2019; B. Smith & Caddick, 2012; Williams, 2018). Finally phase III (based on phases one and two), utilised a cross-sectional convergent mixed method design, to explore the relationships between key variables found in previous phases (trauma, body, cohesion and self-transcendence) in the wellbeing and growth of athletes with acquired physical disabilities. Qualitative questions were derived from phases one and two and designed to be integrated with the quantitative findings.

As a sequential design, each phase informed the next and the final discussion is a unified interpretation of all three phases. The integration of the findings has been done through ‘connecting’ and ‘embedding’ the different data findings. The final phase involved ‘integrating’ the quantitative findings into the qualitative findings (Creswell & Plano Clark, 2011). Thus, this thesis utilised integration through *the design, use of methods* and *in the way the interpretation of results* was conducted (Fetters, Curry, and Creswell 2013).

Figure 3 - An Exploratory Sequential Mixed Methods Design Utilising a Methodological Eclecticism



2.5. Procedures for Enhancing, Evaluating, and Demonstrating the Quality of Mixed Methods Research

As a mixed methods approach, this thesis aimed to adhere to each phase of the study with the rigour fitting to the chosen method and grounded in the epistemology of each step. The following section will discuss the quality procedures of mixed methods in general. However, later sections in this thesis, will discuss the specific measures taken to guarantee quality in each phase of the thesis: qualitative meta-synthesis (Phase one), constructivist grounded theory (Phase two) and finally convergent design (Phase three). The following section will first discuss how to adhere to quality in mixed methods designs in general. The section will then move on to discuss the potential limitations of a mixed methods design. After which the thesis will move on to the next chapter of this thesis: chapter three.

2.5.1. Quality in Mixed Methods Research

Pluye et al., (2009) combined three different guidelines to evaluate the quality of planning, designing, reporting, and assessing of mixed methods designs. The three combined guidelines utilised were from Creswell and Plano Clark (2007), O’Cathain and colleagues (2008) as well as from Good Reporting of A Mixed Methods Study (GRAMMS) (see the Appendix B as adapted from Pluye et al., 2009, p.536), to illustrate the different aspects that each can bring to evaluating good mixed methods research. This thesis used these combined guidelines to plan, conduct and report findings (see Appendix B). The following section will discuss the specific actions taken in this thesis to adhere to good practices in mixed methods.

Firstly, it is essential to discuss the role of qualitative and quantitative research. The worldview that will guide the research project will perhaps place stronger emphasis on one approach or the other (for example, the current programme of research was qualitatively

driven). Nevertheless, mixed methods research should still approach both qualitative and quantitative studies with equal rigour, adhering to the good practices in each (Cresswell and Plano Clark, 2007, 2017). For the researcher to be able to approach each methodology with rigour and transparency, the design of the overall investigation must be clear in a mixed methods research piece (here as an exploratory sequential mixed methods design utilising a methodological eclecticism). The design adopted should include rigorous data collection and analysis procedures adhering to each methodology used. In this thesis this was done partly through discussing and writing up the thesis in 'phases', thus carving a space for each methodology to be discussed with relevant language and rigour. Furthermore, 'phases' reflect the sequential nature of this thesis, illuminating the interconnectedness of each study.

The aforementioned rigour and respect for each methodology has to be reflected in the literature as well. Cresswell and Plano Clark (2007, 2017) suggest that in approaching the research in a mixed methods way, the literature must echo this: through reviewing, synthesising and critically discussing literature from both qualitative and quantitative sources as well as where possible, mixed methods research. Thus, the literature review was approached from qualitative and quantitative perspectives as well as mixed methods research. During the different phases of the thesis, the researcher leaned on the literature which reflected the epistemology and design at hand; discussing such sources as was relevant for the synthesis, exploration, and inquiry.

Through adhering to validity, the researcher can bring rigour as well as structure into the mixed method research. However, mixed methods studies are not of course without their limitations, which are critical to take into consideration as well. Therefore, the following section will address some of these limitations and considerations.

2.5.2. Limitations in Mixed Methods Research

Mixed methods designs do have several limitations, which should be carefully considered prior to embarking on any research project of this kind. Creswell and Plano Clark (2018) identify three specific areas of challenges in conducting mixed methods research. Firstly, a mixed methods design requires the researcher to adopt in-depth understanding of various methods and techniques. To be able to conduct equally rigorous analysis in each phase, the researcher must embrace various epistemologies, ontologies, and techniques. Therefore, the researcher has to be familiar with how to explore a meaning-oriented set of questions qualitatively, devise a fitting interview schedule and be able to analyse data by creating codes and themes (Braun & Clarke, 2013; J. A. Smith, 2015). Similarly, the researcher must be familiar with quantitative data collection procedures, understand the role of hypotheses in research, and have an ability to conduct statistical analysis utilising statistical software packages (Fields, 2018). Each methodology must additionally fit the overarching aim of integrating the studies together to form a whole (Creswell & Plano Clark, 2018). Thus, the mixed methods design is perhaps not the recommended approach for new researchers (Creswell & Plano Clark, 2018).

Secondly, utilising mixed methods designs can be very time consuming. This is particularly the case with an exploratory sequential mixed methods design as utilised in this thesis, which requires the researcher to analyse the data prior to collecting the next set of data. This sequential order, with each phase informing the next, requires time. Moreover, the analysis in each phase will inform where the study will be moving next, and hence the researcher must plan the next study between each phase. This is particularly true with the exploratory sequential mixed methods design as the qualitative analysis by the nature of it, will produce new research avenues and opportunities. Creswell and Plano Clark (2018)

suggest that the following must be considered prior to embarking on mixed method research: is there enough time to engage with two different analyses; are there sufficient resources available; and are there suitable personnel and skills available to conduct the study.

Thirdly, Creswell and Plano Clark (2018) recognise that there might be an additional challenge of educating others in the academic community on what is “proper” mixed methods and how to conduct these studies. Mixed methods studies have evolved to be more rigorous, bringing alive the third paradigm in research. However, this is perhaps still not recognised in the science community and even finding mixed methods research in the literature can be challenging due to lack of mixed methods vocabulary used.

Due to these challenges in mixed methods, it is essential that the researcher pays close attention to the quality measures (e.g., transparency, rigour, see also Appendix B) in their design. Adopting an honest and rigorous attitude towards both the limitations and opportunities of the mixed method design, the researcher can bring quality into their mixed methods design.

To conclude, as this thesis has now explored and critically discussed the literature informing this research as well as the wider methodology used in this exploration, the following section will move on to the above-mentioned different phases of this thesis. The following sections will describe and critically discuss each phase and the findings arising from them. The aim is to be transparent with the decisions taken during each phase and how these have informed the next. Therefore, continuously integrating the findings and unravelling the research process.

CHAPTER THREE

PHASE I: A META-SYNTHESIS OF THE QUALITATIVE FINDINGS ON POSTTRAUMATIC GRWOTH AND SEVERE PHYSICAL INJURY⁸

3.1. Introduction

Chapter three will introduce the first of the three phases of the research conducted in this thesis. It will highlight a major gap in the literature around understanding the trauma specific outcomes of growth after severe physical injury. In this chapter the researcher will provide an argument as to why severe injuries have elements that are unique and distinct from illnesses. The chapter will report and critically discuss the findings of the first phase of the exploratory sequential design: a meta-synthesis of the qualitative findings on PTG and severe physical injury.

3.1.1. Humble Beginnings

As briefly discussed in the previous sections, this PhD thesis exploration commenced from the researcher's MSc dissertation study exploring the role of sport in the growth experiences of Paralympic athletes (Kampman & Hefferon, 2013; 2015; 2020). In addition to the researcher's work, at the time of the first phase commencing in 2013, only one other empirical study explored the growth experiences of elite athletes with acquired and traumatic disabilities in

⁸ A version of this chapter was published in and presented at:

Journal: Kampman, H. Hefferon, K. Wilson, M. & Beale, J. (2015). "I Can Do Things Now That People Thought Were Impossible, Actually, Things That I Thought Were Impossible": A Meta-Synthesis of the Qualitative Findings on Posttraumatic Growth and Severe Physical Injury. *Canadian Psychology/Psychologie Canadienne*, 56(3), 283.

Conference presentation: Kampman, H (2016). Personal Career pathway. Presented at EAS 2016: European Athlete as Student Network Rovaniemi, Finland 14 September 2016. Conference presentation: Kampman, H (2016). Post-Traumatic Growth, severe injuries and team sport. Presented at EAS 2016: European Athlete as Student Network Rovaniemi, Finland 14 September 2016

Conference presentation: Kampman, H. Hefferon, K. Wilson, M. & Beale, J. (2016 July). Presented at: 9th Biennial International Meaning Conference – Toronto July, 30th. Paper session: A Meta-Synthesis of the Qualitative Findings on Posttraumatic Growth and Severe Physical Injury. *Canadian Psychology/Psychologie canadienne*. Presented at: 9th Biennial International Meaning Conference – Toronto July, 30th. Paper session: Second Wave Positive Psychology (PP2.0)

adaptive sport (Day, 2013). Thus, the researcher had several potential research avenues to follow on from this previous work conducted in the area as well as from the researcher's own novel in-depth Interpretative Phenomenological Analysis (IPA; Kampman & Hefferon, 2013; 2020 please also see chapter one and two). The main interest at this stage was the role of team sport ('Team as a resource') and the role of the body ('The journey of the wounded body') in the growth outcomes and processes of elite athletes with acquired disabilities (Kampman & Hefferon, 2020, p. 74).

Two key aspects determined the direction of the first phase. Firstly, all previous studies in the area utilised the broad definition of "acquired disability", including various conditions. Secondly, the necessity to understand better the growth outcomes after the trauma of severe physical impairment (i.e., leading to a disability). The broad definition of acquired disability caused ambiguity and created an issue of potentially including various differing traumas, thus comparing different injuries such as limb loss, brain injury, spinal cord injury to an illness, chronic health conditions and diseases.

Building on the aspects mentioned above, the researcher leaned on Hefferon et al. (2009) work where they synthesised qualitative findings of growth experiences after life-threatening illnesses. Hefferon et al. (2009) argue that 'the nature of growth following physical illness (internal trauma) will be different to the process of growth following a trauma that is caused by an external force (e.g., road traffic accident)' (p.344). Thus, the distinction between internal and external trauma suggests that there is also a need to examine externally caused traumas (such as injuries). Individuals reporting growth after severe injuries and impairment leading to a disability could report differing outcomes due to the substantial, direct, and often visible impact on the body (e.g., loss of previous ability). As this thesis's original aim was to

understand the experiences of growth in elite athletes with acquired physical impairment⁹, it appeared essential to understand this experience better. The aforementioned gaps led to the first phase of this thesis, expanding on Hefferon et al. (2009) work, similarly utilising a qualitative meta-synthesis to explore and synthesise the findings around severe physical impairments and posttraumatic growth.

3.1.2. Defining Severe Injury for Phase One

When defining 'severe injury' for phase one, I approached it from two equally important perspectives: the impact on the body and the severity of the injury to the individual's psychosocial world. These two components were critical so that the synthesis would increase the understanding of severe injuries leading to a disability and constitute 'a highly stressful and challenging life-altering event' (Tedeschi et al., 2018, p.4) aligning with the theory of PTG. A physical injury defined broadly is a bodily lesion that can result from either 'acute exposure to energy' (e.g., mechanical, or thermal) or 'an insufficiency of a vital element' (e.g., drowning or freezing) (The European Injury Data Base, 2015). An injury is often defined by intention, meaning that the cause of injury can be either *unintentional* (accidental, i.e., motor vehicle accidents) or *intentional* (e.g., violence against self or others) (The European Injury Data Base, 2015). According to the Equality Act 2010 physical injury leading to impairment is considered a disability if it has a 'substantial' and 'long-term' negative effect on the individual's ability to perform routine daily activities (GOV.UK, n.d.).

Furthermore, as discussed in the literature review, traumatic injury particularly can increase the risk of acute stress disorder (ASD) which can lead to posttraumatic stress disorder

⁹ Due to the exploratory nature of this thesis the final inquiry explored both leisure and elite athletes with acquired physical impairment leading to disability.

(PTSD) as well as depression (DSM-5, 2013; DeRoos-Cassini et al., 2010, 2013). Thus, traumatic injury is signifying a substantial disruption to both physiological and psychological well-being (APA, 2013; Marini & Stebnicki, 2012; Y. Vanlandewijck & Thompson, 2011; Wright, 1983). Leaning on the definitions mentioned above, in this study severe injury was defined as an *unintentional injury that leads to a disability*. I acknowledge that researchers might not always disclose or report what caused the severe injury (therefore, some participants could have been injured due to, for example, interpersonal violence). However, synthesising studies focused on understanding the experience of violence against self or others would open the synthesis to interpersonal trauma and move away from the physical trauma alone. Therefore, this study includes the following severe injuries: severe multiple fractures, acquired brain injury, paraplegia, quadriplegia, or burns to more than 50 per cent of the body and traumatic amputation of a limb (traumatic meaning sudden trauma that causes the amputation). Therefore, *severe injury* and *acquired disability* might also be used interchangeably in phase one.

3.1.3. Previous Work Informing Phase One

As discussed earlier, this synthesis builds on two key findings in the literature. Firstly, in the emerging literature, it is frequently argued that different traumas within differing contexts can potentially lead to differing growth experiences (Shakespeare-Finch & Armstrong, 2010; Karanci et al., 2012; Kira, Aboumediene, Ashby, Odenat, Mohanesh & Alamia, 2013; Kılıç, Magruder & Koryürek, 2016; Shuwiekh, Kira & Ashby, 2018; Chopko, Palmieri & Adams, 2018; Wu et al., 2019). Thus, phase one embarked on understanding PTG in severely injured individuals (as defined above). Secondly, previous work conducted by Hefferon and colleagues (2009) found that traumas where the body is at the centre of the event (severe life-threatening illnesses) can lead to corporeal posttraumatic growth. Their qualitative meta-synthesis around

life-threatening physical illnesses found four key themes: 'reappraisal of life and priorities'; 'trauma equals development of self'; 'existential re-evaluation'; and a 'new awareness of the body' (p.343) which were present in the PTG descriptions of individuals with life-threatening illnesses. In the synthesis, the findings suggested that PTG was established by first losing physical stability, and then 're-humanising' and finally reconnecting with the body (Hefferon et al., 2009, p. 374). The findings illuminated the outcomes of growth after a life-threatening physical illness with unique features due to illness being physically traumatic such as 'connection to and awareness of their physical self' (Hefferon et al., 2009, p.372) and heightened health behaviours.

The above findings were echoed in this author's MSc dissertation findings (Kampman & Hefferon, 2013; 2020) which suggested that the body was an essential part of the PTG experience in Paralympic athletes with acquired disabilities. The body was a source of psychological well-being, a foundation of achievements and a new identity as an athlete. The body was additionally an essential route to appreciating life more and gave a sense of personal strength (Kampman & Hefferon, 2013; 2020). Therefore, more understanding of other body centred traumas is needed, such as severe injuries. External transgressors can equally have a tremendous impact on the body; however, differ in the outcomes and process of growth due to direct and substantial and often visible impact on the body and one's abilities.

Returning to the Hefferon and colleagues' qualitative meta-synthesis (2009), the first theme found was, 'Reappraisal of life and priorities' (p.359) among individuals with life-threatening illnesses, which focused on evaluating their relationships, concerning both family and extended community. This theme also highlighted the changed priorities, particularly around health and promoted individuals to re-evaluate their life goals due to their diagnosis.

In the theory of PTG, these findings appear to connect with *Relating to others* and *New possibilities* (Tedeschi et al., 2018). The second theme found in the synthesis was 'Trauma equals development of self' (p.370) and revealed that going through the diagnosis of cancer appeared to enhance and evoke a new awareness of one's authentic self (Hefferon, et al., 2009). Individuals wanted to be better versions of themselves, and the findings were akin to self-actualisation. In the theory of PTG, these findings appear to connect most strongly with *Personal strength* and *Relating to others* (Tedeschi et al., 2018). The 'Existential re-evaluation' (p.371) was the third key theme in the growth experiences after life threatening illnesses. Individuals appeared to be reflecting on 'mortality, spirituality, meaning and purpose in life' (p.371). In the theory of PTG, these findings appear to connect with *Appreciation of life* and *Spiritual and existential change* (Tedeschi et al., 2018b).

Hefferon and colleagues (2009) most novel finding was the 'New awareness of the body' which illuminated a unique illness-related growth outcome. For individuals with a life-threatening illness, growth emerged as an increase in their 'connection to and awareness of their physical self' (p.372). Illness experience appeared to initiate a review of the previous perception around the body. Individuals reported 'reclaiming of the physical body' after the illness and regaining 'aspects of their physical self' and 'sense of physical power'. A sense of responsibility towards one's health was evident among reports leading to individuals listening 'to their own body' and making better choices for their health. Individuals reduced negative behaviours such as stress, smoking, drug use and increased positive behaviours such as eating better, exercising and being kinder towards their bodies. The behavioural change could be seen as evidence of an action-focused growth (Hobfoll et al., 2007). Furthermore, in the theory of PTG, the findings connect to having an embodied personal strength – thus perhaps a better more embodied version of themselves. Additionally, the illness experience appeared to

facilitate an appreciation of their embodied life leading to new possibilities in the form of health behaviours.

The findings from the Hefferon and colleagues' (2009) synthesis were in line with well-known areas of PTG (changes in self and relationships, and in life philosophies), but also revealed an embodied illness-specific nature of the growth. Due to the corporeal nature of the illness-related trauma, the role of the body was central to the PTG experience among individuals with life-threatening illnesses (Hefferon et al., 2009). Hefferon (2012, 2013) suggests that physical trauma can prompt individuals to notice the body, allowing them to become re-embodied. Therefore, the individual builds a new relationship with the body and acknowledges the role of the body in one's life. Hefferon and colleagues (2009) argue that after the trauma, the body can remind us of our mortality and existence, both equally important aspects of achieving positive existential embodiment (Hefferon, 2013). As discussed in Chapter one, Hefferon's (2013) 'Corporeal posttraumatic growth' includes: having a 'new relationship with the body' where one comes to terms with changes and negotiates with the new body; 'Changes in health behaviours' such as taking care of the body more; and the somatopsychic principle where a stronger body helps to build a stronger mind. The Physical Posttraumatic Growth Inventory (P-PTGI) created to measure the corporeal growth builds on Hefferon and colleagues' work among illness populations (Walsh et al., 2018). However, some of the items in the inventory could be argued to not reflect well enough the experience of impaired individuals; such as 'The sense of achievement in overcoming the physical obstacles of my illness has. . .' (Walsh et al., 2018, p.16). Indeed, C-PTG is still investigated mainly among illness populations. Therefore, phase one in this thesis aimed to further build on the findings of Hefferon et al. (2009), and explore the potentially unique PTG aspects that people with severe injuries (as defined in this study) are reporting. In theory, some of the benefits that severe

injury survivors report, could be unique due to the nature of injury-related trauma - its direct and substantial impact on the body and one's abilities. Therefore, understanding this participant pool further could add to the knowledge of C-PTG and PTG in general.

3.2. Method

The method section will discuss the methodological and practical considerations of phase one of this thesis. Firstly, discussing the meta-synthesis and examine the different approaches that were considered when planning this study. The section will justify the use of meta-ethnography (Noblit & Hare, 1988) for this present study and critically discuss the implications for research. The following section will consider how to adhere to quality in meta-ethnographies and view this from two perspectives: evaluating the conducting of the synthesis and evaluating qualitative research. The section will then move on to discussing inclusion criteria and search strategy for the study. Final section will discuss how the synthesis was conducted and how validity and reliability were ensured.

3.2.1. Qualitative Synthesis – a Meta-Ethnography

Qualitative synthesis is an ideal method to start a research project such as a PhD or as Malterud (2019) writes 'a point of departure for new projects' (p.1). Malterud (2019) states that researchers always build on the previous work of others, and we must 'challenge and extend insights' which came before us (p.1). A critical review conducted to look at the different methods used to synthesise qualitative data, found nine distinct methods: 'meta-narrative, critical interpretive synthesis, meta-study, meta-ethnography, grounded formal theory, thematic synthesis, textual narrative synthesis, framework synthesis and ecological triangulation.' (Barnett-Page & Thomas, 2009, p.3). As this synthesis was interested in growth experiences in individuals with severe injuries, the chosen method had to utilise in-depth

analysis of rich qualitative data to reveal new insights. Meta-ethnography was an ideal method as it is a form of systematic comparison. The included qualitative research material is synthesised eventually, creating an explanatory theory or model out of qualitative studies on the topic. Noblit and Hare (1988, p.11) argue that meta-ethnography should be 'interpretative rather than aggregative'. The included qualitative studies might employ different epistemological or philosophical groundings; however, they all are interpretive in the way they explain participants' views, and experiences, therefore making the synthesis possible (Hammell, 2007; Malpass et al., 2009; Noblit & Hare, 1988).

3.2.1.1. Technique of Analysis. This research employed the well utilised and argued seven-phase technique for conducting the study (Cahill et al., 2018; Noblit & Hare, 1988, p. 26-29). Phase one, *Getting started* where the research identified topic areas of interest building on existing knowledge (Cahill et al., 2018; Noblit and Hare, 1988; Hefferon et al., 2009). Phase two, *Deciding* what is relevant to the initial interest (see also inclusion and exclusion, search strategy and screening) thus deciding which studies to include and identifying the focus of the synthesis. Following the decisions on relevance, searching for relevant studies begins. Phase two requires thoughtful consideration of inclusion and exclusion criteria, and which quality assessment tools will be utilised (Cahill et al., 2018; Dixon-Woods et al., 2007; Noblit & Hare, 1988). Phase three, *Reading* the studies (see also the screening), enables the researcher to delve into the data through repeated reading of studies and collating themes, noting down ideas and key concepts. Phase four, *Determining* how the studies are related involves first creating a list of themes and metaphors and juxtaposing them (Cahill et al., 2018; Noblit & Hare, 1988). Phase five, *Translating the studies into one another* where the researcher starts to create a picture of the studies as a whole, aiming to create a conceptual framework (see Appendix C). Phase six, *Synthesising translations* (see synthesis) and finally, Phase seven,

Expressing the synthesis (see results and Appendix D for prevalence) where the researcher writes up the study and findings. There are no standards or strict guidelines for the write up (Cahill et al., 2018; Noblit and Hare, 1988). Thus, in this study, the results were written utilising good practices in qualitative research and giving the voice to the participant by evidencing the results with illuminating quotes. Through synthesising existing qualitative research, this study elicits a further understanding of PTG and severe injury.

3.2.1.2. Inclusion Criteria and Search Strategy. The search strategy was created to provide systematic data screening and inclusion of as many peer reviewed papers as possible. Peer reviewed journal articles published before 1st of September 2014 were searched for in PsychINFO, SPORTDiscus, CINAHLPlus and Academic Search Complete; reporting results in the English language (excluding books or book chapters, theses, reviews, commentaries, and editorials). This research investigated all papers available on the search engines. There was no criterion for the beginning of the time period (following the inclusion criteria in Hefferon, et al., 2009). However, Tedeschi & Calhoun coined the term 'posttraumatic growth' in 1995, naturally limiting the search results. Keywords used related to PTG (posttraumatic growth, positive growth, stress-related growth, benefit finding, perceived benefits, positive changes, psychological growth, growth from adversity, thriving) and to qualitative research (content analysis, discourse analysis, ethnography, grounded theory, narrative, phenomenology, qualitative, interview, depth, open-ended, semi-structured and unstructured) following a severe injury.

A severe injury was defined as an unintentional injury that has led to disability. This study included: severe multiple fractures, acquired brain injury, paraplegia, quadriplegia, or burns to more than 50 per cent of the body and traumatic amputation of a limb (excluding

second hand and vicarious growth). The study limited the search to include only severe injuries (as defined here) to separate minor to moderate injuries from a severe physical impairment that lead to 'substantial' and 'long-term' negative effects on the individual's ability to perform normal daily activities; and therefore being a substantial disruption to both physiological and psychological well-being (APA, 2013; Equality Act, 2010; Marini & Stebnicki, 2012). Additionally, this synthesis included journal articles that used unstructured, open-ended and semi-structured interviews (excluding structured interviews) with females and males of all ages.

Broadening of the search terms is a useful procedure to ensure that key papers are found (Dixon-Woods et al., 2006; Hefferon et al., 2009). This review focused solely on papers where the theoretical underpinning was indeed PTG (e.g., transformative change, five domains) due to the fact that PTG has features that are unique compared to other growth theories. Even though this analysis set out to find papers with different keywords related to PTG, it was only to ensure an exhaustive search. At times, researchers only used the word 'posttraumatic growth' in the theory part of the article, not in the keywords or abstract, meaning that the initial search would miss these papers.

3.2.1.3. Screening. After the systematic search was employed, 475 search results required further screening. The initial screening focused on removing the duplicates and apparent discrepancies (e.g., theses, books, or book chapters). The second part of the screening focused on removing papers that did not fit the inclusion criteria according to the titles and abstracts. At this phase, the screening yielded 32 papers fitting the initial search strategy. The researcher read the papers in full to ensure the quality of the papers and the inclusion of papers that had a theoretical underpinning in PTG. From the 32 papers, 25 were qualitative in nature and

described positive psychological aspects after an injury. However, only thirteen had PTG as the theoretical underpinning and so were included in this review (Table 1).

Table 1 - *Study Characteristics of Papers Included in the Synthesis Listed in Chronological Order by the Year Published*

Number code of the paper and traffic light	Author, year, and country	Main aim of the study / Objective	Data collection / Method	Cause of Impairment	Sample and Sampling criteria / Design
1	Turner, S., Cox, H. (2004). Australia	To explore the participants initial and subsequent experiences of recovery	In-depth, semi-structured interviews, 1-2 hours	N=12 Motor Vehicle Accident (MVA) N=1 Traumatic injury by falling	N=13, 6 females/7 males, Age 18 - 35 years able to speak and understand English engaged in formal rehabilitation program over 12months but discharged, living in Victoria, Australia
2	Oaksford, K., Frude, N., Cuddihy, R., (2005). Wales	Qualitative exploration of how individuals cope with a lower limb amputation and to examine the influence of positive coping and stress-related psychological growth on adjustment.	Semi structured interviews, using grounded theory for analysis	A lower limb amputation	N= 12 Ages between 51 and 83 years. N=2 women / N=10 men. 4 who had had a lower limb amputation during the past 6 months, 4 who had their amputation approximately 1 year ago, and 4 who had their amputation approximately 5 years ago. The primary cause of amputation was vascular (75%), followed by diabetes mellitus (17%) and trauma (8%)
3 Some quotes are related to illness experience only	Salick, E. C., & Auerbach, C. F. (2006). USA	To examine the process of recovery and PTG with visible impairment or injury	Semi-structured interviews, Grounded Theory	N=3 Multiple Sclerosis, N=3 Below knee amputations, N=2 Visual impairment, N=2 SCI	N=10, 6 females, 4 men, Snowball sampling
4 Quality of the quotes could be better	Roundhill, S. J., Williams, W. H., & Hughes, J. M. (2007). UK	To understand how individuals experience grief and how they view their life in light of these losses	Semi-structured interviews, Interpretative phenomenological analysis	TBI	N=7 adults severe traumatic brain injury Injury occurred over 2 years ago Adequate verbal skills & retrospective memory Had insight to their difficulties

					No other significant losses in last 2 years
5	Chun, S., & Lee, Y. (2008). Canada / USA	Explore the characteristics of PTG in people with SCI	In-depth interviewing face-to-face, 1-4 hours grand tour & mini tour question method (Spradley, 1979), Thematic analysis, Grounded Theory	SCI	N=15, 10 male/5 female, age >18 purposeful sampling demonstrated clear external evidence of achievements, reported satisfaction with life, cognitive ability to describe life narrative
6	Chun, S., & Lee, Y. (2010). Canada	To explore the role of leisure in the experience of PTG for people with SCI	In-depth, Grounded Theory, thematic analysis	SCI	N=15, Age >18 purposeful & criterion-based sampling, SCI, individuals experiencing PTG, clear evidence of achievements, reported satisfaction with life, cognitive ability
7 ok Quality of the quotes could be better	Lau, U., & van Niekerk, A. (2011). South Africa	To explore how young survivors' experiences of burn injury led to reconstructions of self and shifts of thinking about others and the world	In-depth, semi-structured interviews, Narrative	Burn Injury	N=6, 4 male/2 female, age 13-24 Purposive sampling, sufficient cognitive functioning, express themselves fluently in English
8 Ok Survey data	Calder, A., Badcoe, A., & Harms, L. (2011). Australia	To explore road trauma survivors' perceptions of spirituality and of hospital-based pastoral care service throughout their inpatient rehabilitation.	A mixed-method research design, questionnaires & semi-structured interviews, thematic analysis	Severe orthopaedic injury	N=21 inpatients (interviews), 15 male / 6 female, age 18 – 89 orthopaedic rehabilitation inpatients under the care of MTO treating team, Length of stay 14 - 148 days,
9	Griffiths, H. C., & Kennedy, P. (2012). UK	To describe the positive psychological outcomes after SCI and how individuals explain them	Semi-structured interviews, Interpretative phenomenological analysis	SCI	N=6, 2 female/4 male, reporting low levels of psychological distress

10	Wang, Y., Wang, J., & Liu, X. (2012). China	The process of posttraumatic growth of injured patients after motor vehicle accident	Semi-structured interviews, Interpretative phenomenological analysis	N=6 MVA	N=6, 2 Female /4 Male, Inclusion Age: 18 - 65 Injury severity score greater than 9, accident since > than 3months, No cognitive impairment
11	Day, M. C. (2013). UK	To explore Paralympic athletes' lived experiences of becoming physically active after disability, and the role that this may have played in the development of PTG	2-3 Life history interviews per participant 2.5 - 4 hours	N=1 SCI N=3 Single leg amputees N=2 Double leg amputees N=1 Accidental injury	N=7, Age > 18 individuals with an acquired and traumatic disability, who were aiming to take part in the London 2012 Paralympic Games.
12	Kennedy, P., Lude, P., Elfström, M. L., & Cox, A. (2013). UK, Switzerland, Sweden	To explore individuals' perceptions of gain following the experience of SCI	Open-ended written questions 4 time points: 6 weeks, 12 weeks, 1 year & 2 years Thematic analysis - Qualitative longitudinal multiwave panel design	SCI Paraplegic injuries accounted for 51.83% (n = 113) of injuries, and tetraplegic injuries accounted for 47.71% (n = 104) of injuries.	6 weeks, n = 201; 12 weeks, n = 159; 1 year, n = 91; 2 years, n = 51 N= 232 (Original) Age 18 to 74 years 'majority were men' Admitted to specialist units in selected British (N=100) and German (N=132) SCI centres, No Cognitive impairment
13	Crawford, J. J., Gayman, A. M., & Tracey, J. (2014). Canada	The study was guided by two research questions: (1) Does participation in ParaSport following SCI influence people's perceptions of PTG? (2) What specific dimensions of PTG, if any, do ParaSport athletes report experiencing?	Survey and a semi-structured interview, Phenomenological approach	SCI	N=12, acquired SCI who integrated, reintegrated, or attempted to integrate into sport
Abbreviations used in the table: MVA = Motor Vehicle Accident SCI = Spinal Cord Injury TBI =Traumatic Brain Injury MTO = Multi Trauma Orthopaedic					

After identifying and selecting the relevant papers (see also section 3.2.1.2.) the researcher appraised the papers using a combination of Critical Appraisal Skills Programme (CASP) and traffic light system to determine the trustworthiness of the papers (Dixon-Woods et al., 2007). CASP was used to critically examine the selected qualitative research papers by asking ten questions such as 'was the data collected in a way that addressed the research issue?' and 'Was the data analysis sufficiently rigorous?'. In this study, CASP was combined with the traffic light system where additionally the researcher coded the quality of the data gathered using green (excellent/good), yellow (good/ok) and red (poor) colour codes (Table 4). This coding represented the richness or poorness of the first-order data (i.e., original quotes) from the participants. One paper was a mixed method study (8), however, after the evaluation of the qualitative data and analysis, the paper was deemed to provide valuable qualitative insights and thus included to this review. Another paper (12) utilised a longitudinal design and survey data which did not have as much depth as interview extracts. However, the quantity of data and the quality of the analysis was deemed useful. Thus, all thirteen papers were determined as being of an acceptable quality and thus included in the review after the evaluation.

3.2.1.4. Synthesis. After the critical analysis of the selected papers, the researcher created a table to collate the following information: original authors, the objective of their studies, data collection method, type of injury, sampling criteria and the main findings (Table 1). The table ensured 'clarity upon analysis' as recommended by Britten et al., (2002). Furthermore, the researcher created a table with all first-order constructs (i.e., quotes) accompanied by their second-order analysis and themes as well as the papers traffic light codes. After this, the researcher determined how the studies were related by creating 'third-order interpretations' and identifying key relationships between the studies. An example of this synthesising process is outlined in Table 5. The original theme in Chun and Lee (2010) was 'Providing Opportunities

to Discover Unique Abilities and Hidden Potential'. Grounded in the original analysis and quote (see Table 2 for the quote), the current researcher further analysed the theme and the quote, producing 'third-order interpretations' and thus possible themes: "The importance of meaningful leisure engagement" and "Awareness of physiological potential". This synthesis and analysing process was completed with all the studies after which the researcher started to search for reoccurring and encompassing themes as well as novel findings.

Table 2 - Example of Analysis With First Order Quote, Second Order Analysis and Theme, and Third Order Interpretation Leading to Themes

Traffic light coding	Second order (Analysis)	First order	Second order (Theme)	Third order interpretations (Themes)
Chun, S., & Lee, Y. (2010).	<p>Engaging in leisure activities assisted the participants in <u>experiencing a sense of success and achievement</u></p> <p>Mary put priority on involvement in activities in her life, and frequently experienced a feeling of success through participation in new leisure activities.</p>	<p><i>In describing her experience associated with rock climbing, Mary said: "<u>I was up there, no weight and I lifted myself with just my fingertips... so I felt good about myself because I was out of my chair and you're doing something different.</u>"</i></p>	<p>Providing Opportunities to Discover Unique Abilities and Hidden Potential</p>	<p>Importance of meaningful leisure engagement</p> <p>&</p> <p>Awareness of physiological potential</p>

Finally, the researcher translated the studies into one another and created key themes out of the 'third-order interpretations'. Noble and Hare (1988) note that in meta-ethnography each account that the researcher is synthesizing is already an 'interpretation of an interpretation' (p.35). The final product of the meta-ethnography will then be an 'interpretation of an interpretation of an interpretation', therefore developing new interpretations and conceptual insights. Noble and Hare (1988) identify three possible results

from meta-ethnography: *reciprocal* (studies encompass each other), *refutational* (concepts are questioned across papers) and *line of argument* (different papers add to the phenomena from various perspectives, creating a fuller account of the experience.). This meta-ethnography revealed unique aspects of the experience of PTG in people with severe injuries that added to the previous findings. Therefore, the line of argument of this meta-synthesis is that there are unique aspects to the PTG process within severe injuries, thus creating a fuller account of the experience.

3.2.2. Determining Quality in Qualitative Meta-Synthesis

The researcher has moved here away from the original wording used in the publication stemming from this phase (Kampman et al., 2015) where the section was about validity and reliability. However, these terms do not align well with the researcher anymore as they lean very heavily on the quantitative paradigm. As such, in their current standing the researcher is emphasising more 'quality' in any evaluation of qualitative work. At the time of phase one commencing, it was recommended to employ several steps to ensure a rigorous evaluation of the data. The well-utilised and argued seven-phase technique for conducting the study ensured that the synthesis process was clearly and transparently structured (Noblit and Hare, 1988).

This current research utilised two recognised tools to determine the trustworthiness of the papers: Critical Appraisal Skills Programme (CASP) and the traffic light system (Dixon-woods, et al., 2007). However, this approach is not without its critics as some researchers suggest that conducting such appraisals of qualitative work 'imposes a positivist approach to 'quality' on studies conducted within a very different tradition' (Atkins et al., 2008, p.2). Barbour (2001) suggests that creating a list of technical procedures (e.g., multiple coding, triangulation, seven phases technique) for conducting qualitative research is far too

prescriptive and results in 'the tail wagging the dog' and some of the issues in qualitative data collection and methodologies 'cannot be solved by formulaic responses' (p.1115). Thus, the use of these tools can certainly be informative and provide transparency as well as another level for engaging with the data. However, they are perhaps best utilised as ways of exploring and facilitating in-depth understanding of the data, rather than as precise rules to include or exclude research from the synthesis. It is argued here that the quality of qualitative research should be evaluated much more organically, recognising the uniqueness of each piece. For example, short quotes from hard to research participant pools with perhaps limitations to their language capabilities might present robust research which has given a voice representative of a niche experience. Surely this is what we as qualitatively driven researchers aim for: giving voice to those who cannot be heard amidst the noise of generalisability (e.g., see Smith, 2018).

It was deemed that each of the thirteen papers provided valuable information for the research question at hand and were included in the analysis. Although the primary author conducted the original analysis, the results were further reviewed and critically appraised by Dr Hefferon – the DoS at the time and an expert in both the topic area as well as qualitative research. Furthermore, extracts and analysis were viewed and reflected on by two other colleagues as well as via double-blinded review in the publication process. The aforementioned steps ensured transparency and rigour and legitimising of the results (Dixon-Woods et al., 2006). Other phases (such as final inclusion and exclusion of papers) were also discussed in collaborative reflexive session with Dr Hefferon. Finally, the findings were illustrated and illuminated by quote extracts from the papers giving rich examples supporting the themes.

3.3. Results and Discussion

This synthesis included thirteen studies that employed qualitative methods to understand the experience of PTG in people with severe injuries. Table 1 describes the characteristics of the papers included, original authors, objective of their studies, data collection method, type of injury, and sampling criteria. Ten papers collected their data using 'semi-structured interviews' (1,2,3,4,5,6,7,9,10,12,13¹⁰). The remaining two papers (7,13) had other type of mixed methodology with qualitative emphasis. Ten papers (1,2,3,5,6,9,10,11,12,13) were specially designed to understand the experience of PTG in people with severe injuries, of which all but one (13) employed purely qualitative methods. The remaining three (4,7,8) papers had wider aims in their research designs (such as adjustment to severe injury) and PTG was one of the key findings. Spinal Cord Injury (SCI) was the most researched severe injury, with five studies focusing solely on SCI and two papers including multiple injury types (one of them SCI). Other severe injuries were Traumatic Brain Injuries (TBI) (1), lower limb amputations (4), severe orthopaedic injuries (5), and burn injuries (1). Four studies included several injury types. The papers were all published between 2004 and 2014 reporting from a variety of different countries. Participants' ages varied between 18 and 65 and education levels from college education to doctoral degree. There was a great discrepancy between the sample sizes, ranging from 6 participants (9) to 232 participants (12). Altogether the studies had 359 participants. All the studies used mixed gender populations. The strong representation of the SCI population highlights the importance of researching and eliciting more information about different types of injuries. Furthermore, ethnicities of the participants were rarely stated separately, thus revealing the need for more focused studies around different ethnicity groups.

¹⁰ Due to the large volume of references, the numbers in brackets will indicate the corresponding references in Table 1.

3.3.1. Post-traumatic Growth and Severe Injury

This Meta synthesis identified four interrelated themes that were essential to the experience of post-traumatic growth and severe physical injury: Existential reflection; Humanity; Meaningful leisure engagement; and New abilities: awareness of physiological and psychological potential. Well-known areas of PTG were all present in these studies, with individuals reporting gaining new opportunities through adversity and having a greater appreciation for life (1,2,3,4,5,6,7,8,9,10,11,12,13). Furthermore, changes in self, in relationships, and in life philosophies were reported (1,2,3,4,5,6,7,8,9,10,11,12,13). Additionally, the corporeal elements of the trauma were well represented. Studies reported individuals having a new relationship with the body (3,4,7,10,11,12), changes in health behaviours (2,12,13), and elements of the somatopsychic principle where a stronger body helps to build a stronger mind (11,13) (Hefferon, 2012, 2013). However, new previously less studied elements that were specific to the trauma of severe injury arose from this synthesis: ‘Meaningful leisure engagement’ and ‘New abilities: awareness of physiological and psychological potential’. These themes add unique elements to the understanding of the experience of PTG with people that have suffered the trauma of severe injury and to the PTG literature in general.

3.3.1.1. THEME 1 – Existential Reflection. All thirteen studies reported that the trauma of severe physical injury forced the individuals to contemplate the meaning and purpose of their lives. This questioned the very basis of their existence and challenged the individual to the core, disturbing one’s identity. A participant in Salick and Auerbach (2006) described this by saying: *‘A lot of times it [disability] does disrupt what you see as defining your life.’* (p.1031).

In all of the studies this process was intertwined with the newfound appreciation of life and the challenge of accepting the changes in it. For example, in Chun and Lee (2008) a

participant described how fragile life is by saying: *'I have a greater appreciation for life because you realize that it can be taken away or, you know, it can vanish at any point.'* (Chun & Lee, 2008, p.884). Studies also reported that this contemplation on the purpose and meaning of life often lead to prioritizing life (1,3,4,5,6,10,13), re-evaluating relationships (1,2,3,4,5,6,7,8,9,10,11,12,13) and to changed values (1,2,3,4,5,6,7,8,9,10,11,12,13).

Law school is something that I was always going to do. But prior to my injury, it was going to be like corporate law let's see how far I can take this, and I would pull the 80-hour weeks and see how long it would take me to get to 500,000 dollars. Now I am totally not into that. I don't want to work in [a large city] even though that is where all the big money jobs are. It is not worth it to me. My priorities have drastically changed. My family and my friends and the relationships that I have with my community and giving back things like that. I used to be quite anxious. Stressed all the time about nothing. I always laugh and say then I broke my back and have real things to worry about. (Crawford, Gayman, & Tracey, 2014, p.402)

When contemplating the meaning and purpose of life, interpersonal relationships gained greater significance in people's lives: participants reported appreciating their family and friends more (4,7,10,12,13) expressed deep gratitude towards hospital staff and community (3, 4,7,10,13), and church leaders or spiritual guides (7, 8). Additionally, as one's identity was challenged the experience of being severely injured forced individuals to search the 'self' again, and to expand or change their previously held views and conceptualisations.

That was a really important part of me trying to define myself after the accident. The whole self-concept, it was sort of tied up in physical activity. The physical side of it was trying to reclaim my identity and reclaim what had been taken away. Was I ever

going to play soccer again the way I had—no, but I was going to do other things physically that were more challenging than probably anything I had ever done. (Salick, & Auerbach, 2006, p.1030).

*I've made that decision that my accident was a sh** thing to happen, but it's given me new opportunities in that it's given me new doors and I've taken them.*

(Griffiths & Kennedy, 2012, p.247).

The role of the body was essential in this process. The body was the platform for the majority of the changes. The alterations in abilities forced the individuals to take notice of the body and the role of the body in their lives.

Dealing with the physical aspect, the physical changes to your being. Dealing with psychological and psychosocial difficulties, so how do the physical changes impact on you as a person, and your environment, how does that all fit together. (Griffiths & Kennedy, 2012, p.245).

This theme of *existential reflection* revealed that people reporting PTG appear to contemplate and acknowledge the unchanged aspects of life as well as recognize the changed aspects of life that are positive. This appeared to help individuals to recognise and have a sense of meaning and purpose in their lives, therefore perhaps facilitating PTG. Much like in Hefferon and colleague's (2009) findings, relationships appeared to be at the centre of this reflection. Contemplating the meaning of life while identifying still existing assets and potential resources was found in all of the studies, supporting pre-existing knowledge about PTG (D. S. Dunn et al., 2009; Kate Hefferon et al., 2009; Tedeschi et al., 2018b; Triplett et al., 2012).

The role of the body in this existential reflection was significant in people with severe injuries, thus emphasizing the importance of the body in PTG in this particular trauma.

Corporeal PTG and having a *new relationship with the body* - where one deals and negotiates with the new body - were strongly present in this theme, especially the meaning of the body in one's identity (Hefferon, 2013). Similar findings arose from the researchers MSc dissertation where athletes with acquired disabilities (Kampman & Hefferon, 2014; 2020), thus further strengthening the evidence around corporeal PTG (Hefferon, 2012,2013). The concepts described in this theme are all well reported and known aspects of PTG in general, and of corporeal PTG as well as illness specific PTG experience (Calhoun & Tedeschi, 2006; Tedeschi & Calhoun 2004; Tedeschi, Park, & Calhoun, 1998; Hefferon, 2012,2013; Hefferon et al. 2010).

3.3.1.2. THEME 2 - Humanity. Humanity was a strong theme emerging from this synthesis. Humanity is characterized by altruism, kindness, and acts of love towards fellow humans. In positive psychology it is also seen as a virtue with specific strengths of love, kindness, and social intelligence (Peterson & Seligman, 2004). The trauma of severe injury appeared to have the potential to evoke humanity in the individual and all thirteen studies reported aspects of this experience. *'I guess suffering makes you feel more human. You relate to other people.'* (Salick, & Auerbach, 2006, p.1033). Studies reported individuals perceiving that the trauma had the potential to induce more empathy and understanding towards other people (1,4,5,10,11). *'I have come along way. I've become better as a person ... more compassionate'* (Turner & Cox, 2004, p.34). *'When I was the old [self], I was just like to speak, like to shout. I was just of that anger, you see. I was normal and I don't care. But now I'm nice person, I'm changed.'* (Lau & van Niekerk, 2011, p.1173).

Furthermore, studies additionally reported participants being more aware of different aspects of 'being a human' than before. Studies described individuals becoming more benevolent, kinder, and less judgemental towards others (1,2,4,5,10,11,13); thus, people

perceived that the trauma and experience of being severely injured had the potential to change the character of the individual for the better (cf. positive transformational change in PTG). For example, one participant described it as: *'I think I have a fitter attitude ... I don't know whether you compensate more in the mind or the spirit or something because of the physical [loss] ... I have a healthier attitude now.'* (Turner & Cox, 2004, p.34). Other studies had similar descriptions:

It has made me respect other people's disabilities, whereas before I hadn't noticed them. It has really made me stop and notice how underprivileged and disadvantaged disabled people are, in their mobility, you know. (Oaksford et al., 2005, p.271)

You know I say to people, you wouldn't have liked me when I was able-bodied. I really do mean it. This has given me such a different perspective on life, and I look back at the attitude I had towards others and even myself and I don't think I would have liked me. My outlook on life is so different now. I go down to the gym and I've got great friends, people who really mean something to me, I've got something to aim for and something that I'm good at. But overall I'm a much nicer person. (Day, 2013, p.2069)

Additionally, altered interpersonal attitudes were reported, where people's perception of human nature was challenged. The injury experience had evoked an idea that people actually need each other, thus shifting from an individual centred ideology towards one of togetherness and collectiveness (10,12). For example, as described in one study: *'I got to know new and nice people. I have a strong company and alliance that I didn't know before.'* (Kennedy et al., 2013, p.206). Similarly, in another study:

Some old neighbours, without contacting each other for five or six years, still came to

see me on purpose and gave me a red packet [red paper containing money as a gift]. ... I just worked for two months, my colleagues came twice and brought me money or presents. It's quite inconvenient for me to go outside or pee, and they just asked to help me. It's really a great surprise. (Wang et al., 2012, p.303).

Furthermore, studies reported that the experience of being severely injured was character building (1), had the potential to make individuals more empathic and understanding towards other people (1,3,4,5,10), aware of different aspects of being a human (1) and changed life philosophy and attitudes towards other people (8,9,10,11,12,13). An example of this can be seen in this quote from Turner & Cox (2004, p.34): *'I think ... my life philosophy is a little bit more forgiving. I am a bit more able to understand other people [with problems]'*. Similarly in Salick & Auerbach (2006):

I'm definitely less judgmental because I realize that people may have many reasons for things. I no longer jump to conclusions about someone or think I know what's going on with them. It's given me a lot more empathy. (p.1033).

The trauma experience of being severely injured had additionally made people more aware of others' suffering and promoted altruism and willingness to help others (1,3,5,8,9,10,11,12,13). This compassion towards others' suffering was a common finding from studies (3,4,8,9,10). Understanding and kindness towards other people was displayed in people often reporting that they had started volunteering after their experience. Thus, this behavioural change supports the notion of the potential for physical injury experiences to elicit humanity in people as described below:

I never considered others' suffering before. This experience altered my perspective toward life, maybe it just changed my view of life. (Wang, Wang, & Liu, 2012, p.305).

My empathy just overflows now, I can't control myself to help others. I've never thought like this before. There's a community near my home, and I will be a volunteer after my recovery. Many disabled need help and I may do them some favor.

(Wang, Wang, & Liu, 2012, p.304).

Because of the course of events in my life, I see a need to become involved now rather than later. Satisfying my urge to contribute . . . because I think I can contribute and have a forum to contribute because of my personal experience. (Salick, & Auerbach, 2006, p.1032).

Theme of *humanity* portrayed that people with severe injuries reporting PTG, seem to connected strongly to other humans in the aftermath of being severely injured. The trauma of being severely injured is an experience that appears to reveal a part of human experience that is unknown to most. The trauma equips the individual with deeper understanding of pain and loss, and thus this awareness of one's own physical vulnerability has the potential to promote understanding of the suffering of others (Cassell, 2009; Tedeschi et al., 1998).

Humanity - altruism, kindness, and acts of love towards fellow humans - thus appeared to come from understanding more deeply what it is to be a human (Jewell & Abate, 2001; Tedeschi, et al., 1998). This knowledge of 'universality of suffering' (p.13) seems to be a stable connection between people with severe injuries that report PTG (Tedeschi, et al., 1998). Additionally, sharing this knowledge (e.g., volunteering) was an important aspect of flourishing in the long term: after the individuals had successfully processed their own feelings of loss and grief, they wanted to share this wisdom to help others. Being compassionate and giving to others are also well-documented aspects of PTG (Cassell, 2009; Tedeschi, et al., 1998). Similar findings arose from Hefferon and colleagues' (2009) synthesis highlighting these intra and interpersonal relationships and, as mentioned in the literature review on of the four themes

‘Trauma equals development of self’ (p.370), included a description of ‘connection to humanity in general’ (p.371). These findings could be akin to self-transcendence where an individual is moving beyond bettering themselves and are seeing themselves as part of something bigger (Reed, 2009).

3.3.1.3. THEME 3 - Meaningful Leisure Engagement. The role of meaningful leisure activities was an important finding from this review. Leisure activities such as sports, dance, or playing an instrument, reading, gardening, art, and listening to music had the potential to help the individual to discover new abilities, hidden talents, and rediscover existing skills in a new way (5,6,8,9,10,11,12,13). Meaningful leisure activities were a source of independence, new meaningful relationships and often included other people in similar situations who to admire (e.g., idols, upward social comparison) (5,6,8,9,11,13). Leisure activities provided both extrinsic and intrinsic rewards such as recognition from other people, improved self-confidence, and experience of positive emotions (5,6,8,9,11,13).

I really never was much of an athlete back in those days, long time ago. I walked every day, but I never was okay going to do the marathon or anything. I hated running...

[After my injury] I've been doing the swimming, going to these sailing clinics, attending tennis clinics, anything that gets me out... 1 was just on Channel 8 TV a couple of weeks ago. I went down there to a tennis clinic during the RCA championships, and they interviewed me. So there a picture of me hitting tennis balls and talking a little bit about my life. (Chun & Lee, 2010, p.404)

I love soul music and dancing. I would just dance, and I would dance until I got tired... I didn't realize that I had that ability. I used to do it just for play... If I would have been practicing and dancing before I got shot, just like I always tell people, if I

had been introduced to drums before I got shot, maybe I would have changed my direction. (Chun & Lee, 2010, p.403).

Studies reported that meaningful leisure activities provided positive experiences which people described by saying they 'had done something cool' (6), had 'successfully learned something different' (6) and 'did not need other people to enjoy activities' (6). The experience of meaningful leisure engagement helped individuals to recognise personal strengths, strengthened social relationships through activities, and provided positive emotions (5,6,8,11,13). Furthermore, individuals re-claimed a sense of responsibility through their meaningful leisure activities (5,6,8,11,13). This responsibility was not only a sense of accountability, it additionally entailed a sense of autonomy, independence. It represented both the responsibility to take control of one's recovery as well as the privilege to do so.

I've gone to the Keys by myself and had a wonderful time. I didn't need to have other people to have a good time. I could just take my tricycle out, and I was riding on those old bridges....I fished. I was on vacation, but I was with myselfI could have fun. I could entertain myself. (Chun & Lee, 2008, p.883).

Meaningful leisure activities sometimes grew into new careers that were more fitting and fulfilling than the preinjury ones (such as becoming athletes, artists etc.) (6,9,10,13). This in turn connected to a sense of achievement and success, which played a crucial part in the growth experience after a severe physical injury. Additionally, the studies reported people rediscovering unique skills and abilities or strengthening previous abilities through meaningful leisure activities (5,6,8,11,13).

I love playing basketball more than my work as a teacher. It's important

going to battle with your team mates and obviously it's a lot more fun to win... I got second place for this tournament, but almost every three tournament that we go to we win. So that was a little bit of a disappointment. (Chun & Lee, 2010, p.404).

Sports and physical activity had further very specific benefits following a severe injury (6,11,13). Sport played a part in the acknowledgement and acceptance of negative aspects after the disability, a process that is perceived as a crucial part of PTG (Dunn et al., 2009; Janoff-Bulman, 1992; Tedeschi, Park, & Calhoun, 1998). Whilst promoting awareness of the lost skills and abilities sport additionally created acceptance of the reality and aided the search for new skills and abilities, pushing the understanding of what is possible:

I've learnt now that I couldn't start with the impossible. I tried to push those limits at first and would wheel myself into the hospital gym when no one was around. I got so frustrated and angry with what I couldn't do, honestly you wouldn't have wanted to know me. I look back on it now and think that you have to find the right start place. If you start with the possible then you've got a better chance of reaching the impossible.
(Day, 2013; p.2067)

Additionally, physical activity increased awareness of people's overall health and the participants reported for example gaining 'psychological health' through physical activity (13). This connects firmly to Hefferon's (2012, 2013) corporeal PTG and *changes in health behaviours*. Additionally, the recognition of lost abilities and testing the limits of the new physical body in sports had the potential to produce increased awareness of physical abilities. Furthermore, it had the potential to create awareness of other possibilities and further capabilities that were yet uncovered (11). Challenging the body therefore appeared to be an important aspect for people reporting PTG in these studies. Individuals perceived that they

were breaking limits with their body and realizing more of what is possible. Furthermore, sports offered a strong sense of being in control (6,8,13) and people gained a 'sense of physical power' back (Salick, & Auerbach, 2006, p.1030), which had been lost because of the injury. In Day (2013) participant described this as '*Taking part in sport has given me my life philosophy, small steps – permanent gains*' (Day, 2013, p.2070). Other examples of this theme are illuminated below:

It's like that moment in [sport] when you just get so caught up in everything that you forget that you're disabled. You forget all the cant's because everything in your body is telling you that you can. You feel powerful. (Day, 2013, p.2070)

I always played contact sports growing up. You think you kind of lost that ability to do that type of thing. But when I found out about rugby and realized it was full contact, I was like even though I can't walk and run around, I can still play full contact in a chair. And that was pretty cool for me knowing that aspect was still there. In high school, I was always the "athlete" that is just who I was.. . Knowing that part of my life was still there was huge for me. (Crawford, Gayman, & Tracey, 2014, p.402).

Sports additionally provided a sense of freedom and independence and a new identity as an athlete (6,11,13). Similar findings arose from Kampman and Hefferon (2013; 2020), where Paralympic athletes reported merging the old life into the new one through sports, developing a new identity as an athlete, finding the team as a resource and sport as a social leveller (p.78). These findings support Hefferon's (2012, 2013) corporeal PTG and strongly suggest that further research in the area should be conducted.

The theme of *Meaningful leisure engagement* revealed that leisure (e.g., dance, music,

sport, art) was a facilitator of PTG that people with severe injuries reporting PTG utilised successfully. Hutchinson et al., (2003) have previously suggested that leisure has the potential to protect the individual from immediate life circumstances and help them cope with a traumatic injury. Furthermore, the leisure activity can work as a positive distraction, generate positive emotions and optimism as well as enable one to preserve a sense of self in the midst of vast changes that trauma imposes (Hutchinson et al., 2003). Leisure engagement seems to connect to well-being in various ways with severely injured people: sports for example promoted and induced environmental mastery, purpose in life, autonomy, self-acceptance, positive relations and personal growth, which are all attributes of psychological wellbeing (Ryff, 1989; Ryff, & Keyes, 1995). The attributes that different leisure activities have for facilitating PTG should be examined further to understand the true potential of them. More particularly, understanding the role of engagement and meaning in the leisure activities. King et al., (2003) emphasized the importance of engagement in meaningful activities that are connected to goals, which help to build relationships, and which can generate richer understanding about oneself and the world around them. Therefore, this theme suggests that meaningful leisure can be connected to meaning in life generally, which was a strong finding in this current synthesis (see also themes *existential reflection* and *humanity*). Furthermore, engaging leisure could additionally connect to optimal experiences and flow: providing challenges, clear goals, concentration in the present and intrinsically motivating activities (Nakamura & Csikszentmihalyi, 2009).

3.3.1.4. THEME 4 - New Abilities: New Awareness of Physiological and Psychological Potential.

The complexity of acquired physical Another novel finding from this synthesis was that a severe injury has the potential to provoke the individual to discover new abilities through the loss of functionality in the body. Severe injury has a significant, often permanent impact to the body

causing a loss of some of the previously known abilities. However, this process can also force the individual to learn new skills, both physiological and psychological (6,8,9,12,13,).

I was just going to make the best of it, and go on with my life.” -- “I decided to go back to school, to college to get my degree, and at that point my vision was gone, so I learned Braille, and I decided I was just going to make the best of it and go on with my life. (Salick, & Auerbach, 2006, p.1029).

This new awareness of physiological and psychological potential was a strong theme in all of the papers. The trauma of being severely injured appears to create the opportunity for the individual to appreciate their existing abilities and to search for new ones. Going through the trauma of being severely injured appears to draw attention to the body and mind and therefore almost forces the individual to challenge existing skills.

Previous work on PTG and the body has already identified a connection between illness, the body and PTG (Hefferon et al., 2009; Hefferon, 2012, 2013). The current synthesis proposes a new injury specific element to this experience. Even though the loss of a previous physical self can start a mourning process that requires adapting to by the individual, it can additionally force the individual to review the abilities that once were taken for granted as automatic and mundane. This process has a potential to evoke the individual to view human abilities from a new, unique perspective. In this study, participants mentioned having “learned to listen to my body’ and they ‘turned to alternative ways of being physical’ (Salick & Auerbach, 2006, p.1030). This synthesis found that adapting to the new physical world has the potential to facilitate growth through discovering new abilities. As illustrated by the quotes below:

I can do things now that people thought were impossible, actually, things that I thought were impossible. But I’ve learnt now that I couldn’t start with the impossible.

(Day, 2013, p.2067)

Was I ever going to play soccer again the way I had—no, but I was going to do other things physically that were more challenging than probably anything I had ever done. (Salick & Auerbach, 2006, p.1030).

Furthermore, challenging the body was an important aspect of PTG. Individuals perceived that they were breaking limits with their body and recognising more possibilities. In addition to learning new skills with the new body, studies reported the ability to endure physical pain and push physical abilities further than previously perceived (6,8,9,13). This manifested in for example the ability to endure physical pain from physiotherapy, which in some cases translated to the ability to push further in sports (6).

During skin grafting, I received local anesthesia because of my bad overall condition, but I just tolerated the huge pain without even crying. The doctor joked ‘You must be a communist.’ [Communist could refer to a tough person in China.] When my relatives saw me changing dressings, they couldn’t help crying while I held my tears back. They were really surprised, ‘you’re such a brave guy’ ... I had stepped on the threshold of hell, and I realized that everything, compared to the marvels of life, could fade. (Wang, Wang, & Liu, 2012, p.302).

Some of these findings are supported by Hefferon et al. (2009) where individuals with life threatening illnesses had a ‘New awareness of the body’ and ‘connection to and awareness of their physical self’ (p.372). Thus, these findings again emphasise the specific role of the body in physical traumas. With severe physical impairments this was clearly stemming from lost abilities and the requirement to learn new ones.

The trauma of severe injury forced individuals to confront difficulties beyond everyday

obstacles: losing skills, learning new skills, dealing with both the physiological and psychological pain, and various other changes that came with the severe injury (1,2,3,4,5,6,7,8,9,10,11,12,13). This understandably had a tremendous toll on the individuals. However, an interesting finding emerged from the studies: going through the aftermath of the trauma of severe physical injury, individuals reported gaining new psychological skills that they had learned due to the experience (1,2,3,6,12,13). Studies reported individuals having better problem solving and goal-setting skills than before (1,3,12,13), having more patience (3,12,13), being able to regulate their anxiety and stress-levels (3,13), being able to endure more physical pain (1,12), as well as gaining mental toughness and inner strength (3,8,13). In Kennedy et al., (2013, p.205) participants had reported that they had learned 'to be more patient, to open up,', had 'improved communication skills' and 'coping strategies' (Kennedy, et al., 2013, p.205). In Salick and Auerbach (2006), participant illuminated this by the following quote:

By having to constantly manage social interaction, it may not be fun, but it forces you to think about social situations and scenarios in a more creative way . . .

I think you're more socially sensitive. Because I'm more attuned to other people in social situations. I'm better at approaching people, or getting them to open up to me and trust me. (Salick & Auerbach, 2006, p.1033).

Furthermore, people perceived having better emotional expression and communication skills, used humour effectively to cope (2,3), and had more tolerance in general (12). In Kennedy et al., (2013) people had illuminated this by reporting being '*More open*', '*nicer person*' and '*learned to laugh at myself*', feeling like a '*stronger person*' and being '*able to help others*' (p.205). Navigating the experience of being severely injured made some people feel '*grown up*' and '*more open minded and grounded.*' (Kennedy, et al., 2013, p.205). These problem-solving skills combined with the specific psychological skills were transferred to their careers and

leisure activities: people reported being better athletes, artists, public speakers, or parents because of these new psychological skills (1,2,3,6,12,13).

For example, in sports, these kinds of skills are a vital part of the psychological skills training (Weinberg & Gould, 2014). Athletes need to be confident and able to set high and realistic goals, manage anxiety and emotions effectively, and maintain concentration and a positive attitude during training and competitions. The feelings of pressure and disappointment are a part of sports thus effective coping skills are vital (Weinberg & Gould, 2014). Furthermore, athletes have to be able to endure physical pain that the training and competing causes. Thus, athletes with acquired disabilities could have psychological advantages through their experience (Kampman & Hefferon, 2014; 2020). These findings illuminate the importance of further examining the potential links between increased psychological skills, acquired disability, sport and PTG.

In sum, the theme of *New abilities: new awareness of physiological and psychological potential* highlighted novel findings suggesting that these individuals reporting PTG truly created an advantage out of something that is generally perceived as a disadvantage: going through the trauma of being severely injured. Aging usually increases knowledge and skills that are referred in many cultures as *wisdom* (Kramer, 2000; Tedeschi et al., 1998). These skills refer to understanding self and others better, having better communication skills, open-mindedness, and sensitivity. Wise people tend to be perceived as understanding priorities, coping well with setbacks and being adept at relating to others (Kramer, 2000). Furthermore, wisdom also is considered a virtue which includes specific strengths such as Creativity, Curiosity, Open-mindedness, Love of Learning, and Perspective (Peterson & Seligman, 2004).

In addition to the psychological and social skills that are traditionally connected to

wisdom, the synthesis presented here linked the knowledge and understanding of the body to this wisdom: specifically, wisdom about the role of the body in one's own life - its fragility, power, and ability within disability - is knowledge that perhaps those without severe injuries cannot quite reach. Again, the trauma of being severely injured exposes the individual to experiences that can equip them with understanding and knowledge beyond age (see also the theme *Humanity*).

3.4. Conclusion of Findings

3.4.1. Considerations and Lessons Learned

It is essential to recognise that the synthesising process is inherently interpretative, thus different researchers might have produced an alternative synthesis and reached a different set of conclusions. One of the studies (12) included was part of a bigger mixed method exploration and collected data utilizing surveys, thus the original raw data was a bit less rich as from data gathered from interviews. This survey study was additionally longitudinal thus collecting data across different time points. Another study was a qualitatively driven mixed method study (8). A stricter inclusion criterion could have excluded these two studies and only included studies purely leaning on qualitative frameworks. However, the researcher mitigated these potential issues with rigorous evaluation of these two papers, which both utilised well recognized qualitative methods to analyse and present the qualitative data.

3.4.2. Concluding Words and Implications for Phase Two

This meta-synthesis aimed to expand existing knowledge around corporeal PTG and PTG by synthesizing thirteen qualitative studies in the area of PTG and severe injuries (as defined in this study). Furthermore, the purpose of this piece was to understand the unique elements of the experience of being severely injured compared to other traumas. This meta-synthesis

identified four interrelated themes that were fundamental to the experience of PTG and severe physical injury: Existential reflection; Humanity; Meaningful leisure engagement; and New abilities: awareness of physiological and psychological potential. This meta-synthesis produced a fuller picture of the elements of PTG in people with severe injuries and identified novel findings that can inform researchers and practitioners which elements of growth are commonly experienced and reported as well as potential facilitators for growth that seem to work particularly well after severe injuries (such as meaningful leisure engagement). The findings can be used in clinical settings as well to enable access to these facilitators. The synthesis suggests that due to its severe and direct impact on the body and existing abilities as well as on individual psychologies, the experience of being severely injured had elements unique from other traumas. Therefore, the growth trajectories appear to have injury-specific elements as well (i.e., new abilities).

This meta-synthesis produced several practical and research-related implications for this thesis. It appeared that people with severe injuries could benefit from interventions focused on acknowledgement and acceptance of negative aspects of the injury and engaging in positive cognitive rumination in a supportive environment with others (i.e., meaningful leisure). The body's strong presence in all the themes suggests that interventions combining psychological and physiological aspects could be highly advantageous. Physical interventions, such as adaptive leisure and elite sport, that enable the developing and discovering of new skills and expressions of physicality could be successful in facilitating PTG. This could, in turn, promote problem-solving and goal-setting skills. Among people with acquired physical disabilities, it could be fruitful to focus on locating and acknowledging unique abilities as well as individual strengths.

Therefore, several implications for this thesis arose from this synthesis: the findings offer a strong foundation and justification for exploring further the role of the body in the growth experiences of athletes with acquired physical disabilities. The adaptive sport appears an ideal form of 'meaningful leisure engagement' which could potentially facilitate 'new abilities; awareness of physiological and psychological potential. However, the findings particularly point to the direction of team adaptive sport, as the role of others in similar situations appeared essential. Therefore, the following research questions arose; what is the role of the team, if any, in facilitating posttraumatic growth in athletes with acquired physical disabilities? The role of the team in adaptive team sports could be an essential perspective to investigate—an environment where others in similar situations are engaging in physical activity. Moreover, meeting successful people with severe injuries (e.g., athletes, volunteers, professional people), perhaps through personally meaningful activities (leisure, sports, volunteering, etc.) appeared to be greatly valuable. The findings appeared to call for further research on the role of meaningful leisure engagement in trauma recovery; in particular, the need to gain a greater understanding of the role of engagement and meaning in leisure activities, and what, if any, might be the role of other athletes in the experience of growth. Might leisure participation in teams (compared to elite participation or individual sport) be an essential facilitator of growth in athletes? Also, as we now know some of the elements and outcomes of growth, how does this process evolve among athletes with acquired physical disabilities?

CHAPTER FOUR

PHASE II: A THEORY OF THE COMPLEX RELATIONSHIP BETWEEN ACQUIRED PHYSICAL DISABILITY, BODY, ADAPTIVE TEAM SPORT AND POSTTRAUMATIC GROWTH¹¹

4.1. Introduction

In chapter four, the researcher will argue why it is essential to explore the experiences of athletes participating in *team* adaptive sports rather than in adaptive sports in general. The researcher will also illuminate why there is a need in PTG research to study the *process of growth* (in athletes with acquired physical disabilities) rather than only the outcomes. Chapter four will report the findings from phase II of this thesis: a constructivist grounded theory study creating a theory around the complex relationship between, acquired physical disability, body, and adaptive team sport and critically discuss the implications of the findings for future research.

4.1.1. Setting the Scene for Phase II

Phase I of this thesis aided the researcher's understanding of severe physical injuries and PTG on a wider scale in the academic literature. Several research questions arose from the synthesis. The most significant being the findings around meeting successful people with severe injuries (e.g., athletes, volunteers, professional people) particularly through personally

¹¹ A version of this chapter has been published in the following:

Kampman, H., Hefferon, K., Wilson, M., & Beale, J. (2016 July). Post-traumatic growth and team sports: towards all-encompassing model of the complex relationship between acquired disability, team sports and post-traumatic growth. Poster presented at the 9th Biennial International Meaning Conference, Toronto July, 30th.

Conference presentation: Kampman, H. (2016). Personal Career pathway. Presented at EAS 2016: European Athlete as Student Network Rovaniemi, Finland 14 September 2016. Conference presentation: Kampman, H (2016). Post-Traumatic Growth, severe injuries, and team sport. Presented at EAS 2016: European Athlete as Student Network Rovaniemi, Finland 14 September 2016

Kampman, H., Hefferon, K., Beale, J. Joseph S., Hart, R. (in prep) "Adaptive team sport as an organic thing – like a living, breathing thing that always accepts you" – The process of post-traumatic growth among athletes with acquired physical disabilities in adaptive team sports. Qualitative Research in Sport, Exercise and Health.

Some of the results have been discussed in: Hefferon, K., & Kampman, H. (2021). Taking an Embodied Approach to Posttraumatic Growth Research and Sport. In R. Wadey, D. Melissa, & K. Howells (Eds.), Growth Following Adversity in Sport A Mechanism to Positive Change (1st ed.). Routledge. Journal of Wellbeing, 10(1), Article 1. <https://doi.org/10.5502/ijw.v10i1>.

meaningful leisure activities (leisure, sports, volunteering, etc.). Therefore, *team sport* appeared as a naturally compelling research avenue, potentially providing both aspect; meaningful leisure and being around other successful people with disabilities.

Correspondingly, as discussed in section one, the initial findings from the in-depth qualitative MSc study conducted by the researcher showed valuable findings around team sport particularly (subordinate themes 2.2. Team as a resource and 2.3. Being equal ~ Feeling equal) (Kampman & Hefferon, 2020, p. 74). Furthermore, the researchers MSc work highlighted the role of the body in the experiences of growth among UK Paralympians (master theme 3 'the journey of the wounded body' (Kampman & Hefferon, 2014, 2020, p. 74). Therefore, also connecting to the findings from phase I of this thesis and the body-related theme of 'New Abilities'. These two elements – adaptive team sport and the body - became essential aspects informing the research question for phase two.

At the time of phase two commencing in 2015, only a few qualitative papers in the area of PTG and acquired disabilities among elite athletes had been conducted. Namely, exploring the role of initial physical activity experiences in PTG among *Paralympic hopefuls* in UK (Day, 2013) and exploring PTG among American and Canadian *para-athletes with spinal cord injuries* (Crawford et al., 2014). Growth following adversity in a wider sport context was also receiving attention, and was explored in different populations, such as among athletes with *sport injuries* and *coaches perceptions* of growth after these (Wadey et al., 2011, 2013), among *female elite athletes* (Tamminen et al., 2013), and *Olympic swimming champions* (Howells & Fletcher, 2015). Whilst understanding the elements and facilitators of growth and the role of sports in these outcomes and facilitators was developing; *how the process of growth evolves* in these environments was not purposefully explored. All the aforementioned

aspects led to the original research question in phase two: to explore the process and outcomes of PTG among elite athletes with acquired physical disabilities participating in an adaptive team sport.

The constructivist grounded theory (CGT) was deemed an appropriate methodology to explore a process as it offers a systematic approach to the data collection and analysis. Particularly useful element of CGT is the flexibility to amend questions and recruitment patterns in accordance with the findings (Charmaz, 2014, 2017). This is mentioned here as initially, this study embarked to explore the experiences of elite athletes only, even though meaningful leisure engagement was a significant finding from phase one. The researcher contemplated this carefully together with the wider PhD team, the rationale being that the elite athletes appeared to be a more natural continuum for the previous work conducted by the researcher.

It was argued that elite athletes had gone from either no sport or amateur sport to elite/international level athletes, therefore *surpassing previous levels of* (physical/athletic) *functioning* than which existed before a traumatic event occurred. As discussed, going 'beyond previous level of functioning in some area of life', is an essential element of PTG (Tedeschi et al., 1998; Tedeschi & Calhoun, 1995, 2004; Tedeschi et al., 2018). However, the nature of grounded theory enabled and *demand*ed the researcher to follow the data which will be discussed in depth later in this chapter. As the interviews progressed, it became clear that leisure athletes had to be interviewed as well in order to understand the process of PTG. For example, as athletes progressed through leisure into the elite environments, leisure sport environment appeared to have a significant role in their growth journeys. The following literature review will therefore reflect both elite and leisure adaptive team sport in the

current literature.

4.3. Literature Review

4.3.1. *Defining Leisure and Elite Athletes for this Study*

It is recognised that the term 'athlete' can be a complex one and that the 'synthesis of a universal, all-encompassing definition of an "athlete" is a formidable challenge' (McKinney et al., 2019, p.532). Athletes have been defined through age, mode of participation, type of sport, former participation and so forth (Araújo & Scharhag, 2016). Therefore, as a qualitative study, the participant's subjective definitions were acknowledged in addition to the definitions provided here. Leisure athletes in this study were defined as athletes that were participating in their sport for recreational purposes. These athletes might be competing occasionally or regularly for recreational purposes or only participate in their sport as a form of physical activity.

It is also recognised that defining elite athletes is not a straightforward task and a lot of controversies and discussions are surrounding this topic, particularly at adaptive sport. Thomas and Smith (2014) note that elite disability sport has a quite short and 'fragmented, complex and confusing' history (p.133). Indeed, what is 'elite' depends largely on the sport, and the survival of the *fittest*, does not necessarily equal the best or the healthiest but rather the most *fitting* for the given parameters of the sport. Seil (2014) suggests that Elite sport is 'constructed around notions of differentiation, categorisation and selection, all of which call for the demonstration of virtuosity and 'super-humanness.' (p. 8). The aforementioned quote could be argued to be most pertinent in adaptive sport, with classifications being based on impairments and disabilities which can be similar but are arguably also individual and personal. The debates on this area are outside the scope of this thesis, however, it is

acknowledged that using the world *elite* is not without its controversies¹². When defining elite athletes for this study, the researcher leaned on the participants own definitions as well as the work of Swann and colleagues (2015). Therefore, elite athlete was seen as someone who has at least some experience of competing at the highest level in their sport e.g., top divisions/leagues, or competing in the Paralympic Games.

4.3.2. Previous Findings Around Adaptive Sport and Posttraumatic Growth

The previous work conducted in the area of athletes with acquired disabilities and PTG were mainly in-depth descriptive studies and as such provided important findings of the potential role that sport has in facilitating growth (Crawford et al., 2014; Day, 2013; Day & Wadey, 2015). For example, Day (2013) explored the initial physical activity experiences in Paralympic hopefuls, and suggested that sport facilitates athletes' growth experiences through offering opportunities for recognising possibility while acknowledging the limitations that the disability had caused. Similarly, Crawford, Gayman, & Tracey (2014) found that sport helped athletes to process the injury and their identity either by re-establishing it or dealing with the 'forced new identity'. Day (2013) also found that elite athletes with acquired disabilities could take manageable risks in a supportive physical activity environment. This allowed athletes to challenge and rebuild their shattered assumptions around invulnerability. According to Day (2013), through sports, athletes accepted responsibility for their own choices in life and understood better the consequences of those choices. Crawford et al., (2014) also found that athletes reported appreciating life, not taking things for granted and having more clarity and perspective in their lives (Crawford, Gayman, & Tracey, 2014).

¹² For a review on this are please see Swann, C., Moran, A., & Piggott, D. (2015). Defining elite athletes: Issues in the study of expert performance in sport psychology. *Psychology of Sport and Exercise*, 16, 3–14. <https://doi.org/10.1016/j.psychsport.2014.07.004>

Similarly, Day (2013) found that sport had the potential to facilitate growth through re-establishing and enhancing meaning in the lives of these athletes. Finally, findings also suggest that athletes become better at solving problems, and have more mental toughness due to rehabilitation, and learn new skills through sports and teammates, and report being less judgemental than they were previously (Crawford, Gayman, & Tracey, 2014). The above studies explored the lived experiences of growth and as such did not specifically study *how the process of growth evolves* among the athletes. Knowledge around how the process of PTG develops within sport would add procedural understanding to these growth experiences.

The narrative findings thus far suggests that adaptive sport could be a very specific socio-cultural environment where the process of PTG could naturally evolve. It appears that sport could be connecting to the *process* of PTG through aiding ‘coping success’ helping athletes to disengage from unrealistic goals and beliefs as well as creating effective strategies for emotional regulation; by offering ‘social support, providing comfort and offering new schemas’; offer ample opportunities for self-analysis, self-disclosure and managing emotional distress; and through facilitating ‘narrative development’ in athletes (Tedeschi et al., 2018, p.43, see section 1.4.). Therefore, the natural potential of the adaptive sport to be growth facilitative exists. However, very little is still known about when and how these environments would be optimal for growth and if there are also elements that hinder the growth process for the athletes.

Similar gap around the process exists when it comes to the body and C-PTG. Day and Wadey (2016) for example found that elite sport had the potential to provide mastery experiences and enhance relationships after a traumatic disability. Sport improved corporeal understanding as the individuals were aiming to accept their new physicality. This can be

seen as reflecting the process of Corporeal PTG (C-PTG; Hefferon, 2012) where one is renegotiating their new corporeal body self-relationship. Day and Wadey (2016) described this powerfully by writing that ‘either the body must remain mute or new stories and philosophies must be developed’ (p.137). These descriptive accounts offer valuable insights into the experience of growth among elite athletes and into the role of sport in this experience. This further suggests that there might be great value in understanding how this process evolves among athletes.

4.3.3. Team as a Natural Social Environment After Trauma

Team is a fascinating aspect to explore as PTG can evolve through the interactions with ‘natural social environments’ (Calhoun & Tedeschi, 2013, p.23). In fact, Calhoun and Tedeschi (2013) emphasise that both professional expertise about trauma and PTG and *human companionship* are essential aspects in growth facilitation. The term *expert companionship*, coined by Tedeschi and Calhoun (2006) refers to having expertise but also being a companion on individuals growth journey. It is emphasised that these companions are often found in environments which are convenient, accessible, and trusted rather than in the professional therapeutic realm (Calhoun & Tedeschi, 2013). Therefore, adaptive sport could potentially offer this natural, social environment with other individuals who understand the survivor’s environment, language, emotional needs, beliefs and can relate to the initial confusion caused by the trauma (Calhoun & Tedeschi, 2013).

As mentioned, the previous work conducted before this thesis by the researcher, elucidated the essential role of the team in the growth experiences of athletes participating in adaptive team sports (Kampman & Hefferon, 2014, Kampman & Hefferon, 2020). The study found that in team sport, athletes were able to be ‘authentic selves’, had ‘omnipresent humour’, and by having similar previous experiences aided their cohesiveness (Kampman &

Hefferon, 2020, p.80). Crawford et al. (2014) also found that the opportunity to meet new people and learn from them, aided growth experiences among paralympians (Crawford, et al., 2014). These studies are thus suggesting that the team environment, particularly with similar traumatic histories, could be greatly beneficial for people recovering from trauma and therefore similar benefits could arise among acquired physical disabilities and adaptive team sport. Team sport has been found to be negatively correlated with depressive symptoms and protect against feelings of hopelessness and suicidality in wider sport literature (Eime et al., 2013), therefore suggesting that team sport could potentially offer essential benefits after potentially traumatic events such as acquiring a physical disability. As stated, the role of the team and the team environment in PTG has not been purposefully investigated, but it could offer a range of both benefits and challenges for the growth process and its outcomes.

4.3.4. Meaningful Leisure Engagement

Understanding the role of participating in adaptive sport at a leisure level, could offer unique and perhaps essential insights into the process of growth athletes are going through (see also section 3.3.1.3.). Athletes are likely to start with leisure participation after their acquired disability, before moving into the elite sport (unless fast-tracked into the elite). Meaningful leisure engagement after severe injuries can indeed help people to 'discover new abilities, hidden talents and rediscover existing skills in a new way' as was found in phase one of this thesis (Kampman et al., 2015, p.290; see section 3.3.1.3.). Meaningful leisure activities might also improve independence, and help people form new relationships (Chun & Lee, 2008). People engaging in leisure after trauma, have gained recognition for their talents, improved their self-confidence, and found people to admire (Griffiths & Kennedy, 2012; Day (2013). Leisure has been also found to lead to new careers, feelings of success and a sense of achievement (Chun & Lee, 2010; Crawford et al. 2014). Furthermore, leisure, has been

studied when coping with various negative life events and it has been found to be a useful distraction, generate optimism, and preserve a sense of self (Kleiber, Hutchinson, & Williams, 2002). Hutchinson, et al. (2003) suggest that leisure has a protective role in the immediate aftermath of trauma. Iwasaki (2016) proposes that leisure has a crucial role in meaning-making in one's life. Iwasaki's (2016) conceptual paper summarises the findings around leisure and suggest seven themes around leisure (identity, creativity, connectedness, harmony/balance, stress-coping and healing, growth/transformation and experiential and existential) and highlights that leisure has been found to facilitate 'growth and transformation, as well as 'resilience, post-traumatic growth, and empowerment' (p.7). These findings around leisure suggest that to understand the process of growth in athletes with acquired physical disabilities, it could be beneficial to explore the role of leisure participation as well.

Finally, understanding the role of the body in the process of growth among athletes with acquired impairments is essential, due to the trauma having a direct and substantial impact on the body as was argued in phase one of this thesis. Previous research has established the important role of the body in the experience of growth among people with life-threatening illnesses and severe injuries (Hefferon, 2012; Hefferon et al., 2008, 2009). The physicality of sports participation and the demands of the sport to the athletes' bodies are greater than in ordinary life situations. This could make the role of the body even more evident in this particular cohort. Athletes with acquired physical disabilities could have a specific body facilitated process of growth compared to other traumas. The body and the wellbeing of the body are instrumental for athletes as the body is the very basis and source of their sport career (Giles et al., 2020; Hefferon & Kampman, 2021). For example sport injuries, a very common bodily challenge in sport, can have a tremendous impact on athletes

wellbeing (Evans et al., 2012; Wadey et al., 2011). Therefore, the well or ill-being of the body shows in the everyday lives of athletes. Optimising the understanding around the body and its role in the process and outcomes of growth could have benefits beyond PTG research as it could further advance both rehabilitation as well as peak performance practices.

The previous work around acquired disabilities, sport and PTG at the time of phase two commencing provided promising findings (Crawford et al., 2014; Day, 2013; Kampman et al., 2013; 2020). Several opportunities for further exploration arose. The previous work had been descriptive and focused either on elite or leisure athletes, as well as included athletes from both team or partnered sports, and individual sports within the same study. None of the previous studies apart from the researchers MSc study explored specifically the role of the body in PTG. Therefore, based on the gaps in the literature, phase two embarked to 1) explore the experiences of athletes with acquired disabilities participating in team sports identifying with PTG 2) explore how the process of growth evolves among these athletes 3) identify what is the role of the body in this growth process. The aim was not to create a new theory of post-traumatic growth but to create a preliminary theory of how this process of growth evolves in athletes with acquired physical disabilities participating in adaptive team sports. Therefore, phase two aimed to bring a unique contribution to the area of adaptive team sport and have implications for rehabilitation practices, facilitating peak performance and transferring successfully among different levels of sport participation.

4.4. Methodology

This study utilised a qualitative constructivist grounded theory methodology. The grounded theory differs significantly from other qualitative methodologies and methods such as

Interpretative Phenomenological Analysis (IPA; Smith & Osborn, 2015) or Thematic Analysis (Braun & Clarke, 2020) as it has both positivist and interpretative elements. Whereas for example phenomenology aims to describe and explore an experience, Grounded theory aims to construct theory (Charmaz, 2017). Grounded Theory methodologies emerged originally in the late 1960s when Barney Glaser and Anselm Strauss aimed to balance the heavy emphasis on quantitative positivist research, which was dominating the field of research at the time in sociology (Charmaz, 2015; Glaser & Strauss, 1967). However, Glaser and Strauss differed on their approaches, whereas Glaser was positivistic, emphasising logic and the systematic approach, Strauss leaned on ethnography, symbolic interactionism, and pragmatist philosophy (Charmaz, 2015; Glaser & Strauss, 1967).

The constructivist grounded theory (CGT) is a contemporary revision of the original grounded theory methodology (Glaser & Strauss, 1967; Charmaz, 2015). CGT leans on a systematic approach to the data collection and analysis whilst recognising that the relationship and interaction with the participants will shape the collection, content, and analysis (Charmaz, 2014, 2015, 2017). CGT is 'iterative, comparative, emergent, and open-ended' and places the methodology within the 'relativist epistemological foundation' (Charmaz, 2015, p.56). CGT can and is often conducted within the critical realism framework. However, Charmaz (2014, 2015) suggests that it is best aligned with symbolic interactionism which essence is in the assumption that people construct selves, their social worlds, and societies through interaction. Therefore, in this current study, the researcher was aiming to understand how athletes with acquired physical disabilities, think, act, and feel from their standpoint. Particularly, how athletes construct meanings and act according to these constructions. In an adaptive team sport environment, the shared symbols and language, as well as specific cultural meanings, are part of 'collective life' (Charmaz, 2015, .57). Symbolic

interactionism has roots in pragmatism, therefore aligning within the overall worldview of this thesis. The value of the constructed theory in CTG relies on effective practical application and 'meaning emerges' through practical action aiming to solve issues (Charmaz, 2014, p.263; see 2.2.1.4.).

4.4.1. Design

The process of growth was investigated through researching athletes with acquired physical disabilities who identified with the concept of posttraumatic growth and felt that team sport had a significant role in their process of growth. CGT was an ideal methodology for the purposes of this research. Due to the lack of understanding of *the process of PTG after an acquired physical disability in athletes and the potential role that the team and the body has in this process* the aim of this research was construct a theory of this phenomenon. Whereas often qualitative research asks 'what' and 'how' questions CGT leads to 'why' questions (Charmaz, 2017, p.299). For example, why is the growth process evolving in this way? why are athletes engaging in adaptive team sports after acquiring a physical disability? why or why not is team sport facilitating the process of growth for these athletes? Therefore, CGT is an ideal methodology to explore a process such as PTG. The CGT methodology emphasises the importance of flexibility in the method and thus fits well with research that is exploratory and wishes to increase understanding around unfolding processes. CGT acknowledges the subjectivity and involvement of the researcher in the construction and interpretation of the studied phenomena: 'the present arises from the past but is never quite the same. The present emerges with new characteristics' (Mead, 1932 in Charmaz 2014, p.17). Thus the researcher must 'claim, locate, evaluate, and defend' their position (Charmaz, 2014).

4.4.1.1. Participants. After gaining an ethical approval for the study from the University of East London's Ethics Committee (UREC; Appendix E), the researcher ended up recruiting thirteen elite and leisure athletes who participated in team sport and one athlete participating in only individual sport (see table 3). All participants had an acquired physical disability (excluding visual and mental impairments). The sample was purposefully focused on acquired physical disabilities in order to understand the role of the body in this process better. The original inclusion criteria additionally stipulated that the participants had to be over 18 years old, participating in team sport at an elite level, having acquired their impairment after birth (excluding visual or mental impairments). It was also instrumental that the participants identified with the concept of post-traumatic growth. Due to the nature of CGT, the original inclusion criteria expanded to include both leisure and elite athletes to understand the process further. Some athletes participated in several sports in both elite and leisure levels and/or in both team and individual sports.

Table 3 - Demographics of the Participants' Physical Impairments and Years in Sports

Participant's interview number	Gender	Type of impairment	Cause of acquired impairment	Age when injury occurred	Time since injury at the time of the interview	Years in sport
1	Female	Congenital & SCI at the age of 15	Spinal infusion	15	27	30
2	Female	Incomplete Spinal Cord Injury & Moderate TBI	Road Traffic Accident (RTA)	32	9	Since childhood
3	Female	Paraplegic	Fall	17	15	14
4	Female	Both legs above knee amputation (transfemoral) Amputee	Illness - meningitis	19	29	30

5	Male	Above knee amputation (transfemoral) - Amputee	Motorcycle accident	11	9	9
6	Female	C6 Complete Spinal cord Injury	Diving accident (pool)	18	11	10
7	Male	Left leg below knee amputee	Amputation due to an illness - bone	2	40	40
8	Male	Below right knee amputation	Amputation due to complications of previous injury (shot wound)	45	3	40
9	Male	Thuc hip - Above knee amputation (transfemoral) amputee	Amputation due to a cancer	9	18	18
10	Male	Spinal injury, C7 Incomplete	Hit by car whilst cycling	37	10	40
11	Male	Leg and back injury	Accident (work)	33	7	27
12	Male	Cerebral Palsy in right leg	Birth	premature birth	24	10
13	Female	Amputee (right through knee)	Accident, failed operations, amputation	20 (amputation at the age of 27)	10 (amputation 3 years ago)	4
14	Male	C7 complete Spinal cord injury	Accident	17	17	16

Note: Negative cases are written in grey

Even though the purpose of this study was to understand the role of the team sport in PTG, it was due to these finding amongst the data collection and analysis why the researcher decided to include a 'negative' case of an athlete solely participating in individual sports. This is a common method utilised in grounded theory studies to challenge the emerging findings by discovering negative cases or instances that do not fit the categories (Willig & Rogers, 2017). This method enables the researcher to bring depth and density to the analysis. Further

two negative cases emerged because the researcher initially recruited individuals with acquired disabilities *after birth* without specifying the age when acquired disability occurred. Two participants had acquired their disabilities right after birth thus technically adhering to the inclusion criteria. Nevertheless, these individuals could not have a memorable ‘before and after’ experience with their disability, essential for the process of PTG. The inclusion criteria were therefore amended to: ‘Acquired physical impairment after birth’ was specified to include traumas that occurred after the age of 9, leaning on the literature around the development of PTG suggesting that after this age, an individual can have a before and after concept of their life and thus are amenable to PTG inquiry (Kilmer et al., 2009; Myerson et al., 2011). This is a crucial aspect of the development of PTG. It is important that the participant is able to remember and contemplate on the differences and changes in life after the trauma to be able to evaluate the impact of this event.

This study recruited from a variety of sports in order to have a wide perspective of the phenomenon. The sports included: wheelchair basketball, wheelchair rugby, sitting volleyball, football, cricket, rowing, triathlon, athletics, swimming, wheelchair racing and golf. The highest level of sport participation was ‘world-class elite athletes’ (as defined in (Swann et al., 2015, p.12): ‘experience sustained success at the highest level, with repeated wins over a prolonged period of time’ e.g., winning gold medals in consecutive [para] Olympics, or major competitive victories over a number of seasons). The leisure athletes were participating in their sport consistently and often competing in their sports regularly, however not at elite level.

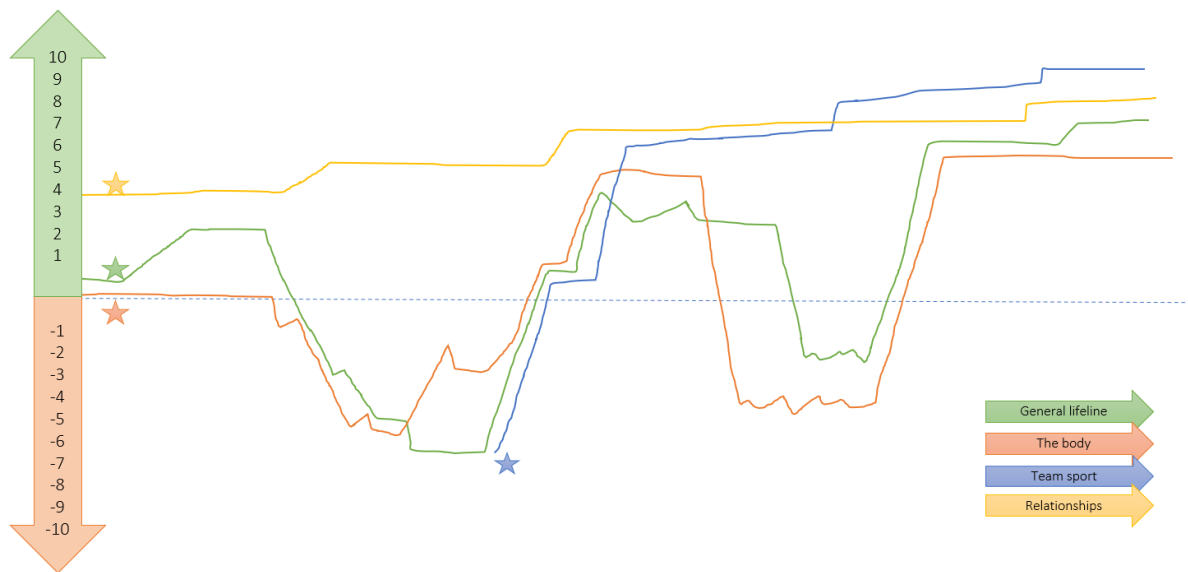
The level of education in this sample was also varied, ranging from college education to Doctorate degree. The participant pool consisted mostly white British athletes with a wide

range of marital statuses and age of the participants varied between 20 – 47 years old. For the information around the impairments and time in sport please see Table 6.

4.4.1.2. Data Collection. The researcher originally recruited participants through purposeful sampling to elicit understanding about the studied phenomena. In this study, the researcher started with a semi-structured interview utilising intensive interviewing (Charmaz, 2015; Appendix F). It is essential to note that semi-structured and intensive meant that the interviews were ‘open-ended, yet directed, shaped yet emergent, paced yet unrestricted’ (Charmaz, 2015, p.85). After the first interview and analysis, the researcher decided that it was useful to add *an adapted lifeline interview method (aLIM)* to better understand the individual timelines and processes (see figure 4 for an illustration and appendix G for an actual participant drawing).

It is important to note that the researcher was not originally aware that such method exists, rather the idea came from memo writing (see Appendix H) and from the need to capture timelines better. The LIM asks the individual to draw a lifeline with its ups and down and then discuss these events in their life (Rowles & Schoenberg, 2002). Similar techniques have since been used in exploring physical activity and disability over time (Williams, 2018) as well as in qualitative research in general (Boden et al., 2019). It has been argued that for example, drawing can aid the discussions around topics that are hard to articulate and therefore the use of these multimodal approaches could potentially help to elicit more meaningful data (Boden et al., 2019).

Figure 4 - Illustration of the Adapted Lifeline Interview Method (aLIM – Example)



In this study, the aLIM was utilised using different lifelines for different elements in their life (e.g., sport, the body, social). This ‘adapted lifeline interview method’ (aLIM), revealed the complicated nature of growth, where the challenges and triumphs were overlapping and simultaneous at times. It also illustrated that sometimes individuals had various traumas which were not related to acquired physical disability.

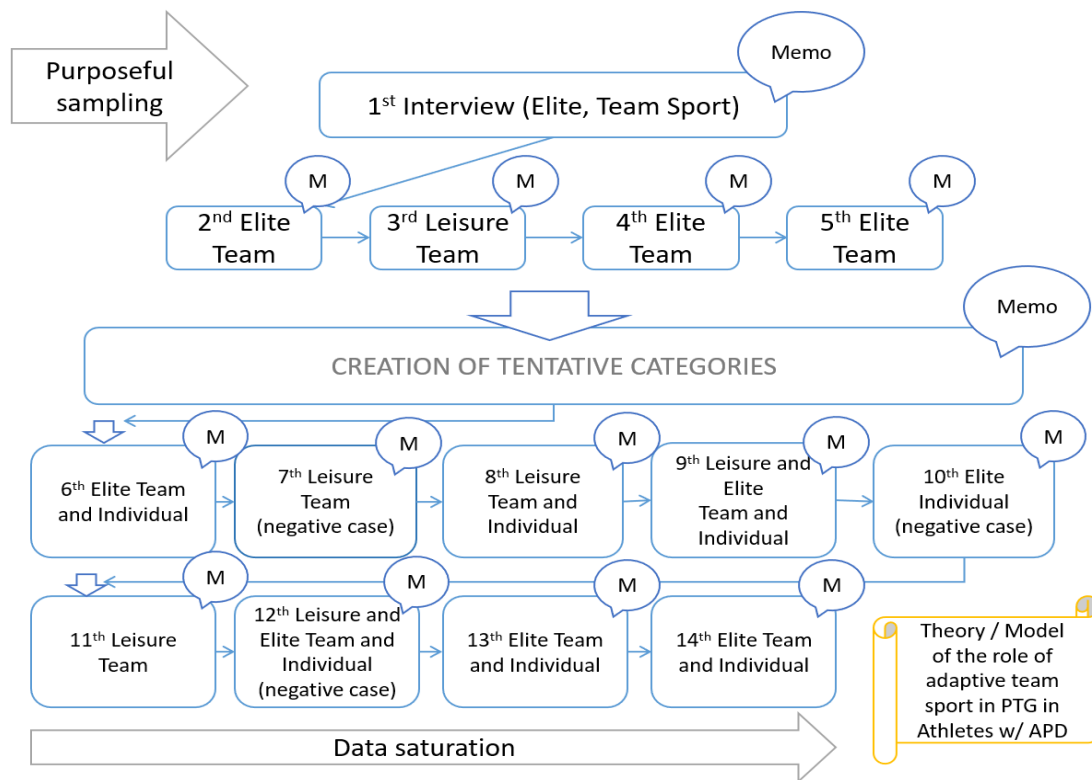
After the initial interview with an elite athlete, the researcher expanded the inclusion criteria to include *leisure athletes* as well. This was due to the implications around the possible importance of this attendance mode in the beginning of the PTG process as well as to the success of later stages. The process of growth among adaptive team sport has not been investigated previously among both leisure and elite athletes despite athletes usually moving from leisure towards elite in their career. This highlights the importance of this current study.

4.4.1.3. Data Analysis. Grounded Theory approach differs from many other qualitative methodologies in that it involves an iterative process with the aim to construct abstract

analytic categories already during the data collection. Therefore, where possible, the researcher transcribes (Appendix I) and analyses the interviews between participants. This enables the researcher to follow the data, engage in theoretical sampling and search for variations around the studied process. The process involves a constant comparative analysis during the different levels of analysis (Charmaz, 1990, 2006, 2014, 2017). Charmaz (2015, p.54) emphasises the following characteristics in CGT analysis process which make it a fitting choice when the researcher is aiming to construct a theory of how a process evolves: 1) Collecting data and analysing simultaneously; 2) Developing original analytic codes and categories (instead of hypotheses); 3) Enabling the researcher to develop 'middle-range theories' to understand how a process evolves and explaining behaviours (p. 54); 4) Writing memos throughout the analysis as well as to 'explicate' the emerging categories; 5) Constantly comparing between data and data, data and concept, concept, and concept; 6) Theoretical sampling, however, for theory construction and refining categories, not for representation of the population; 7) Not engaging with literature before the analysis is done.

Due to the iterative nature of the method, the data collection and analysis in constructivist grounded theory is not a linear endeavour (see figure 5 for a detailed visual of the recruitment, sampling, and analytic process). These two processes are very much intertwined, and the researcher must move with the data and follow the analysis throughout the data collection (Charmaz, 2014; 2017).

Figure 5 - *The Process of Recruitment, Sampling and Analytic Process*



4.4.1.3.1. The Initial, Focused, and Axial Coding. The analysis in CGT starts with the *initial coding* of each line of data (Appendix J). In CGT codes are seen as emerging from data as the researcher codes what they see in the data. Line-by-line coding is essential as it 'forces' the researcher to see all the data. The initial coding is followed by focused coding, which is more selective, utilising the most significant initial codes to sort, synthesis organise a large amount of data (Charmaz, 2014; 2015) (Appendix K). The researcher uses constant comparative methods to find similarities and differences in the data (i.e., within the same participant and between participants). The two forms are followed by *axial coding* which usefulness is debated within the CGT literature (Charmaz 2015). It resembles the constant comparison and aims to specify the dimensions of the category i.e., linking categories with subcategories.

4.4.1.3.2. Memo Writing. Throughout the study and different stages of analysis, the researcher must keep *writing memos* (Appendix L). Memo writing is an important part of the

grounded theory method, where the researcher marks ideas, initial thoughts, and further questions on a separate document (Charmaz, 2014; 2017). After initial categories are emerging, the memos help to further develop these categories (see Appendices M & N). The researcher aimed to conduct transcriptions and analysis between every interview. However, due to the difficulties accessing the elite athletes, at times, some of the interviews were done straight after each other if the researcher had access to willing participants. In these occasions the researcher always performed a microanalysis between the sessions and recouped before the following interview. This approach is supported by Charmaz (2014) as she emphasises the flexibility of the methodology instead of 'methodological rules, recipes, and requirements' (p.16).

The data collection is constantly based on previous findings and informed by the missing answers of the analysis. After five interviews and line-by-line coding followed by focused coding, axial coding and memos, the researcher created tentative categories (Appendix L). This led to further expanding the inclusion criteria to find answers for variations around the participant pool (different levels of sports participations and adding the 'negative case' of individual sports). It is important to note that negative in this context only means differing rather than opposite or undesirable (Charmaz, 2014; Willig, 2008; Willig & Rogers, 2017). The recruitment and sampling of participants is an on-going process that is constantly informed by the data analysis and initial arising tentative categories. Similar techniques can be found from other grounded theory studies around sport (Fletcher & Sarkar, 2012; Roy-Davis et al., 2017).

4.4.1.3.3. Theoretical Sampling and Saturation. Theoretical sampling in CGT is often misunderstood to mean other forms of sampling such as 1) sampling according to the initial

research question 2) to reflect population distributions 3) to find negative cases 4) sampling until no new data emerges (Charmaz, 2015, p.197). Theoretical sampling in CGT is directly related to the categories; the researcher is aiming to develop the emerging theory (Appendix O). The nature of the interviews also changes with theoretical sampling and the researcher resumes a more active and direct role in their questions (Charmaz, 2015; Appendix P). Theoretical sampling is specific, systematic, and strategic and can only occur after initial categories have been developed. When the properties of the theoretical categories are 'saturated with data' (Charmaz, 2015, p.213) the data collection is stopped. Therefore, theoretical sampling is used until data does not add to the categories and their relationships anymore. It is essential to recognise that saturation in CGT differs from other conceptualisations of saturations in many qualitative methods where saturation is seen as similar patterns arising from data (e.g., for a critical discussion see Braun & Clarke, 2019).

CGT aims for 'quality over quantity (Charmaz, 2014, p. 32) and the final number of participants is truly informed by the analysis. This study ended up recruiting fourteen athletes and the interview lengths varied from 30 minutes to 2 hours. The total interview material was 960 minutes; therefore 16 hours of interview material was analysed for this study.

The analysis relied on constant reflexivity and memo writing, re-writing, and complete transparency. The findings and writings were additionally reflected and explored with others in the research team in reflexive sessions. These reflective practices provide opportunities for deeper thinking and discussions, allowing the researcher to explore and contemplate the dimensions of the categories. The preliminary findings were also presented in a conference to elicit wider discussion among peers.

4.4.2. Assessing Validity

The phase two adhered to various commonly agreed principles of conducting quality research within qualitative research (Yardley, 2008; 2015; 2017). Therefore the researcher stayed 1) *sensitive to the context* (e.g., immersing into the adaptive sport world by participating in various sports; exploring the data with depth, reflecting and writing memos); 2) exhibited *commitment and rigor* (e.g., engaging with the adaptive sport community, continuously updating the knowledge around adaptive team sport through informal discussions with coaches, athletes, participating in different adaptive sports, understanding the process and the chosen methodology, attending to a specialist grounded theory workshop, adhering and understanding the methodological principles of CGT; engaging in in-depth analyses, memos and reflection); 3) demonstrating *transparency and coherence* (e.g., clearly showing how the process of CGT evolved and transparency around analysis and decisions such as moving from elite to leisure and inclusion on negative cases; themes are supported with extensive quotes and analysis); and 4) providing *impact and importance* (e.g., both theoretical and practical knowledge is produced giving voice to the participant pool of both leisure and elite athletes participating in adaptive team sport). The above-mentioned principles are vivid and demonstrated throughout the phase two write up, including extensive appendices to support the quality measures taken.

Adhering to quality in grounded theory specifically (Charmaz, 2014, p.337), the study has *credibility*, (e.g., the range, quality and amount of data shows rigour and is evidenced throughout the write up with quotes and appendixes), *originality* (e.g., categories are fresh, providing insights both theoretically and socially, illuminating challenges as well as benefits), *resonance* (e.g., the findings have implications for practise in adaptive team sports, both from

individual and operational perspective) and *usefulness* (e.g., offering practical implication for athletes, illuminating their language, and proving further opportunities for research).

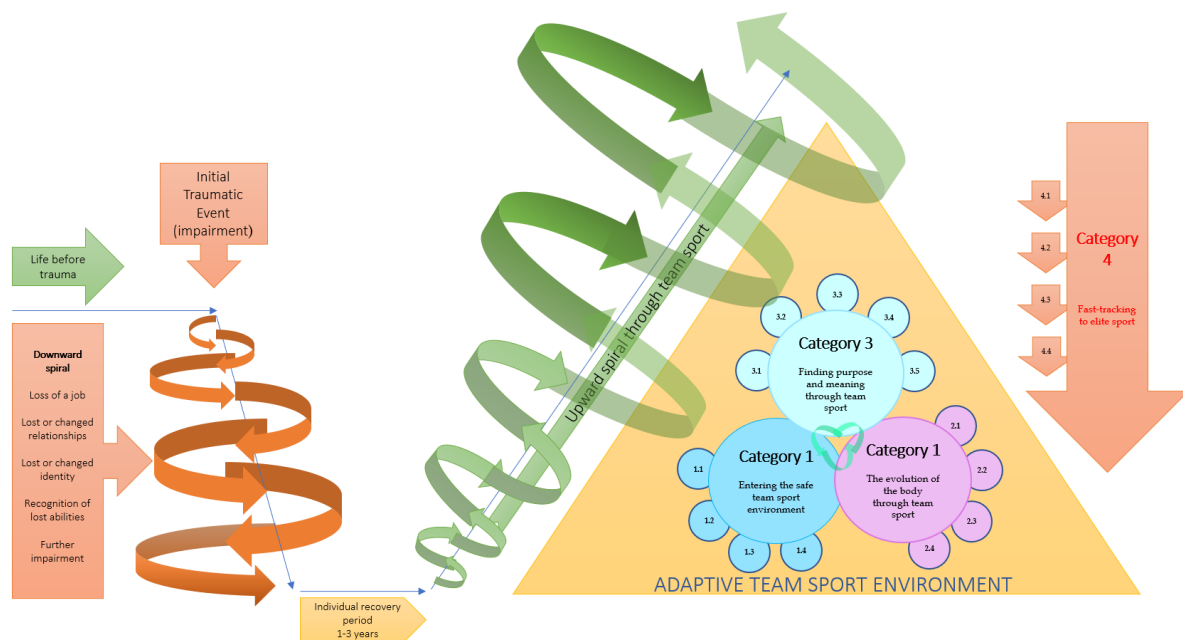
4.5. Results

This study identified a complex process of growth among the athletes (please see Table 4 & Figure 6). Categories that were relevant for the process of growth were: '*entering the safe team sport environment*', '*the evolution of the body through team sport*' and '*finding purpose and meaning through team sport*', all which had several subordinate categories underneath them. Furthermore, this study found that '*Fast-tracking to elite sport*' was potentially dangerous to these athletes' wellbeing and exposed them too early to some of the negative elements of team sports at elite levels.

Table 4 - Categories and Subordinate Categories

Team sport as an organic thing - "it's like a living, breathing thing that always accepts you"	
Category 1 Entering the safe team sport environment	1.1 New normality, our normality - Belonging
	1.2 Being seen, valued, encouraged, and expected from - Respected
	1.3 Socializing, camaraderie, humour, knowledge – Collective wisdom
	1.4 Social leveller, versatility of abilities, level playing field - Freedom
Category 2 The evolution of the body through team sport	2.1 Facing the limitations of the body - Awareness & Acceptance
	2.2 Listening, caring, respecting the body – Body Wisdom
	2.3 Progress, skills, strength, power - Aspiration
	2.4 Breaking barriers, thriving with the body - World class
Category 3 Finding purpose and meaning through team sport	3.1 Coping, resilience, psychological skills - Mental toughness
	3.2 Opportunities, achievements, and development - Purpose
	3.3 Being true to yourself, integrated sense of self - Authenticity
	3.4 Humanity, giving back and affecting change - Meaning
	3.5 Reminders of mortality, vicarious trauma - Perspective
Category 4 Fast-tracking to elite sport	4.1 Elite sport as a selfish environment - Rivalry
	4.2 Conflicts, overpowering the individual - Loss of autonomy
	4.3 One dimensional identity - Loss of complexity of the self
	4.4 Neglecting the body well-being, additional Injuries – Body ill-being

Figure 6 - The Process of Growth in Athletes with Acquired Physical Disabilities Participating in Adaptive Team Sport



The themes are all interconnected and represent different, yet intertwined aspects of the role of team sport in the process of PTG. The multidimensional nature of the trauma recovery was partly revealed due to the adapted lifeline interview method (aLIM – see Figure 4) that the researcher used in the data collection. As previously mentioned, the researcher asked the participants to draw different lifelines for different aspects in their life (e.g., sport, the body, relationships). This ‘adapted lifeline method’ (aLIM) revealed the complex nature of trauma and growth, where the challenges and triumphs were often overlapping and concurrent.

The findings also clearly presented a diverse spectrum where these athletes were in their growth journeys. All athletes were identifying with the idea of growth, however, still at quite different phases of the process. This gave a rich picture of the complicated nature of growth and how it is both an outcome and a process, which appears as ever evolving. A common idea around these athletes with acquired disabilities who were participating in

adaptive team sport and reporting PTG was that team sport was seen as an ‘organic thing – like a living, breathing thing that always accepts you’ (Abbey). It was clear from the results that team sport played a key part in the process of PTG in these athletes’ lives. In this cohort of athletes, the different modes of sport participation were crucial for the process of PTG to be a fruitful one. The team environment created a space for a positive upward spiral in these athletes’ lives, where they could safely challenge themselves and move forward towards their ever-growing and changing goals. Before analysing and discussing these specific themes, the following section will give a short introduction into the positive upward spiral where the different elements played the part (Table 4 and Figure 6).

4.5.1. Overview of the process: Upward spiral of Awareness, Attentiveness, Acceptance & Aspiration

The adaptive team sport created an environment which enabled *Awareness* towards the lost aspects of life: skills, relationships, the body, careers etc. At leisure level, it was possible to *Attend* to this, often painful awareness, in a safe environment, which gradually created space for *Acceptance*. It was through engagement with other people with similar experiences that made this process safe. Going through the process also grafted space for *Awareness* of what was not lost and, furthermore, enabled *Aspirations* for the future. This upward spiral was an on-going process, where Awareness, Attentiveness, Acceptance and Aspirations created further awareness, starting the process again with new emerging characteristics.

The process of growth for these athletes was naturally linked to their original trauma experience and the characteristics that it had, as what had been shattered had to be understood and build from the smithereens. Much like the original traumatic event was a downward spiral with different stages, the journey towards growth was an upward spiral

(rather than linear, see Figure 3). The original downward spiral often had several stages of grief where the implications of the original traumatic event were gradually appearing and being realised when engaging with life. Whilst individuals originally were grateful to be alive and appreciated what was still left, they progressively had to engage with the true extent of the event when the aftermath of it started to emerge in different ways. The additional effects of the traumatic events were aspects such as a loss of a job, friendships, lost or changed identity, loss of a body part through amputation, and/or several other personal aspects of their previous lives that were found to be lost only after some time had passed from the actual event. These realisations usually deepened following the immediate 'survival' stage where the focus was more on the fact that you were still alive. Many of the other implications of the trauma were realised during or after the rehabilitation period and at times even later with time. In this study this process sometimes lasted a few years. The phase two found that the process of growth appeared to have a substantial plateau stage, where individuals were not exhibiting downward or upward spiral, but rather a state of stabilising the downfall. Again, this often showed in the aLIM drawings as a flat line after the initial downfall and prior to the upward spirals. This finding has implications on how quickly it is practical to search PTG after a traumatic event such as this.

The journey towards growth was a dance between losses and gains where in order to benefit from the gains - awareness, attentiveness and acceptance had to precede. The process towards growth had to also be a gradual one, to avoid being overwhelmed and exhausted by it. With the newfound resources - in this participant pool often through team sports - they could take on greater challenges and push themselves further. This is where the role of leisure was immensely important: to have time to proceed with a pace that was

individually suitable, before embarking towards the demands of the British elite disability sports environment.

The upward spiral found in this study suggests that positive aftermath after physical disability in athletes, had both cognitive and behavioural elements as the source of growth. At times it was the behaviour that started the cognitive appraisal process: the very act of practising new talents made the athletes contemplate on the possibilities and in turn propelled further actions towards new behaviours. At times, it was e.g., the acknowledgment of others talent, journey and progress that initiated individuals to re-evaluate their situation and act accordingly. Furthermore, the role of embodiment in the process of growth was essential in this cohort, emphasising the importance of understanding the embodied cognition and behaviour of growth. These aspects will be discussed further with the themes. This process was almost akin to Maslow's hierarchy of needs, where individuals exhibit different levels of psychological and physiological needs as well as higher order goals, such as self-actualization and self-transcendence. This perspective will be discussed further with the connecting themes.

4.5.2. Categories and Analysis

4.5.2.1. Category 1: Entering the Safe Team Sport Environment. Entering the safe team environment had a significant role in the process of PTG to these athletes. A very central and common finding from the study was that team sport was seen and described as “safe”, “normal”, “positive”, “natural”, or/and “unique”. It was clear that the sense of safety and belonging were central in the process of PTG for these athletes following their acquired impairment. The team sport environment helped them accept their disability and feel accepted by others. Participants experienced a rebuilding of their sense of normality through this environment.

4.5.2.1.1. New Normality, our Normality. For many of the athletes the team environment represented a “beginning of belonging” after the impairment, a place where you could go and feel that you are part of something normal again. It was an environment where you did not need to explain yourself and you could just naturally be surrounded by different abilities and feel accepted. This sense of normality was new, “ours”, and it created camaraderie among the athletes from the start. This belonging was different from before but natural in this current reality. Bethany describes how important it was for her to be in a place where her disability wasn’t an issue:

Being accepted, I think if you have acquired disability and you have not grown up disabled and you suddenly find your world turned upside down and the friends you’ve grown up with, they are uncertain how to be with you, even though you have not changed as a person in terms of who you are internally to be able to come somewhere and your disability isn’t an issue, it’s you know you are just you, so that’s important. (Bethany)

Abby also discusses the importance of normality from the perspective that it is where good and bad things happen. People behave well and badly among adaptive team sport, suggesting that this complexity of human experience is somewhat missing from other interactions and is not often how people with impairments are regarded. To her the sense of normality becomes from being human, with warts and all:

Everybody says it's social, but it's not just social because not everybody hangs out together, not everybody likes each other [laughing] I mean there is a lot of thing that go on, but it's your, it's your area, you know it's your normality, it's where you know bad things happen, good things happen, it's where bad people are, where good people are. (Abby)

This sense of belonging and normality was key to accepting one's acquired physical disability. It was this safe environment that allowed people to acknowledge and embrace their current situation. Athletes reported having people to admire through sports, idols in the team, who showed athletes what is possible and achievable. Similarly, realising that some people have greater injuries than you and are still achieving a lot and developing, was a great source of hope and perspective. The adaptive team sport environment also demanded people to face their acquired disability and negotiate the complex emotions around what their impairment meant for them. For example, you can hear from Henry's description that he is still trying to come to terms with his new identity. Henry is describing others in disability sport as disabled, "them" and "I" as in with an impairment, not disabled:

yeah it was good to come into this you know come into this sort of environment and being with these, being with these – and also coming across different disabilities which this [adaptive team sport omitted] team is – see I don't come across that a lot of with the other sports I mean I do [another sport] with able bodied guys I don't do [a particular sport] with disabled guys, I [do a particular sport] with able bodied guys then I have to go down and do

my special training in London, but these guys all got some sort of disability, which is good, because you kind of realise this is what, this is what they have and everyone copes with it differently but yeah it was great being part of it. (Henry)

Later Henry states that “at home and I am in my wheelchair or I have to I don’t have a wheelchair I hop around now, then yeah I am as disabled as anybody else” suggesting that he is still trying to come to terms with his new physicality and what it means to him. This is an instrumental part of the PTG journey, where individual acknowledges their situation and lets go some aspects of their previous life to welcome the new possibilities.

4.5.2.1.2. Being Seen, Valued, Encouraged, and Expected from - Respected. The team sport environment allowed individuals to be seen, valued, and encouraged; people felt safe enough to be challenged to learn new skills and push their bodies. In fact, it was often the expectations of others (e.g., a coach or a teammate) that created the sense of equality and importance. People were expecting you to show up and perform, rather than letting things slide due to the disability. This sense of accountability for the team paradoxically was the source of autonomy in these athletes’ lives. Through being accepted and expected from, individuals often regained their sense of self-worth back and took charge of their recovery. This enabled the participation and ambition to learn new skills. This process can be seen in Abbey’s description of entering the team sport after living first without the sports:

So many things, I think the first thing is the enjoyment – I loved it so much and I love being around my friends and I loved being in that environment where I was you know equal and I felt like I was able to achieve something, I wasn’t just somebody on [omitted] you know I was actually something pretty special. And I felt that you know in school nothing made me special, if anything they didn’t think anything of me as a person, so when I had this, it made

me – it was a big deal, a big deal and it was something that changed everything about my self-esteem, my outlook on life, how I felt about myself about what I could do, and I felt like I could, I could be anything I wanted to be. (Abby)

Abbey highlights the importance of being seen and valued as someone who can contribute and achieve great things, which she feels was missing from her other environments. Similarly, Edward describes being valued and supported in team sport, however, at the same time also expected to continue ‘to crack on’. Therefore, people were not putting too much weight on the struggle as they knew that he just has to keep at it:

It’s a bit of a cliché [omitted] knows always how to pick you up or whatever but like say if I was when I was starting when I was doing it for leisure I still got frustrated with myself when I couldn’t do things and he [teammate] would always be saying ‘oh you are too hard on yourself kid you know crack on’ or whatever and then I look back on it these days and think yeah it probably made me you know as confident as I am now that knowing that even if I make a mistake I just keep going and going and going. (Edward)

As Edward is describing, athletes in the team felt that the safe environment (see also 1.1) set them up to feel comfortable enough to challenge each other, demand more from each other and push each other as Fiona describes: ‘*I remember they didn’t pussyfoot around each other like they weren’t very gentle but at the same time it really got you going*’.

Finally, the coach was a crucial part of the journey, creating the space where people felt accepted. The coach was mentioned as somebody who saw potential, empowered people, inspired and motivated the participants. The role of the coach in the process of PTG was significant in a sense that it was often she/he who originally saw the potential in the athlete and provided opportunities to develop. Overall, the coach had the power to make an athlete feel valued, sometimes by being an example themselves, an idol at times:

I think again, she [the coach] will kill me for saying it but you have to look at how [name of the coach] interacts with a group of people how she leads people, so because she is – because she gives of the aura of being very secure in herself, she allows people feel secure within themselves. (Bethany)

Adaptive team sport appeared to facilitate the process of growth initially through naturally having people around you, who understand what you are going through. Being in a safe environment where the athletes can acknowledge the losses and manage emotional distress as well as being expected to develop. It was essential for the process of growth to be seen as valuable, important, and able to contribute. During these initial stages of entering adaptive team sport, individuals could engage in self-analysis and self-disclosure with other athletes.

4.5.2.1.3. Socializing, Camaraderie, Humour, Sharing Knowledge – Collective Wisdom.

Socialising was a great resource in the team, and it was these trusting relationships that created opportunities for growth through belonging (see also 1.1.) and camaraderie. The Team had naturally its own dynamics and athletes often talked about the camaraderie in the team, working towards common goals and sharing similar experiences. It was clear that the experience of acquired physical disability was a source of common ground and team cohesion. Athletes talked about trusting each other and feeling natural and normal in each other's company (see also 1.1). It was an environment where they could talk about impairments honestly. Even though they were a team with a clear sport goal, they were also a "family" and people often mentioned having "friends for life" through sport. This peer support and existence was crucial especially in the early recovery and when sport was lost for some reason (e.g., due to further injury or sickness) was reported being emotionally highly stressful. Fiona describes how significant the relationships were to her on a personal level and she gets advice beyond sport related skills:

It's massive it's absolutely huge and I have told everybody that has a big accident to get straight back into this sort of environment with other people that have been through the same thing, because they are the ones that can show you how to do anything again, like not just like playing the sport, they showed me how to get in and out of the car, they showed me an easier way to put my socks on, you know they told me everything that you could go through to make your life better. (Fiona)

Bethany on the other hand highlights the variety of abilities among adaptive team sports:

It has made a huge difference to my world so I think we got a fantastic group of athletes here we got mixed ages genders all sorts of different disabilities, acquired disabilities, people who are born with disabilities and there is a feeling of camaraderie, there is a feeling of - I feel a lot of the time unspoken understanding -- there is something about nurturing each other as well and I think if you have been through that kind of traumatic experience you need a place where you can feel accepted and I think what (coach) offers here is a place of acceptance" (Bethany)

Additionally, the team dynamics had a very distinctive feature, humour. It served several purposes for the athletes, and it was a great bonding tool as well a way of coping with difficult topics with relative ease:

They are such a good team that they all just laugh with each other they take the mickey out of each other so you know like one day if one of the guys falls out of his chair and lands on the floor, they don't make an issue of it, you just sort of laugh and go come on you can get back up it's fine, you know whereas if you are in hospital and you fall out of your chair, it's like oh no quickly we are all going to help them, it's like an issue whereas it's not an issue within the team within [sport] so it was a great environment to be in when you were newly injured. (Fiona)

Furthermore, it was clear that athletes had their own 'gallows' humour, that was quite dark and used safely only in this environment with peers. This common humour had often a protective role in their lives, as they "took power away from derogatory words" that they heard at times outside sports as Abby describes:

We use a lot of humour about it as well, so it's not just – we just won't judge each other, but on the other hand we take a piss out of each other, sorry [laughing] and it's really terrible and it's really dark, it's really dark [umm] and hard, really hard, we are hard to each other, really hard, horribly hard, but it's never bad – you know what I mean? Does that make sense? – the humour yeah, yeah you know I mean you know we call each other cripples and spastics you know, and we know that's not PC [laughing] it's not PC, exactly I know, you know but it's almost like we reclaim it, we reclaim the word, and we take away its meaning you know. (Abby)

And later she continues:

It's a ridiculous thing to say and it is so ridiculous, it means, it means that the word then means nothing and it's no harm to you, so when you are out and about and if you get called that on the street you go [laughs] ha that's hilarious you know, and it means nothing you take the power away from the word. (Abby)

Edward also suggests that the humour is related to self-acceptance, as for him someone who does not accept their disability, would not join team sport, therefore it is safe to joke around:

from my point of view if you are accepted and the fact that you are disabled and you are ok with it you wouldn't be with sort of [adaptive sport competition] you wouldn't be here you'd be at home because you haven't accepted it, so we just take the piss out of each other really, excuse my language. (Isac)

The collective wisdom and camaraderie were a resource that was utilised from the very beginning, and which matured as the journey progressed as Isac describes:

I think most disabilities are different generally, there are not many people out there that have gone through the same thing as me, or there are people that haven't been through the same thing as [name], we all got different stories, and you can take little bits from those stories to help you get through yours. And so I mean, if somebody did lose their leg, if you get in there into a team environment you can learn from everyone, I think it makes it easier to cope. (Isac)

Socializing, camaraderie, humour and sharing knowledge provided space for these athletes where they felt that there was an unspoken understanding among them. This space allowed them to exchange knowledge and created a strength of collective wisdom among them.

Therefore, facilitating the process of growth further, through self-analysis and self-disclosure as well as through providing social support and role models.

4.5.2.1.4. Social Leveller, Versatility of Abilities, Level Playing Field - Freedom. Team sport as an environment was an important social leveller as it created a level playing field, where people could test their strength and skills against able bodied individuals. It is indeed this alternative perspective that enabled individuals to re-evaluate their physicality and bodies, and to realise the potential that they hold within different abilities. In this way, team sport additionally challenged people to use their bodies in new ways and learn alternative skills.

Abby describes how it felt to move with equal parameters:

it was just to be free to move within equal parameters to everyone else and I wasn't you know [umm] completely [umm] you know useless in that environment, I was actually able

to excel at that level you know, we were all in chairs and that kind of levelled the playing field for me. (Abby)

For the adaptive team sport athletes being around others and in a team environment was a key component of the above-mentioned benefits as well as the struggles. The motivations for participating in adaptive individual sport might serve various differing roles, as Jack, individual athlete, treated as a negative case in this analysis beautifully illuminates by saying:

I kind of liked, in some ways liked this solitary nature of running before and cycling to some extent as well, so yeah, I think that was maybe the reason why, just because it felt closer to those two sports. (Jack)

Additionally, Jack felt that individual sport allowed more freedom with timetabling:

I suppose I don't want to commit to it [team sport], until I know that I would be committed to it in a way, and I think a lot of the time as well with their competitions- the kind of competing that they do they do go away at times. (Jack)

For Jack as an individual sport athlete, freedom became from being free to practise when it best suited him. Whereas freedom in team sport came for moving in equal parameters with others. Additionally, in team sport the opportunities for level playing field and competing within versatile abilities, aided schema changes in these athletes from thinking they are 'useless' to 'being able to excel' (Abby). Therefore, facilitating the growth process through this tremendous shift, further aiding acceptance of their new reality.

4.5.2.2. Category 2: The Evolution of The Body through Team Sport. Athletes had to deal with a lot of changes at the beginning of their new relationship with the new form of physicality. Starting the practise of adaptive team sport was often described as difficult, where the sport

highlighted the losses around their physicality, e.g., skills that they used to have in their previous form of physicality. However, it appeared as this engagement with the uncomfortable awareness promoted acceptance and the will to push forward within these athletes. Again, being surrounded by other bodies with different abilities was a tremendous factor in the process of growth for these athletes. The safe leisure environment that was described earlier (category 1) was the basis for this evolution with the body to successfully start and proceed. Finally, propelling the body towards elite levels, where your body was 'world class'. Through this process, a true sense of accomplishment and pride towards the body appeared.

4.5.2.2.1. Facing and Understanding the Limitations of the Body - Awareness & Acceptance. It

was through team sport that individuals reported gaining awareness and understanding of the limitations of their current body. Athletes talked about times when their bodies would not let them do things, so they had to be patient and indeed it was this awareness and understanding that deepened their relationship with their body. Furthermore, it was often sport that highlighted the lost aspects of skills. However, acknowledging what was lost and respecting the limitations of the body, was also the key for moving forward to seek and cultivate new skills. These skills were both physical and psychological. The difficulties of the beginning can be clearly seen in the description of Fiona and her start with the sport:

It takes a long time to get moving again when you get up, and I remember the first time being in a chair and I was dizzy after about 30 seconds, so like your blood pressure has to adapt everything in your body has to adapt, so you have to build up really slowly, so they start off by sitting you in a chair for five minutes, then you can make your way into twenty then an hour you know they have to do it really slowly in the hospital and then once you

are all right to stay in the chair for five six hours a day you can then start pushing yourself around gradually. (Fiona)

This dosing of physical exercise and building of strength was essential and could not be fast-tracked. Therefore, the safe environment was vital, allowing these athletes to pace themselves and respect these initial limitations of the body. Nathan describes similar kind of feelings in the beginning:

[Ummm] At the start, it is really difficult because obviously I was still very weak then from the injury and so it was really difficult like I can remember my first training session like, I could hardly even push the [omitted] chair. It was really quite difficult. So, I suppose from that point of view, yeah, I mean you probably think at the start like because you are so weak you think, am I going to be able to do this. You know what I mean, am I going to be able to compete? Can I actually do this, I am actually going to be physically fit and strong enough. So yeah, it was difficult at the start. (Nathan)

Isac too acknowledges the importance of being aware of the limitations, so that you can truly recognise what you can do within those limitations:

because you can't do certain things there is limitations, but it is about what, how can you do it with those limitations and still be able to do that. (Isac)

Facing and understanding the limitations of the body has an essential role in the process of growth, this negotiation between the awareness and acceptance aid the reassessment of goals. It appeared to enable the athletes to move towards acceptance of their current form of physicality, therefore carving space for seeing what is possible as well.

4.5.2.2.2. Listening, Caring, Respecting the Body – Body Wisdom. The role of the body in one's life became clearer as the skills that you still had or had since gained, were suddenly

particularly important. People even talked about appreciating their hands more as the hand made so many aspects of their life now possible. This also made people take better care of their bodies, and listening to their bodies more, respecting the limitation of it. Taking breaks when needed and listening, attuning into it. This knowledge of the body was an instrumental skill in the successful sporting career as athletes. The body is their instrument and as such should be well taken care off to guarantee a longstanding career. Bethany is describing this new-found appreciation towards the body:

I have to be far more understanding of that in order to ensure that my outcomes as an athlete, as a professional athlete, are going to be still high and elite. Whereas if I was able-bodied, I would be like 'ah whatever' I just train through it. I now have to kind of think, ok I need to kind of think about this what's the best way forward? and it's simple things like my hands are so important to me-- you learn to have a totally different respect for your body because things that you took for granted are now actually helping you do the functions that you can't do anymore, so you have to take care of your body in a better way.

(Bethany)

Similarly, both Henry talks about the skill of reading and listening your body:

I know when this [pointing a part of his body], this, this tells me when I have done too much or done enough' and later 'I've done too much there, so then what I do is I've have a complete rest, I won't go to the gym, I won't train, I won't even put the leg on, I just stay and leave the leg off for the day.' (Henry)

Bethany describes the importance of the body for her career:

We go back to what makes us a professional athlete and I remind myself of the fact that the very first thing is making sure that I take good care of myself, because without that,

you don't have the body to be able to undertake the skills and the tools to participate in sport, it is that basic. (Bethany)

Athletes also talked about the physical trauma forcing them to connect to their bodies whereas before they had lived inside their head. With these athletes, the physical impairment appeared to create awareness of their bodies that exceeded the previous levels of understanding and thus appreciation towards their physicality. Furthermore, having an imperfect body freed some athletes from thinking about the body image and appreciating the functionality and uniqueness of it more:

As a young person I didn't really think about the body much apart from criticizing it probably but then from the point of actually having a body that was really quite not perfect I've actually had quite a lot of really positive experiences with it you know and it's kind of like yeah I can be strong, I can be a Paralympic athlete -- and I can get married and have a baby and I gave birth to [her child], I can bring [her child] up you know all of those things so quite a lot of positives about my body whereas actually a lot of my body sort of thoughts and feelings pre-illness were actually much more negative. (Diana)

The adaptive sport environments enabled these individuals to listen, care and respect the body gradually leading to progress and skills development. It was essential to have this safe space to reflect and share the implications of the acquired disability towards the body.

4.5.2.2.3. Progress, Skills, Strength, Power - Aspiration. Team sport provided sport specific body related skills that were transferrable to real life situations, such as getting stronger and handling your wheelchair better. It was team sport that helped people to regain their physicality and realise that they have talent and ability. For example, Isac described how he was mesmerised by his body's ability to adapt: *"wow, my body is an amazing thing, it, just it*

the fact that it adapts” and later: “it’s just, it adapts in ways that has allowed me to do, to do the sports that I do”. Often this evolution of the body stemmed from being around other bodies, seeing different abilities around you and learning from them. People learned and taught others about the body. They shared specialised knowledge and skills with each other, that people had learned within the sporting arena (see also theme 1.3), such as how to move the wheelchair or play particular shots with adapted ability. For example, Jack describes how he was able to impart knowledge about the body:

Just like I mean the guy before obviously fairly new with his leg amputation I can help him in a way I know how his body is going to react to playing certain shots, so I can try and help him and say look, this is how I’ve, how I play this shot, because you got to learn, you got to adapt the way you do things. (Isac)

Fiona also describes an original frustration seeing others doing well and finally describes herself progressing and gaining strength:

I remember pushing around the court and I felt so slow and all the other guys are whizzing around and around me and I was like how am I going to get faster, but again it just takes time, and then after a couple of years playing I didn’t look any different to any of the others I was you know quicker, could move a lot faster, my arm speed was better my muscles were stronger, so yeah that one just took time just keep getting into the chair three times a week and pushing. (Fiona)

Fiona’s description also shows a very important sociocultural aspect of team sport essential for the growth process: having people to admire, idols, role models. It seemed that the original frustration was a very healthy feeling, almost a catalyst to moving forward. Where

team sport highlighted the lost aspects of physicality, it also was an environment where you could see the progress that your body has made.

4.5.2.2.4. Breaking Barriers, Thriving with the Body - World Class. After building the base for their physical and psychological strength, the adaptive team sport allowed the athletes to start breaking barriers with their bodies and new abilities. Excelling in this new environment was instrumental for Isac, where he was able to question preconceptions about what is and what is not possible:

nobody thought I would be able to [do a particular sport], because you are supposed to have the stable base, but I've got to balance so I can still hit the ball like anyone else, I hit it further than most people generally, and they are like how the hell have you done that? – I've learned how to do it. (Isac)

The arena of Elite sport competitions (e.g., Paralympics) were often the place that was mentioned as instrumental in embracing your new body and your impairment and furthermore, being proud of your body. This was due to seeing athletes with different abilities competing, excelling, in a massive arena, which seemed to create a sense of freedom and possibility as well as normality that was not present anywhere else:

When I was in -- the Paralympics, obviously there was huge numbers of people with body shapes of all sorts and you know shapes sizes difference [um] you know people with all sorts of deformities and disabilities and missing bits and all sorts of things [um] and I think looking around what am I so worried about you know there's lots of different people with lots of different disabilities and they seem to get through life you know they go around being who they are, maybe it's about the time I started going around being who I am

(laughs) and it was actually I think during the Paralympics or just after that I actually stopped wearing cosmetic artificial limbs and I never worn them again. (Diana)

This powerful description by Diana shows how she embraced her new body and started being 'who she is'. Placing the body in the centre of her experience of self. Furthermore, she additionally exhibited a great sense of pride and respect towards her body. She describes the fact that her body had not only survived but it was 'world class' after the impairment:

I think what was important for me (about team sports), ok so my body had been wrecked effectively by this -- but I was able to become strong and physical and yeah, my body had not only survived that but it could actually be strong and it could actually be world class. (Diana)

The uniqueness and diversity of bodies in team sport environments was a strong finding from this study. This diversity provided perspective, idols, inspirations, and wisdom for the athletes and was instrumental aid in the growth process. This subcategory reflects the latter part of the process where individuals are able to see opportunities for new possibilities, feelings of personal strength, more positive relationships and having a new awareness and positive relationship with their bodies.

4.5.2.3. Category 3: Finding Purpose and Meaning Through Adaptive Team Sport. The authenticity towards yourself and your goals and aims in life was important part of the growth process for these athletes. People reported focusing on things that truly mattered for them and using their time wisely. In sport, this exhibited as being committed and focused on their athletic career. Finding meaning and purpose through team sports was a journey that began originally very focused inwards and challenging your personal abilities. Athletes focused on utilising the skills they had learned during the rehabilitation process and

embracing the new opportunities that they found through adaptive team sport. This purpose, however, often changed shape after a lot had been achieved (e.g., winning medals, succeeding as an athlete), and athletes turned their attention outwards towards helping others (e.g., volunteering or giving back to the community).

4.5.2.3.1 Coping, Resilience, Psychological Skills - Mental Toughness. Individuals reported gaining psychological and physiological skills through their recovery experience and capitalising on these as athletes. The period of rehabilitation was often very challenging both physiologically and mentally. It was the new challenges that came with the rehabilitation which often demanded a development of psychological skills. Athletes frequently reported as having better problem-solving and goal setting skills, gaining patience, being able to push their bodies further and handling the pressure of competitions better due to their recovery experiences. They felt that through these experiences they had gained perspective towards life and were more able to handle even the most difficult challenges in sport better. Edward is describing his sport environment challenging him in a good way, however, also admitting that it required a lot of 'mental toughness' to deal with it in the beginning:

I think psychologically it made me you know toughen up a lot, because it was very easy to just roll over – when I had my accident – just roll over and just get pampered and whatever but then go to like basketball and you don't get anything like that, you fall out of your chair on the floor you get up yourself no one is helping you, you know that sort of thing, very mentally, you have to be very mentally tough. (Edward)

He later continues to discuss the rehabilitation and the experience of it has made certain aspects of sport easier to handle:

I think mentally being able to cope with the levels of pain I had to cope with is it – it makes anything easy like shoulder pain when you are training and playing, makes coping with that so much easier, you just think oh that's nothing that's just a niggle and crack on sort of thing yeah definitely. (Edward)

Fiona also describes the demands she faces in her everyday life due to her acquired disability and how she capitalises on these skills to be a better athlete:

A lot of skills you use just on a daily basis now being in a chair, we have to really focus on sometimes like if you stuck for instance, I don't know somewhere, and like you have to think outside the box all the time, now that you are in a wheelchair because places are not accessible, people struggle still with chairs even in this day and age, so you always have to think outside the box to make your life easier and I think that makes us better athletes because then when we are training we do the same thing, we are like what else can we do what could make this better. (Fiona)

This subcategory exhibits that the aftermath of severe impairment can be a tremendous learning curve for the individual. Individuals reported learning about their limits, but they also discovered new and existing strengths in the face of adversity. They appeared to have a new level of understanding of their mental skills, which they could capitalise as an athlete.

4.5.2.3.2 Opportunities, Achievements and Development - Purpose. Opportunities, achievements, and development came from various elements in the sporting environment. Elite sport often provided platforms for new identities and ways of challenging yourself and your new abilities in novel ways. Pushing the limits of the body and skills further, reaching goals and that once were not even considered. These were all elements of the elite sporting

environment that pushed the individuals to go beyond what they thought was previously possible, therefore surpassing their previous level of functioning:

Bethany describes the importance of goals and aspirations:

I am such a goal orientated person when it comes to my sport so to have someone to believe in you and someone set you a goal and then say to you this can now become your aspiration so that was a massive turning point so that was a I think it was a combination of factors really, I don't think there is one that outweighs the other. (Bethany)

Later she continues:

To be set aspirations and to be able to compete internationally that was another massive motivating factor. (Bethany)

It was clear that for these athletes, aspirations were a significant aspect of their PTG journey.

After the initial healing period was completed successfully, it was time to shine. It was time to excel with the new developed abilities and reach for new levels of achievements. These aspirations provided motivation and clear goals for the future.

4.5.2.3.3. Being True to Yourself, Integrated Sense of Self - Authenticity. The sport and particularly elite sport appeared to be an essential source of purpose for these athletes. The purpose was originally related more towards the individuals themselves, for example, pushing their careers further or bettering themselves physically and mentally. Therefore, being authentic towards their new identity and goals. Fiona discusses the fact how focused you must be to be able to succeed at the top:

Because if you want to be the best in the world you need to be focused you've got to be focused you have to, you know you have to eat the best, train the best, sleep the best, if

you want to be the top in your sport you've really, really got to like seriously focus it's not an easy thing. (Fiona)

Edward talks about the importance of representing his country in Paralympics and the uniqueness of being selected into that group:

So you are representing your country, that's like a huge thing, especially a nation like ours where we are so proud of who we are and whatever I think, that's what it is, there is no there is no better feeling, there is 12 of you there out of hundreds of people that would love to wear that jersey, to be there and especially when you make the starting five as well, you know you are five out of hundreds of kids in this country who would love to do that yeah it's a good feeling a very good feeling. (Edward)

This new identity as an elite athlete was tremendous resource for these athletes. At this level, the athletes reporting PTG had reached an integrated sense of self and were authentic towards their personality and personal goals. Athletes were clearly selecting how to use their time and energy, so that their life and choices were consistent with what was important to them.

4.5.2.3.4 Humanity, Giving Back and Affecting Change - Meaning. Being true to yourself and your goals was immensely important for the athletes. However, as the process of growth advanced, this desire to excel as an individual often expanded and changed. Often people started to search ways to help others, contribute to the wider community and shape society. This was manifested through people starting to volunteer, even launching new charities and planning ways of helping people to recover through sports and exercise. Athletes were actively working as agents of change regarding disabilities and bringing awareness to the area. The further in the process of growth people seemed to be, the more they started to

ponder about other people, humanity, and ways of giving back. There was a sense of gratitude of where they are and what they have done, accompanied with the awareness that others still need help and more could be done and understanding that you could contribute:

Now I face a different challenge and it was about fulfilling that, really, otherwise you kind of feel you have short-changed yourself a little bit, I think now my purpose has changed a little bit again and I think I feel that I am now in that position that I am able to give back now to the younger people in the group. (Bethany)

Moving away from individualistic goals, towards greater good, was a clear expansion of growth that was found in athletes who had progressed and achieved a lot in their careers. It appeared that as the growth experience advanced and people had satisfied their own needs and aspirations, a new space emerged for humanity. There appeared to be a natural willingness to give back. For example, Henry said that he had ‘*done a lot of mentoring around the hospitals*’, however he wanted to do even more:

I decided to do, I’ve decided to do a training, I want to train, I am going to train to be a physical training instructor, for disabled people and my plan is to go around all the hospitals, because I found that there was a gap between physios, hospital and people going home. (Henry)

And later he continues:

I am able to then provide that service, whether it be, I go around their house and do the training there, or whether they come to a gym, and we go to a gym together, and I help them train there, so it’s just basically being a personal trainer but for disabled people” (Henry)

This category illuminates that growth is a process indeed and athletes appear to move within different growth outcomes during their journey. This category illuminates that the process is

ever evolving and might take on slightly different routes and arrive at different outcomes within the person on different timepoints. Many of the other categories could be seen as outcomes of growth (seeing personally valuable new opportunities i.e., new opportunities as an outcome of growth) which are more personal and focused inwards, whereas later in the journey these outcomes appear to become focused more outwards, towards benevolence.

4.5.2.3.5 Reminders of Mortality, Vicarious Trauma - Perspective

A key finding from this study was the presence of death in these environments and the normality of it. The athletes often talked about death and the presence of it their lives. This affected their peer relationships and how they saw their teammates. Athletes were faced with constant reminders of the potential of dying. It seemed that death was indeed a constant reminder of vulnerability and thus people reported appreciating their peers more and spending time with them:

It's been there for me, I say "it's" been there [sport] It's like an organic thing really, because people have changed as well and all my friends have died, they've you know, that's become normal, the dead is normal part of our lives, pretty young as well. (Abby)

However, this was seen as a natural part of life and sport had a key role in accepting and supporting them in this natural process:

It's a organic process like I said, but it's been with me all the way through my sort of like fourth family member almost – [I: sports?] – yeah, because it's, and you know it changes all the time, you know people, like I said they come and go, they don't – well it's little bit more serious than that, they come and they die, but it's still something that is ok though, - it's not ok, it's not ok for them and their families, but it's part of your normality, but you know that that thing [sport] is constant and it's always going to be there, and it's always

going to be open arms to you, whether you're you know heavily disabled from the waist down or whatever, even if you're not able it will still accept you – [umm] can I say "it", I don't mean "it" I mean it's an organic thing you know, do you see what I am saying, it's like a living, breathing thing that always accepts you [getting emotional]. (Abby)

Furthermore, athletes were not only aware their own mortality but exposed to other suffering as well. Due to the nature of disability sport, people are often going through traumatic experiences as they are participating in sports. Some athletes have degenerative conditions or conditions that in other ways can cause further impairment, thus athletes were constantly living around and loving people that are going through highly stressful situations.

4.5.2.4. Category 4: Fast-tracking to Elite Sport. Another important finding from this study was that the team sport was not always a positive experience. This study revealed several severe challenges for growth processes, particularly in elite team sports. Adaptive elite team sport has a very specific participant pool in certain sports. Due to the sport classification and sport needing individuals with certain classifications, *'fitting'* athletes were sometimes fast tracked into elite sport. The aim of fast tracking was to ensure quick training pathways for potentially successful and fitting candidates. The elite environment can at best be a crucial place to embrace and challenge yourself and aspire towards your peak performance (see category 3). However, according to this study, this was typically the case when the athlete had other recovery needs and requirements (e.g., pacing the physical aspects, feeling safe and supported) fulfilled prior to entering the elite scene. As evident throughout the other themes, the leisure sport environment seems to have a central place in this process of growth and in successful recovery from acquired impairment. However, going too quickly into the elite sport environment had several worrying aspects to it. As people were still in the

process of finding their identity and dealing with different aspects around their new physicality, the competitive environment, when entered too soon, created risks around their recovery. Instead of a truly supportive environment, they at times landed very quickly into competitive sports where the individual was lost under the demands of the sport and the team. This displayed in various ways as evidenced in the subcategories below.

4.5.2.4.1 Elite Sport as a Selfish Environment - Rivalry. It was reported that people had more individual goals and selfish intentions in elite sport. Instead of the supportive, knowledge exchanging environment of the leisure sports, elite sport had often severe conflicts and competitions around placements, which again when entered too early after the acquired impairment, could lead to withdrawal and anxiety around the sport. Personal conflicts and a sense of unfairness in relation to player picks seemed to be often hindering the athletes' journeys. For example, Nathan describes the uncertainty about player picks and the sacrifices that had to be made to become selected:

I was so close to quitting because [pause] I felt like I was struggling to make the team and stuff, so I started to doubt myself and I started to wonder—like I started to wonder if like all the sacrifices I was making were worth it [umm] and I thought, what if I keep doing this for the next 18 months or two years and I don't get selected for [elite event]. So, I was really like very, very close to just quitting and saying you know what, I've had enough. (Nathan)

Furthermore, women reported being patronised by men in some teams and feeling undervalued, having very little time on the court:

I did tell them as well I would like to know, look, I know that you don't like me. You don't have to like me and by the way I don't like you either, but this is a team game. We are in,

playing, you know like in the same team. You have to make the bloody pass to me, otherwise you will lose, you will be out. And that happened, that happened in a game situation. Because he doesn't like me, he would like, play selfishly. He wouldn't pass the ball to me. (Caroline)

Elite environment is of course competitive by nature and can be challenging for any athlete. However, for an individual still in the middle of process of accepting their new life and learning about the limitations of their new form of physicality, the selfish environment can be very harmful both physically and mentally. Athletes' descriptions also suggested that the many social benefits of adaptive sport reported elsewhere were drown under the rivalry. Therefore, not only hindering opportunities for self-disclosure, but potentially causing more emotional distress, requiring further coping.

4.5.2.4.2 Conflicts, Overpowering the Individual - Loss of Autonomy. These conflicts in the team caused stress and anxiety. The team environment at elite level was sometimes reported as overpowering the individual, thus emphasizing that to excel in this environment, strong identity, and knowledge around oneself is essential. Some athletes even talked about being controlled around personal care and training routines leading to a real lack of autonomy.

I think when you are doing it for fun you know it's something you look forward to, you know it's you are in a school during the week and oh I get to play this weekend or whatever, but when you are doing it for – at the elite level it's just, you don't even think about it, you get up in the morning you get into your car, you go to training, finish training, go to school, finish school go to training, home and repeat.

Edward is comparing the two environments, leisure and elite and highlighting that it almost feels as a loop of routines, where there is not much space for other things in his life. Later he continues:

It's like a, it's not a conscious thing, it's just, [sport omitted] is just you, so you are sort of one with the sport you don't really know anything other than it, or you just get up you sweat blood in the gym, you go to school and it's just, you constantly think about what am I doing later on at training, will you go out with friends – no I am training, can you come out – no I am training, it was that sort of thing. (Edward)

For Bethany it was also about feeling as if she and her body was a commodity for elite sport; *they treat your body more as a commodity and not necessarily you as a person but you are there just to fill a function for them (Bethany)*

Therefore, in addition to feeling lack of autonomy there were also conflicts around the team and not only with the teammates, but often with coaches:

I had a bit of a falling out with the coach because there is a lot of politics and that sort of thing, so I was like it sort of hit me with the nail in the head for me a little bit. (Edward)

Similarly, Bethany is disappointed by the coaches at elite level:

in that way [lower level sport participation] for me is actually on a higher level of understanding for me of how to work with a professional athlete. Or [the coach] is on a much higher level of understanding of how to work with a professional athlete than the current [omitted] coaches are. (Bethany)

Enduring conflicts with coaches and teammates whilst being in an environment which potentially overpowers the individuals' can be particularly challenging for people journeying onwards after trauma. Acquired disability often causes people to temporarily or sometimes permanently losing some sense of autonomy. Therefore, being fast-tracked into an environment which further causes similar feelings can increase emotional distress rather than help managing it.

4.5.2.4.3 Neglecting the Body Well-being, Additional Injuries – Body Ill-being. Furthermore,

the body and the needs of the body at the elite level can be much neglected and individuals who are still coming to terms with their new physicality and limits of their body, were in danger of severe injuries, at times so grand that they caused further advancement in their disability status:

They were very much like I was still in my able-bodied setting, so they are not very good at acknowledging illness, you know if you are ill, they still make you train through it and you know you'll end up more poorly or injured or whatever. (Bethany)

And later she continues:

I got into a point where I accepted that I needed to respect my body, give my body a little extra time to recover and then you end up in an environment suddenly that says to you 'no we don't care about that' and they treat your body more as a commodity and not necessarily you as a person but you are there just to fill a function for them. (Bethany)

Whereas in the safe leisure environment the body was listened to and taken care of, in the elite environment, the body often became a separate entity – a tool for success and goals set from outside. The demands towards the body were at times felt and perceived dangerous towards the well-being of the body.

4.5.2.4.4 One Dimensional Identity - Loss of Complexity of the Self. Elite sport at times was reported as being so demanding that it took over the athletes' lives. Athletes were concerned of being 'only athletes'. This was almost another 'master status' that was taking over all other aspects of their personality. Furthermore, the professionalism and inflexibility of elite environment was at times reported as limiting and controlling. Abby describes her frustration

of her sporting career defining her and her need for being recognised through other skills as well:

It did define me for a long time it did, and then I went through a stage being very annoyed with the fact that it defined me [laughing] and I wanted to make sure that I was defined by something else and that's when I went and did my degree, the first one in [omitted], because I wanted to change the world you know it would give me the grounding to believe that I could change the world. (Abby)

Similarly, Edward is pondering the sacrifices that he must constantly make in order to participate at elite level:

It was sort of like a bit of an epiphany I was sort of like yeah maybe not because I haven't seen her in like maybe 3 or 4 weeks whatever just because I was always at the gym or shooting around whatever always trying always driving all over the place and then I saw it really like I don't really have a life outside [sport] and that's when I was like that's enough and then I just did my last two tournaments last year, --it was time to go and develop myself as more of a person rather than because I always thought that when I was - younger people always looked at me like ah [name] the [sport] player, rather than [name] this that and the other. (Edward)

Indeed, whereas originally the impairment was overpowering their identity, it appeared that being an elite athlete had a potential to reduce the complexity of the self into one aspect of their skills and talent. Naturally, as people had various other skills, abilities and desires in their lives, this simplicity was at times problematic. Often it was this struggle with the one-dimensional self that propelled athletes to move on, towards other goals. Athletes search

ways to expand their horizon. This frustration was at times a crucial aspect of the expanding of growth as well, moving towards helping others and affecting change.

4.5. Discussion

This study aimed to understand the process of growth among athletes who participate in team sport and had faced the adversity of acquired physical disability. From this study and the participants interviewed it appears that the initial impairment causes a downwards spiral where individuals are facing varying losses in the aftermath of trauma. The journey to recovery requires attuning into these losses and being aware and accepting the impact of the trauma. In this cohort, this process was facilitated through team sport. Team sport appeared to provide an opportunity to deal with the losses and implications of the impairment in a safe environment. However, what started as a healing process of supporting the psychological and physiological needs of the participants, paved the way for creating an upwards spiral of growth, spiralling athletes towards thriving beyond previous levels.

Discussion around category 1, *Entering the safe team sport environment*, will connect the benefits found in the leisure environment to literature around psychological and physiological wellbeing. It will discuss the implications of the findings for PTG as well as athletes sporting careers.

Discussion around category 2, *The evolution of the body through team sport*, will dive deeper into the role of the body in PTG and provides the evidence supporting the significance of the body in PTG in this cohort.

Discussion around category 3, *Finding purpose and meaning through team sport*, will debate the later stages of growth and potential of elite sport as a facilitator or thriving after an impairment.

In the final section of the discussion, category 4, *Fast-tracking to elite sport*, this paper will highlight the dangers of moving too quickly towards the elite environment after an impairment. It will discuss the potential impact that this might have for the recovery process and overall wellbeing of athletes.

4.5.1. Discussion Around the Category 1: Entering the Safe Adaptive Team Sport Environment.

This category shows that the team sport environment had a key role in achievements and development. It was clear from the data that what originally started as a healing process through leisure sport, later developed into important aspirations around sport (e.g., elite) or life outside of sport (e.g., developing charity work). The experience of acquired disability and participating in adaptive team sports demanded the individual to acknowledge what had been lost (e.g. skills, ability in some respects, body parts etc.). It was through this engagement that individuals gained acceptance towards some of these lost aspects of life. This was a crucial part of coming to terms with their new identity and becoming aware what was possible. It was the awareness and acceptance of what has been lost that created the space for appreciation and aspirations. The leisure sport environment was crucial in this aspect, facilitating this process forward.

This environment provided a fruitful base for psychological wellbeing (Ryff et al., 1995). Athletes gained self-acceptance through the engagement with others and were able to create meaningful relationships. Furthermore, they gained their sense of autonomy back and this displayed in their actions through taking charge of their progress and recovery (Ryff et al., 1995). The physical and psychological strength that was gained through this environment then translated into managing other environments as well, which were often challenging, often due to being created for the able body norm. Finally, the sport provided

meaningful goals for athletes to strive for, which in turn created a sense of purpose in their lives (Ryff et al., 1995a).

A common facilitator of the process of PTG is utilising both upward and downward social comparison in positive ways when considering others with similar traumas (Tedeschi et al., 1998). Team sport environment provided opportunities for both and was clearly a key component of accepting the impairment. It provided perspective of one's impairment when athletes could see that some people have greater impairments than they did and still were achieving a lot. Furthermore, admiring other athletes provided goals and vision for the future. Similar findings arose from Hefferon, Graly and Mutrie study (2008, p.36) where cancer patients reported 'role modelling' as a significant benefit of attending a physical activity group. The study also found that exercise class provided a safe environment for them. This emphasises the importance of leisure level engagement after a traumatic impairment.

This category exhibits the importance of having a sense of normality in your life after your physical trauma. Normality brought back a sense of possibilities and hope for the future. 'Harvesting hope' has been suggested by Joseph (2011) as an essential part of successful trauma recovery, thus in some ways sport environment facilitated this process naturally. The Transformational Model suggests that this kind of deliberate reflective and constructive rumination around losses and gains after trauma is a vital stage in the process of growth, leading to narrative revision and finally schema change (Tedeschi et al., 2014). Athletes had moved from thinking that they are alone with disability to thinking they are among many, thus the sense of normality that sport environment provided appeared to be a key part of acceptance of the new identity and situation.

This category additionally demonstrated how the physical trauma can make an individual feel invisible and highly visible at the same time. In a sense, the full spectrum of self is not often seen by others after the trauma and is overruled by the master identity of having a visible impairment (Charmaz, 1995). The sport environment created the opportunities for being seen and expanding your identity. First by allowing people to be seen, valued, encouraged, and expected from, which then enables the individuals to gain self-worth and more holistic identity. The safe environment allowed them to push themselves further and break limits, thus achieving more than originally imagined. This gained a sense of wholeness in one's identity guided them towards acceptance of their changed world (Tedeschi et al., 1998) and further aided them to recognise their strengths, resources and possibilities.

This category additionally illuminated the importance of peers in one's recovery. The shared collective wisdom appears to be priceless when it comes to thriving with an acquired physical disability. The collective wisdom had a very tangible practical role in the process of growth: providing skills and knowledge to mastering your current reality and navigating other environments that are not necessarily built for you. Furthermore, being surrounded with other people with varying abilities pushed the acceptance of their current identity as a person with an impairment. In this environment, it was unnecessary but also challenging to hold on to the previous sense of self as someone without impairments. One had to engage with this new reality and identity among others with similar situations. As discussed by Tennen and Affleck (1998) the more stable one's social environment is, the harder it is to experience personal change (Tedeschi et al., 1998). The social environment expects consistency in others as well as in self even after a traumatic event. This complicates the process of personal change after acquired physical disability if the social world is still the

same as prior the adversity. Individuals might then try to hold on to the previous reality, trying to deny the impact of the event and hold onto their 'pre-existing self-structure' (Joseph, 2015, p. 14), trying to assimilate the current identity into the old one (Joseph et al., 2012). However, entering an adaptive sport environment can create a space for the personal change. Furthermore, it often demands it as the impairment becomes the norm. As Howe suggests, a 'key to identity formation is the ability to identify with others' (Howe, 2011, p.107), thus the team sport environment provides this opportunity for an individual with an acquired physical impairment and disability to identify with others in similar situations. In a way, teammates became each other's 'expert companionships' facilitating their growth journey (Calhoun & Tedeschi, 2013, p.23), understanding their beliefs and confusion as well as being able to connect with their language and emotional needs. Thus, team sport appeared to be a sociocultural facilitator of growth to these athletes, providing models for schema change and growth (Tedeschi et al., 2018).

Sharing knowledge and learning from others has also been found among elite athletes in previous studies (Crawford et al., 2014). Athletes have reported having a support network or 'sport family' (p.173), connections with similar others (i.e., people with disabilities) and belongingness and engagement (Allan et al., 2018), feelings of kinship and support, opportunities to learn from others, 'sense of community', relating to individuals with similar circumstances (Hammer, et al., 2019, p.678), enhanced relationships (Day & Wadey, 2016). Furthermore, the struggle that individuals go through with their changed identities has been recorded previously, suggesting that sport can have a great impact in the identity formation after a severe impairment. Furthermore, Day (2013) found that acceptance of lost abilities and 'acknowledging limitations' was a key to 'recognizing possibility' (p.2067). Therefore,

these narratives accounts in other studies are further strengthening the findings of this category.

Finally, this category emphasizes the importance of being able to test your abilities in a versatile environment after a traumatic impairment. It was in adapted team sport where people could evaluate the true level of their physicality against equal parameters and thus gain perspective. This can in turn help to understand the social implications of impairment and disability. By challenging the 'disabling social, environmental and attitudinal barriers' through adapted sports, these athletes placed the impairment as one aspect of their life rather than it becoming a sole source of social and self-definition (Charmaz, 1995; Hageaves, 2001).

4.5.2. Discussion Around the Category 2: The Evolution of The Body Through Team Sport

This category truly emphasizes the importance of the body in the process of PTG. This 'embodied posttraumatic growth' brings a strong additional argument to the cognitive-behavioural debate of growth experiences and warrants the acknowledgment of the physical self in the process of PTG.

Frank talks about body 'dysappearing' in our regular lives and the physicality of the trauma bringing the body back to forefront (1998). The impairment that these athletes had to face originally draws attention to the body, however, the adaptive team sport as an environment made this awareness even stronger. This category firmly connects to Hefferon's (2012, 2013) CPTG and similar finding arose from people with life threatening illnesses. For example, athletes in this study described *a new relationship with the body and increased awareness of health and conscious health behaviour changes* (Hefferon, 2013, p. 95). Women

who had gone through breast cancer talked about “*the body as a barometer*” (2010, p.239), where they had gained a unique skill after their trauma to tune into their bodies and thus modify their health behaviours accordingly. In this current study, this process is best described as new-found wisdom about the body, where athletes protected their bodies in the demanding sport environments. Furthermore, they were able to succeed as athletes, due to the understanding and wisdom they had around their bodies. Phase one of this thesis suggested that severe injuries can induce ‘wisdom about the role of the body in people’s lives—its fragility, power, and ability within disability’ (Kampman et al., 2015, p.292) and that this knowledge and understanding goes beyond age.

Furthermore, the athletes in this study had a whole new relationship and appreciation with their physicality that was focused on functionality of it, thus, moving away from the idea of body being an object or vehicle of ‘doing’. These findings connect to the concept of positive body image and could thus have a tremendous effect on athletes physical and mental health (Alleva et al., 2015; Menzel & Levine, 2011; Tylka & Wood-Barcalow, 2015). Components of Positive Body Image according to Menzel and Levine (2011) are A) appreciation of appearance and function, B) awareness and attentiveness to body experiences, and C) positive cognitions for coping with interpersonal challenges to a healthy body image. It appears that successful navigation through the trauma of physical disability and especially participation in team sport could facilitate positive body image in athletes, focusing more on the functionality and strength of the body than the appearance.

The body aided the *deliberate reflective and constructive rumination*, typically seen during the process of PTG, through sharing experiences with teammates, dealing with disablism, sharing practical tips about the body and the trauma experiences (Calhoun &

Tedeschi, 2013; Tedeschi et al., 2018). The narrative revision around the body was remarkable, moving from body as *doing or being in the background* to being *world class* and *functional*. Additionally, the body was in the centre of the schema change from feeling that *they are the only one with an impairment* to acknowledging the *diversity of bodies and abilities*. The *impaired damaged body* became a *strong unique athletic body*. This new physical identity emerged through adaptive team sports.

Athletes also appeared to accept their changed world through their bodies, through challenging their bodies and being proud of their bodies. It was through their bodies that they recognized their strengths, resources, and possibilities in adaptive team sport as well as outside sports. This in turn contributed to the *somatopsychic principle* (Harris, 1974; Hefferon et al., 2013). Where it is argued that a strong body can create a stronger mind – in this cohort it attributed to the *athletic mind* and mental toughness – again bettering these individuals as athletes. Additionally, they utilised the skills and strengths learned in sports in other areas of life as well, navigating their new reality with confidence. This ‘transference of skills’ was also found in among breast cancer patients, where attending a physical activity class promoted confidence which then translated to other areas of life as well (Hefferon et al., 2008). In this current study, the transfer of skills was bidirectional, where the athletes additionally transferred some of the skills learned through rehabilitation and initial impact of trauma (e.g., patience, goals setting and perseverance) towards their careers as athletes. This in turn connects with the phase one findings of severe injuries potentially eliciting new abilities, that is, new awareness of physiological and psychological potential which in turn can lead to transfer of skills and vice versa.

This theme really emphasises the importance of engaging with your new physicality. It clearly shows that this can be tremendously difficult and challenging, at times even painful. However, the adaptive team sport environment had the potential to help the individual to engage with their bodies in a safe environment to face this opportunity for growth and development. The theme highlights the new-found wisdom around the body that these athletes appeared to have. This wisdom had a key role in the process of PTG and CPTG, as it was this knowledge and awareness that created the platform to challenge their body and aspire to do more, reach towards the elite. The discipline of the elite sport environment created structure and ways forward for the body. The progress of the skills and physicality of the body was like a positive upward spiral that pushed the athletes further.

4.5.3. Discussion Around the Category 3: Finding Purpose and Meaning Through Adaptive Team Sport

This category sheds a light on the later stages of growth in these athletes' journeys. It shows how team sport can potentially facilitate the individual journey of finding meaning in life. Especially through *self-actualisation*, where one realises their inbuilt potential, and through *self-transcendence*, where an individual moves beyond individual goals, seeking to further a cause beyond their self-interests (Koltko-Rivera, 2006). *Finding meaning and purpose through adaptive team sports* was a process that began very focused on the athletes themselves, being authentic and seeking to actualise their own potential. However, interestingly, individuals started to organically seek ways of contributing to causes beyond themselves, such as volunteering or even starting charities. Athletes moved beyond the self and towards benevolence, togetherness, and altruism through team sports.

Nietzsche has famously stated that 'he who has a why to live can bear with almost any how' (in Frankl, 2004, p.xvii). Meaning *in* life defined as 'the extent to which people

comprehend, make sense of, or see significance in their lives, accompanied by the degree to which they see themselves to have purpose, mission or overarching mission in life' (Steger, 2009, p.682). It is essential to distinct this concept from meaning *of* life which is a separate philosophical question (Martela & Steger, 2016). Having *meaning in life* has been found to impact positively individual wellbeing, life-satisfaction, engagement, and happiness (Steger, 2011; 2017). People reporting higher levels of meaning in life are also found to be less prone to depression, anxiety and suicidal ideation and report greater psychological and physiological wellbeing (Steger, 2011; 2012; 2017).

Already in 1980's Yalom started discussions around the implications of *meaningless* in one's life and suggests that lack of meaning is a matter of wellbeing and illbeing - even a matter of life and death. Therefore, it appears to have a natural role in the process of growth after traumatic physical impairment as well. A well reported aspect of PTG is that the participants deal with existential questions in the aftermath of their trauma (Hefferon et al., 2010; Joseph, 2011; Tedeschi et al., 1998), and it was a strong finding from the phase one of this thesis as well. The latest revisions around Transformational Model are reflecting the findings around existential changes and the domain is currently called 'spiritual–existential change' (Tedeschi et al., 2017). Thus, trauma is often a wakeup call to the very existential questions: *what is the meaning of my life? What is the meaning of this trauma?*

The role of meaning after traumatic events was already examined at length by Victor Frankl in the mid-1900 (2004). In contemporary literature, some researchers define meaning in life in terms of having clear goals and purpose in life. This is a so-called *motivational way* of looking at meaning in life (Martela & Steger, 2016; Steger, 2017). Also, meaning in life has been defined as a *cognitive asset*, focused on the significance that one places on their life. A

Multifaceted definition combines these two, seeing that having meaning in life arrives from understanding the significance of one's existence and having clear goals and determination to pursue them (Martela & Steger, 2016; Steger, 2017). Recently, Martela and Steger (2016, p.4), suggested that there are three facets of meaning: *coherence* (i.e., having sense of comprehensibility); *significance* (sense of core goals, aims in life and direction); and *purpose* (sense of inherent value, a life worth living).

Yalom (1980) defines 'meaning' as having a sense of coherence and 'purpose' entailing intention, aim and function. Therefore, purpose is the vehicle of meaning, a way forward towards the meaning. In this study, it appeared that adaptive team sport became this purpose and vehicle towards the bigger meaning, facilitating the journey towards self-actualization and self-transcendence.

Joseph (2012) has previously suggested that people are intrinsically motivated to grow towards their fullest potential (self-actualise). However, this can only occur if their basic needs have been met. Especially, basic needs of psychological wellbeing. This is an interesting perspective when considering this current participant pool. The results appear to suggest that the leisure engagement in team sport provided these athletes with a safe environment that fulfilled their psychological wellbeing needs, enabling the athletes to proceed towards other goals (see category 1). However, what is noteworthy here, is that this process was not linear and physiological wellbeing was equally important predecessor for growth, bringing an embodied dimension to the 'basic needs'. Furthermore, the journey of growth did not stop after the self-actualizing had been reached but moved on towards the self-transcendence. This is a lesser-known concept in Abraham Maslow's hierarchy of needs, and some

researchers feel that it identifies and organizes ideas around meaning and purpose of life (Koltko- Rivera, 2004; 2006).

The presence of reminders of mortality and vicarious PTG was a significant and unique finding from this study. 'Vicarious traumatic exposure' refers to being exposed to other individuals' suffering (Manning-jones & Terte, 2016, p.125). This can lead to vicarious experiences of posttraumatic growth where individuals are growing through being exposed to other individuals' suffering (Manning-jones & Terte ; Martinelli & Day, 2021; Joseph, 2009; Tedeschi et al, 2018). These people can be, for example, counsellors or therapists, people working around natural disasters as well as spouses and parents of people with severe illnesses. In adaptive team sport, these people were your teammates. Athletes were constantly working with individuals in amidst of highly stressful life situations. Therefore, these athletes were living in a 'mortality salient' environment through their own trauma and body (Hefferon, 2010), as well as being constantly reminded of death through others suffering as well. As the Terror Management Theory suggests being reminded of one's death can have a negative impact on the individual such becoming defensive or greedy (Lange et al., 2011; Lykins et al., 2007; Rogers et al., 2019; Routledge & Vess, 2018; Vail et al., 2012). This seems to be true if induced in short-term. However, when immersed into this MS environment long-term, it can have a positive effect on people, inducing gratitude and intrinsic goal shifts (Hefferon, 2013; Lykins et al. 2007; Vail et al., 2012). This is significant in terms of the process of PTG as it appears that the process of growth in this participant pool does appear to move from more individualistic goals towards goals that are focused on togetherness and common good. This would be in line with findings that report that people with greater awareness of mortality have been found to build supportive relationships,

develop supportive and charitable communities and prioritize growth-oriented goals (Hefferon, 2013; Vail et al. 2012; 2013).

This category again illustrated the spiral nature of growth, where individuals were constantly learning new skills and becoming aware of what they have already learned due to new challenges. Coping with the physical disability faced these athletes with challenges that required a new skillset and employment of varied coping skills which athletes sometimes described as mental toughness. Similarly, the environment of elite sport provided a lot of challenges related to training and competitions. It was in the elite adaptive team sport environment where athletes often acknowledged what they have learned previously and utilised the mental skills learned in rehabilitation and recovery to flourish as athletes.

Mental toughness (MT) is a concept of great interest in sports, and it has various definitions as well as controversies and a clear agreed definition is still lacking (Gucciardi, 2017; Liew et al., 2019). It is essential to recognise that mental toughness was used in the results of this thesis to *describe* and not to *define*, and the word came from athletes' own narratives. However, the research around MT does lend itself well to this discussion.

A recent review collated nine different definitions of MT, suggesting that there is ambiguity around the concept (Gucciardi, 2017)¹³. In his review, Gucciardi (2017) provides yet another definition, suggesting that MT is 'a state-like psychological resource that is purposeful, flexible, and efficient in nature for the enactment and maintenance of goal-directed pursuits' (Gucciardi, 2017, p.18). According to Gucciardi (2017) MT refers to psychological resources (rather than outcomes or behaviour), to individuals (rather than

¹³ Please see Gucciardi, Daniel F. (2017). Mental toughness: Progress and prospects. *Current Opinion in Psychology*, 16, 17–23. <https://doi.org/10.1016/j.copsyc.2017.03.010> for further detailed discussion.

processes or environment), and is seen as a resource (much like self-esteem, or money). MT is also state-like, therefore can be developed as well as purposeful, therefore it has clear direction (i.e., goals). However, still the most widely used measurement for MT (MTQ48) is based on the conceptualisation of Clough, Earle and Sewell (2002; see also Perry et al., 2013). Clough et al (2002) define MT through four components, which are: *control* (i.e., of your emotions and life); *challenge* (i.e., seeing challenges rather opportunities); *commitment* (i.e., being able to keep going despite, obstacles); and *confidence* (i.e., self-belief about own abilities). The findings from the category three were akin to these components by Clough, et al. (2002) which the athletes in this current study often attributed as being learned through the experience of going through their original trauma (here acquired physical disability). It additionally appeared that their new perspective for life and knowledge around the body helped them to excel as athletes. Skills such as ability to push themselves through physical and psychological challenges were learned due to going through the aftermath of acquiring a physical disability.

It is clear, and perhaps not surprising, that no matter what the definition of MT is, it appears to be akin to or entailing various other known psychological constructs, such as Hardiness (Kobasa, 1979; Wadey et al., 2012), Flow (Jackson & Csikszentmihalyi, 1999; Swann et al., 2018), Self-determination (Deci & Ryan, 2004) and Resilience (Fletcher & Sarkar, 2012; Intema et al., 2019). Therefore, in this cohort, the interesting aspect in the end seemed to be the fact that the rehabilitation and going through the recovery process was almost a psychological skills training for these athletes. This in turn helped them to succeed in their sport careers. Whereas, previous findings have found that mental toughness which was gained through sport before acquiring a disability was enabling individuals to 'push through pain' during the rehabilitation process (Crawford et al., 2014, p.403). Therefore, the

combined findings here could potentially suggest a multidirectional relationship between acquired disability experience, sport, and rehabilitation in psychological skills development. As such, these findings could offer recommendations for both sport and rehabilitation practises.

Overall, in this cohort, the experience of going through the aftermath of acquired physical disability appeared to create a stronger psychological profile for these athletes, which worked for their advantage in sports. In their careers as athletes, they utilised these skills (e.g., patience and goals setting) to become better athletes. Furthermore, these skills are something that elite athletes are taught through their psychological skills training as well (Weinberg et al., 2011, 2016). Therefore, the team sport environment additionally provided mental skills training that propelled the psychological recovery process and skills forward. The theme additionally exhibited the importance of aspirations for the athletes to proceed in their growth journey. Whereas the leisure environment provided the opportunities to heal and accept the current normality, the elite environment provided clear goals and ways forward towards aspirations.

4.5.4. Discussion Around the Category 4: Fast-tracking to Elite Sport

The strain of elite career in sport is a recognised problem and often acknowledged as a serious threat to athletes' well-being (Brady et al., 2017; Giles et al., 2020). Hence, for an individual still recovering from the trauma that had a direct and substantial impact on the body, the strain of elite environments can be potentially even more dangerous.

Elite sport can be a selfish environment, with a severe rivalry and 'only those who can manage the stress that accompanies sport at this level will be successful' (Fletcher & Sarkar,

2012, p.669). In contrast to the supportive, knowledge exchanging environment of the leisure sports, the elite environment involved fierce competitions which at times resulted in conflicts around placements. Again, if entered too early after the acquired impairment, this could lead to withdrawal and anxiety around the sport. The elite sport environment, especially in team sports, can entail conflicts and even cause the team overpowering the individual. The negative elements of the elite sports can create a feeling of losing autonomy and thus cause anxiety and ill-being.

As discussed earlier, the acquired impairment can potentially cause a master status where the individual is defined through the impairment and disability alone (Charmaz, 1995). Even though working well for others, the elite environment when entered too soon seemed to also contribute to the loss of complexity of the self. A one-dimensional identity that can be caused by the elite environment can be a serious threat to athletes' wellbeing. Brady and Grenville-Cleave (2017) suggests that when considering athletes' wellbeing it would be recommended to take a holistic view of athletes' well-being and value the role of life outside the sport as well when considering these concepts. Lundqvist and Sandin (2014) recommend that to understand elite athlete's wellbeing, researchers need to consider sport-related factors as well as global factors in their lives. This current study is adding to this literature and emphasising the importance of physiological, social and psychological wellbeing among athletes with acquired physical disabilities.

Finally, elite team environment had worrying effects on the wellbeing of the body. It is already investigated that elite athletes are more likely to train through the pain, or practise when unwell or injured (Giles et al., 2020; Schnell et al., 2014). These elements were also present in this cohort. However, neglecting the body well-being and thus causing additional

injuries for an athlete that has a severe impairment, can genuinely have life-altering implications. This at times could even lead to further impairment and more significant level of disability. The notion of body ill-being should be taken very seriously in this cohort as the potential repercussions of these reported attitudes in elite environments could potentially be life-altering.

The above-mentioned challenges could impact the growth process if entered too soon as individuals might be forced to postponing purposeful rumination around the impairment and identity. Furthermore, self-disclosure might be avoided due to lack of support and severe competition. Additionally, if instead of attuning to the body and its needs, the body is viewed as tool for the sports, this could lead to detachment from the body and the body might again be dys-appearing (Frank).

4.6.1. Considering the Limitations of Phase II

It is recognised that the results reported here are based on a population that has self-selected to be part of this study. Whereas it is valuable to hear these voices who self-identify as having grown from trauma to understand the experiences better, equally important would be to learn from those who did not want to participate. Reasons for not wanting to participate can be manifold, such as not knowing the researcher thus feeling uncomfortable sharing, or the researcher simply could not reach them physically and people are uncomfortable doing a phone interview on such a personal topic or perhaps the interview medium was not fitting for all. Therefore, future explorations could use other mediums to expand on the promising findings in this study, such as utilising online platforms that offer

opportunities for anonymity and expressing yourself in different ways (e.g., questionnaires, writing).

Furthermore, the researchers should be also mindful that the participant pool in this study was mainly white British, therefore there is an opportunity to explore further the experiences of those who are not as presented in these studies. It would be valuable to understand their voices and experiences in these environments (e.g., different ethnicities). Similarly, adaptive sport is of course a lot wider community than what is represented here from an acquired physical disability perspective in accordance with the purpose of this study. Therefore, researchers must keep building on each other's work to create a more comprehensive picture of these environments (e.g., sensory, congenital, individual sport).

Finally, this research did not particularly explore the different experiences of trauma that could coexist with the acquired physical disability. Although some evidence of these different trauma experiences emerged in the analysis (through aLIM), less is known about how the potential other traumas in these athletes' lives impact their growth experiences. This is an opportunity for future research as it appears that the prevalence of complex trauma could be potentially very high. In a similar vein, vicarious trauma in these adaptive team sport environments could be explored further.

4.6. Conclusions

To date the literature of PTG around athletes with acquired disabilities has focused on describing the elements of growth in elite athletes, thus missing the complex process of how growth evolves among these athletes and the vital role leisure participation has in the process. The findings from this study will therefore have implications for PTG research in general as well as for adaptive team sport practice. Some of the findings will also have

implications for rehabilitation practices, facilitating peak performance and on successful transfers athletes between different modes of sport participation (e.g., rehabilitation, leisure, elite, retirement). Therefore, ideally advancing the knowledge in the field of sport and exercise psychology as well as positive psychology.

Even though this research did not particularly investigate the trauma, some interesting preliminary observations emerged from the data, particularly due to the aLIM method. As mentioned earlier it appeared to take a significant amount of time for the growth to appear, often years, after initially acquiring the physical disability. In quantitative studies, PTG is often measured within the first year of the event (Cohen et al., 1998; Engelhard et al., 2014). Thus, researchers are arguably often measuring 'abrupt' growth experiences rather than 'gradual' ones (Tennen & Affleck, 1998). This is yet another perspective that should be considered in the future when investigating PTG.

Based on this current study, it would be recommended to allow a substantial time for recovery before attempting to measure PTG outcomes as the process might be still unfolding. The indication based on this study is that it can take several years to start exhibiting growth. This connects to literature that suggests that growth unfolds with 'gradual pace and tempo' Tennen and Afflect (1998, p.86). This concept of 'dosing' the traumatic material into awareness has been discussed previously to suggest that it takes time to work through the trauma experience (Greenberg, 1995: Horowich, 1986 as cited in Tennen and Affleck, 1998). Janoff-Bulman (1992) even talks about denial as a tool that individuals might use to 'pace their recovery' (p.100). Therefore, time since trauma, trauma type and trauma profiles require more attention when investigating PTG.

The findings presented in this phase II also suggest that the role of the adaptive team sport and the body are essential in the process of PTG in athletes with acquired impairments.

Moreover, the crucial finding of this research was that the steps of this process are the key to a successful journey towards growth as well as peak performance. This is important for the research area of PTG as well as for disability sport in general as these findings have great implications for athletes' physiological, social, and mental wellbeing. Due to the great impact that sport has on these individuals' lives, it is strongly recommended to acknowledge the essential role of leisure participation in the early recovery stages.

As a result of conducting this research, it is proposed that it would be fruitful to pursue further understanding around wellbeing and interventions that promote psychological, social, and physiological wellbeing in athletes, especially body and trauma awareness and exploration of meaning and purpose in life. Perhaps emphasising interventions that have a focus on locating skills and gained competencies as a result of trauma and how these skills can be utilized in the elite sport environment. For example, coaches could facilitate the transference and awareness of the skills learned in recovery to elite sport: goal setting, pain management, understanding around the body, patience, imagery to name a few. By understanding how individuals successfully transitioned from pre-acquired disability life to post acquired disability life and to elite sport can help sports practitioners and professionals to manage other transitions well too (e.g., career development, retirement, injury).

One of the major findings from this study was the incredible knowledge that these athletes provided around positive body relationships. Again, being surrounded by different bodies and appreciating the body, appeared to be essential facilitators of the wellbeing for these athletes. Noteworthy here is that it might be years after the initial trauma to cultivate body wellbeing due to the severity of the impact on the body. However, taking care of the body is especially vital amongst demanding elite sports environments, where bodies are

often pushed to the limits. This understanding is a key component of a successful elite career for athletes. Again, fortunately, these skills could be practised and this awareness around the body could be supported through intentional interventions. Through facilitating body well-being and appreciation, practitioners can build an appropriate balance between the pursuit of performance and the care for the person and the body behind that performance.

The balance between performance and wellbeing appears very topical in disability elite sport. Particularly as the disability sport movement has moved swiftly towards the professional involvement of athletes which has perhaps brought some new phenomena with it, such as fast-tracking into elite sport. It appears that at times the implications of such quick transfers after the life-altering event of being physically impaired are not either truly recognised or worse, ignored due to other priorities (e.g., quick results and performance). This study offers key concepts to consider when planning the journey of athletes from leisure to elite sports and provides evidence as to why this consideration is essential. It is argued that these findings do not only have implications for the rehabilitation and wellbeing of athletes but in the end for successful careers in elite sports. It would be also essential to research fast-tracking further and also to understand whether fast tracking is a cultural phenomenon within British sport or a universal experience.

While this study does not offer a conclusive answer to the process of growth of every athlete, it does provide a preliminary theory of how this process could potentially develop and which elements might facilitate and hinder the journey. The research also raises important questions about fast-tracking in disability sports and around wellbeing in general. Especially, the importance of the body and mind to recover and develop after acquiring a life-altering physical impairment, before entering highly demanding and competitive environments. Or at the very least, to provide support systems to acknowledge the

potentially high prevalence of trauma in these environments. The first step for future research could be to look into the prevalence of trauma more purposefully, to better understand the different experiences athletes in adaptive team sport go through. The findings could potentially aid in making the prevalence of these experiences more visible.

This current research is bringing further knowledge around how to care for, develop and support elite athletes that have experienced an acquired physical disability. For a long time, policymakers around disability sport have focused on reducing obstacles in sports, including personal, social, structural, and environmental barriers. This research began the conversation around creating better structures and recruiting practices for adaptive sport so that the wellbeing of athletes is truly considered a primary concern.

CHAPTER FIVE

PHASE III: INVESTIGATING TRAUMA, BODY, WELLBEING, AND GROWTH IN ADAPTIVE TEAM SPORT – A CROSS-SECTIONAL CONVERGENT MIXED METHOD DESIGN

5.1. Introduction

Chapter five will introduce the last of the three phases of the research conducted in this thesis. Building on previous phases and wider literature, the chapter will highlight several major gaps in the current understanding around trauma in adaptive sport environments. The chapter will illuminate the importance of positive body image, self-transcendence and team cohesion for the wellbeing and growth experiences of athletes with acquired physical disabilities. The chapter will report and critically discuss the findings of the last phase of the exploratory sequential design: a cross-sectional convergent design investigating the role of trauma, body, team cohesion and self-transcendence in the wellbeing and growth of athletes with acquired physical disabilities.

5.1.1. Setting the Scene for Phase III

After conducting and analysing phases one and two of this thesis, the researcher was faced with two potential research avenues: to test some of the main hypotheses that emerged from the previous phases or to explore and expand the qualitative findings of the grounded theory study. From examining the findings, the researcher was interested to understand the relationship between PTG, wellbeing and some of the key variables found in phases one and two, namely, positive body image, team cohesion and self-transcendence. Therefore, researching and testing the potential relationship between these variables in a wider adaptive sport population seemed a natural research avenue. However, an equally important direction was to explore further qualitatively the most unique elements found in phase two.

Particularly, the researcher was interested in exploring the complexity of the trauma profiles and mortality awareness among athletes in adaptive team sports. Additionally, more understanding around the negative aspects of adaptive sport, particularly in relation to the athletes' bodies was needed in a wider athlete population. These two research avenues, quantitative and qualitative, naturally formed a cross-sectional convergent mixed method study design.

5.1.2. The Trauma Profiles and Posttraumatic Growth

An essential finding from phase two was that athletes had differing trauma profiles (chapter 4, figure 2 illustration of the lifeline method). Thus, even though the unifying highly stressful event for these athletes was an acquired physical disability, these individuals still often had very differing trauma profiles (Kira et al., 2013; Kira, 2021). For example, Kira et al., (2013) divides traumas into four different trauma profiles: 'Type I, events that happened once and stopped (e.g., road traffic accident); Type II, events that happened several times and stopped (e.g., abuse); Type III, events that continue to happen, and have not stopped (e.g., discrimination); and Type IV, accumulation of different traumas, accumulative effects of different types of victimization and trauma' (p.122). Kira et al. (2013) investigated trauma profiles and PTG in a Palestinian sample and found that only type I traumas were associated with posttraumatic growth (PTG). Interestingly, Type II trauma was not associated with PTG. Moreover, type III was negatively associated with PTG (Kira et al., 2013). The association between trauma profiles and PTG echoes the previously mentioned findings around PTSD and PTG, where a curvilinear relationship was found between distress and growth (Shakespeare-Finch & Lurie-Beck, 2014).

Often in the PTG literature, the traumatic incident is defined through the studied phenomenon. In adaptive sport for example trauma or adversity has been defined as '*an acquired and traumatic disability*' (Day, 2013), '*a spinal cord injury*' (Crawford et al., 2014) '*acquiring a physical disability*' (Hammer et al., 2019), and '*acquiring a physical impairment that led to disability*' (Kampman & Hefferon, 2020)¹⁴. However, through the research conducted in this thesis as well as PTG literature raising awareness around different trauma profiles (Kira et al. 2013), it became clear that despite this one common adversity (here, acquired physical impairment), individuals are likely to differ greatly on their trauma profiles (e.g., one single event vs many different events). Understanding these different trajectories could illuminate further the potentially conflicting findings around the processes and outcomes in PTG.

The differing trauma profiles found in phase two meant that some athletes had experienced various traumas, and the acquired physical disability was only one of them. Trauma profiles had implications for the psychological wellbeing of athletes, such that many were dealing with complex trauma when entering the sport. In the wider sport literature, it is recognised that elite athletes 'are commonly exposed to sources of physical and emotional trauma' (e.g., via sport injuries) and elite athletes might even have increased risk of disorders and symptoms related to trauma (Aron et al., 2019, p.6). However, in the current literature, the high level of various traumas among adaptive team sport athletes is not discussed or truly recognised, even though the majority of athletes enter the sport after acquiring a disability. According to Disability Sport UK over 80% of people acquire their disability, and only less than 20% are born with a disability (2014).

¹⁴ This is the researcher's MSc study – not data collected in this thesis.

In phase two, athletes also talked about being around people who have gone through similar trauma(s) as they have or are currently going through life-threatening or terminal conditions. Thus, these adaptive team sport environments were highly mortality salient for the athletes (see also Terror Management Theory in sections 1.5.5. and 4.5.3.). Adaptive sport appears to have exceptionally high numbers of individuals who have experienced or are currently undergoing a life-altering event(s). Therefore, athletes potentially face ‘vicarious traumatic exposure’ in addition to their own complex trauma i.e., they are exposed to other individuals’ suffering (Manning-jones & Terte, 2016, p.125). Correspondingly, they can also experience vicarious posttraumatic growth (VPTG) referring to the positive transformational changes that can ensue after vicarious trauma, much like PTG. Martinelli and Day, (2021) state that research around PTG in sport has been narrow, mainly focusing on the individual experiencing the trauma and not recognised the ‘potential ripple effect and impact on others’ (p.47). Exploring trauma profiles and mortality awareness in a wider adaptive sport population would help to understand and elucidate the commonality of adverse events in these teams. Findings could have important implications for theory and practise enabling psychologically supporting sporting environments.

5.1.3. Wellbeing, Post-Traumatic Growth, and Adaptive Team Environment

Phase two revealed that often individuals reporting PTG managed to build their psychological and physical wellbeing through team sports. The relationship between PTG and wellbeing has been a complicated one in the scientific literature. A meta-analysis conducted by Helgeson et al. (2006, p.799) found that psychological growth was associated with greater levels of positive wellbeing (defined here as positive affect, self-esteem, life satisfaction) and lesser levels of depression. Similarly, Rzeszutek et al., (2019) found that satisfaction with life

significantly predicted PTG in individuals with long term illness. Satisfaction with life is considered a cognitive component of subjective wellbeing alongside positive and negative affective elements (SWB; Diener, 2009). Conversely, the components of psychological wellbeing observed in phase two were connecting more to the Ryff's (2014) six-factor model of wellbeing consisting of having self-acceptance, autonomy, positive relationships with others, environmental mastery, purpose, as well as personal growth in one's life (Ryff, 2014; Ryff and Keyes, 1995). Therefore, the wellbeing findings from phase two correspond with the work of (Joseph, 2009; Linley & Joseph, 2004) who suggest that PTG is akin to psychological wellbeing rather than SWB (Diener, 2009; Jebb et al., 2020). Indeed, Durkin and Joseph, (2009) found that growth was related to psychological wellbeing rather than subjective wellbeing. In the model in phase two, psychological wellbeing appeared to have a significant role in facilitating the growth process. Therefore, the researcher wanted to investigate the relationship between psychological wellbeing and PTG, which has not been done previously in this participant pool.

As discussed earlier (see section 4.5.3.), the wellbeing findings in phase two were almost akin to Maslow's hierarchy of needs, containing basic needs and higher-order goals of self-actualisation and even self-transcendence (Koltko-Rivera, 2006). Self-transcendence has been known in many religions, however, it has become the interest of psychological research in recent decades (Aldwin et al., 2019). According to Reed (2013) shows as expanded self-boundaries *intrapersonally* (own values and philosophies), *interpersonally* (relating to others and wider world) and *transpersonally* (past and present are integrated to create meaningful present). Furthermore, self-transcendence has been found to mediate the relationship between wellbeing and vulnerability (Aldwin et al., 2019; Reed, 2009), therefore potentially

making it a key variable when researching associations between growth and wellbeing after trauma.

Connected to themes of self-transcendence, phase one of this thesis found a theme of 'humanity' where people moved beyond bettering themselves and started giving back to others, community (Reed, 2009). Similarly, Hefferon et al. (2009) synthesis found a 'connection to humanity in general' (p.371) after life threatening illness. Correspondingly, the findings from phase two indicate that when researching PTG it could be meaningful to consider self-transcendence as potentially indicating later stages of the growth process (see section 4.5.3). Making self-transcendence a key variable when investigating the relationships between growth and wellbeing.

Phase two additionally found that sport was not always good for the athletes' wellbeing. Fast-tracking into the elite sport environment was particularly harmful to individuals who were still recovering from their psychological trauma and negotiating their new identity and altered physical existence (see section 4.5.4.). Thus, the findings call for further research into the psychological wellbeing of these athletes on a wider adaptive sport population beyond elite sport and fast-tracking. It is additionally essential to consider the negative impact of the team sport towards athletes' wellbeing and bodies and thus to their growth experiences.

The body particularly was an essential element impacting the wellbeing and growth experiences of the athletes in phase two. The qualitative elements found in phase two are akin to positive body image (Alleva et al., 2015; Tylka & Piran, 2019; Tylka & Wood-Barcalow, 2015). Positive Body Image shows as respecting and loving the body (Tylka & Wood-Barcalow (2015). Wood-Barcalow and Tylka (2010) defined positive body image in the following way:

(a) appreciate the unique beauty of their body and the functions that it performs for them; (b) accept and even admire their body, including those aspects that are inconsistent with idealized images; (c) feel beautiful, comfortable, confident, and happy with their body, which is often reflected as an outer radiance, or a “glow;” (d) emphasize their body’s assets rather than dwell on their imperfections; and (f) interpret incoming information in a body-protective manner whereby most positive information is internalized and most negative information is rejected or reframed.

(Wood-Barcalow et al., 2010, p.112)

The findings from phase two suggested that successful navigation through the trauma of physical impairment and especially participation in adaptive team sport could facilitate positive body image in athletes (see section 4.5.2.). Athletes were accepting and respecting their bodies, as well as rejecting the appearance ideals of the medical model. However, as discussed in the previous section, particularly the elite environment could also be detrimental for the body. Positive body image has not been previously studied in this participant pool, however, the previous findings from this thesis suggest that it could have an essential role in the wellbeing and growth journeys of these athletes.

All the above findings interconnect with the final significant finding from the phase II of this thesis and previous literature: the role of team sport and team sport environment for the growth process. Team sport impacted the athletes’ sense of self, wellbeing, their relationship with their bodies and their growth processes. As mentioned earlier, the body wellbeing was at times sacrificed due to the demands of team goals, people ending up more injured and even more disabled at times (sections 4.5.2 and 4.5.4.). Often the negative experiences they encountered and endured stemmed from how the team worked or did not work together. There appeared at times to be a disparity between individual goals and team

goals and lack of belonging to the team. These findings are also akin to the concept of team cohesion. Group cohesion can be seen as unidimensional or multidimensional (see Salas et al., 2015 for a review). In sport the most dominantly utilised conceptualisation considers cohesion as multidimensional, having group and individual factors (Carron et al., 2002; Carron et al., 1985; Whitton & Fletcher, 2014). At a group level, cohesion appears as bonding together as a social unit, having closeness and similarity as well as a shared group task. On an individual level, cohesion relates the social interactions and being personally accepted to the group as well as personally being able to connect and contribute to the group goals.

Cohesion in sport is often researched from performance perspective, and it is suggested that better cohesion leads to more successful sport teams (Brisimis et al., 2018; Carron et al., 2002). However, less focus has been given to wellbeing. The findings from phase two suggested that when athletes described a supportive environment in team sports, it was seen as a family and had multifaceted benefits for the individual. Whereas if the individual did not feel that they had this supportive environment in the team, they described it having a substantive negative impact on their wellbeing both in sports and outside in their personal life. Team cohesion thus appeared to be an indicator of wellbeing in these teams.

The above findings are supported by Vanhove and Herian (2015) as they suggest that team cohesion is likely to have a multidirectional relationship with two wellbeing constructs: subjective wellbeing as well as psychological wellbeing (Diener, 2009; Ryff, 2014). Subjective wellbeing is defined as low negative affect combined with high levels of high positive affect and high satisfaction with life (Diener, 2009). The multidirectional relationship between cohesion and wellbeing suggests that team cohesion could facilitate wellbeing and wellbeing might lead to better team cohesion. Therefore, a team sport environment could potentially

impact growth experiences through group cohesion and wellbeing. However, it is still unclear if group cohesion is directly connected to PTG or if it impacts individual levels of wellbeing, thus carving space for growth processes.

PTG has been previously connected to unit cohesion in an army population (Mitchell et al., 2013), where stronger unit cohesion and greater combat exposure both predicted PTG. Here the cohesion was measured by three items asking about their sense of belonging and shared goals. The researchers asked if the individuals felt that in their unit, they 'cooperate with each other', 'know they can depend on each other', and 'stand up for each other' (Mitchell et. al., 2013, p.387). The findings in this army population are significant for this current study as both cohesion and trauma profiles are of interest. However, conversely, a PhD thesis investigating PTG and family cohesion in a Portuguese sample concluded that PTG did not relate to family cohesion. Utilising mixed methods, cohesion was explored through interviews, especially targeting 'marital status, communication, family satisfaction and emotional support' (Félício, 2015). Considering that there is sparse research with mixed results in the area of cohesion, wellbeing, and PTG, phase II embarked to explore this relationship further.

5.1.4. Rationale and Aims

From examining the findings emerging from previous phases and in light of the wider relevant literature, a quantitatively driven convergent design was proposed. The last phase of this thesis focused on the most novel findings in the previous phases and aimed to be the first study to explore these concepts with validated measurement tools in a wider adaptive athlete population among individuals with acquired physical impairments. Originally a quantitative design was emphasised which aimed to test the relationships found between

trauma, body, team, self-transcendence, wellbeing, and PTG. As the relationships between these variables were hypothesised to be *complex*, and due to the overall thesis being qualitatively driven, the researcher additionally wanted to give voice to the participants through open ended questions. The qualitative open ended survey questions were initially only focused on understanding trauma profiles better and generally exploring if athletes wanted to disclose anything further about team sport (in addition to the questionnaire questions). Therefore, paired with a desire to collect a rich meaningful data set and extend the previous findings from phase II through collecting participants own voices; the researcher made the decision to add additional five questions into the survey. The same key elements that were investigated quantitatively were also explored qualitatively in a subset of the overall dataset.

‘This study is the first to investigate the relationship between PTG, wellbeing, positive body image, team cohesion and self-transcendence utilising validated measurement tools in this population. The study aimed to bring novel insights into the research area of acquired physical disabilities, adaptive sport and PTG both at leisure and elite level. The study additionally gathered participants’ unique voices through qualitative open-ended questions derived from previous phases of this thesis. The aim was to provide a space for the athletes to write about their ideas and interpretations, using their own words and language. Particularly of interest stemming from the previous phases of this thesis was some exploration of thoughts about trauma, bodies, team, and adaptive sport.

This study had the following mixed method objectives¹⁵: A) Exploring the characteristics of the trauma, and posttraumatic growth following an acquired physical disability in relation to the body, adaptive team sports, and self-transcendence utilising validated questionnaires and open-ended qualitative survey questions; and B) Exploring relationships between PTG, positive body image, team cohesion, self-transcendence, and measures of wellbeing. C) To illustrate, illuminate and expand through the voices of the participants the experiences behind the variables; particularly where written words potentially contradict, support, and expand the quantitative findings. More precisely, the third phase tested the following research hypotheses¹⁶:

- Hypothesis 1: There is a positive relationship between group cohesion (IV), positive body image (IV), self-transcendence (IV) and the outcome variables wellbeing (DV) and posttraumatic growth (DV) following acquired physical impairment.
- Hypothesis 2: Higher levels of group cohesion (IV), positive body image (IV) and self-transcendence (IV) will predict higher levels of the outcome variables wellbeing (DV) and posttraumatic growth (DV) following acquired physical impairment.

In addition, the following qualitative research question was examined:

- What are the experiences of trauma, team, body, and mortality awareness among a wider athlete population with acquired physical disabilities?

¹⁵ Note that these aims are written in a mixed method way, therefore combining both quantitative and qualitative aims.

¹⁶ Due to a low number of responses, the study was unable to test the following original hypotheses: Hypothesis 3: The trauma profiles will mediate the relationship between PTG (IV) and wellbeing (DV) and Hypothesis 4: Athletes participating in team sport will exhibit greater levels of wellbeing and body appreciation than athletes participating in individual sport.

The mixed method aim was to converge the interconnected quantitative and qualitative data streams to enable a more comprehensive understanding of growth and wellbeing in athletes with acquired disabilities (Creswell & Plano Clarke, 2018).

5.2. Methodology

Where possible both quantitative and qualitative elements are presented together in this section. However, for the ease of reading, the quantitative analysis and results will be presented first and then the section will move on to the qualitative analysis and results (Fetters et al., 2013). Finally, the two data streams will be brought together in the discussion, *integrating through narrative* (Fetters et al., 2013).

5.2.1. Design

5.2.1.1. Cross-Sectional Convergent Design. The final phase of this thesis was a mixed method survey utilising a cross-sectional convergent design adhering to pragmatism (Creswell & Plano Clark, 2018); adhering to 'dialectical pluralism', a 'metaparadigm' to provide 'multiparadigmatic' perspective to the overall investigation (Johnson, 2017, p.1). The quantitative component is informed by postpositivism whereas the qualitative component was guided by critical realism.

To understand a positive change experienced as a result of the struggle with a major life crisis or a traumatic event, such as acquiring a physical disability, it is useful for the researcher to embrace 'multiple ways of seeing' (Greene, 2008) and collecting data. Collecting both quantitative and qualitative data via online survey was deemed useful they can be efficient, and relatively easy to administer to diverse set of users. Surveys offer a range of additional benefits such as reduced response time, ease of response for the

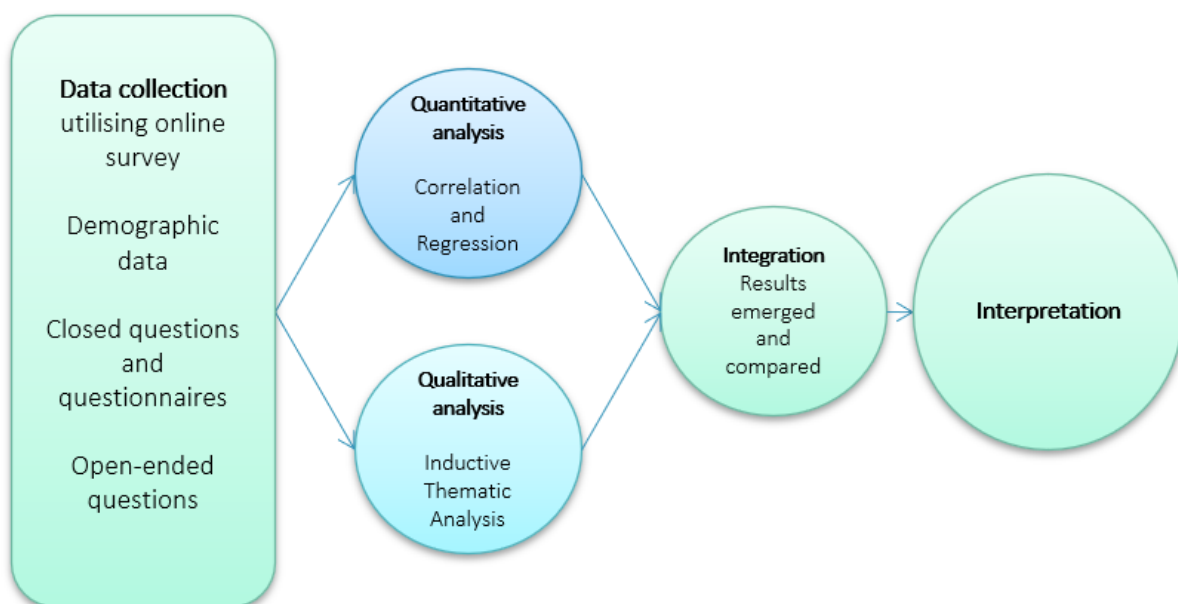
participants, flexibility and control over format (such as forced or unforced questions, order of questions) (Granello & Wheaton, 2004). Surveys are also selected for funding reasons, when resources are light (e.g., self-funded research, hard to reach populations) surveys can reach a wider range of participants (Braun & Clarke, 2013; Granello & Wheaton, 2004). Whereas commonly used in quantitative research, the benefits of surveys are not fully recognised in qualitative research and often qualitative data in surveys is treated as additional, separate, or supplementary. However, purposeful qualitative data survey collection which is leaning on 'qualitative research values', can offer range of additional benefits (Braun et al., 2020, p.1). A unique opportunity arises from the 'wide-angle lens' on the topic of interest (Toerien & Wilkinson, 2004, p.70), which can enable the researcher to 'capture a diversity of perspectives, experiences, or sense-making' (Braun et al., 2020, p.3). Surveys, whether qualitative or quantitative, are also suited for topics that can be quite sensitive as people are suggested to be more comfortable with disclosing ideas in these anonymous settings (Braun & Clarke, 2013) and the researcher might be more able to capture dispersed, marginalised populations (Braun et al., 2020). Particularly relevant for phase three was the aim of seeking a 'wide range of perspectives or positionings' (Braun et al., 2020, p.11).

The quantitative and qualitative data streams together can build a more comprehensive understanding of the problem (Creswell & Plano Clark, 2018). The intent of the convergent design was to collect complementary data on the same topic. The majority of the data was collected from the same participant pool and analysed using quantitative analysis for the closed questions (correlations and regression) and qualitative analysis for the open-ended questions derived from the phase two findings (inductive thematic analysis). Five additional qualitative questions also derived from the grounded theory study (phase two) and

trauma profiles were added after the initial recruitment. This mixed methods design is in line with current recommendations, as researchers in the area of posttraumatic growth are calling for mixed method designs to help understand the complexities around reporting growth experiences following trauma (Creswell & Plano Clarke, 2018; Kate Hefferon et al., 2017b; Tedeschi et al., 2018a) Furthermore, the research in the area of adaptive sport, acquired physical disabilities and posttraumatic growth has thus far relied mostly on monomethods (Day & Wadey, 2016; Hammer et al., 2018; Kampman & Hefferon, 2020).

The procedural diagram illuminating how the this convergent mixed methods design was conducted, can be found in table 7.

Figure 7 - A Procedural Diagram of Convergent Mixed Methods Design Utilised for Phase III



5.2.1.1.1 Rationale for Correlational Design. Correlational designs are useful when we aim to gain a ‘natural view’ of the studied phenomenon without manipulating it (Field, 2018).

Correlational designs often have ‘ecological validity’ stemming from the fact that ideas are tested outside laboratories or test settings, to see if the concepts have real world value (Fields, 2018). Due to the fact that phase two had created a preliminary model of the factors influencing the process of growth (see figure 6 and table 9), correlational analysis enables the researcher to investigate the relationships and their nature (direction) between the variables at interest. Furthermore, the relationships can be further investigated to determine the predictive power independent variables on the outcome variables via regression analysis. Testing the relationships between the suggested variables will bring further understanding of the model created in phase two (Fields, 2018).

5.2.1.1.2. Rationale for Reflexive Thematic Analysis. It is essential to recognise that Thematic Analysis is a method (cf. qualitative content analysis) rather than methodology (cf. Interpretative Phenomenological Analysis and Grounded Theory). Thematic Analysis is often used as an umbrella term for sometimes very different ways of approaching a data-analysis (Braun et al., 2019). Braun and colleagues (2019) have identified, three broad approaches to Thematic Analysis: a “coding reliability”, a “codebook”, and a “reflexive” approach (p.843)¹⁷. Each of these approaches have distinct ways of identifying themes (that is patterns in the data) as well as developing and identifying themes. This means that that these approaches have different procedures, underlying philosophy, and they conceptualise essential elements of the method differently (such as a theme, a code, or coding) (Braun et al., 2019). In phase three, the researcher utilised the rigorous and now quite popular *Reflexive Thematic Analysis* (Braun & Clarke, 2006, 2013, 2020). In reflective thematic analysis the aim is to search for shared meaning-based patterns, rather than ‘domain summaries’ (Braun et al., 2019, p. 846).

¹⁷ For review and critical discussion of these different approaches, please see Braun V., Clarke V., Hayfield N., Terry G. (2019) Thematic Analysis. In: Liamputtong P. (eds) Handbook of Research Methods in Health Social Sciences. Springer, Singapore. https://doi.org/10.1007/978-981-10-5251-4_103

Taking a reflexive approach, the researcher is ‘capturing implicit ideas “beneath the surface” of the data’, whilst also noting down and describing explicit meanings (Braun et al., 2019, p. 845). Reflexive TA recognises the active and subjective role of the researcher and sees this as a resource in the exploration of multiple, contextual realities (Braun & Clarke, 2013; Braun et al., 2019). It is an ideal method to use in a mixed method study as it is flexible enough to work in the overall pragmatic worldview whilst bringing critical realist approach into the analysis of qualitative material. Moreover, qualitative data in this study was not seen as ‘additional’ therefore an *inductive* approach was taken to the analysis, which will be discussed further in the analysis section.

5.2.1.1.3. Participants. Following the recommendations for collecting and reporting major demographics (Appelbaum et al., 2018), this survey collected data on various characteristics of the participants. The demographic profile of the sample is summarised below in Table 5. The participants reported a variety of different physical impairments ranging from spinal cord injuries to amputations; no description was identical with the others illuminating the complexity of the experiences.

Table 5 - Demographic Information Around Participants in the Quantitative Study

Demographic variable		% out of N=29
Age (years)	Mean (+st.dev)	42.8 (13.2)
	Range	19-69
Time since the initial cause of impairment ¹⁸ (years)	Mean	18.28
	Standard Deviation	14.05
	Range	0 - 64
Gender identification	Female	62%
	Male	38%
Ethnicity identification	White British	93%
	White Irish	3%

¹⁸ Two participants fell outside of the original inclusion/exclusion criteria listed in the recruitment. However, kept in the final analysis after considerations.

	Black Caribbean	3%
Relationship status	Married or in a domestic relationship	52%
	Single	17%
	Dating	14%
	Divorced or separated	14%
	Widowed	3%
Children	Children (1 to more than 3)	55%
	No children	45%
Education (ranging from no qualification to Doctorate degree)	A bachelor's degree or higher	42%
	No higher education	58%
Employment status	Employed	41%
	Retirement	17%
	Student	17%
	Unemployed or volunteering	21%
	Prefer not to say	3%
Income	Earning less than £10 000	17%
	Earning £10 000 - £30 000	41%
	Earning more than £30 000	28%
	Preferred not to answer	14%
Religious or spiritual preference	Not religious	59%
	Spiritual / Roman Catholic / Christian	41%
Sport participation level*	Non-competing leisure athlete (28%)	28%
	Leisure athlete -competing (38%),	38%
	Semi-elite athlete	17%
	Competitive-elite athlete	3%
	Successful-elite athlete	10%
	World-class elite athlete	3%

**Semi-elite athlete- highest level of participation is below the top standard possible in the sport; Competitive-elite athlete - regularly compete at the highest level in their sport; Successful-elite athlete - not only compete at the highest level but have experienced some – infrequent - success at that standard; a World-class elite athlete - experience sustained success at the highest level, with repeated wins over a prolonged period of time.*

5.2.2. Quantitative Measures

Trauma: the study utilised several different ways of collecting trauma related data (please see also demographic data). Firstly, this study used a novel way to elicit further understanding around trauma through a multiple answer question which asked the individual to choose a trauma profile (Kira, 2021; Kira et al., 2013; Kira, 2001) which best described their situation the best: event happened once and stopped; event happened several times

and stopped; event continues to happen, and has not stopped; accumulation of different traumas, a combination of above; or 'I prefer not to answer'. To the researcher's knowledge including this trauma profile was a unique way to collect further information about the traumatic event.

Posttraumatic Growth: This study used the 25-item **Posttraumatic Growth Inventory - X** (PTGI-X; Tedeschi et al., 2017), which is a newly revised version of the original widely used and validated scale (PTGI; Tedeschi & Calhoun, 1996). The revised scale has all the same 21 questions as the original and an additional 4 new questions to tap into the new expanded dimension of existential and spiritual change (ESC; originally spiritual change). During the validation process PTGI-X was found to have a satisfactory internal reliability across three samples used: $\alpha=.97$ United States, $\alpha=.96$ Turkey, and $\alpha=.95$ Japan. The scale was deemed a fitting version particularly due to the strong existential findings in phase two among the athletes reporting growth. The other four subscales have stayed the same: personal strength (PS), new possibilities (NP), relating to others (RO), and appreciation of life (AOL). Items are rated on a 6-point Likert scale, ranging from 0 (I did not experience this change as a result of my crisis) to 5 (I experienced this change to a very great degree as a result of my crisis).

The Body: The role of the body in the athletes' lives was also explored in various ways. This study utilised the 10-item **Body Appreciation Scale-2** (BAS 2: Tylka & Wood-Barcalow, 2015). The scale has a unidimensional factor structure and has been found to be a psychometrically sound measure of positive body image. Internal consistency of BAS-2 is good, with a Cronbach's alpha value of $\alpha=.97$. BAS 2 assesses individuals' acceptance and respect of their bodies (Tylka & Wood-Barcalow, 2015b).

BAS-2 asks the participants to indicate if the 10 statements are true 'never, seldom, sometimes, often, or always' (p.56) on a Likert scale Never=1 to Always=5. The questions are centred around participants feelings about their bodies e.g., '10. I feel like I am beautiful even if I am different from media images of attractive people (e.g., models, actresses/actors)'. It also has a question which asks whether their behaviour reflects positive body image: '8. My behaviour reveals my positive attitude toward my body; for example, I walk holding my head high and smiling.

Team Cohesion: the role of team sports was also surveyed in various ways (please also see demographics). This study utilised **The Group Environment Questionnaire** (GEQ; Carron et al., 1985) which is an instrument developed to assess general group cohesion in sport teams. GEQ is a widely used measure with a satisfactory internal consistency $\alpha=.90$ (e.g., (Nascimento Junior et al., 2016). The Group Environment Questionnaire has 18 items of which 12 are reversed asking individuals to rate the items on a Likert scale of 1=strongly disagree to 9=strongly agree. GEQ is divided into individual and group factors: Individual Attraction to Group-Task (ATG-T) (Q2 reversed; *'I am not happy with the amount of playing time I get'*); Individual Attraction to Group-Social (ATG-S) (Q5: *'Some of my best friends are on this team'*); Group Integration-Task (GI-T) (Q12: *'We all take responsibility for any loss or poor performance by our team'*); and Group Integration-Social (GI-S)(Q15; *'Our team would like to spend time together off season'*). Whitton and colleagues (2014), investigated the internal reliability of these subscales with N= 519 semi-elite to elite level (2014), reporting Cronbach alpha values of ATG-T $\alpha=.91$, ATG-S $\alpha=.58$, GI-T $\alpha=.66$ and GI-S $\alpha=.49$.

Wellbeing: the study used two well validated questionnaires to understand wellbeing among the participant pool. **The Psychological Wellbeing Scale** (PWBS; Ryff, 1989) is a 42-

item questionnaire based on the theoretical model of psychological wellbeing (PWBS; Ryff, 1989) and a widely utilised measure of wellbeing. Good internal consistency is consistently reported, for example: older $\alpha=.71$, middle-aged $\alpha=.78$, and youngest $\alpha=.77$ (Shryock & Meeks, 2018). PWBS has six subscales reflecting the dimensions of the theory: Autonomy (AU) $\alpha=.37$, Environmental Mastery (EM) $\alpha=.49$, Personal Growth (PG) $\alpha=.40$, Positive Relations with Others (PR) $\alpha=.56$, Purpose in Life (PiL), $\alpha=.33$ and Self-Acceptance (SA) $\alpha=.52$ (Ryff & Keyes, 1995). The items are rated from strongly disagree (1) to strongly agree (6), and the scale asks questions around the different dimensions such as: *“In general, I feel I am in charge of the situation in which I live”* and *“I have a sense of direction and purpose in life”*. Out of 42 items, 21 are reverse scored. The PWBS has no cut-off points for defining high or low wellbeing.

The Satisfaction With Life Scale (SWLS; (Diener et al., 1985), is a 5-item scale measuring global cognitive judgments of one’s satisfaction with life. The SWLS is often used to measure the cognitive component of subjective well-being (i.e., SWB is seen as high positive affect and low negative affect combined with satisfaction with life), the more hedonic element of wellbeing. This vastly used measure benefits from its shortness and satisfactory internal consistency $\alpha = 0.88$ (e.g., Kobau, et al., 2020). The participants are asked to rate on a Likert scale ranging from 1 - Strongly disagree to 7 - Strongly agree their current judgement to questions such as *“In most ways my life is close to my ideal”* and *“If I could live my life over, I would change almost nothing”*.

The self-transcendence scale (STS; Reed, 2009) was utilised as it is specifically devised to measure the concept of self-transcendence; which appeared to connect to both wellbeing as well as posttraumatic growth in the findings in phase two. The scale was originally

developed for interviews, however, has since been utilised as a self-reported scale. This 15-item scale has a satisfactory internal consistency ranging from $\alpha = .80$ to $\alpha = .93$ (e.g., Chin-A-Loy & Fernsler, 1998). STS asks the participant to answer how they see themselves at this time of their lives on a range of questions such as *“Accepting death as part of life”*, *“helping others in some way”* and *“Adjusting to changes to my physical abilities”*. The answers are given on a Likert scale ranging from not at all =1 to very much =4.

5.2.3. Qualitative Survey Questions

The qualitative survey questions were originally focused on understanding *firstly*, the different trauma profiles i.e., what, and how individual defines as being traumatic in their life. *Secondly*, if there is anything individuals would like to share about team sport (open-ended). The first question was presented before the PTGI-X and the second after the GEQ. Providing this space for participants to express their views and voices was essential for the researcher and embedded in the ‘qualitative values’ enabling participants to write their ‘own words’ (Braun et al., 2020, p. 2). As discussed earlier, five questions were added into the survey at a later stage and presented at the end of the survey, therefore keeping the initial flow of the survey.

Due to the later added qualitative questions, the qualitative analysis will represent the entire participant pool as well as a subset of the overall dataset. A total of seven qualitative questions were derived from phase one and two of this thesis (see Appendix Q for response numbers for each question). The questions were aimed to expand upon the previous findings from phases one and two as well as tap into any outstanding gaps in knowledge (such as trauma profiles and negative experiences of elite sport). Furthermore, all qualitative questions also related to the quantitative measurements employed, tapping into trauma, team cohesion, wellbeing, and self-transcendence. As a mixed method study, this phase

aimed to build a more comprehensive picture of the studied constructs. All qualitative questions were optional; thus individuals could choose to reply to some, and skip others. Braun et al. (2020) suggest that when participants are given a voice and allowed to *type in* their responses (rather than select from pre-determined options) qualitative surveys ‘can produce the rich and complex accounts of the type of sense-making typically of interest to qualitative researchers such as participants’ subjective experiences, narratives, practices, positionings, and discourses’ (p.1). Furthermore, the quantitative findings will be enriched as the researcher will have access to the participants ‘language and terminology’ (Braun et al., 2020, p.1).

To tap into the subjective experience of trauma, the first qualitative question asked the individuals to describe a time in their life when they were upset by event(s) that were quite rare and unexpected. The question was presented before the PTGI-X questionnaire. This question part of the PTGI questionnaire, thus commonly used prior to the posttraumatic growth inventory.

- *Many of us have experienced traumatic situations in our lives. There may have been times when we were upset by events that regularly occur, or by events that are quite rare and unexpected. Please think back over the course of your life, and if you have experienced an event then please think of it. If you would like to tell us about this event, please do so in the space below: (Note: you don't have to describe this event if you do not want to).*
- All participants were offered this question, answering was optional.

The qualitative open ended survey questions related to the body were derived from phase two (please see also Appendix R how questions related to original themes in phase two). The questions aimed to tap into the changes in athletes’ views around their body before and after the traumatic event and the potential role of sports in this change. Thus, both the process and outcome of growth in relation to the body.

- *Since starting sports after your impairment, how if at all, have your views around your body's potential changed?*
- *Can you tell me about a time in sports when you felt your body was in some ways better than before your impairment?*

The survey questions related to the team were open-ended exploring both the positives and negatives of team sports and possible conversations that are seen as valuable by individuals.

The aim was to understand better what elements are potentially facilitating and hindering growth and wellbeing in adaptive sport teams. Additionally, the aim was to understand mortality awareness conversations and how common death awareness was among these teams (a novel theme strongly arising from the previous data).

- *When you are in your training session, what kind of conversations are valuable for you personally?*
- *Could you tell me how, if at all, you discuss illnesses or death, with other people in your sport?*
- *Can you describe a time after your impairment when sport was not good for you? (e.g., being around other people coaches, other athletes, teammates)?*
- *Is there anything you would like to add about your experience in team sports?*
- The last question was presented after the GEQ questionnaire.

All the questions were also interconnected to the variables in the quantitative data collection, particularly to the outcome variables: wellbeing and posttraumatic growth. The aim was to build a more comprehensive understanding of the problem through these interconnected data streams (Creswell & Plano Clark, 2018). Please also see table 6 for all the constructs and how this study collected data in relation to these.

Table 6 - *Quantitative and Qualitative Constructs and the Data Collection Methods*¹⁹

Data collection method	Trauma	PTG	Body	Team	Well being	Self-transcendence
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¹⁹ Note that some of the questions are tapping into several areas, hence they are mentioned more than once in the table.

Quantitative	Trauma profile (Kira et. al., 2013) Impairment Specific Demographics	PTGI-X: Tedeschi, Cann, Taku, Senol-Durak, & Calhoun, 2017),	BAS 2: Tylka & Wood-Barcalow, 2015)	GEQ: Carron, Widmeyer & Brawley, 1985)	PWB: Ryff et. Al., 1995) SWLS: Diener et. al., 1985).	STS: Reed, 2009)
Qualitative	Q1. Describe event(s) that were quite rare and unexpected Q6. when sport was not good for you	Q4. views around your body's potential changed Q5. body was in some ways better than before your sport was not good for you	Q4. views around your body's potential changed Q5. body was in some ways better than before your impairment ? Q6. when sport was not good for you	Q2: experience in team sports Q3: conversations that are valuable Q5. discuss illnesses or death Q6. when sport was not good for you	Q6. when sport was not good for you	Q5. discuss illnesses or death

Abbreviations: PTG=Post-Traumatic Growth; PTGI-X=Post-Traumatic Growth Inventory X; BAS-2 = Body Appreciation Scale-2; GEQ = The Group Environment Questionnaire; PWB = Psychological wellbeing, SWLS = the satisfaction with life Scale; STS = Self-transcendence

5.2.4. Procedure

5.2.4.1. Ethical Considerations. Ethical approval was requested and granted from University of East London's ethics committee (UREC, Appendix S). This study adhered to the BPS Code of Ethics and Conduct (2018) which sets the professional standards and ethical code of conduct for human research in the area of psychology (Oates et al., 2021). The four

ethical principles of respect, competence, responsibility, and integrity were considered in each step of the study (Oates et al., 2014). This study additionally complied with EU General Data Protection Regulation, taking into consideration the Data Protection Act, 2018. Thus, the researcher treated all data with confidentiality, integrity, and security.

Participants were asked to read the information sheet carefully when they entered the Qualtrics link; where they were reminded who this study was looking for, told the true nature of the study and reminded of their rights to not participate or stop whenever they wished to. Additionally, they were advised that they could withdraw their data using a personalised code until the point of data analysis. After this the participants were given the consent form and could continue to the survey. After the survey, the participants were debriefed and given contact details to the ethics committee again, for the researcher, and for several support organisations in case of distress. This study collected data anonymously. For the qualitative data, each participant was assigned a pseudonym by the researcher (Braun & Clarke, 2013).

5.2.4.2. Inclusion and Exclusion. This research recruited individuals who had an acquired physical impairment that led to a disability and who regularly participated in individual or team sport at leisure or elite level. More specifically the research was looking for individuals who:

- Were 18 years old and from the United Kingdom (UK).
- Were participating in sports (leisure or elite).
- Had experienced an acquired physical impairment after the age of 9.²⁰
- Had experienced their physical impairment more than 1 year ago.
- Were not under care due to mental health concerns.

²⁰ The inclusion criteria stipulated that individuals had experienced an acquired physical impairment after the age of 9 as per suggestions in the literature when PTG can occur so that there is an experience of before and after (Kilmer et al., 2014; Meyerson et al., 2011)

The final phase did not specifically recruit individuals identifying with PTG. Individual athletes were also included to enable comparison between individual and team athletes.

Incorporating individual athletes could potentially illuminate the potential similarities and differences among individual and team athletes as per some evidence emerging via negative case in phase two (see section 4.1.). However, the researcher determined that if not enough replies were gained, the study would focus on team athletes according to the wider aim of the thesis.

5.2.4.3. Sampling Procedures for Convergent Design. The sampling procedures chosen for this study adhered to good practice for both quantitative (Appelbaum et al., 2018) and qualitative research (Levitt et al., 2018). The employed sampling procedures are discussed and justified below.

Voluntary response sampling was used to cast the net as wide as possible. Individuals volunteered themselves in response to advertisements in relevant social media sites and newsletters of various organisations (Appendix T). It is important to recognise that this self-selection could impact the results to some extent as we do not get to hear the opinions of individuals who choose not to participate (Shaghaghi et al., 2011). This study did not receive any funding thus this naturally imposed some limitations for the researcher (i.e., the researcher could not offer any incentives for participation or recruitment). This partly led to *convenience sampling* from individuals easily accessible for the researcher through previous contacts. This is connected to the other sampling method utilised which was *snowball sampling*; commonly used when the to be recruited sample is rare or not easily accessible (Shaghaghi et al., 2011). Elite athletes can be considered as hard to reach participants due to

their high demand from media, organisations and other researchers (Kampman & Hefferon, 2020). These populations can also require extensive traveling for the researcher; thus, funding would be essential. In this study, the researcher relied on previous contacts, coaches, athletes, and people working in this field to spread the word and link to the study or to gain referrals to new contacts and additional subjects. Snowball sampling can be problematic as it can also lead to bias by recruiting individuals who are more likeminded or cooperative, or by excluding/not recommending people who are not similar to oneself (Shaghaghi et al., 2011).

To counteract some of the challenges stated above, the researcher also utilised *Time-location (space) sampling (TLS)*, by exploring different events in the target populations (e.g., sport events, practice sessions, educational settings etc.). This method is used to recruit participants in hard-to-reach populations by going to the locations where they might be found (Shaghaghi et al., 2011). This method helps with the bias occurring in snowball recruiting, however it can still lead to bias based on the events visited. For example, the researcher aimed to target various sports (such as wheelchair basketball, wheelchair rugby, adapted cricket), nevertheless, the lack of funding did create limits to travel.

The recruiting was stopped in April 2020 in order to adhere to the thesis timeline. The next section will discuss in further detail the decisions and justification for sample sizes in this study from quantitative, qualitative, and mixed method perspectives.

5.2.4.3. Sample size, Power, and Precision for Quantitative. The original intended sample size was determined utilising a commonly applied power analysis programme G-Power (Erdfelder, Faul, & Buchner, 1996). In order to enable investigation of relationships

and predictions with a possible large effect size (0.5), a sample of N=34 was calculated as being required for the correlational hypotheses and N=74 for the multiple regression.

However, the final achieved sample size was N=29, thus the quantitative results must be considered in the context of being derived from a small sample. N=89 responses were gathered of which N=52 had to be removed as these had not provided data beyond the point of demographics. Out of the remaining N=37, N=8 were individual athletes. Due to the significant difference between the number of answers provided by individual athletes (N=8) and team athletes (N=29), the decision was made to only include the team athletes for the analysis as per the narrative of this thesis. These 29 were fully filled questionnaires or filled to a significant degree to enable full or partial inclusion for analysis.

5.2.4.4. Sample Size for Qualitative. Qualitative research is about “meaning not numbers” (Braun & Clarke, 2013, p.20), however it is still important to consider the sample size carefully to be able to produce *meaningful* analysis. Qualitative research is about quality not quantity and lesser numbers (1-10) are considered viable. However, due to the data collection method being an online survey the researcher was prepared for the answers to be quite short and that individuals might even skip questions or provide one-word answers (Braun & Clarke, 2013). However, in this participant pool online surveys can also facilitate ‘full participation of people with disabilities in the broad and expansive sphere of technoculture’ (Seymour, 2001, p.149), thus enabling wider reach and accessibility for more individuals. Furthermore, the data set needed to be also considered as part of the mixed-methods design. To keep the design, analysis, and integration of quantitative and qualitative results manageable, the aim was to recruit 20-30 individuals answering the qualitative questions to elicit meaningful survey data (Braun & Clarke, 2013). Out of the total number of 29 team

athletes, 22 individuals responded for at least some of the qualitative questions, which is an ideal amount for qualitative data in a mixed methods design (see Appendix Q for response numbers for each question).

5.3. Quantitative Study

5.3.1. *Quantitative Data Analysis*

For the quantitative data analysis SPSS (Version 26) was utilised. The data was checked for accuracy. Respondents that did not input any data into the questionnaires were removed, as well as duplicates. Variable names and labels were checked for accuracy. Data transformation was used for reverse scored questions in the GEQ and PWB measures. Mean and total scores were calculated for all scales and subscales. Cronbach's Alpha was used to calculate the reliability for all the scales. Frequencies were investigated, and the Shapiro-Wilk test was used to test the normality of the data. After cleaning and checking the data, the researcher calculated means and standard deviations for all the scales. Finally, the researcher moved to testing the hypotheses, by checking the assumptions first for each analysis and then utilising Pearson's Correlation analysis and linear regression.

5.3.2. Quantitative Results

The tested hypotheses were:

- Hypothesis 1: There is a positive relationship between group cohesion (IV), positive body image (IV), self-transcendence (IV) and the outcome variables wellbeing (DV) and posttraumatic growth (DV) following acquired physical impairment.
- Hypothesis 2: Higher levels of group cohesion (IV), positive body image (IV) and self-transcendence (IV) will predict higher levels of the outcome variables wellbeing (DV) and posttraumatic growth (DV) following acquired physical impairment.
- Hypothesis 3: The trauma profiles will mediate the relationship between PTG (IV) and wellbeing (DV)²¹.
- Hypothesis 4: Athletes participating in team sport will exhibit greater levels of wellbeing and body appreciation than athletes participating in individual sport²².

5.3.2.1. Descriptive Statistics. The scale reliability and internal consistency was investigated with Cronbach's Alpha. Scores over .7 are considered high in internal consistency. The Cronbach's Alpha values were high for Posttraumatic Growth Inventory (PTGI-X) N=29, $\alpha = .92$, Psychological wellbeing (PWB) N=28, $\alpha = .92$, The Body Appreciation Scale-2 (BAS) N=29 $\alpha = .94$, and Self-transcendence scale (STS) N=26 $\alpha = .82$. For the Group Environment Questionnaire (GEQ) the Cronbach's alpha value was slightly lower, however still high N=27 $\alpha = .78$. Removing items did not change the Cronbach's Alpha values considerably for any of these scales. The Cronbach's Alpha value was also good for The Satisfaction with Life Scale

²¹ The study was not able to test this hypothesis due to the low number of responses on trauma profiles.

²² The study was not able to test this hypothesis due to the low number of individual athlete responses.

(SWLS) $N=26$ $\alpha=.88$. However, removing item 5 – “if I could live my life over, I would change almost nothing” changed the Cronbach’s alpha value to excellent $\alpha=.90$. The Shapiro-Wilk test was used to test the normality of the data. The data was deemed normally distributed ($p>0.05$, please see table 7).

Table 7 - Shapiro-Wilk Tests for Normality of the Data, with Cronbach Alpha Values

Scale	M	Mdn	SD	Skewn ess	Kurtosis	p value	α
PTGI-X	2.91	2.88	1.01	.040	-.488	.780	.92
BAS	2.95	3.00	0.95	-.105	-.617	.550	.94
PWB	4.30	4.20	0.63	.337	-.715	.575	.92
GEQ*	5.70	5.55	1.14	.590	.910	.501	.78
GEQ after Winsorization	5.63	5.55	.99	-.037	-.059	.985	.71
STS	3.12	3.16	0.45	-.624	.306	.375	.82
SWLS	4.08	4.30	1.57	-.529	-.740	.092	.88

PTGI-X = Posttraumatic Growth Inventory
 BAS = The Body Appreciation Scale-2
 PWB= Psychological Wellbeing
 GEQ = The Group Environment Questionnaire
 STS = Self-Transcendence Scale
 SWLS = The Satisfaction with Life Scale

*Outliers were found in GEQ for questions 14 and 17. These were checked and answers seem to be correct: high scores on team cohesion, which qual answers support, where participants talk about enjoying the team environment. Additional analysis was run after Winsorization i.e., replacing extreme values with less extreme values, here reducing them to the next value 9 -> 8; which fixed the normality of the data, however, had no implications for the correlations. The researcher also transformed the means to z-scores to normalize the variables due to some scales having very different scoring ranges. However, this had no major implications for the correlations.

5.3.2.2. The Relationships Between Variables. Hypothesis 1 was investigated using Pearson’s Correlation analysis. The relationships between posttraumatic growth (PTGI-X), body awareness (BAS-2), team cohesion (GEQ), psychological wellbeing (PWB), satisfaction with

life (SWLS) and self-transcendence (STS) were examined. Table 8 will detail correlations for the study variables.

Table 8 - Pearson Product Moment Correlations for the Study Variables (Mean Totals of Scales).

	1	2	3	4	5	6
1. Posttraumatic Growth (PTGI-X)	1					
2. Psychological Wellbeing (PWB)	.291	1				
3. Satisfaction with life (SWLS)	.286	.628**	1			
4. Body Acceptance (BAS-2)	.119	.567**	.611**	1		
5. Self-transcendence (STS)	.393*	.484**	.438*	.386	1	
6. Team Cohesion (GEQ)	-.373	.152	-.085	.072	-.064	1
Mean	76.14	181.39	20.42	29.55	46.92	102.78
Standard deviation	26.61	28.30	7.86	9.57	6.81	20.70

Notes: * $p < 0.05$, ** $p < 0.01$ ***

DV - Posttraumatic growth – Pearson's Correlation

There was a significant moderate positive correlation between posttraumatic growth and self-transcendence $r(24)=.39$, $p=.047$. The subscale PTGI-X - Personal Strength had a moderate positive correlation with the subscale of Autonomy (PWBS), $r(26)=.38$, $p=.046$ and purpose in life, $r(26)=.47$, $p=.011$. The PTGI-X subscale New Possibilities had a strong positive correlation with PWBS subscale Purpose in Life, $r(26)=.50$, $p=.007$ and moderate positive

correlations with PWBS subscale Self-Acceptance (PWBS) $r(26)=.40$, $p=.037$. A moderate negative correlation was found between PTGI-X subscale Appreciation of Life and GEQ subscale Individual attraction to the group-social, $r(25)=-.45$, $p=.018$. Whereas PTGI-X - SEC Spiritual and Existential Change subscale had a moderate negative correlation with GEQ subscale Individual attraction to the group-social, $r(25)=-.39$, $p=.047$. Whereas there was no significant relationship between posttraumatic growth and other variables. Therefore, the original hypotheses were only partially supported.

DV - Wellbeing – Pearson's Correlation

There was also a strong positive correlation between Satisfaction with life, and Psychological wellbeing, $r(24)=.63$, $p=.001$. A strong positive correlation was found between Psychological wellbeing and Body appreciation, $r(26)=.57$, $p=.002$. BAS-2 had a positive correlation with the subscales Purpose in life in PWBS, $r(26)=.40$, $p=.035$ and a strong positive correlation with Self-Acceptance in PWBS, $r(26)=.72$, $p<.001$, as well as Environmental mastery PWBS $r(26)=.64$, $p<.001$. A strong positive correlation was also found between Satisfaction with life and Body appreciation, $r(24)=.61$, $p=.001$. Analysis revealed a moderate positive correlation between self-transcendence and Psychological wellbeing, $r(24)=.48$, $p=.012$. Self-transcendence positively correlated PWBS subscales autonomy $r(24)=.40$, $p=.045$ and environmental mastery $r(24)=.52$, $p=.007$ and personal growth, $r(26)=.44$, $p=.026$. Similarly, there was a moderate positive correlation between self-transcendence and satisfaction with life, $r(24)=.44$, $p=.025$. Self-transcendence did not correlate significantly with other variables in this study.

Team cohesion did not appear to have a relationship with any of the other variables in this sample. However, the subscale indicating individual attraction to the group social ATGS

had a significant moderate negative correlation with posttraumatic growth $r(25)=-.48$, $p=.011$. Further analysis revealed that ATGS was particularly negatively correlated to PTGI-X subsection AL – Appreciation of life $r(25)=-.45$, $p=.018$ as well as SEC – Spiritual and Existential Change $r(25)=-.39$, $p=.047$. Therefore, the original hypotheses were only partially supported.

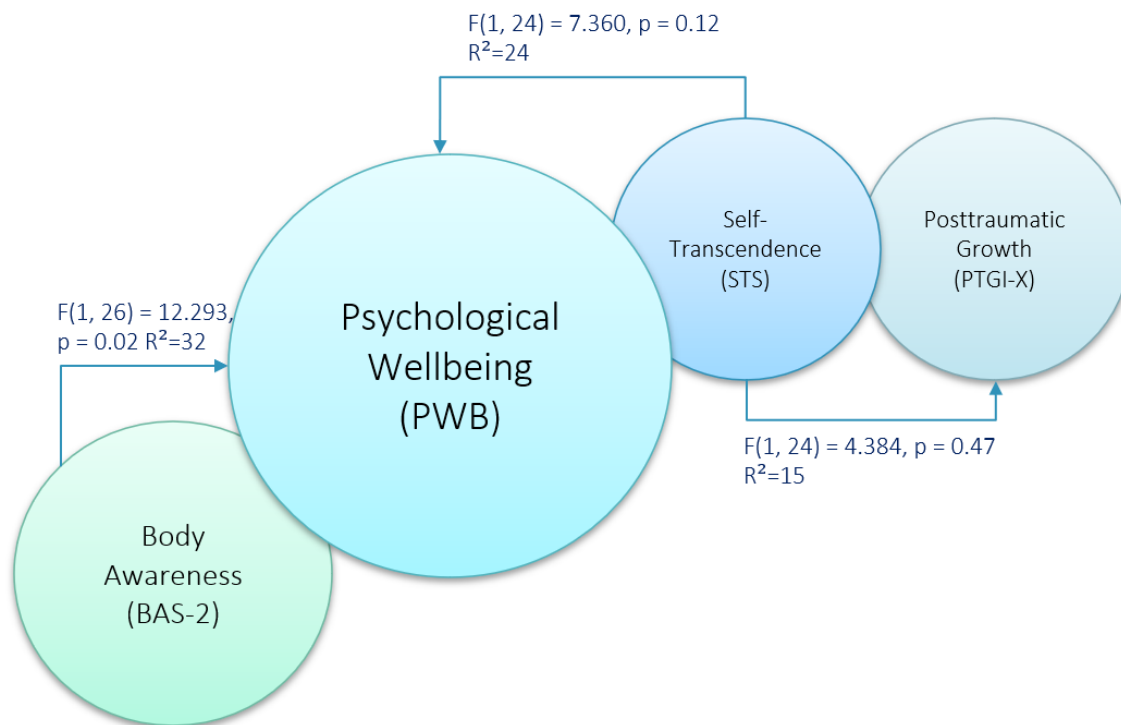
5.3.2.3. Predicting Posttraumatic Growth and Wellbeing. Hypotheses 2 and 3 were investigated utilising Linear regression. The data met the assumptions for linear regression as there was a linear relationship between the two variables investigated, independence of observations (Durbin-Watson statistic), homoscedasticity; there were no significant outliers, the residuals of the regression line were normally distributed.

Firstly, a linear regression was run to understand the effect of individuals self-transcendence had on levels of posttraumatic growth as an outcome. To assess linearity a scatterplot of STS and PTG-X with regression line was plotted. Visual inspection indicated a linear relationship between the two variables. There was homoscedasticity and normality of the residuals. Self-transcendence statistically significantly predicted reported posttraumatic growth outcomes ($F(1, 24) = 4.384$, $p=.047$) accounting for 15.4% of the variation in PTGI-X with adjusted $R^2=.119$, a medium size effect according to Cohen (1988); with a one point increase on an individual's Self-transcendence score increasing Posttraumatic growth by 0.88 points.

Although, multiple regression could have been utilised with two predictors, due to the small sample size, linear regression was run to predict Psychological wellbeing (PWBS) with Body awareness (BAS-2) and with Self-transcendence (STS). Body awareness significantly predicted Psychological Wellbeing outcomes ($F(1, 26) = 12.293$, $p=.002$), accounting for 32%

of the variation with adjusted $R^2=.321$ a medium size effect according to Cohen (1988). With one point increase on an individual's Body awareness increasing Psychological wellbeing by 0.40 points. Self-transcendence statistically significantly predicted Psychological Wellbeing outcomes ($F(1, 24) = 7.360, p=.012$), accounting for 24% of the variation with adjusted $R^2=.203$ a medium size effect according to Cohen (1988). With one point increase on an individual's Self-transcendence increasing Psychological wellbeing by 0.67 points. For a visual presentation of the core linear predictions, see figure 8.

Figure 8 - A Model Illuminating the Linear Predictions Between Psychological Wellbeing (PWB), Body Awareness (BAS-2), Self-Transcendence (STS), and Posttraumatic Growth (PTGI-X).



5.4. Qualitative Study

5.4.1. Qualitative Data Analysis

Reflexive Thematic Analysis can take many *approaches* into analysis and coding and the theme development naturally reflects this: *inductive* – focused on the content of the data; *deductive* – directed by the existing concepts or ideas; *semantic* – attentive to the explicit content of the data; *latent* – focused on reporting the concepts and assumptions underpinning the data; *(critical) realist or essentialist* – focuses on the assumed reality evident in the data; *constructionist* – focuses on looking at how a certain reality is created by the data (Braun et al., n.d., 2019).

Within the wider pragmatic approach, the researcher decided to take an inductive, critical realist approach emphasising both semantic and latent themes. Inductive Thematic Analysis (ITA) was chosen as a approach to reflexive TA due to its bottom-up approach enabling the researcher to generate new insights from larger data sets, such as those from survey data (Braun & Clarke, 2006; 2013; Braun et al., 2020).

Whereas both Qualitative Content Analysis (QCA) and Inductive Thematic Analysis (ITA) both offer techniques that are either atheoretical or theoretically flexible (Braun & Clarke, 2020), ITA has the added benefit of being fully qualitatively driven, therefore aligning better with the researchers qualitative stance. QCA is believed to have quantitative roots, which might be reflected in the use of ‘codebook or coding frame’, and particularly heavy reliance in coding reliability and the use of independent coders whilst also measuring inter-coder agreement (Braun & Clarke, 2020).

The qualitative exploration was conducted within the worldview (pragmatism) of the convergent design, whilst leaning on an inductive, critical realist approach during the

qualitative study, making the analysis data-driven and pragmatic (cf. Spiers and Riley 2019). In terms of psychological theories, despite the researcher's knowledge of the area (questions were derived from previous phases), the analysis was not shaped by existing theory such as posttraumatic growth, thus enabling fresh insights (Braun & Clarke, 2013).

The analysis adhered to the six-phase approach developed by Braun and Clarke which has been utilised previously in qualitative survey analysis (2013; 2006, Braun et al., 2019, Braun et al., 2020). Braun and colleagues emphasise that this process is 'reflexive and recursive, rather than strictly linear' (p.852). ITA therefore allows the unique voices, perspectives, and characteristics to arise from participants' stories (Braun et al., 2019, p.852). It is important to acknowledge that individual responses of qualitative survey data have a tendency to be 'thinner' (p.141) and more 'bitty' (p.227) than interview data, and the answers are often short (Braun & Clarke, 2013), thus perhaps having a 'limited interpretative power' (p.180). However, Braun and Clarke (2020) challenge some of the assumptions around qualitative survey data and suggest that surveys can 'provide richness and depth, when viewed in their *entirety*' (p.2, italics added).

Having thinner qualitative data calls for moving away from the structure that the initial survey questions impose, to recognise and illuminate the patterns in the overall data. Thus, unlike content analysis, a pattern-based analysis moves away from individual questions and views the dataset as a whole (Braun & Clarke, 2013; 2020). Therefore, the data was analysed across responses to find common themes. This approach is supported by Braun and Clarke (2020), who suggest that the analysis can move beyond description and provide 'richly theorized and interpretative accounts' (p.10), as well explore experiences and sense-making.

The researcher immersed themselves into the data analysing the responses both question by question and then individual by individual, aiming to form a more holistic picture of the patterns arising. Braun and Clarke (2013) suggest that it is useful to approach the data with *the overall research question*²³ in mind to empower the researcher to explore beyond the structure imposed by the specific survey questions (Braun & Clarke, 2020). Therefore, in this study, the final results were formed and presented as you would typically see qualitative data displayed: as overarching themes stemming from the whole dataset rather than leaning on the specific survey question structure. Braun and Clarke (2020) state that ‘surveys require us to reconceptualize and assess richness in terms of the dataset as a whole, rather than individual data items.’ (p. 4). Using pseudonyms to give voice to the participants facilitated a richer, more personal account of the studied phenomenon. Finding themes across the data, much like in open-ended interviews, enabled new insights to arise.

5.4.1.1. Procedure for Analysis. After preparing the data for analysis, the researcher conducted Inductive TA using the six-phase procedure guidelines posed by Braun & Clarke (2006; 2013; 2016; Braun et al., 2019; Terry et al., 2017). It is worth noting that these steps were not linear, the researcher did not “finish” one step and then move to another. This approach is supported by Braun et al. (2019) who additionally emphasise the ‘reflexive and recursive’ nature of the analysis (p.852) over ‘proceduralism’ (Braun & Clarke, 2020, p. 2). The process of analysing was organic, and each phase was overlapping with the next.

Prior conducting the actual analysis, it is essential to *prepare the data for the analysis*. The researcher collated all the data given for each qualitative question (Appendix U).

²³ Here “What are the experiences of trauma, team, body, and mortality awareness among a wider athlete population with acquired physical disabilities?”

Additionally, during familiarization the researcher decided to give all the participants pseudonyms and all their data was gathered under these pseudonyms as well (Appendix U). Organising the data in two ways i.e., question by question and participant by participant, allowed the researcher to move from specific questions to individual, personal accounts, and thus, to look at the data from different angles. It was almost a form of triangulation of the qualitative survey data.

First step in the actual analysis is to *familiarize* with the data. Braun et al. (2019) recommend that during the first step the researcher becomes 'immersed' in the data, connecting with it in various ways. They suggest that the researcher stays 'engaged, but also relaxed' moving between casual notes and thoughtful, curious reading (p.852). In this current study the researcher read all the collated data sheets and explored the data from different perspectives (i.e., question by question and one participant at a time).

Second step is *generating the codes*. Initial codes were generated and written in the margins of the data sets and collated together on a separate sheet in a word document. At this point the engagement was both detailed and systematic (Braun et al., 2019). The researcher read all the collated data sheets one by one, highlighting the positive and negative aspects found in the text; emphasizing important words by underlining them and making notes in the margins (see Appendix U). First, the researcher immersed herself into the data question by question, delving into the world of the question. After this, the analysis moved to reading the data one participant at a time ending up with a mind map illuminating the findings (see appendix V). Braun et al. (2019) urge researchers to take notes related to the research question(s), as well as staying awake to what else is going on in the data. Braun et al. (2019) recommend that the data is organized according to similar meanings, coding

involves giving the data 'pithy, clear labels (codes)' to enable meaning-patterns to be organised (p.853). Here the inductive approach is to work 'bottom-up' to explore ideas of meaning without bringing in ideas from outside the data (cf. deductive approach). This does not mean that the researcher is a blank state but rather that they start with the data (Braun et al., 2019; Terry et al., 2017). Although the nature of the data called for more semantic, surface level coding, looking at the dataset as a whole enabled some latent, deeper, more implicit coding as well (Braun et al., 2019).

Third step is the *constructing of themes*. In reflexive thematic analysis, themes do not emerge fully formed from the data, the themes are constructed or as Braun and colleagues (2019) describe it, the process is akin to 'engineering or designing'. At this point the analysis moved away from questions and participants, and started clustering codes and ideas. Initial themes were grouped into higher order themes where possible (see Appendix X). Overarching themes were created, enabling the researcher to give voice to individuals and what was developing from their stories as a whole.

Fourth step is about *revising the themes*. The arising themes were grouped with accommodating quotes and organically moved around to form higher order themes. At this point the supervisor with qualitative expertise, Dr Hefferon, read the initial formulation of themes asking clarifying questions and noting further opportunities for synthesis. Gough, (2017) suggests that in addition to personal reflection, working 'within the research team' and having regular reflexive discussions can facilitate greater reflexivity (p.1).

Revising the themes is an essential aspect of moving from candidate themes into actual themes, thus ensuring that holding on to the candidate themes does not lead to 'analytic "thinness" or conceptual overlap' (Braun et al., 2019, p.855). Here some of the

original candidate themes found a home under a larger conceptual theme, therefore tightening the analysis and synthesising the results.

Fifth step is about *defining the themes*. Three rounds of consolidation followed which was combined with the initial write up of the results. This process further synthesised the results. After synthesising the themes into their final forms, the final versions of the theme names were created. Often the original theme names are not capturing the meaning of the themes as fully as possible (Braun et al., 2019). The final theme names aimed to tell a story about the theme and prompt the reader to know what to expect (Braun et al., 2019).

Sixth and final step is *producing the report*. As in many qualitative traditions (Braun & Clarke, 2013; Braun et al., 2019), the write up is part of the analysis, helping to crystallise the analysis and test if the themes work (see also defining the themes). The results were further synthesised, and a final table of results was created. The researcher illuminated the analysis with various quotes and brought the participants' voices alive through the use of pseudonyms.

The researcher kept reflective notes throughout the analysis, noting bigger ideas, interesting questions, and ideas for higher order themes. These ideas often connected to the overall thesis investigation, creating further insights into the study's phenomena (Appendix X).

5.4.2. Qualitative Results

The Inductive TA, conducted within a critical realist framework and emphasising semantic themes, generated 3 themes, each with subordinate themes (see table 9). Prevalence has been noted not 'as proof of being valid' but rather to illuminate the occurrence of each

theme (Chamberlain, 2011). The analytic insights are illustrated by data extracts in the below section. The data highlighted the vast diversity of different traumatic experiences in this participant pool. The range of adversities was the strongest, most striking finding from the qualitative data, coupled with how these different challenges were experienced. The findings also revealed a variety of benefits as well as severe challenges around participation in adaptive team sports. The role of the body was central to these experiences in trauma, in success in sports, as well as in challenges faced within adapted sports. The body was the centre of the few written descriptions of posttraumatic growth as well.

Table 9 - Master Themes, Subordinate Themes, and Prevalence of the Qualitative Data in Phase III

Master themes	Subordinate themes	Prevalence (Pseudonyms)
1. THE COMPLEX NATURE OF TRAUMA	1.1 Cognitive vs. physical	Erik, Laura, Tanja, Ukko, Viola, Zenna, Bella
	1.2 External vs. Internal elements of trauma	Allison, Cecilia, David, Fiona, George, Kevin, Viola, Willow, Zenna
	1.3 Sudden vs. Gradual/Ongoing vs. Finite	Allison, Bettany, Cecilia, David, Erik, Fiona, Henry, Ilona, Jenna, Kevin, Laura, Ollie, Qiana, Richard, Viola, Xenia,
	1.4 Unintentional vs. Intentional	Erik, Fiona, George, Viola, Zenna
	1.5 Multiple/various vs. single event	Allison, Cecilia, Fiona, Manny, Nanna, Ollie, Pamela, Qiana, Richard, Sebastian, Tanja, Ukko, Viola, Willow, Xenia, Zenna, Aaron, Bella
2. PSYCHOSOCIAL WORLD OF ADAPTIVE TEAM SPORT	2.1 Psychological elements of adapted team sports	Fiona, Laura, Nanna, Ollie, Pamela, Qiana, Tanja, Ukko, Viola, Xenia, Yvette, Zenna, Bella, Henry
	2.2 Social Elements of Adapted Team Sports	Fiona, Laura, Nanna, Ollie, Pamela, Qiana, Richard, Sebastian, Tanja, Ukko, Viola, Yvette, Zenna, Aaron, Bella
3. THE DIVERSE EMBODIMENT	3.1 Acceptance, appreciation, and alternative ways of “doing” through adapted team sports	Allison, Laura, Nanna, Ollie, Pamela, Qiana, Richard, Tanja, Ukko, Viola, Yvette, Zenna
	3.2 Conflicts and challenges within the body in adaptive team sports	Laura, Nanna, Pamela, Richard, Tanja, Ukko, Viola, Yvette, Zenna, Aaron, Bella

5.4.2.1. Master Theme 1 - The Complex Nature of Trauma. One of the broader aims of phase three was to gain a greater understanding around the trauma profiles among the athletes participating in adaptive team sport. The qualitative analysis revealed a multitude of differing traumatic events and these were not always specific to the acquired physical impairment. Many participants noted various life events that were traumatising in different ways. The impact of these differing trauma profiles was illuminated in the written comments as the individuals were unpacking their experience. The analysis clustered the different elements which people reported being traumatizing in this participant pool in the following way: Cognitive vs. Physical; External vs. Internal; Sudden vs. Gradual vs. Finite; Unintentional vs. Intentional; Multiple/Various vs. Single event. The different traumatic elements often also overlapped; thus, something might have been a single event, sudden and intentional *“Blown up in [war]” (Erik)*. The complex nature of trauma in this participant pool will now be explored to illuminate the variety of traumas reported in the qualitative replies. The section will highlight the diversity of the challenges the individual’s participating in adaptive team sports might be facing.

5.4.2.1.1. Cognitive vs. Physical. Often the traumatizing element was identified as cognitive in nature, a piece of information that was learned or given (e.g., diagnosis, discharge): *“After diagnosis I collapsed at work due to a panic attack and was taken to UCH.” (Ukko)*. Tanja also describes the pain of ‘being told’: *“BEING TOLD, AS A FIT AND ACTIVE YOUNG WOMAN OF 25, THAT I WOULD NEVER WALK AGAIN!” (Tanja)*. She used capital letters (unlike in the other answers) and finished with an exclamation mark hence, she was almost shouting out, emphasising the impact that the information had on her. Laura wrote that experimental treatments and ultimately the medical discharge in its finality, were traumatic for her: *“My (omitted) injury occurred over a period (omitted) without seeking*

medical treatment so the process of finding out how serious it was, unsuccessful experimental procedures and ultimately medical discharge was traumatic.” (Laura). Whereas, for Zenna it was the life altering decision she herself had to make that was traumatic to her i.e., *“Choosing to amputate my leg.” (Zenna).* Her original injury required medical attention which led to a “medical error”. This caused pain which eventually led to the decision to amputate her leg. This is akin to *moral injury*, where the individual is traumatised due to acting against their values either due to the actions or suggestions of a power figure (doctor) or their own decisions.

The above all noted *cognitive* elements of trauma, whereas for Bella, the traumatising element for her was more *physical* in nature, such as with regards to lost functions: *“After initial complications damaging spinal cord which paralysed me I gained some functions back but over the last 5 years or so I’ve been losing some functions which upsets me ongoing.” (Bella).* Here she describes a fluctuating nature of her impairment, a seesaw of functions which keeps upsetting her. These examples had external and internal elements: being told vs making decisions as well as elements of being sudden and gradual in nature (see below).

5.4.2.1.2. External vs. Internal. At times the traumatising element was an outside force, individual or a medical operation. Bella describes a medical operation which had complications as traumatising: *“initial complications damaging spinal cord which paralysed me” (Bella p.34/1212).* Sometimes however the transgressor came from inside, as an illness or a decision that the individual had to make. Willow for example is stating that she *“became an amputee due to cancer” (Willow).*

5.4.2.1.3. Sudden vs. Gradual vs. Finite. Some traumatic experiences were very sudden and were described as highly distressing. Other individuals described a more gradual

experience or degenerative conditions. At times, participants lived with a condition that was terminal. Henry wrote about a very sudden and traumatic injury which caused him symptoms of PTSD, such as flashbacks: *“The sporting injury that caused my injury was very traumatic”* (Henry, 13/427). For Henry, many aspects of his life were changed instantly. Whereas for Bettany her disability was not traumatic as it was gradual: *“My disability was a very gradual onset and so I wouldn't call it traumatic.”* (Bettany, p.9/295). Viola on the other hand stated that her *“conditions degenerating”* (Bettany), which she listed as being traumatising. Finally, Qiona described a surgery which was unsuccessful and the implications of it as traumatising: *“What did have a long term effect was the physical fallout from the surgery which led to my being a wheelchair user. (Qiana).* She later discloses that her condition is terminal.

5.4.2.1.4. Unintentional vs. Intentional. The participants described events that were accidents, mistakes in medical operations or illnesses leading to amputations, that were unintentionally harming such as *“I fell from a ladder in 2005 and badly broke my right humerus”* (Ollie). However, some participants described situations where the injury was caused intentionally, such as being attacked in a war *“Blown up in [war]”* (Erik), *“domestic abuse”* (Fiona) or *“bullying by the coaches”* (Viola). Worryingly, Viola was bullied by the coaches in her former adaptive team sport.

5.4.2.1.5. Multiple/Various vs. Single Event. Some participants had various traumatic events in their lives. They described very differing and distinct events that were a combination of the above mentioned (i.e., Cognitive vs. physical; External vs. Internal; Sudden vs./Gradual/Ongoing vs. Finite; Unintentional vs. Intentional). For example, Fiona: *“There are rather a lot! From domestic abuse to a suicidal (omitted - member of family)...that and dying briefly after falling of a motorbike!”* (Fiona) as well as Cecilia *“Numerous traumas.*

Spinal injury was life changing.” (Cecilia). Others had one distinct event or moment in time that they were describing as life altering: *“Injured in a motorcycle accident” (David).* It is worth noting that this question specifically said that people did not need to state their adversity, however, 21 out of 29 chose to answer this question, suggesting that there was a clear willingness around and interest in disclosure. Furthermore, the vast diversity of these answers illuminates the need for researchers to keep a critical eye on trauma profiles when we are trying to understand the experience of growth in an individual’s life.

5.4.2.2. Master Theme 2 - Psychosocial World of Adaptive Team Sport. The findings suggested that team sports provided both psychological and social benefits as well as challenges for the individuals. At best it was a source of belonging and support, enhancing individual’s wellbeing. However, opposite perspectives were also reported where individuals felt left out, isolated, and even bullied.

5.4.2.2.1. Psychological Elements of Adapted Team Sports. Team sport was reported as a source of many *psychological benefits* such as *“renewal of my mental health after my traumatic accident” (Richard, p.23/802), “originator of mentality” (Tanja, p.26/910) and “to keep healthy in mind” (Yvette, p.31/1089).* The powerful impact of sports was illustrated by Tanja when she used capitals to describe the role of sports for her after facing her disability: *“SPORT SAVED MY MENTALITY WHEN FACED WITH MY DISABILITY” (Tanja, p.25/887).* These benefits were contributed to *teammates, being able to learn new skills, keeping physically fit and having an environment where there is a normality around disabilities: “It’s a place where having a visible disability doesn’t stand out” (Zenna, p.32/1144).*

Three athletes described elements of posttraumatic growth which they all attributed to the team sport. Athletes wrote about being better than before. Henry for example wrote

that it was due to his wife, sport and outdoor activities that he was where he is now.

Furthermore, he felt that he has gone beyond what he used to do by writing that:

“I have done more in the last 2 years than I have done in the previous 15 years.” (Henry).

Similarly, Ukko felt that his body was better than before his impairment when he *“won a team gold at a competition for (omitted)” (Ukko)*. For Tanja, sport appeared to be in a central role in her psychological wellbeing. Sport was also what showed her how much she can still achieve: *“Sport has been the originator of my mentality that I can be as good, if not better at something, than I was before” (Tanja).*

However, at times athletes faced severe psychological challenges in their sports. One such challenge was losing your adapted sports *“due to health and bullying” (Viola, p.27/973)*, being medically *“stopped from competing” (Bella, p.34/1216)* or retiring. This was reported as highly distressing. For example, Bella suggests that she truly understood the value of sports in her life after losing it: *“Team sport has helped me probably more than I realised until more health issues impacted on my ability to participate or compete.” (Bella).*

Athletes also reported being left out and feeling as outsiders in their team. Fiona described how she was new to her team and was not introduced to some of them: *“I'm finding it difficult to 'bond' with the team. For example: I've never been introduced to most of them.” (Fiona)*. Ollie on the other hand felt that he has been left outside from what was a friendship group: *“Recently team mates I thought of as friends stopped talking to me” (Ollie)*. Being left out at times escalated to bullying. For example, Qiana wrote that her experience in adapted team sports has been very positive in general, however, mentions that the only time adapted sport was not good for her was: *“when it was necessary to take on some bullying in a club I was in for a while. That caused a lot of stress.” (Qiana).*

5.4.2.2.2. Social Elements of Adapted Team Sports. One of the greatest reported benefits of adapted team sports was the opportunity to share experiences, both personal and sport specific. Talking socially, having a laugh, calming and constructive conversation were reported by athletes. These opportunities for shared experiences were highly appreciated by athletes. For examples Nanna wrote about the ease and normality of discussing with her teammates: *"A lot of people on my team have similar experiences or long term health conditions, and there are a number of people I train with who have the same conditions and disabilities as me, so it's really easy and natural to just have that in normal conversation because everyone gets it and understands"* (Nanna). Nanna describes a common understanding between the teammates due to shared experiences, and the similarity of challenges. Qiana also suggests that these conversations are quite frank and even topics such as death have been discussed, which implies a high level of trust between the teammates: *"We are fairly frank. We discuss our limitations and the hassles - the functional aspects probably of our conditions. The guys know that I have a terminal condition and are quietly supportive. They tend towards the 'I know you'll be fine' school. Of course, they don't know."* (Qiana).

However, opposite experiences were also reported and at times the sharing created discomfort: *"When other people talk about their minor injuries and it's impact relating to sport, sometimes it makes me angry as I think they can't possibly understand my situation having an injury that greatly impacted my life."* (Laura). Whereas Laura feels that others should not complain due to lesser injuries, this is precisely what Ollie reports as distressing for him: *"I try to raise the subject of disability but because my disability isn't visible, I often get a hostile response"* (Ollie)

These conflicting needs additionally related to social needs as Sebastian describes: *“When I don't feel like a sociable person, and want to be left alone”* (Sebastian) or wanting to keep conversations sport specific and not personal as Ukko writes: *“Any conversation is good as long as it's positive and not personal.”* (Ukko).

Although, only mentioned by two participants, the importance of the coach was chosen for analysis due to their central role in teams. Furthermore, it was felt that the written statements given about coaches had to be recognised due to significance of their content²⁴. A coach had the potential to enhance the experience of the athletes immensely as Qiana describes: *“My experience has been hugely enhanced by our coach, who takes an approach that is always affirmative, always clear about what she want you to do or learn, always tells you when you're doing the right thing, but will offer an alternative when you're doing the wrong thing. She is quite bloody wonderful.”* (Qiana). However, worryingly, coaches were also reported as a source of severe distress: *“Left wheelchair (sport) team due to bullying by the coaches towards many of the players.”* (Viola). Viola later adds that she did not perceive that able-bodied coaches could truly understand what it is to lose your previous self: *“Being around able-bodied coaches that told us they knew what it was like to lose your previous self”* (Viola). The coach has a significant amount of power due to their role in team sports, thus statements such as Viola's are a source of concern.

5.4.2.3. Master Theme 3 - The Diverse Embodiment. Diversity of embodiments were captured through the writings; individuals wrote about similar as well as opposite experiences of engaging with their bodies through sport. Adaptive team sport provided both opportunities and challenges for the body. For some, sport was helping them to accept their

²⁴ 'A single sensitive comment from a participant can provide the researcher with some valuable insights' (Chamberlain, K., 2011, p.52).

new physicality and gave them a perspective that the body as capable beyond their original ideas. On the other hand, some participants reported staying detached from their injured parts, or getting more injured via sports.

5.4.2.3.1. Acceptance, Appreciation and Alternative Ways of Doing Through Adapted Team Sports. Athletes wrote about acceptance and appreciation of their body after starting adapted team sports. Athletes wrote about seeing their *“body as still capable, just in different ways”* (Nanna), being *“happier with what I have”* (Ollie), and understanding that they can *“still have fun in a disability sport”* (Richard). For Ukko, adapted team sport played an important part in accepting his current reality and provided perspective for him: *“When I played (omitted) it helped me accept I’d not lost everything I was.”* (Ukko).

Furthermore, being around different bodies, different abilities, seeing and sharing alternative ways of doing, aided learning from others. For example, Zenna wrote about how her views about her body have changed since starting adapted team sports: *“I can do anything that a “normal” person can. Just in a different way. Finding alternative ways to do things and speaking to others with similar disabilities about how they tackle certain situations to get ideas and solutions”* (Zenna). She describes the importance of learning from others who are in similar situations. For her it was in this environment that she started to think that she can still do many physical things just in a different way.

Sport also provided opportunities to be proud of your body. For Ukko when he *“won a team gold at a competition”* (Ukko) or for Laura when she developed more coordination *“through doing more technical sports”* (Laura), and for Qiana when she achieved more than originally imagined: *“I’ve played 100% of two or three 40-minute games. I would have been surprised at [younger age], to discover that I could still do this at [older age].”* (Qiana).

5.4.2.3.2. Conflicts and Challenges Within the Body in Adapted Team Sports. However, at times the relationship with the body after starting adapted team sports was a challenging one as well. Athletes wrote about conflicting feelings, such as *“it varies sometimes I feel I could conquer the world other times I feel useless and a burden on others”* (Pamela), and thinking that they used to be able to *“run and was pain free. I try not to spend too long thinking about that or how much I miss it”* (Richard, P.23/817-818). This at times led to feelings of disappointment as Laura describes: *“I feel at least I can be good at something though it is hard to escape the feeling that my body failed me when I needed it.”* (Laura).

Some people almost kept their injured part as separate from the rest of themselves. This ‘Body vs. I’ showed as thinking the body is an instrument for the sport *“See my body as a tool to play better”* (Tanja) or dividing the body into the injured and non-injured part *“When I play I’m not thinking about my body from the waist down. I’m focusing on what I can do from the waist up.”* (Zenna).

Whereas sport was reported to be good for the physical fitness, it was clear that it was not always good for the body. Yvette wrote that *“damage does occur, as does wear and tear”* (Yvette) and Zenna wrote about the difficulty of managing her condition when starting out in sports: *“I experience a lot of pain as a symptoms of my neurological condition. It was tough to manage when I first started.”* (Zenna). Similarly, Bella notes: *“I was unaware of possible implications of participating I focused on what I wanted to do and enjoyed rather than the risk it may have on me.”* (Bella).

Furthermore, at times the sporting environment made athletes push themselves too far physically as Nanna describes: *“when my disability flares up and my symptoms are worse because it means I’m not able to play as much, or sometimes can’t play at all, so going to*

training means I end up wanting to push myself which leaves me either disappointed or making the symptom flare ups worse” (Nanna). Nanna describes the conflicting feelings caused by wanting to push yourself but knowing that it causes flare ups in her conditions. Thus, for some athletes it was the sport that illuminated the limitations of their bodies: *“I’ve realised its vulnerability” (Bella).*

The qualitative themes found in this study highlighted the complexity of trauma in this participant pool, the essential role of the body in both negative and positive experiences in adaptive team sport and how the team sport environment can both facilitate and hinder wellbeing.

5.5. Mixed Methods Data Analysis

The mixed method integration of interpretation and reporting can take different forms: ‘(1) integrating through narrative, where both qualitative and quantitative findings are reported together; (2) integrating through data transformation, where data is formed to fit the other data i.e., qualitative answers are coded into number to enable analysis; and (3) integrating through joint displays, creating visual presentations of different data streams to bring these together’ (Fetters et al., 2013, p.2142).

In this phase three the researcher utilised *integrating through narrative* which can take different forms as well: narrative, weaving, or contiguous and staged. Due to the complicated nature of the dataset, it was deemed best to utilise contiguous integration, where the researcher first reports the findings from quantitative analysis, followed by the findings from the qualitative findings (Fetters et al., 2013) and the integration of both will happen in the discussion. Therefore, after completing the qualitative and quantitative data analyses, the convergence and divergence of the findings were considered between findings

in the discussion section (Fetters et al., 2013; Jordan et al., 2020). The researcher also created joint displays to visualise the quantitative and qualitative findings together.

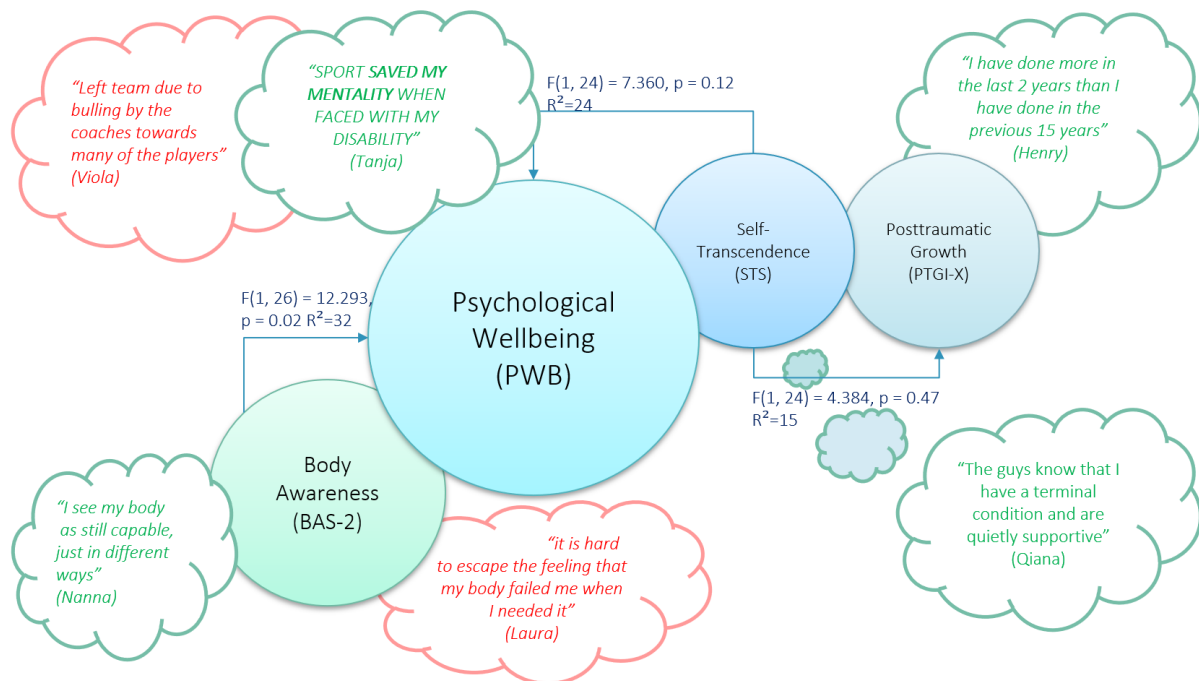
5.6. Discussion

The aim of phase three was to better understand the characteristics and prevalence of trauma, and posttraumatic growth following an acquired physical disability in a wider adaptive team sport population. Furthermore, the aim was to explore relationships between positive body image, group cohesion, self-transcendence, wellbeing and PTG utilising validated questionnaires and open-ended qualitative survey questions. The quantitative analysis found a positive relationship between PTG and self-transcendence. A positive relationship was also found between wellbeing, body appreciation and self-transcendence. Team cohesion did not appear to have a relationship between the other variables in this study, except for a moderate negative relationship with two subscales in the PTGI-X.

Whereas the quantitative data revealed the relationships between the variables, the qualitative results illuminated how these different variables were experienced in the adaptive team sport environment. Additionally, the qualitative analysis revealed a high level of trauma and a variety of different trauma profiles in this participant pool. The qualitative findings highlighted both psychological and social need and benefits. The data also revealed challenges with differing needs between individuals, loneliness within some teams and even bullying. Similarly, the diverse experiences of embodiment in this participant pool illuminated both opportunities and challenges for (dis)engaging with the body in adaptive team sport environment. The written words gave depth to the quantitative analysis enabling further understanding around the elements that facilitate and hinder athletes' wellbeing and PTG in

these adaptive team sport environments. Figure 9 shows a visual presentation of how participants' voices elucidated the quantitative results.

Figure 9 - *The Predictions According to the Linear Regression with Illuminating Quotes*



Note: The thinking bubbles illustrate both positive (green) and negative (red) experiences reported by the athletes in this study, relating to the concepts at interest.

The discussion will next briefly discuss the main findings from phase III, however, as the following chapter is the overall discussion for this thesis, some of the more detailed discussion will be occurring there to avoid repetition.

5.6.1. Trauma and Posttraumatic Growth in Adaptive Team Sport

The findings from this study support the previous findings from phase two and suggest that the prevalence of trauma in adaptive team sport is exceptionally high. Moreover, even though the unifying highly stressful event for these athletes was an acquired physical disability, these individuals had very differing trauma profiles (Kira et al., 2013). Essentially, the qualitative data illuminated the subjective experience of trauma, where participants described very different

elements of their experiences as traumatizing. The trauma was described through the event itself, being a single event, multiple events, or combination of different events. The findings from phase three strongly connect to Kira et al.'s, (2013) four trauma profiles²⁵ (also see 5.1.1). Kira et al. (2013) investigated trauma profiles and PTG in a Palestinian sample and found that only type I traumas were associated with posttraumatic growth (PTG). Interestingly, Type II trauma was not associated with PTG. Moreover, type III was negatively associated with PTG (Kira et al, 2013). The association between trauma profiles and PTG found by Kira et al. (2013) echoes previous findings around PTSD and PTG, where a curvilinear relationship was found between distress and growth (Shakespeare-Finch & Lurie-Beck, 2014). Unfortunately, this current study was unable to investigate this hypothesis quantitatively. However, the qualitative evidence illustrates the complexity of traumas and the sheer volume of trauma reported in this particular study. 22 people out of 29 opted to describe their traumatic event, and only one participant felt that they had not experienced a trauma. Therefore 95% of the people who replied, had experienced a traumatic event. The qualitative replies highlight two important aspects to consider carefully: firstly, acquired disability is not always experienced as traumatic and secondly, at least 72% of the entire participant pool had experienced traumatic event(s). Interestingly, the prevalence of trauma and the role of trauma in adaptive sport environments is not discussed in the scientific literature, even though it is highly common in this participant pool, both personally and vicariously (see subordinate theme 3.5. in chapter 4). When it comes to trauma informed sport practices among adaptive (team) sports, the research is non-existent in the English academic literature. This calls for further research and application of trauma informed practices in adaptive sport.

²⁵ 'Type I, events that happened once and stopped (e.g., road traffic accident); Type II, events that happened several times and stopped (e.g., abuse); Type III, events that continue to happen, and have not stopped (e.g., discrimination); and Type IV, accumulation of different traumas accumulative effects of different types of victimization and trauma' (Kira et al., 2013, p.122).

The findings also suggest that the cause of these trauma(s) was immensely important, i.e., whether these were seen as unintentional or intentional. People also reported various aspects of their event distressing, such as cognitive, physical, external, internal, sudden, gradual, ongoing and at times finite. Therefore, the findings from phase three are supporting Tedeschi et al., (2018) in that trauma is subjective, which Kira (2001) also highlights emphasising that trauma is always personal and what is traumatic to one individual might not be for another. Kira et al. (2013) suggests that trauma can generally be a significant and out of the ordinary stressor with an especially 'low expectancy, probability, and controllability' (p.73). This aligns closely with the definition of 'highly stressful and challenging life altering event' in PTG theory (Tedeschi et al., 2018, p. 4). The very core of the theory of PTG is the idea that 'it is not the event itself that defines trauma, but its effect on schemas, exposing them to reconstructions' (Tedeschi & Calhoun, 2004, p.100), however, in phase three participants did often describe the characteristics of the event itself as traumatising. Tedeschi et al. (2018) propose that there are several factors that influence the experience of a particular event, such as: 'if the experience is preventable or predictable; who is responsible for the event, the person, other people or nature; is the event man made or caused by natural events; how much time has passed since event; what kind of event it was' (p.55). In the current literature among athletes with acquired physical disabilities (nor in the wider PTG literature) the prevalence and complicated nature of the trauma(s) is not fully appreciated. Therefore, the findings from phase three call for more rigour and consideration around the trauma.

Finally, it is evident from the data that for this participant pool the descriptions of trauma were centred around the body. Therefore, phase three is also calling for researchers to consider how they define trauma, whether this is seen as a solely cognitive

experience or as an embodied one. It is critical for PTG research to start considering the body in the trauma experience as ‘trauma is a bodily experience’ (Hefferon & Kampman, 2021, p.131), whether it is stemming from a physical illness/injury or not.

5.6.2. Wellbeing, Body Appreciation and Growth in Adaptive Team Sport

For the athletes in this participant pool, body appreciation and self-transcendence appeared to be impacting their levels of wellbeing, whereas team cohesion did not appear to have a relationship with either of the wellbeing variables (i.e., hedonic nor eudaimonia) or any other variables in this study. Whilst PTG did not have a relationship with SWB, some PTG outcome domains did seem to have a relationship with domains of PWB.

As discussed throughout this thesis, the body has an essential role in the trauma of acquired physical disabilities, as well in the growth processes reported by athletes in adaptive team sports. The positive body image, measured in this current study with BAS-2, was strongly associated with both satisfaction with life and psychological wellbeing in these athletes. To the best of the researcher’s knowledge, this was the first study to explore these concepts together in a wider adaptive team sport population. The findings from phase three further support the earlier findings from phase two, where team sport aided ‘evolution of the body’ through adaptive team sports (see 4.4.) Therefore, being immersed into environments with different bodies with varying abilities (see 4.4.) could be highly beneficial for athletes’ wellbeing after acquiring a physical disability. The qualitative data from this current study supported these findings further, as the diverse embodiment through adapted team sports aided acceptance, appreciation, and alternative ways of “doing”, which are all integral aspects of positive body image (Tylka & Wood-Barcalow, 2015). This data set offers a unique insight into what it means to focus on the functionality of your body (instead of appearance) after acquired physical disability in adaptive team sports. Furthermore, results reflected a

respect towards the (new) athletic body and athletes being more attentive towards the body's needs. These aspects are not only essential for wellbeing but ultimately for sport performance as well (Giles et al., 2020; Schnell et al., 2014). Furthermore, the broad conceptualization of beauty (Tylka & Wood-Barcalow, 2015) in phase three was illuminated in the data by individuals rejecting societal standards (and medical model ideals) imposed on the body. The qualitative evidence also highlighted the challenges that the team environment could highlight with regards to the body, such as conflicts with one's relationship with their body, further injuries, pain and pushing themselves too far. Again, these findings mirror those from phase two, and collectively call for body-informed coaching practises and sport coaching that moves from peak performance towards a more holistic perspective by considering the wellbeing of these athletes first.

Another concept connected to wellbeing among these athletes was self-transcendence. Self-transcendence in this study had a positive relationship with both wellbeing measures (SWBS and PWBS) as well as with PTG. Reed (2009) refers to self-transcendence as 'expanded self-boundaries and awareness of dimensions greater than self without devaluing the individual.' (p.397). Therefore, the quantitative findings in this current study support earlier findings from phases one and two where the themes were akin to self-transcendence (see 3.4 & 4.4.). People were extending self-boundaries, *within themselves* (becoming more authentic, accepting themselves, finding meaning through sports), *outwards* (reaching to others in similar situations, giving back to the sport community) and *upwards* (talking about being part of something bigger than themselves, humanity) (Reed, 2009). What is interesting is that self-transcendence seemed to be appearing in the later stages of the PTG process (see 4.5.). For the athletes reporting PTG, adaptive team sport appeared to offer an environment where they had opportunity to integrate 'one's past and future into the

present' (Reed, 2009, p.397). Interestingly, (Zoellner & Maercker, 2006) described the adaptive side of growth in their Janus-face model as 'functional, *self-transcending* and constructive' (p.640, italics added). The findings are noteworthy as the self-transcendence theory posits that 'individuals who face human vulnerability or mortality obtain an increased capacity for self-transcendence and its positive influence on mental health and well-being' (Reed, 2009, p.397). Therefore, perhaps adaptive team sport environment at its best (e.g., through being surrounded by other bodies with different abilities), offered this opportunity to first accept vulnerability in a safe environment, accept the new self with a physical disability and be authentic and therefore aiding the PTG process along as well. In this current study, self-transcendence was the potential link between PTG and wellbeing. However, as this was a correlational design, of course no causation can be inferred.

The curious finding from this study was that team cohesion did not appear to have a relationship with any of the other variables, apart from a negative relationship with some of the subscales in PTGI-X. The reason for this could be manifold and are partly discussed in the limitation section of this study (e.g., small sample size). Team cohesion has been found to be most related to performance (Brisimis et al., 2018; Carron et al., 2002; Salas et al., 2015) and contrary to the original hypothesis the findings from this study suggest that it has no relationship with wellbeing. Whilst being mindful of the possibility of type 2 error, it would be perhaps useful to explore further the relationship between cohesion and wellbeing within a wider athletic population.

5.6.3. Posttraumatic Growth and Wellbeing

The results from this study yet again highlight the complex relationship between wellbeing and growth, noted in the wider PTG literature (Engelhard et al., 2014; Shakespeare-Finch & Lurie-Beck, 2014). Overall wellbeing scores (SWB and PWB) and PTG did not have a significant

relationship, however the PTG domain *personal strength* was related to the PWB domain *autonomy*. Furthermore, PTG domain *new possibilities* was related to PWB domain having *purpose in life* as well as *self-acceptance*.

It is essential to recognise that there are contradictory findings reported where PTG does not correlate with wellbeing but rather with psychological distress for certain populations (e.g., military) (Engelhard et al., 2014). Researchers have also reported findings of a significant linear relationship between PTG and post-traumatic stress disorder (Shakespeare-Finch & Lurie-Beck, 2014). The same study by Shakespeare-Finch and Lurie-Beck (2014) also found even more robust evidence for a curvilinear relationship, suggesting that distress aids growth up to a certain point, after which it has the opposite impact. Therefore, the relationship between PTG and wellbeing still requires further understanding.

One potential explanation slowly rising from literature is related to the trauma profiles (as discussed earlier). These trauma profiles and the updated taxonomy by Kira (2021) could help researchers to better understand how these different experiences of various or singular traumas and the type of events they were (e.g., illness or attack) can impact both the process and outcomes of growth as well be the link illuminating the relationship between wellbeing and growth. The taxonomy of traumas has not been explored as moderator in the relationship between growth and wellbeing and could potentially bring further insight into this complex phenomenon.

Perhaps one the issues with contradicting findings around PTG and wellbeing (or other constructs) relates back to the measurement itself, PTGI-X (Tedeschi et al., 2017). There is a significant issue with the measurement measuring the domains of growth and researcher then comparing these means with other means. The Transformational Model

clearly states that individual can experience growth in one, none or in all areas. Therefore, qualitatively person could be exhibiting high levels of *personal strength* and grown significantly since their trauma in this one area; however, not in others. Whereas someone else might assign moderate changes to all domains. These both would then represent the lower end of the means, when in fact one of them was transformed by the experience. Therefore, the future research exploring posttraumatic growth appears to be full of possibilities to better understand this phenomenon and its relationship to wellbeing.

Furthermore, one potential aspect that would be fruitful to consider further is that it as growth can occur in one area, in all five domains, or none, it would be interesting to explore if some facilitators are more likely to enhance specific wellbeing and growth processes and outcomes. For example, in this study, *personal strength* (PTG) was found to be related to autonomy (PWB). Having high levels of *autonomy* in PWB is reflecting the individual being self-determined as well as independent. Individuals with high levels of autonomy are more able to resist 'social pressures' to act according to their own values. They are also more able to regulate their behaviour and live life according to their personal standards (Ryff, 2014). Personal strength on the other hand is described as having more self-reliance and confidence and seeing oneself as a survivor rather than a victim of their trauma (Tedeschi et al., 2018). This relates to the findings in phase II where sport facilitated an integrated sense of self, and authenticity was an essential aspect of growth experiences. Furthermore, in phase I, findings suggested that meaningful leisure activities were a source of independence and provided both extrinsic and intrinsic rewards such as recognition from other people, improved self-confidence, and experience of positive emotions (see 3.3.1.3.). A sense of autonomy was a strong finding in phase two for athletes reporting PTG, stemming from the newfound sense of freedom and independence facilitated by the team sport

environment. Additionally, through being seen, valued, encouraged, but also having accountability toward self and others (see 4.5.2.1.2.), individuals often regained their sense of self-worth and took charge of their recovery. Therefore, the findings suggest that adaptive team sport environment has the potential to facilitate a sense of autonomy in athletes recovering from acquired physical disabilities, which in turn could potentially carve space for growth in the form of personal strength. These potential pathways could be worth further exploration. It could be useful to explore if certain sociocultural environment facilitate aspects of wellbeing and therefore particular growth outcomes are more likely to occur. For example, adaptive sport might provide environmental mastery and autonomy which could facilitate personal strength and new awareness of the body.

5.6.4. Transparent Reflections on Limitations and Lessons Learned

It is acknowledged that as a correlational design, this study will not be able to infer causation (Lau, 2017). Due to a smaller sample size than intended for the quantitative analysis the results are treated with caution and considered as more of a pilot investigative piece into the variables and their relationships. It is recognised that due to the small sample size, and therefore a lower power in the regression models, there is a risk of type II errors. Therefore, even though a relationship was not found between some variables, this should be considered with caution. Further research with larger sample sizes would be recommended. The researcher mitigated these challenges through conducting linear regression analysis instead of multiple regression. Furthermore, as this was a convergent design, the overall dataset was larger than the sum of quantitative and qualitative studies alone. Additionally, it is important to note that the participant pool is a very niche group of individuals who are participating in

adaptive team sport after acquiring a physical disability; and the data, though limited, are likely adequately representative.

The subset of qualitative questions was added later to the data collection and therefore some of the questions were not collected from all and represent a subset of the participant pool. Furthermore, the qualitative written data was not as rich as, for example, spoken interview data. However, using reflexive thematic analysis (rather than content analysis or analysing question by question), the researcher was able to gain unique insights from the data that originally seemed 'bitty'. Therefore, this approach is highly recommended for future researchers aiming to conduct mixed methods studies online.

The researcher adhered to quality throughout: by being sensitive to the context (e.g., the participants were allowed to choose if they wanted to answer the qualitative questions); exhibiting commitment and rigor (e.g., analysing both quantitative and qualitative data separately first, adhering to appropriate steps in each); demonstrating transparency and coherence (e.g., all the decisions and challenges during the research are clearly discussed throughout the chapter and the potential implications acknowledged); and by highlighting the possible impact and importance of findings (e.g., the results have several essential implications for both research and practise) (Yardley, 2008; 2015; 2017, see also section 2.5.1. adhering to quality in mixed methods studies.).

5.6.5. Concluding Words and Implications for Further Research

This study highlights again the complicated relationship between growth and wellbeing. Perhaps one of the issues with contradicting findings around PTG and wellbeing (or other constructs) relates back to the measurement itself, PTGI-X (or the variations, PTGI-42,

PTG). There is a significant issue with the measurement measuring the domains of growth and researcher then comparing these means with other means. The Transformational Model clearly states that individual can experience growth in one, none or in all areas. Therefore, qualitatively person could be exhibiting high levels of Personal Strength and grown significantly since their trauma in this one area of their life, however, not in others. Whereas someone else might have assign moderate changes to all domains. These individuals could therefore score a similar total yet have a very different experiences of growth. The domains become perhaps problematic when a) a scale does not have a cut of point of growth b) domains are own entities and can exist on their own. Therefore, perhaps unidimensional measure of growth might tap better to the extent of individual experience of overall change in their life. Again, this potentially highlight the importance of researching the process of growth more. The findings in phase two appeared to suggest a cyclical nature for the process of growth, therefore, it would be interesting to understand if perhaps individuals start the process again and again on different aspects of the growth. Perhaps the rumination is addressing one challenge at a time which can lead to a specific growth outcome. Similarly, an environment could potentially facilitate a particular growth outcome more than other (e.g., adaptive team sport aids new awareness of the body). Therefore, another process might begin as the space for this has been carved for.

Perhaps the strongest recommendation stemming from the findings relate to trauma and trauma profiles, and the need to understand their role in the process and outcomes of growth better. Particularly is this participant pool, further research should look into vicarious trauma exposure and as growth. The complexity of trauma and the implications for research and practise will expanded in the final discussion for this thesis next.

CHAPTER SIX

DISCUSSION

6.1. Towards an Understanding of the Complex Relationship Between Posttraumatic Growth, Body, and Adaptive Team Sport in Athletes with Acquired Physical Disabilities

6.1.1. Overview of the Main Argument and Findings

The aim of this thesis in employing an exploratory sequential mixed methods design (Creswell & Plano Clarke, 2018; Johnson & Onwuegbuzie, 2004b) was to explore the role of adaptive team sport in the process and outcomes of Posttraumatic Growth (PTG) in athletes with acquired physical disabilities; particularly, exploring the potential role of the team and the body after the trauma of acquiring a physical disability. There are three essential interconnected areas of findings from this thesis that the final discussion will attempt to address from both research and practice perspectives, namely: the complexity of trauma, the essentiality of the body, and the growth facilitative potential of the adaptive team sport environment.

Firstly, the complex nature of an embodied trauma in the growth experiences of athletes with acquired physical disabilities was a unique finding stemming from the thesis. The researcher found supportive evidence for the perspective that different traumas lead to differing growth journeys and outcomes (Chopko et al., 2018; Hefferon et al., 2009; Karanci et al., 2012; Kılıç et al., 2016; Shakespeare-Finch & Armstrong, 2010; Shuwiekh et al., 2018). However, a more complex picture additionally emerged, where individuals often had several different traumatic events in their lives and very differing trauma profiles from each other. The different trauma profiles had implications for the growth processes and outcomes (see

4.5, 4.5.1. & 5.4.2.1). Furthermore, in in the adaptive team sport who contributed to this thesis, the prevalence of complex trauma as well as vicarious trauma was exceptionally high (5.4.2.1. & 4.5.2.3.5). The findings suggest that adaptive team sport is a particularly unique and challenging environment for athletes after acquired physical disabilities, whilst also offering opportunities for both personal growth and vicarious growth.

The second significant finding was the evolution of the body through adaptive team sport. The body was at the centre of the trauma, process of growth, and subsequent achievements in adaptive team sport and beyond (3.3.1.4., 4.5.2.3. & 5.4.1.3.). The adaptive team sport offered immersion into an environment with diverse embodiment. Being surrounded by athletes with different abilities offered participants a new embodied normality, perspective, and a sense of belonging: the impaired body was one of many. The adaptive team environment at its best created a space where the awareness of the new body could settle in, whilst acknowledging and accepting the challenges, and embracing the new physical self. Acceptance of what *is not*, what *still is* and what *can be*, propelled these athletes towards new aspirations, even becoming *world class*.

The third essential finding was the potential role of adaptive team sport in facilitating as well as hindering the growth process and outcomes. When these environments were growth facilitative, they offered psychological and physiological safety for these athletes. Adaptive team sport at its best was a fruitful environment to build physical strength, develop new skills, and excel with their new physicality. A growth facilitative adaptive team sport aided psychological wellbeing, self-determination as well as helping individuals to broaden and build on existing and new resources. This in turn enabled safe processing of trauma and growth. However, what became clear is that there are sometimes significant challenges in

these environments, which for an individual still recovering from trauma could have life altering implications (such as having further disabilities). Therefore, researchers and practitioners should adopt a critical stance when exploring these environments in parallel to celebrating the unique opportunities and strengths.

The following sections will offer further suggestions for research and practice in each of these areas, highlighting where literature in the area converges and diverges from the findings of this thesis. The discussion will additionally consider the overall limitations of this thesis and discuss the validity of this exploratory sequential mixed methods design (Creswell & Plano Clarke, 2018; Johnson & Onwuegbuzie, 2004b). It is essential to highlight that even though throughout this discussion, growth facilitative suggestions are provided, the aim is not to imply that growth should always occur, nor that it should be expected from athletes.

6.1.2. Complexity of Trauma - Implications for Theory, Research, and Practice

The complicated nature of trauma was an essential finding from this thesis. The research in the area of PTG and the transformational model of posttraumatic growth (Tedeschi et al., 2018) would benefit from employing rigorous ways of defining and exploring different types of trauma. It is not suggested that researchers should narrow our endeavours and define trauma in PTG according to DSM, thus excluding experiences which are outside the objective diagnostic tools. The original definition of ‘a highly stressful and challenging life-altering event’ (Tedeschi et al., 2018, p.4) is still very useful and the findings from this thesis strongly support the subjective nature of trauma. However, we must recognise the differences this broad definition can encompass and how this can potentially lead to mixed findings in the area. For example, Kira et al. (2013) two-way taxonomy of traumatic stressors (see 5.1.) can

enable researchers to critically engage with the background of the growth and measure different trauma types and their relationships with PTG. Through employing these in-depth tools to measure and understand the trauma, we can perhaps start to understand the different trajectories better as well as the relationships between PTG and other variables, such as wellbeing. Qualitatively, we can explore individual journeys through more embodied tools (e.g., adapted lifeline method section 4.3.) to engage our participants to contemplate the different aspects of their experience.

Thus, in light of the findings from this thesis as well as the wider literature around trauma, it could be beneficial for researchers exploring PTG to: a) acknowledge the significant role of the type of trauma(s) for their overall investigation and/or exploration; b) consider individual trauma profiles; c) clearly state how trauma is defined in their study; d) ensure the definition states if it includes objective/subjective/embodied definitions of trauma and whether vicarious traumatic exposure is considered; e) acknowledge the complexity and context in which the growth occurs and that it is likely to be continuously evolving; f) critically examine the context and potential for re-traumatising or vicarious trauma; and g) collect in-depth data to understand the individual trauma and their potential impact on current growth experiences. The Table 10 will illustrate the kind considerations researchers could embrace before embarking on a specific investigation:

Table 10 - *Check List to Consider Around Trauma When Planning a Posttraumatic Growth Study*

1	Clearly define the adversity in the study and how it is seen: is it subjective, objective, cognitive, embodied?
2	How is the adversity explored or measured? Clearly state if you will utilize trauma profiles to understand the individual's trauma history or that you will focus on specific trauma in their life
3	Employ sophisticated tools to tap into trauma specific trajectories whilst acknowledging/moderating the complexity of trauma (e.g., trauma profiles; Taxonomy of Stressors and Traumas; Development-Based Trauma Framework)

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- 4 Collect information about the time since trauma and timelines. (e.g., in qualitative research, timeline drawings)
 - 5 Employ ethical sensitivity when collecting data:
e.g., time to work through the initial impact of the trauma and thus allowing the process to unfold.
Give participants time so that you do not cause distress (retraumatizing) by asking sensitive questions too early in the process and always emphasise the voluntary nature of disclosure (whether qualitative or quantitative research)
 - 6 Have a safeguarding protocol for both the researcher and the participants in case of distress. These should include at least: information on support groups or helplines appropriate for the topic and easily available for the participants; regular debrief sessions after interviews for researchers with a colleague or supervisor; and reflective journaling.
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The above discussed elements have significant implications for the transformational model as well (e.g., see figure 1). For example, ‘potentially disruptive event’ is simplifying the complexity of trauma and therefore suggesting a singular disruptive event. Perhaps a more useful way of conveying this would be to include the type of trauma and trauma profiles into the model as well, to highlight the complicated nature of adversity. The findings from this thesis also call attention to the broad definition of adversity in the transformational model. Whilst recognising the potential value of this broad definition (i.e., the subjective nature of adversity), the findings from this thesis are suggesting numerous challenges that this poses for the model (e.g., different psychological processes, different outcomes etc).

Future research could aim to synthesise how trauma has been defined and acknowledged thus far in PTG research. A qualitative meta-synthesis could focus on descriptions of trauma by the researchers as well as participants. Quantitative meta-analysis could be used to investigate the impact of trauma profiles as a moderator of outcome variables, such as PTG and wellbeing. Furthermore, any future explorations around distress, wellbeing and PTG should aim to carefully acknowledge the complexity of traumatic experiences and the potential impact that these have for the trajectories of growth.

6.1.2.1. Practical Implications Stemming from Trauma Findings. Even though an essential finding from this thesis was the above-mentioned trauma profiles, an equally concerning finding was the lack of acknowledgement around high levels of trauma in these adaptive sport communities. Furthermore, the prevalence of ‘vicarious traumatic exposure’ (Manning-Jones & Terte, 2016, p.125) in adaptive team sport was also found to be exceptionally high, in addition to personally experienced traumas. Athletes were regularly exposed to other individuals’ suffering. Therefore, the adaptive team sport environment appears as a very unique context with significant wellbeing challenges.

However, if this is considered and acknowledged carefully, these environments could be both PTG as well as vicarious posttraumatic growth facilitative (Tedeschi et al., 2018; Manning-Jones & Terte, 2016). It is recognised here that being growth facilitative is not the main aim of sport, particularly at elite levels. However, it is currently well acknowledged in the academic literature that wellbeing leads to better performance too. As Giles et al., (2020) remind us ‘although athletes are, by definition, sport performers, they are fundamentally human beings whose physical, mental, and social health is reflected through their well-being and ill-being. As such, *athletes’ holistic health is an integral aspect of who they are both as performers and as people*’ (p.1255, *italics added*).

This thesis is urgently calling for trauma informed adaptive sport coaching practices. Townsend et al. (2015) argue that:

‘coaching is a complex, contextual, dynamic, relational and pedagogical activity and to understand the practices of coaches we need to make explicit, and challenge the deeply held and traditional definitions of what it means to be a coach in disability sport’ (p.92).

They further call ‘researchers, coach educators and coaches to examine critically their assumptions about coaching disabled athletes and the consequences for coach learning, education and practice.’ (p.92). Townsend et al. (2015) are particularly calling for greater understanding around different models of disability to inform coaching practices.

Interestingly, trauma and the role of trauma in these environments is not discussed in relation to adaptive sport coaching, even though highly prevalent in this participant pool, both personally and vicariously as mentioned (see also sections 4.4. and 5.4). When it comes to trauma informed adaptive sport practices, research is non-existent in the academic literature published in English; and as such the findings from this thesis are unique and point to the urgent need to expand data in UK cohorts, to attend to both universal and cultural factors around these environments. The following section is building on the work of various trauma informed practitioners, as well as on the findings of this thesis to create a preliminary theoretical framework for trauma informed practices among adaptive sport teams.

6.1.2.2. Trauma-Informed Practice for Adaptive Team Sport. Trauma-informed practices (TIPs) are based on the concept of understanding the prevalence of trauma in people’s lives and the potential biopsychosocial implications of these experiences (Poole & Greaves, 2012). The aim is to create an environment which offers ‘safety, choice, control, and empowerment’ (Record-Lemon & Buchanan, 2017, p. 288). In an educational setting, TIP has been used in ‘a whole-school, multi-tiered approach’ (Dorado et al., 2016, p.163) where TIP was used as an alternative approach to understanding some of the challenges students and teachers face due to student populations experiencing a high level of trauma. TIP was used to mitigate the effects of trauma and chronic stress such as general and mental health challenges as well as problematic behaviours. It can be argued based on the findings of this thesis as well as

general research around acquired disabilities, that adaptive team sport is an environment with high levels of trauma.

Whereas the biopsychosocial implications of trauma vary greatly among individuals (Record-Lemon & Buchanan, 2017), awareness of these potential implications could make a great difference in adaptive sport settings. As evident from the current findings, individuals who engage in adaptive team sports exhibit higher levels of potentially traumatic experiences (sections 4.4. & 5.4.) than perhaps other non-adaptive sport team participants. However, that is not to say that the following points would not be useful considerations for any sport team as it is known that elite athletes 'are commonly exposed to sources of physical and emotional trauma' (e.g., via sport injuries; Aron et al., 2019, p.6). In adaptive team sports, the higher levels of trauma are both implicitly and explicitly present (section 5.4.) and as such coaches and practitioners working in this area could greatly benefit from being trauma informed. The reasons for this are bidimensional: to safeguard both the practitioners/coaches and athletes.

Bergholz et al. (2016) have explored the importance of trauma informed sports programming among adolescent teams, and they list a range of difficulties that individuals with traumatic incidences in their past might be trying to cope with. These include difficulties regulating emotional states (affect) and impulses, often resulting in reacting to stressors more quickly and abruptly. Individuals might also feel a lack of motivation towards even rewarding tasks or feel generally disengaged from activities. Individuals might also struggle with holding attention and retaining information (Bergholz et al., 2016). Partly due to some of the challenges listed above, individuals might struggle with peer relationships and feel detached. These struggles can lead to behavioural manifestations of trauma which could include small disagreements escalating into big arguments, a player quitting the team for

something that appears minor, problems with connecting with team mates and coaches, inability to handle highly stressful competitions or having a strong reaction to losing (Bergholz et al., 2016). These are just some of the behavioural manifestations of trauma which can be easily misinterpreted in sport environments by coaches and practitioners. If the behavioural manifestations of trauma are misinterpreted, they can be dealt with in ways that do not reflect trauma informed approaches, often causing situations to escalate. Therefore, it would be useful, if not essential, to offer education and practical tools for trauma informed practices for individuals working in these environments.

The following will offer a theoretical framework (table 10) of how *trauma informed adaptive sport coaching* could look. The preliminary model is underpinned by both the literature around trauma informed practices as well as the findings in this thesis. Trauma informed adaptive sport coaching could be multidimensional and based on the key tenets of trauma informed practice: *safety, choice, control, and empowerment* (Record-Lemon & Buchanan, 2017, p. 288).

Trauma informed training could be targeted at all people working around adaptive team sport. These sessions would be ideally delivered in two parts, to enable dosing of information. It is important to recognise that the likelihood of coaches and practitioners having traumatic experiences themselves is very likely. These sessions would be educational: exploring the prevalence of trauma (among athletes, coaches, and practitioners); facilitating understanding of trauma (triggers, reactions, and trauma as a bodily experience); about disabilities and versatility of embodiments (hidden, visible, congenital, acquired); and about embodiment, resilience, and PTG. The whole ethos is strengths based, aiming to broaden and build awareness, skills, and further development. Therefore, the emphasis is on

understanding rather than punishment of ill behaviour in teams. Sessions should also be practical; giving tools for coaches to address traumatised individuals. It is recognised that some of the suggestions below in Table 11 are more pertinent to the initial physical activity environments and therefore might require amending as per sport and level of sport. For example, elite environments have their challenges due to people competing for positions and being perhaps less likely to want to offer or share knowledge.

Table 11 - A Preliminary Framework for Trauma-Informed Adaptive Sport

Principle	Key tenet	Example
Safety	Trauma informed sport coaching recognises the need for safety after traumatic experiences which often terrify, overwhelm, and in many ways violate the individuals psychological, social and physical safety (SAMHSA, 2014). Therefore, it is essential that these experiences are not minimised in sport environments (e.g., loss of autonomy in section 4.4.2.4.) and a sense of safety, power, and self-worth is restored (e.g., belonging and respect in section 4.4.2.1.). All people involved in adaptive team sport feel psychologically, socially, and physically safe.	The physical and psychological safety is defined by clients, here athletes. Facilitating physical safety: positive embodiment (Piran et al., 2020) Facilitating psychological safety: competence, autonomy, self-acceptance, relatedness, positive relationships, environmental mastery, purpose and meaning in life, and personal growth (Ryff, 1995; Deci & Ryan, 2004). Facilitating social safety: building a supportive environment, non-controlling practices, being aware and stopping discrimination, harassment, bullying (Giles et al., 2020).
Trustworthiness, Transparency, and collaboration	The operations and decision are conducted in a transparent way, building trust between the athletes and the wider team members i.e., coaches and practitioners. The principle of collaboration and aims to level the power dynamics in adaptive team sport between athletes and coaches, other practitioners.	Transparency around decisions Such as player decisions, team goals and targets Decision sharing Collaborative goals setting Power dynamics can be leveled through shared leadership structures within the teams
Peer support	Trauma informed adaptive sport recognises the knowledge and wisdom of 'peers' which in this context refers to people who have similar lived experiences of trauma. It is recognised that peer support can promote hope, build trust, enhance team collaboration, and offer good examples of lived experiences, reflecting their journeys of embodiment, resilience, and growth.	The value of experienced players is utilised Retired athletes have mentoring roles. Athletes will have role in inductions Providing opportunities for expert companionship
Empowerment, voice, and choice	The athletes are empowered through recognition of strengths, valuing their past experiences, and therefore building on this knowledge and skills (e.g., experienced athletes can have an active recognised role as mentors). The adaptive sport organisation ensures that everyone's voice is heard and equal, emphasising the ability to choose and impact best practices.	Strength approach Being seen, valued, and expected from Collective wisdom
Cultural, Historical, and disability and gender Issues	The adaptive sport organisations actively move away from previous cultural stereotypes and biases (e.g., disabilism, medical model of disability, race, ethnicity, sexual orientation)	Education around different disabilities and trauma

Note: The principles are leaning on the SAMHSA guidelines for trauma informed practises (2014).

This is incredibly challenging task at times in team sport, particularly at elite level, where the competition within teams can create conflicts. When people compete for positions, they might be less likely to want to offer or share knowledge. As discussed earlier, the above is a preliminary idea of the potential structure of these workshops, which would ideally be built further together with the teams, and later trialled and tested. Researchers could conduct

focus groups around these different elements in the development phase and organise randomised controlled trials to test the impact of the workshops for the team's wellbeing; the hypothesis being that these workshops would lower levels of stress and anxiety and produce wellbeing, team cohesion, and ultimately enhance performance. As this training has educational components around positive embodiment and growth, the outcome variables of interest could be athletes' levels of wellbeing (e.g., PWBS; Ryff, 1989), embodiment (e.g., Experience of embodiment scale; Piran et al., 2020) and growth (e.g., PTGI-X; Tedeschi, et al., 2017).

6.1.3. The Essentiality of The Body - Implications for Theory, Research, and Practice

I think I got a relationship with my body now where there is an acceptance of what doesn't work, there is an understanding of what does work and there is a desire to make what does work the very best it can be. (Bethany in Phase II)

This thesis began with the body by selecting participants according to their bodies: individuals with acquired physical disabilities participating in adaptive team sport (Ellingson, 2017).

Therefore, it is not surprising that the results revealed the essential role of the body in trauma, processes of growth and in the outcomes reported by athletes with acquired physical disabilities. However, a key finding from this thesis was the potential of adaptive team sport to be both a positive and negative influence on the body and the relationship athletes have with their bodies.

In addition to exploring adaptive sport as a potential facilitator of growth, research around C-PTG and PTG would benefit from a more critical stance of recognising the severe challenges these environments can cause towards the body. It is not suggested that research

should not still aim to understand better adaptive sports as growth facilitative environments. The thesis found a plethora of evidence around benefits towards the body in adaptive sport (4.5.2.2. & 5.4.1.3.). It is merely suggested that researchers engage with this area of research more critically. At its best adaptive team sport can offer physical safety (e.g., protecting the body, taking care of the body, educating individuals to listen to the body, allowing the individuals to listen to the body) whereas growth hindering environments ignore or overlook the importance of the body (e.g., overtraining, playing whilst injured or sick, tuning out from the body sensations). Again, this will not only have an impact for the athletes' potential growth journeys, but to their physical and psychological wellbeing as well. Therefore having a tremendous value even if purely explored from performance perspective (Giles et al., 2020).

The findings from this thesis connect strongly to the latest research around positive and negative embodiment (Piran, 2016; Piran et al., 2020). Piran et al. (2016) define positive embodiment as 'positive body connection and comfort, embodied agency and passion, and attuned self-care' (p. 47); whereas negative embodiment is defined as 'disrupted body connection and discomfort, restricted agency and passion, and self-neglect or harm' (Piran, 2016, p. 47). Future research could explore the perceptions of both positive and negative embodiment among athletes with acquired physical disabilities in individuals' diverse life environments, to form a greater understanding of how embodiment after acquired physical disability is constructed in different physical spaces. The findings would be useful from an applied perspective and could be given to performance directors and coaches to encourage the usage of the findings.

Currently, the transformational model (Tedeschi et al., 2018) does not acknowledge the role of the body in trauma or growth, despite the growing evidence that trauma is an

embodied experience (e.g., van der Kolk, 2015). For example, rumination, coping and managing emotional distress in the model should include embodied reactions of trauma such as fear of the new body (e.g., Hefferon, 2012), dissociation and numbness (e.g., Levine, 2010; van der Kolk, 2015). The theory of corporeal posttraumatic growth (C-PTG) has started this exploration in body related traumas such as illness (Hefferon, 2012; Hefferon et al., 2009; Hefferon & Kampman, 2021). However, the findings from this thesis call for inclusion of the body into all explorations and models of growth. Furthermore, the C-PTG model would greatly benefit from including more injury and amputation relevant aspects into the process such as loss of a body part, disconnection from part of the body etc.

Furthermore, as suggested by Wadey et al. (2021), Tedeschi et al. (2018), and Hefferon and Kampman (2020), it is time to move beyond traditional ways of collecting data. Researchers must embrace multiple ways of learning, hearing, exploring, investigating, and participating in research when we are exploring and investigating the role of the body in PTG and C-PTG. The third paradigm, mixed methods research, can offer us ways to explore complex relationships with eclectic methods. Using imaginative ways of exploring complex phenomena such as embodiment and PTG requires us to also adopt new embodied ways of inquiry (e.g., drawing method, Chapter 4). Future research could also utilise pictures in interviews (where individuals would bring meaningful pictures of their embodied experiences in different environments), participatory research (creating research and collecting data with the participants whose experiences of embodiment is at interest), and the collection of data in the environments of interest (e.g., training centres).

6.1.3.1. Practical Implications Stemming from Findings Around the Body. Descriptions of embodied growth experiences were vivid throughout this research journey. We must make

these growth stories visible in the adaptive sport communities, particularly highlighting a journey which is not always smooth. There appears to be great power in knowing that your idols also struggled, had to work hard and experience at times extreme negative and harmful thoughts, before finding new directions and meaning. Coaches and other practitioners in adaptive sport would benefit greatly from deeper understanding around what it means to live in a body that has gone through an acquired disability. This knowledge could help in the creation of safe and growth facilitative environments.

Understanding of the 'construct of embodiment' which 'captures a broad range of experiences of living in the body' (Piran et al., 2020, p.117) has been advanced in recent years and can provide valuable knowledge of how to re-engage individuals with their bodies positively through adaptive sport. Individuals with acquired physical disabilities arguably will have to engage with their bodies in new ways. They are living in a body after acquiring a physical disability, impairment directly impacting the body, after some of its known abilities have been lost (see section 1.4.2. & 1.4.3.). This reconnection with the body can be facilitated via adaptive team sport when the environment ensures: 1) a safe space to test new physicality and regain physicality; 2) opportunities to relearn physical boundaries and respect towards the body; 3) that the person becomes an agent of their athletic journey; 4) opportunities for awareness, acceptance, and aspirations around bodies; 5) equal parameters to compete and test skills; 6) availability of social support and opportunities to tap into collective wisdom about bodies; and 7) safe immersion into an diverse embodiment environment i.e., opportunities for being around other bodies with various abilities (section 4.5.2.2. & 5.4.1.3. and Hefferon & Kampman, 2021). At a leisure level in adaptive team sports, these should be essential perspectives to be aware of to be able to safeguard individuals when they enter the sport soon after acquiring a physical disability.

Whereas the findings from this thesis support that at its best, adaptive team sports organically facilitate the above benefits and re-connection to the body, these benefits are not automatically always present. Furthermore, the evidence also highlighted the negative severe challenges towards the body in these environments (see 4.4.2.4. & 5.4.1.2.). Therefore, coaches and practitioners in adaptive sport could purposefully facilitate the different positive dimensions of embodiment whilst being mindful of negative aspects.

The experience of embodiment according to the vast work conducted by Piran et al. (2020, p.118) has five continuous dimensions, ranging from positive to negative. The following will give examples of how we could consider these five dimensions in adaptive team sport environments: (1) '*body connection and comfort*' - denotes both the quality of connection with the body (e.g., how well individuals engages with the body in adaptive sport, how they talk about their body in adaptive sport) as well as how comfortable the individual is in the body they live in (e.g., being comfortable with the changed abilities and physicality); (2) '*agency and functionality*' – the level of agency the individual experiences in relation to the body and the functionality of the body in the world (e.g., feeling able to control and create impact with the body in adaptive sport, being in an environment which enables the functionality of the body); (3) '*attuned self-care*' – responding and attuning to the body, and registering its 'physical, emotional, relational, aspirational, and spiritual needs' (e.g., registering pain, frustrations, being surrounded by and appreciative of the different abilities in adaptive team sport); (4) '*experience and expression of bodily desire*' – connecting with both appetite as well as sexual desire (e.g., in adaptive team sport listening to bodies' cues for hunger, thirst therefore avoiding dehydration); (5) '*resisting objectification*' – claiming the body as a subjective personal site, therefore inhabiting the body rather than being objectified

(e.g., not just a tool for sport, resisting and rejecting medical model ideals of the body form and expanding the traditional ideals of what means to have an athletic body).

Piran et al.'s (2020) work and the findings from this thesis, create a preliminary framework to positive embodiment in adaptive team sport, which can be immensely advantageous for both wellbeing and performance as well as facilitate growth experiences. For example, an adaptive sport environment which encourages 'attuned self-care' (p.118), educates the coaches to create training philosophies and practices where athletes are expected to respond and attune into their bodies, take care of their injuries, stop before further injuries, and listen to their bodies. Equally, coaches and practitioners could be trained to recognise signs of negative embodiment, which in the case of non-attuned self-care, can show as individuals ignoring the bodies needs and overtraining through illnesses.

Through adopting embodied training and coaching philosophies, the body is recognised more holistically, not merely as tool for performance but as an essential route to wellbeing and growth. Positive embodiment could be a way forward in future research endeavours, as this concept could capture a wide variety of experiences of living in the body after acquiring a physical disability. Therefore, exploring and researching the best practices in relation to the above mentioned five elements of embodiment, we can consciously start creating safe environments for athletes, who are entrusting their bodies into these environments after acquiring a disability. it would be essential to recognise the integral role of the body in these environments not only for growth research but perhaps more essentially for wellbeing, and therefore ultimately for sport performance too (Giles et al., 2020). Only when research and practice acknowledge the essential role of the body, can it be protected, treasured, and understood to its full potential. Therefore, the findings from this thesis are strongly

suggesting that both research and practice would benefit from making the body ‘a meaningful presence’ (Ellingson, 2017, p.1) in any exploration or facilitation of growth (Hefferon & Kampman, 2021).

6.1.4. The Growth Facilitative Potential of Adaptive Team Sport - Implications for Theory, Research, and Practice

The adaptive team sport environment can have a multitude of potential benefits for individuals with acquired physical impairments (see e.g., 4.5.2.2 & 4.4.2.3). However, this environment is not a panacea for physical trauma; it can just as well be a source of distress, cause for further ill health and impairment, and a place where loss of identity amidst the team might occur (see e.g., section 4.5.2.4.). We need to be honest and critical about this environment, so that we can truly understand when and how it can potentially aid the growth processes and outcomes in athletes. It is also essential to remember that growth should not be expected from athletes; and researchers and practitioners are urged to be mindful of how much emphasis is placed on growth. Similar notions have already risen from research around adversity, sport growth, where a sport psychology consultant reminded practitioners that ‘we need to be careful of pushing this whole growth idea’ as it can create additional pressure for individuals already going through deeply challenging times (Wadey et al., 2019, p.253). Wider PTG research clearly states that growth is a potential route after trauma; however, it is completely normal to not experience it at all (Tedeschi et al., 2018). Trauma and the journey onwards are always personal. However, equally harmful would be to deny or not make visible the growth experiences that people report in adaptive sport, thus repeating the pathological narrative often described in relation to acquired physical disabilities.

Several intriguing aspects for research arose from this thesis. As this thesis focused on adaptive team sport, it would be valuable to explore the PTG process and outcomes among athletes participating in individual sport. It is recognised that athletes in individual sport also have teams around them (e.g., coaches, physios) or practice in team settings (e.g., with other athletes), however, there are still differences in the benefits and challenges around these different modes of practising and competing (e.g., competing with or against each other, volume of athletes in practice, the presentation of disabilities) and it would be valuable to understand better these factors and their implication for growth processes and outcomes.

Several serious challenges were revealed around adaptive team sport (e.g., becoming more disabled, bullying, loneliness, loss of autonomy) that were not only hindering growth processes but more pressingly causing severe harm for athletes physical and mental wellbeing (see 4.5.2.4. & 5.4.1.2.). Fast-tracking particularly should be explored further, not merely from the PTG perspective but also from a wellbeing perspective. As a phenomenon fast-tracking is more prevalent in adaptive team sports and has unique characteristics (e.g., the role of the body in the selection process i.e., ‘fitting’ impairment) than perhaps in other sports. It appears from the findings of this thesis that the extent of the implications of this practice are not fully understood or acknowledged in the current literature published in English. It is essential that elite sport aims to move more consciously towards holistic models of performance, where athletes’ wellbeing is recognised as a key component in the management of any athletes and/or teams (Giles et al., 2020). Particularly in environments where trauma and complex trauma are as prevalent as in adaptive team sports (see sections 4.4.2.4., 5.4.1.1. & 5.6.1).

English Institute of Sport (2021) has already initiated a good example of this: the thrive project. The thrive project is calling for *evolving human performance through thriving*,

defined as high levels of wellbeing and high levels of performance. Their reflections from Rio Olympics and Paralympics suggest that there is a greater potential to win more medals if we create thriving environments for Olympic and Paralympic athletes. The thrive project includes a more collaborative, consistent, and informed EIS approach to integrating performance psychology into the systemic level practise (EIS, 2021). Therefore, the findings from this thesis could further build this knowledge base from the perspective of trauma, resilience, growth, wellbeing, and performance.

The above-discussed elements additionally have implications for wider PTG theory, and the essentiality of wellbeing should be acknowledged in current theories more clearly. Similarly, to Joseph and colleagues' (2012) adversarial growth model, the findings from this thesis call attention to the conceptualisation of wellbeing more broadly in relation to growth. However, unlike in the adversarial growth model, where Joseph and colleagues (2012) conceptualise growth as an increase in psychological wellbeing, in this thesis psychological wellbeing was found to be a facilitator of the growth process, therefore preceding growth. The thesis provides further support for the role of wellbeing in current growth models and suggests that it should be acknowledged in the transformational model as well. Working through trauma is a difficult endeavour, therefore physiological, social, and psychological wellbeing can aid the process of growth through carving out space for the challenging psychological work that the individual is engaging with. The following sections will illuminate how wellbeing can aid the growth process in adaptive team sport settings.

6.1.4.1. Practical Implications Stemming from the Findings Around Adaptive Team Sport. The experience of psychological (and physical) safety is essential for the growth process and outcomes as it enables opportunities to work through the aftermath of the traumatic

event(s) in a safe and supportive environment. Therefore, individuals are more able to engage in purposeful rumination (e.g., making sense of the acquired physical disability), have opportunities for self-disclosure and enjoy social support with others who have had similar experiences. Therefore, potentially helping the individuals to manage the emotional distress originating from the aftermath of the acquired physical disability, ongoing traumas, and even vicarious traumas. A safe adaptive team sport environment can provide idols and role models to help individuals to visualise the journey, which in turn can aid redirecting the rumination, setting new goals and recognition of potential and even growth in life.

As mentioned earlier, two psychological theories lend themselves well for the findings and therefore have potentially important implications for practice: Psychological Wellbeing (Ryff, 1995) and Self-determination (Deci & Ryan, 2004) theories.

The six domains of Psychological Wellbeing (*autonomy, self-acceptance, positive relationships, environmental mastery, purpose and meaning in life, and personal growth*; Ryff, 1995) combined with Self Determination Theory (*competence, relatedness, and autonomy*; Deci & Ryan, 2004) can provide a theoretical base for creating psychological safety in adaptive team sport. Adaptive team sport, which offers opportunities for *competence*, is offering optimal challenges for the individuals, opportunities for improvements and further development of skills (e.g., measurable progress, being a social leveller through a level playing field, recognising versatility of abilities, aiding development of new skills, building strength, thriving with the body, providing sources of aspiration). In PWB, these are also the building blocks of *personal growth*, where the individual is utilising their talents and potential fully. Furthermore, an adaptive team sport provides a significant opportunity to be in an environment which offers a sense of *relatedness* after acquired physical disability, with

opportunities to be cared and take care of others , ‘being with others in a secure communion or unity’ (p.7) and belong (Deci & Ryan, 2004) (e.g., being seen, valued, encouraged, and expected from, respected, having opportunities for socializing, camaraderie, shared safe humour, sharing knowledge, enjoying collective wisdom, giving back and affecting change). The depth of *positive relationships* is also seen as a key component of PWB. Finally, *autonomy* in both STD and PWB refers to ‘acting from interest and integrated values’ (p.8) congruently. Sport environments which facilitate autonomy, do not expect compliance or conformity but rather see athletes as agents of their own behaviour, who agree on common goals together (e.g., being able to be true to yourself, authentic, and having an integrated sense of self – more than athlete).

To further facilitate PWB in athletes’ lives, adaptive team sport can help athletes to manage their life situations through providing environmental mastery (e.g., sharing collective wisdom). Furthermore, the findings here suggest that participating in team sport can foster self-acceptance, through developing honest awareness of the limitations and being around others with various abilities (e.g., facing and understanding the limitations of the body, listening, caring, respecting the body, acceptance of the body, integrated sense of self). Finally, adaptive sport could even provide opportunities for finding and recognising purpose in life through meaning and direction (giving back, affecting change, multiple pathways from active careers).

It is essential to recognise that the three needs in Self-Determination theory are seen as ‘innate requirements’ rather than ‘acquired motives’ (Deci & Ryan, 2004, p.7). Therefore, if adaptive team sport does not offer opportunities for autonomy, relatedness and competence, individuals are likely to move on (i.e., dropping out of sport, changing teams), or to struggle with the environment (i.e., rivalry, conflicts, bullying, loss of autonomy, neglecting

the body well-being, additional injuries, body ill-being, one dimensional identity, loss of complexity of the self, detachment from team goals). This connects to the other important finding in relation to the adaptive team sport environment, where it was at times found to be hindering the growth process. Particularly the previously mentioned fast-tracking too quickly into elite sport environments can be problematic and unsafe unless managed mindfully. This thesis is therefore highlighting the need for urgent attention to these potentially dangerous elements of adaptive team sport. Therefore, future research could aim to develop guidelines together with athletes and practitioners, to safeguard athletes when entering elite environments quickly after acquiring a physical trauma. This would hopefully enable processes and protocols to be adopted in the future, to facilitate wellbeing within adaptive elite sports and safe transitions in general.

Researchers should also adopt a critical, rigorous, and transparent stance when it comes to the different ways of conceptualising PTG. The work in this thesis and literature reviews conducted, together highlight the need for more mindful consideration of the different ways of conceptualising and investigating growth after trauma. Table 12 below is a suggested checklist that could be utilised to work towards greater clarity and to avoid inconsistencies within theory and research, whilst also acknowledging specific limitations on each.

Table 12 - *Check List to Consider When Researching Posttraumatic Growth*

1	Clearly define the model of growth the research is leaning on. If researchers are leaning on the Transformational Model, it should be acknowledged that it is seen both as a process and an outcome.
2	The process of growth should be described and not only the outcomes.
3	If one is explored/investigated and not the other, this should be transparent.

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- 4 If the topic is researched quantitatively, the chosen questionnaire to measure the outcomes should reflect the model.
 - 5 The limitations of these scales should be acknowledged e.g., PTGI is an inventory of the outcomes of growth and even a low total score could be considered PTG as the theory posits growth can occur in one or all areas. Therefore, the true nature of someone's growth experience might not be accessible via these scales.
 - 6 If the elements of process are being measured clearly state how the chosen measures are connected to the model.
 - 7 Consider if you are researching growth from solely cognitive/thinking perspective, or will you define it through behaviour, embodiment, intrapersonal, interpersonal etc., and device your surveys and questionnaires accordingly to better capture the different manifestations of growth in these participants lives. E.g., in qualitative interviews: how does this show in your behaviour? In your relationship with your body? In your thinking?
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6.1.5. Acknowledging and Evaluating the Limitations of this Thesis

It is of course important to acknowledge and address some of the limitations of this thesis so that it is possible to transparently evaluate its immediate utility and impact for practise and research. Firstly, whereas phase one gave an in-depth review of the findings around severe physical injury and PTG, it should be recognised that the definition of severe injury impacted what was included, essentially looking at acquired physical disabilities. The findings were drawn on a limited pool of studies at the time of conducting the study, and over time knowledge around the topic might have become more expansive. Studies conducted since could therefore offer richer insights beyond those covered here. For example, this thesis expanded on those findings throughout the thesis. Therefore, uncovering and exploring the topics beyond the metasynthesis.

It is also important to be mindful that most of the studies included into the meta-synthesis and into this overall thesis, rely on self-selection. Therefore, the thesis has been collecting data from those who choose to disclose. Whilst purposeful self-selecting sampling is common and highly valuable sampling method in qualitative studies, it does impose some

limitations around wider representability. It is of course important, to understand those who choose to disclose; however, it would be equally essential to explore the silence that might not be represented.

Correspondingly, further consideration should be also given to the overall over and under-representation in this thesis: the majority of participants were, for example, straight white British and from similar religious backgrounds. On a similar vein, as this thesis was focused on understanding the experiences around adaptive team sport in athletes with acquired physical disabilities, the findings represent only a somewhat narrow part of the whole disability sport community. Therefore, these gaps could offer an array of future explorations expanding the findings from different perspectives (e.g., sensory, congenital, individual sport) as well as exploring the experiences of people who are less presented in these studies.

It is also acknowledged that there were limited participant numbers for the quantitative part of phase III, potentially causing type two errors. Future studies could therefore aim to explore the same variables within the wider sports community. The qualitative portion of phase III had also bitty data. Therefore, as suggested in chapter five, researchers could utilise writing prompts and photos in future qualitative surveys to elicit richer data. Offering the space to write could also be a more fitting medium for some participants, compared to interviews (e.g., anonymity, some people express themselves better with writing). Therefore, potentially enhancing the overall representativity of this thesis. Additionally, combining the two studies, quantitative and qualitative, formed a whole that was greater than the sum of its parts. This thesis additionally adopted various protocols to adhere and improve the overall quality and validity of the finding in this mixed method

designs research. These protocols were in place within each phase of this thesis (see (2.5.1., 3.2.2., 4.4.2.,5.6.4., and Appendix B)).

When considering the impact of this thesis, we should be mindful to issues such as barriers to change. For example, elite sport structures are highly competitive, and resources are in high demand, therefore the evidence base for structural changes, however small those changes would be, needs to be robust. Subsequently, in order to plan and conduct more research as well as implement the findings in practice also requires funding streams. There is of course a recognised disparity between the support and funds for sport vs adaptive sport as well as leisure vs elite. Lack of appropriate funding streams could cause challenges for some of the practical implications stemming from this thesis, which relate directly to the importance of creating safe structures around leisure adaptive sport environments.

There exist several ways of enhancing the dissemination of the findings. In addition to the traditional ways of disseminating research data (e.g., journal publications, conferences), the information will be written into informal publications (e.g., conversation) in lay language to reach a wider population within the adaptive sports community. Furthermore, starting with smaller voluntary training sessions around trauma-informed coaching and wellbeing workshops for willing practitioners could offer further opportunities to disseminate the findings. For example, the English Institute of sport could include trauma and body informed training as part of their continuing professional development plan targeted towards coaches and practitioners around sport. Researchers could also apply for fitting funding streams opportunities to do longitudinal research around the applied findings in this thesis which would enable trialling of some of the ideas on a practical level.

6.1.6. Concluding Words

Through this thesis, the researcher aimed to understand better how growth evolves among athletes participating in adaptive team sport. The aim was to understand this experience better, as well as the potential barriers for growth. The research conducted found further supportive evidence towards the growth facilitative powers of these adaptive sport environments (Wadey et al., 2021). However, the thesis builds the current understanding in this area through furthering the knowledge around the essentiality of the body, acknowledging the complex nature of trauma as well as highlighting the severe challenges for growth and wellbeing in these environments. It is recognised that these findings are preliminary, and as such offer a starting point for further explorations. It is hoped that this thesis will inspire conscious research and application around physical and psychological safety in these adaptive sport environments, through recognising the particulars of what it means to thrive as an athlete after physical trauma. To do this it is essential to listen to these athletes, the human beings behind the sport. Throughout this research, the researcher has been privileged enough to be allowed into these athletes' worlds. Therefore, the only appropriate way to end this thesis is to give them a voice once more:

I think most disabilities are different generally, there are not many people out there that have gone through the same thing as me -- we all got different stories and you can take little bits from those stories to help you get through yours. (Isac)

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Appendices

Appendix A - Study Flow

BEGINNINGS BASED ON THE ORIGINAL LITERATURE REVIEW AND IPA STUDY →	Meta-Synthesis of the Qualitative Findings on Posttraumatic Growth and Severe Physical Injury →
	PHASE 1
<p>Original focus on Posttraumatic growth in elite athletes with acquired disabilities participating in team sports (Kampman and Hefferon, 2013)</p> <p>TRAUMA: acquired disability BODY: body as a major facilitator in acquired disability SPORTS: elite TEAM: including practise and competitions</p> <p>MIXED METHOD</p>	<p>Original focus was on acquired disabilities, this moved to severe injuries to avoid overlap with severe illness. Meta synthesis on qualitative findings around severe injuries: "an unintentional injury that has led to disability." Thus, this study included the following: severe multiple fracture, acquired brain injury, paraplegia, quadriplegia, or burns to more than 50% of the body and traumatic amputation of a limb (excluding second hand; vicarious growth and studies that reported growth from various different traumas).</p> <p>FINDINGS: existential reflection, humanity, meaningful leisure engagement, and new abilities: awareness of physiological and psychological potential.</p>
<p>POSTTRAUMATIC GROWTH: To investigate and understand both the growth processes and the outcomes in athletes with acquired disabilities (Calhoun & Tedeschi, 2013; Day, 2013; Hobfoll, Hall, Canetti-Nisim, Galea, Johnson & Palmieri, 2007) Suscribing to the definition that PTG is both a process and an outcome</p> <p>DIFFERENT TRAUMAS lead to differing outcomes and processes (Karanci, Işıklı, Aker, Gül, Erkan, Ozkol, Güzel, 2012; Kira, Aboumediene, Ashby, Odenat, Mohanesh, & Alamia, 2013; Shakespeare-Finch & Armstrong, 2010) Focus on acquired disability - excluding brain injuries</p>	<p>Original focus was on acquired disabilities, moved to severe injuries to avoid overlap with severe illness. Findings mainly illustrating PTG outcomes.</p> <p>Implications for phase two: Inclusion criteria focused on acquired physical impairments that led to disability Requirement to understand the process --> Grounded theory (GT) T still the most appropriate step 2 - trauma of acquired physical impairment that led to disability</p>
<p>BODY: Explore the corporeal features i.e. the role of the body in PTG and how these potentially express in the processes and outcomes of individuals with acquired physical impairments (Hefferon, 2013) The role of acruied disability, sport and team</p>	<p>Findings relevant to the body: New abilities: awareness of physiological and psychological potential. Role of the body was significant after sever injuries "due to its direct and substantial impact to the body" (Kampman et al., 2015, p. 283). Additionally, individual discovered "new abilities through the loss of functionality in the body" (Kampman et al., 2015, p.291).</p> <p>Implications for phase two: The design shifted to specify the participant pool to acquired physical impairments that led to disability. Aim was to undertand the process of growth via body in team sports. --> GT still the most approapriate step 2.</p>
<p>TEAM: Team as a resource The role of team sport (thus, excluding individual sport)</p>	<p>Findings relevant for sport and team: meaningful leisure engagement (new abilities, hidden talents, and rediscover existing skills in a new way)</p> <p>Implications for phase two: Requirement to understand the process --> GT still the most appropriate step 2 At this point the focus was kept as elite athletes in team sports although the role of leisure was noted</p>
<p>METHOD: Exploratory mixed methods design, original plan Phase 1: Qualitative meta synthesis (ideal for exploring the existing qualitative findings and the reported outcomes of growth in this participant pool) Phase 2: Grounded Theory (ideal for understanding the process of growth) Phase 3: Survey, Questionnaire or intervention (ideal for testing the previous findings from phases 1&2 in a larger scale)</p>	<p>METHOD: Exploratory mixed methods design, original plan Phase 1: Qualitative meta synthesis - metaethnography N= 13 papers (finished) Phase 2: Grounded Theory (ideal for understanding the process of growth) Phase 3: Survey, Questionnaire or intervention (ideal for testing the previous findings from phases 1&2 in a larger scale)</p>

CONSTRUCTIVIST GROUNDED THEORY →	ONLINE SURVEY →
PHASE 2	PHASE 3
<p>Original focus was on elite athletes with acquired physical impairments participating in team sports → Moved to include leisure athletes as well due to the initial findings in interviews (crucial aspects of growth were pointed towards leisure participation in sports) as well as the supportive findings from the meta-synthesis (meaningful leisure engagement).</p> <p>FINDINGS: 'entering the safe team sports environment'; 'the evolution of the body through team sport'; 'finding purpose & meaning through team sport' and 'fast-tracking into elite team sport'.</p> <p>Q: Can you describe a time after your impairment when sport was not good for you? (e.g. being around other people coaches, other athletes, teammates)?</p>	<p>Specific interest that arose from Phases 1 & 2 trauma profiles, team cohesion, fast tracking, mortality awareness and psychological wellbeing.</p> <p>Demographic data: e.g. time from rehabilitation, sport level participation, trauma profiles</p> <p>Posttraumatic Growth Inventory (PTGI-X)</p> <p>Psychological wellbeing</p> <p>The Satisfaction With Life Scale</p> <p>The Group Environment Questionnaire</p> <p>The Body Appreciation Scale-2</p> <p>Self-transcendence scale</p>
<p>The growth process takes significant time and appears to happen as an upward spiral and not as a linear endeavour. The role of team and team environment is essential for the PTG, leisure is essential, being surrounded by different bodies is essential (team environment but also competitions) and fast tracking to elite can be detrimental</p> <p>Implications for phase three: Trauma type and trauma profiles are important (complicated trauma vs. single event) exposure (Choplin, Painsieri & Adams, 2018; Shovelkin, Kira & Arhby, 2018; Zhou, Zhen & Wu (2019))</p> <p>Q: Could you tell me how, if at all, you discuss illnesses or death, with other people in your sport?</p>	
<p>The Evolution of The Body through Team Sport</p> <p>2.1 Facing and Understanding the limitations of the body - Awareness & Acceptance</p> <p>2.2 Listening, caring, respecting the body – Body Wisdom</p> <p>2.3 Progress, skills, strength, power - Aspiration</p> <p>2.4 Breaking barriers, thriving with the body - World-class</p> <p>Implications for phase three: Being surrounded by different bodies is essential (team environment but also competitions)</p> <p>Q: Since starting sports after your impairment, how if at all, have your views around your body's potential changed?</p> <p>Q: Can you tell me about a time in sports when you felt your body was in some ways better than before your impairment?</p> <p>The Body Appreciation Scale-2 (Tylka, et al., 2015). T</p>	
<p>Implications for phase three:</p> <p>Q: When you are in your training session, what kind of conversations are valuable for you personally?</p> <p>Q: Could you tell me how, if at all, you discuss illnesses or death, with other people in your sport?</p>	
<p>METHOD:</p> <p>Exploratory mixed methods design, original plan</p> <p>Phase 1: Qualitative meta synthesis - metaethnography N= 13 papers (finished)</p> <p>Phase 2: Grounded Theory - Constructivist N= 14 interviews (finished)</p> <p>Phase 3: Survey (ideal for testing the elements of the theory and findings)</p>	<p>METHOD:</p> <p>Exploratory mixed methods design, original plan</p> <p>Phase 1: Qualitative meta synthesis - metaethnography N= 13 papers (finished)</p> <p>Phase 2: Grounded Theory - Constructivist N= 14 interviews (finished)</p> <p>Phase 3: Survey</p>

IMPLICATION FOR RESEARCH →	IMPLICATION FOR PRACTISE
<i>In-Depth understanding of fast tracking and PTG</i> <i>The process and outcomes of growth in this participant pool</i> <i>Emphasis on trauma research and trauma profiles</i> <i>PTG and natural environments</i> <i>Body, trauma, growth informed coaching</i>	
<i>In- depth exploration on the role of trauma in sporting careers</i>	<i>Coaches have to be equipped to deal with this population which includes a lot of trauma - Body, trauma and growth informed coaching</i>

Appendix B - The Guidelines to Bring Quality to Mixed Methods Research

The Guidelines to plan, conduct, and report mixed methods research. These guidelines are adapted from Pluye et al., (2009, p.536) to illustrate the elements of good mixed methods research and how this thesis adhered to these.

Guidelines	Example of adhering in this thesis
John Creswell and Vicky Plano Clark, 2007	
1. Description of qualitative, quantitative, and mixed methods components	✓ Each component is discussed throughout the thesis. Firstly, in the methods chapter to give a general overview and then in chapter 3, 4, & 5 when each phase (study) is discussed in detail.
2. Literature review – needs to include and report findings from qualitative, quantitative mixed studies	✓ The thesis included relevant literature, reflecting the methodology at hand. Thus, the thesis included qualitative, quantitative, and mixed methods literature.
3. Mixed methods design (triangulation, embedded, exploratory, explanatory)	✓ Exploratory, guided by the questions arising from literature and findings from previous phases.
4. Rigorous data collection and data analysis procedures	✓ Inclusion of 'phases' to carve space for each methodology whilst

	illuminating the interconnectedness and integration of the results.
5. Validation of quantitative and qualitative data and/or results	✓ Utilising a validation reflecting the methodology in each phase. E.g. in qualitative DoS meetings, group discussion around themes and findings. Publications on peer reviewed journals and conferences to test the finding in the wider research community. In quantitative verifying the analytical method according to current standards and in line with quantitative experts in the PhD supervision team.
6. Integration of quantitative and qualitative data and/or results	✓ Through each phase informing the next, integration of phase three results, and finally integrating through thesis write up and discussion.
7. Interpretation of qualitative, quantitative, and mixed evidence	✓ Interpretation of results was done at an individual study level (phases) adhering to rigorous standards in each method. Furthermore,

	interpretation was conducted at a thesis level, each phase informing the next and finally discussed together.
8. Discussion of qualitative, quantitative and mixed methods limitations	✓ Each phase separately as well throughout the thesis.
9. Expertise in both quantitative and qualitative approaches	✓ Additional training in each methodology used and having a supervisory team with specific strengths in qualitative and quantitative.
Alicia O’Cathain, Elizabeth Murphy, Jon Nicholl O’Cathain (2008)	
1. Describe the justification for using a mixed methods approach to the research question	✓ As discussed above
2. Describe the design in terms of the purpose, priority and sequence of methods	✓ The design was chosen to fit the purpose, unfolding in phases moving from qualitative towards quantitative

3. Describe each method in terms of sampling, data collection and analysis	✓ Methodology and accompanying method were discussed with rigour in each phase
4. Describe where integration has occurred, how it has occurred and who has participated in it	✓ Integration is referred to throughout the thesis and all the results were discussed within the team and in annual monitoring reviews by external (to the team) members of staff at the university
5. Describe any limitation of one method associated with the presence of the other method	✓ Each methodology was chosen carefully against other potential options. The justifications for each are discussed in each phase.
6. Describe any insights gained from mixing or integrating methods	✓ Throughout the thesis the benefit of integrating methodologies and methods is vividly seen in the decision made, discussions of results and future directions suggested.
Good Reporting of A Mixed Methods Study (GRAMMS)	✓

7. Describe the justification for using a mixed methods approach to the research question	✓ Lead by pragmatism, following the questions arising from literature and findings.
8. Describe the design in terms of the purpose, priority and sequence of methods	✓ As discussed above
9. Describe each method in terms of sampling, data collection and analysis.	✓ As discussed above
10. Describe where integration has occurred, how it has occurred and who has participated in it	✓ As discussed above
11. Describe any limitation of one method associated with the present of the other method	✓ As discussed above
12. Describe any insights gained from mixing or integrating methods	✓ As discussed above

Appendix C - Example of Analysis – Collating the Themes of Each Paper

Reference	Original themes				
Turner, S., Cox, H. (2004). Facilitating post traumatic growth . Health and quality of life outcomes, 2(1), 34.	(2) 1. The strength of willpower 1.1. Staying resolute	(2) 1. The strength of willpower 1.2. Strategizing recovery	(2) 2. Altered perspectives 2.1. Self-understanding	(2) 2. Altered perspectives 2.2. Being with others	
Oaksford, K., Frude, N., & Cuddihy, R. (2005). Positive Coping and Stress-Related Psychological Growth Following Lower Limb Amputation. Rehabilitation Psychology, 50(3), 266–277. https://doi.org/10.1037/0090-5550.50.3.266	Appraisal and individual difference factors.	Coping with lower limb amputation.	psychological escapes "smoking, reading, gardening, art, and listening to music"	Familial support and nonfamilial support medical support, religious support, support from others with amputations, practical support, and support from voluntary services.	humour humour at disability
	downward comparison psychological determination, fatalistic thinking, focusing on abilities, planning and goal setting, and reassuming psychological control.	maintaining practical independence	continued efforts at physical rehabilitation	included modifying the environment forward planning organizing financial benefits learning to live with disability aids The process of coping over time.	The process of coping over time
	Positive reframing and psychological growth	Meeting new people lucky to be able to drive modifications to home	Psychologically stronger because of trauma	Helping others more patient (psychological skills) appreciation of strength of self:	
Salick, E. C., & Auerbach, C. F. (2006). From devastation to integration: Adjusting to and growing from medical trauma . Qualitative Health	1. Apprehension 1.1. The sense that something is wrong	1. Apprehension 1.2. Nonspecific unease in	1. Apprehension 1.3. Relief in knowing	1. Apprehension 1.4. Inability to register	2. Diagnosis and Devastation 2.1. The body fails

Research, 16(8), 1021-1037.		the social world			
	2. Diagnosis and Devastation 2.2. Loss of the physical self	2. Diagnosis and Devastation 2.3. Devastation	2. Diagnosis and Devastation 2.4. Withdrawal from the social world	3. Choosing to Go On 3.1. Finding an inner strength	3. Choosing to Go On 3.2. Deciding not to miss out
	3. Choosing to Go On 3.3. Formulating a plan	3. Choosing to Go On 3.4. Finding other ways of getting around	4. Building a Way to Live 4.1. Reclaiming the physical body	4. Building a Way to Live 4.2. Synthesizing a support system	4. Building a Way to Live 4.3. Finding a personal meaning
	4. Building a Way to Live 4.4. Locating hope	4. Building a Way to Live 4.5. Using humor	5. Integration of the Trauma and Expansion of the Self 5.1. Moving forward.	5. Integration of the Trauma and Expansion of the Self 5.2. Giving something back	5. Integration of the Trauma and Expansion of the Self 5.3. New empathy from one's own experience
	5. Integration of the Trauma and Expansion of the Self 5.4. Increased sense of purpose and meaning				
Roundhill, S. J., Williams, W. H., & Hughes, J. M. (2007). The experience of loss following traumatic brain injury: Applying a bereavement model to the process of adjustment. Qualitative Research in Psychology, 4(3), 241-257.	1. Emotion focus	2. Progress focus	3. Issues of control	4. Post-injury growth	

<p>Chun, S., & Lee, Y. (2008). The experience of posttraumatic growth for people with spinal cord injury. Qualitative Health Research, 18(7), 877-890.</p>	<p>(1)</p> <p>1. Experience of meaningful family relationships</p> <p>1.1. Experience of emotional intimacy</p>	<p>(1)</p> <p>1. Experience of meaningful family relationships</p> <p>1.2. Experience of gained trust</p>	<p>(1)</p> <p>1. Experience of meaningful family relationships</p> <p>1.3. Experience of mutuality in relationships</p>	<p>(1)</p> <p>2. Experience of meaningful engagement</p> <p>2.1. Recognition of personal strengths</p>	<p>(1)</p> <p>2. Experience of meaningful engagement</p> <p>2.2. Strengthened social relationship through activities</p>
	<p>(1)</p> <p>2. Experience of meaningful engagement</p> <p>2.3. Experience of positive emotion</p>	<p>(1)</p> <p>3. Appreciation of life</p> <p>3.1. Appreciation for everyday life.</p>	<p>(1)</p> <p>3. Appreciation of life</p> <p>3.2. Appreciation through social comparisons.</p>	<p>(1)</p> <p>3. Appreciation of life</p> <p>3.3. Appreciation through comparing self.</p>	
<p>Chun, S., & Lee, Y. (2010). The Role of Leisure in the Experience of Posttraumatic Growth for People with Spinal Cord Injury. Journal Of Leisure Research, 42(3).</p>	<p>1. Providing Opportunities to Discover Unique Abilities and Hidden Potential</p> <p>1.1. Finding personal strengths and hidden potential</p>	<p>1. Providing Opportunities to Discover Unique Abilities and Hidden Potential</p> <p>1.2. Experiencing a feeling of success and achievement</p>	<p>1. Providing Opportunities to Discover Unique Abilities and Hidden Potential</p> <p>1.3. Gaining reputation/recognition.</p>	<p>2. Building Companionship and Meaningful Relationships</p> <p>2.1. Companionship</p>	<p>2. Building Companionship and Meaningful Relationships</p> <p>2.2. Meaningful relationships</p>
	<p>3. Making Sense of Traumatic Experience and Finding Meaning in Everyday Life</p>	<p>4. Generating Positive Emotions</p>			
<p>Lau, U., & van Niekerk, A. (2011). Restorying the Self: An Exploration of Young Burn Survivors' Narratives of Resilience. Qualitative health</p>	<p>1. The struggle for recognition—the self as both highly visible and invisible</p>	<p>2. Reconciling selves or rediscovering the self</p>	<p>3. Turning points—the search for meaning</p>		

research, 21(9), 1165-1181.					
Calder, A., Badcoe, A., & Harms, L. (2011). Broken bodies, healing spirits: road trauma survivor's perceptions of pastoral care during inpatient orthopaedic rehabilitation. Disability & Rehabilitation, 33(15-16), 1358-1366.	Talking and listening	Friendliness and interest	Availability, choice and control	Distinctiveness and independence	Understanding and reassurance
	Connection to the outside world	Spiritual support and connection	Unconditional care and support	Motivating rehabilitation	
Griffiths, H. C., & Kennedy, P. (2012). Continuing with life as normal: positive psychological outcomes following spinal cord injury. Topics in spinal cord injury rehabilitation, 18(3), 241-252.	1. Living a Normal Life, Just Doing Things Differently 1.1. Getting back to normality	1. Living a Normal Life, Just Doing Things Differently 1.2. I'm the same person as before	1. Living a Normal Life, Just Doing Things Differently 1.3. Unchanged goals and values	1. Living a Normal Life, Just Doing Things Differently 1.4. Normal ups and downs of life	1. Living a Normal Life, Just Doing Things Differently 1.5. Different ways of doing things
	2. Overcoming Challenges: Determination to Succeed 2.1. Inner resources: personality and cognitive style	2. Overcoming Challenges: Determination to Succeed 2.2. The injury as a tool to be used positively	2. Overcoming Challenges: Determination to Succeed 2.3. Acceptance and change	2. Overcoming Challenges: Determination to Succeed 2.4. Maturation, growth, and change	3. Using the Resources Available to Me 3.1. Support from others
	3. Using the Resources Available to Me 3.2. Meaningful activity	3. Using the Resources Available to Me 3.3. New skills			
Wang, Y., Wang, J., & Liu, X. (2012). Posttraumatic growth of injured patients after motor vehicle accidents: An interpretative phenomenological	1. Construction of meaning 1.1. Impact of accident	1. Construction of meaning 1.2. Fatalism	1. Construction of meaning 1.3. Spiritual support of existence	1. Construction of meaning 1.4. Living in the moment	2. Perception of self 2.1. Loss of the physical self.

analysis. Journal of health psychology, 17(2), 297-308.	2. Perception of self 2.2. Self as survivor	2. Perception of self 2.3. Enhancement of self-efficacy	2. Perception of self 2.4. New possibility	3. Perception of connection 3.1. Indifference of relationships	3. Perception of connection 3.2. Kindness of relationships
	3. Perception of connection 3.3. Transformation of interpersonal attitude	3. Perception of connection 3.4. Increased sense of empathy and altruism.	4. Perception of life philosophy 4.1. An uncertain future	4. Perception of life philosophy 4.2. Priority	4. Perception of life philosophy 4.3. Appreciation of life.
	4. Perception of life philosophy 4.4. Enhancement of wisdom				
Day, M. C. (2013). The role of initial physical activity experiences in promoting posttraumatic growth in Paralympic athletes with an acquired disability. Disability & Rehabilitation, 35(24), 2064-2072.	1. Recognizing possibility by acknowledging limitations 1.1. What had been taken away (HK)	1. Recognizing possibility by acknowledging limitations 1.2 Physical activity highlighting the disabilities (HK)	1. Recognizing possibility by acknowledging limitations 1.3. Recognizing possibility by acknowledging limitations (HK)	1. Recognizing possibility by acknowledging limitations 1.4. Nicer done it before the accident (HK)	1. Recognizing possibility by acknowledging limitations 1.5. Lost opportunities (HK)
	1. Recognizing possibility by acknowledging limitations 1.6. New possibilities (HK)	2. Responsibility for choice and consequences 2.1. Loss of personal choice and responsibility (HK)	2. Responsibility for choice and consequences 2.2. Physical activity creating sense of responsibility and choice (HK)	2. Responsibility for choice and consequences 2.2. Physical activity creating sense of mastery, success and recognition of talent (HK)	2. Responsibility for choice and consequences 2.3. It was my risk and I accepted that - Being able to take control (HK)

	<p>2. Responsibility for choice and consequences</p> <p>2.4. Sport - risks acceptable, & personally responsible for the consequences (HK)</p>	<p>2. Responsibility for choice and consequences</p> <p>2.5. Managing sporting risks giving confidence to take risks in other areas of their lives. (HK)</p>	<p>3. Re-establishing and enhancing meaning</p> <p>3.1. The search for significance (HK)</p>	<p>3. Re-establishing and enhancing meaning</p> <p>3.2. Sports: Life philosophy, small steps permanent gains (HK)</p>	<p>3. Re-establishing and enhancing meaning</p> <p>3.3. Unpredictability of the future (HK)</p>
<p>Kennedy, P., Lude, P., Elfström, M. L., & Cox, A. (2013). Perceptions of Gain Following Spinal Cord Injury: A Qualitative Analysis. Topics in spinal cord injury rehabilitation, 19(3), 202-210.</p>	<p>1. Perspective/appreciation of life</p>	<p>2. Changed personality</p>	<p>3. Nothing</p>	<p>4. Understanding / perspective of disability/SCI</p>	<p>5. Appreciation of relationships</p>
	<p>6. Knowledge of SCI/body</p>	<p>7. Relationships</p>	<p>8. New goals/priorities</p>	<p>9. Opportunity/challenge</p>	<p>10. Acceptance</p>
	<p>11. Appreciation of health/health care</p>	<p>12. Spirituality</p>	<p>13. New skills</p>		
<p>Crawford, J. J., Gayman, A. M., & Tracey, J. (2014). An Examination of Post-Traumatic Growth in Canadian and American ParaSport Athletes with Acquired Spinal Cord Injury. Psychology of Sport and Exercise.</p>	<p>1. Injury relevant processing of acquiring a SCI</p> <p>1.1. Forced new identity</p>	<p>1. Injury relevant processing of acquiring a SCI</p> <p>1.2. Re-establishment of identity</p>	<p>2. Appreciation for life</p> <p>2.1. Being in the present</p>	<p>2. Appreciation for life</p> <p>2.2. Not taking things for granted</p>	<p>2. Appreciation for life</p> <p>2.3. Clarity and perspective</p>
	<p>3. Reactive behavior as a result of re/integration into ParaSport</p> <p>3.1. Problem solving</p>	<p>3. Reactive behavior as a result of re/integration into ParaSport</p> <p>3.2. Confidence</p>	<p>3. Reactive behavior as a result of re/integration into ParaSport</p> <p>3.3. Less judgmental</p>	<p>4. Relating to others</p> <p>4.1. Family and friends</p>	<p>4. Relating to others</p> <p>4.2. Meeting people</p>
	<p>4. Relating to others</p> <p>4.3. Learning from people</p>	<p>5. Health and well-being</p> <p>5.1. Increase</p>	<p>5. Health and well-being</p> <p>5.2. Independence.</p>		

		d health and fitness			
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Appendix D: Prevalence of Final Themes

NRO	Cite	Existential reflection	Humanity	Meaningful leisure engagement	New awareness of physiological and
1	Turner, S., Cox, H. (2004). Facilitating post traumatic growth . Health and quality of life outcomes, 2(1), 34.	√	√		√
2	Oaksford, K., Frude, N., & Cuddihy, R. (2005). Positive Coping and Stress-Related Psychological Growth Following Lower Limb Amputation. Rehabilitation Psychology, 50(3), 266–277. https://doi.org/10.1037/0090-5550.50.3.266	√	√	√	√
3	Salick, E. C., & Auerbach, C. F. (2006). From devastation to integration: Adjusting to and growing from medical trauma. Qualitative Health Research, 16(8), 1021-1037.	√	√	√	√
4	Roundhill, S. J., Williams, W. H., & Hughes, J. M. (2007). The experience of loss following traumatic brain injury: Applying a bereavement model to the process of adjustment. Qualitative Research in Psychology, 4(3), 241-257.	√	√		
5	Chun, S., & Lee, Y. (2008). The experience of posttraumatic growth for people with spinal cord injury. Qualitative Health Research, 18(7), 877-890.	√	√	√	√
6	Chun, S., & Lee, Y. (2010). The Role of Leisure in the Experience of Posttraumatic Growth for People with Spinal Cord Injury. Journal Of Leisure Research, 42(3).	√	√	√	√
7	Lau, U., & van Niekerk, A. (2011). Restorying the Self An Exploration of Young Burn Survivors' Narratives of Resilience. Qualitative health research, 21(9), 1165-1181.	√	√		
8	Calder, A., Badcoe, A., & Harms, L. (2011). Broken bodies, healing spirits: road trauma survivor's perceptions of pastoral care during inpatient orthopaedic rehabilitation. Disability & Rehabilitation, 33(15-16), 1358-1366.	√	√	√	
9	Griffiths, H. C., & Kennedy, P. (2012). Continuing with life as normal: positive psychological outcomes following spinal cord			√	√

	injury. Topics in spinal cord injury rehabilitation, 18(3), 241-252.				
10	Wang, Y., Wang, J., & Liu, X. (2012). Posttraumatic growth of injured patients after motor vehicle accidents: An interpretative phenomenological analysis. Journal of health psychology, 17(2), 297-308.	✓	✓		✓
11	Day, M. C. (2013). The role of initial physical activity experiences in promoting posttraumatic growth in Paralympic athletes with an acquired disability. Disability & Rehabilitation, 35(24), 2064-2072.	✓	✓	✓	✓
12	Kennedy, P., Lude, P., Elfström, M. L., & Cox, A. (2013). Perceptions of Gain Following Spinal Cord Injury: A Qualitative Analysis. Topics in spinal cord injury rehabilitation, 19(3), 202-210.	✓	✓	✓	✓
13	Crawford, J. J., Gayman, A. M., & Tracey, J. (2014). An Examination of Post-Traumatic Growth in Canadian and American ParaSport Athletes with Acquired Spinal Cord Injury. Psychology of Sport and Exercise.	✓	✓	✓	✓

Appendix E - The Ethics Approval for Study 2

EXTERNAL AND STRATEGIC DEVELOPMENT SERVICES

uel.ac.uk/qa

Quality Assurance and Enhancement



11 April 2014

Dear Hanna,

Project Title:	Exploring the complex relationship between posttraumatic growth and athletes with acquired disabilities.
Researcher(s):	Hanna Kampman
Principal Investigator:	Dr Kate Hefferon

I am writing to confirm the outcome of your application to the University Research Ethics Committee (UREC), which was considered at the meeting on **Wednesday 5th March 2014**.

The decision made by members of the Committee is **Approved**. The Committee's response is based on the protocol described in the application form and supporting documentation. Your study has received ethical approval from the date of this letter.

Should any significant adverse events or considerable changes occur in connection with this research project that may consequently alter relevant ethical considerations, this must be reported immediately to UREC. Subsequent to such changes an Ethical Amendment Form should be completed and submitted to UREC.

Approved Research Site

I am pleased to confirm that the approval of the proposed research applies to the following research site.

Research Site	Principal Investigator / Local Collaborator
Interviews in a public place or via Skype	Dr Kate Hefferon

Approved Documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	Version	Date
UREC Application Form	3.0	08 April 2014
Participant Information Sheet	3.0	08 April 2014
Consent Form	3.0	08 April 2014
Debrief Sheet	3.0	08 April 2014
Demographics Sheet	3.0	08 April 2014
The Posttraumatic Growth	3.0	08 April 2014

Docklands Campus, University Way, London E16 2RD
Tel: +44 (0)20 8223 3322 Fax: +44 (0)20 8223 3394 MINICOM 020 8223 2853
Email: r.carter@uel.ac.uk



EXTERNAL AND STRATEGIC DEVELOPMENT SERVICES

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Quality Assurance and Enhancement



Inventory		
Structure for semi-structured interviews	3.0	08 April 2014

Approval is given on the understanding that the [UEL Code of Good Practice in Research](#) is adhered to.

With the Committee's best wishes for the success of this project.

Yours sincerely,

Catherine Fieulleau
Ethics Integrity Manager
University Research Ethics Committee (UREC)
Email: researchethics@uel.ac.uk

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Appendix F - The Original Semi Structured Interview Guide

It is essential to note that semi-structured meant there is a structure, however, the interviewer followed the participants and where they took the story. The structure was there to lean on but not determine the direction.

Tell me about how you came to participate in team sports?

When if at all did you first experience or notice positive changes after your initial trauma?

- If so what was it like?
- If you recall, what were you thinking then?
- How did you happen to..?
- Who if anyone influenced your actions?
- Tell me about how they influenced you?
- Could you describe the event that led up to ..?
- What contributed to ..?
- What was going on in your life then?

How would you describe how you viewed ... before.. happened?

How, if at all, has your view changed?

How would you describe the person you were then?

In the middle

What if anything did you know about disability sport ? Wheelchair basketball?

Could you tell me about your thoughts and feelings when you learned about disability sport?

- What happened next?
- Who, if anyone was involved? When was this? How were they involved?
- If you recall, could you tell me about how you learned to handle..?

How if at all have your thoughts and feeling changed about disability sport since you started?

What positive changes have occurred in your life since starting wheelchair basketball?

What negative changes have if any occurred in your life since you started wheelchair basketball?

- Tell me about how you go about ...? What do you do?

Could you describe a typical day for you when you are practicing team sports?

Now tell me about a typical day when you are competing?

Would you tell me how would you describe the person you are now? What most contributed to this change?

As you look back on your recovery are there any events that stand out in your mind?

- Could you describe those?
- How did this event affect your recovery?
- How did you respond to ...?

Could I ask you to describe the most important lesson you have learned through your experience of being severely injured?

What about most important lesson that you have learned through team sports?

Where do you see yourself in two year? 5 years? 10 years?

How do you compare the person you hope to be and the person you see yourself now?

- What helps you to manage ..? What problems might you encounter? Could you tell me the sources of these problems?

Who has been the most helpful during your recovery? How has she/ he / them been helpful?

Has any organization (e.g. wheelchair basketball) been helpful? What did they help you with? How has it been helpful?

To finish off

What do you think are most important ways to achieve a positive recovery after severe injury?

How did you discover or create them?

How has your previous life experiences if at all affected how you handled the severe injury and recovery?

Could you tell me how your views may have changed since your injury? What about since you started wheelchair basketball / team sports?

How have you grown as a person since your injury? What about after starting wheelchair basketball / team sports?

Tell me about the strengths you discovered or developed through your recovery process?

Tell me about the strengths you discovered or developed through your participation in team sports?

After having these experiences what advice would you give to someone who has just been severely injured?

Is there something that occurred to you during this interview that you haven't thought about before?

Is there something else you think I should know or understand about the role of team sport in recovery better?

Is there anything you would like to ask me?

Has anything happened to you lately that made you look at this differently? Would affect your account on this?

Appendix G - Example of the Participants Lifeline Method Drawing, Method Kampman

Due to the sensitive nature of this drawing, this will be removed from the final publication.

Appendix H – Example of Memo Writing

30.3.2015 1st interview

This interview got me thinking a lot. First of all I know the person I interviewed. She shared her story very openly with me. I realised that I need to create a way for me to capture timelines more clearly. I think it would be important to get an understanding how long each period in their life lasts. I also felt that it is important to talk to more to people who have gone through the spectrum of team sport: from leisure to elite to back to leisure or coaching. This whole thing about sport as an “organic thing” that came up from the interview is very interesting and I need to know / understand more about it. It sounds like a friend: sometimes you are good with it, sometimes not. I also felt that I interviewed her for too long, I need to be more alert to this to not get my participants tired.

I need to:

- Capture timelines more clearly
- Talk to more people who have gone through the spectrum of team sport: from leisure to elite to back to leisure or coaching
- Also talk to people who are doing Elite now

Note

I got an idea of an interview tool: “Method Kampman”. I will ask the participants draw their timelines with ups and downs. I will ask them to use other colour to show me when sport entered their life and when they started team sport.

And later:

Transcribing the 2nd interview

This interview really showed me that the “method Kampman” is excellent because it shows the multidimensional nature of individual’s experience. Meaning that if one would draw a one line it only will give you a very narrow perspective on the individuals’ life. Multiple different lines show that whilst one aspect of life can be horrendous – others can be excellent! Body line down but socialising up or etc. Furthermore, the person can choose what they draw on top of the ones they are been asked, thus select what is significant for their lives / experience. Additionally, it allows the individual to almost talk to themselves, the narrative unfolds naturally. This might be and appears to be very useful when talking about heavy topics as it is participant led.

THINK!

- The “method Kampman” is good because it shows the multidimensional nature of individual’s experience.
- It allows the individual to almost talk to themselves i.e., lead the discussion.
- Person can choose what they draw on top of the ones they are been asked, thus select what is significant for their lives / experience.
- However not always practical when interviewing in the sport venues or if individual has a disability where drawing is not easy (fine motors skills on hands)
- Think though should you ask questions first and then introduce this? Try it out so that you get people answering the questions.
 - When prepping: “I am going to ask you to draw a line for life in general, sports and the body. However you are welcomed to add other lines if you feel that they are important to you.”
 - NOTE: Should these actually be the 5 = 1 elements of PTG? A future research suggestion perhaps?

MEMO around the negative case:

- *[Negative case] HK: Main difference I am noting is the lack of PTG. Holding on to the past self. I also notice a lack of support network and the feeling of being many or among others. This individual sport almost seems as you are trying to fit into the world as it was before and thus you are always the one who is less able. Whereas in team sports there is that opportunity to really be among other people with impairments and different abilities. I also sense the lack of belonging among this individual, it doesn’t seems as he has that many peers and those that he has are competition. That also seems to be highlighted here, competing against each other, rather than working together and supporting each other. I see that too, but not to the level I can see it in team sport. Overall my feeling is that this is a completely different environment to work in. (Kampman, 2017)*
- *[Negative case] “wheelchair racing was the first it’s I suppose that the, the sport with a with one of the bigger profiles amongst all the other wheelchair sports, and I kind of liked, in some ways liked this solitary nature of running before and cycling to some extent as well, so yeah I think that was maybe the reason why, just because it felt closer to those two sports.” (Jack, 11/273-277)*
- *[Negative case] HK: Could this actually be a reason for not sharing as much information and support as you are competing against each other? But then again, in team sports you also compete for places and playtime... Anyway, I don’t detect this as much in team sports. Something is different here. (Kampman, 2017)*
- *New injuries and especially new injuries with amputations show up as being in the middle of the process, not wanting to identify with the disability identity. Again you should think about impairments vs. disabilities. It is almost as they try to hold on to the old idea of self more and struggle with that at times when the amputation is causing limitations. Instead of embracing the new beginning there is a real effort to hold on to the old life.*

Appendix I - Extracts From all the Transcripts

Due to the transcripts being highly revealing and personal, some details are omitted from these extracts to protect the anonymity of the participants. This is also why the transcripts will not be attached to the appendices in the final publication. All names are pseudonyms, and the first letter is representing the order of interviews: 1st interview the pseudonym starts with A and 2nd with B etc. The length of the interview is stated next to the name as well as any specific details about the interview (e.g., face to face or skype). Interviews varied from 30 min to 2 hours, the total interview material was 960min, i.e., 16 hours of interview material was analysed for this study.

Interview 1 – Abbey 1:53:28

- Method Kampman in use
- Face to face

H: You mentioned earlier that you loved the physicality and being active, what about it? Could you explain more?

[Omitted]

Interview 2 - Bethany 1:59:59

- Method Kampman in use
- Face to face

H: I actually want to use this (lifeline drawing) as a basis of some of the questions because I would love you to explain to me sort of where does Team Sport start?

[Omitted]

Interview 3 – Caroline 01:31:08

- Method Kampman in use
- Face to face

H: where would it be your top moments in team sports? C: Where I am now. H: really?

[Omitted]

Interview 4 - Diana

01:15:00

- Method Kampman in use
- Face to face

H: What do you think team sport gave to you at that point?

[Omitted]

Interview 5 – Edward

01:00:22

- Method Kampman in use
- Face to face

H: exactly so you get the wide spectrum of things. You mentioned to me that you were apprehensive about it before, could you explain that a bit more?

[omitted]

Interview 6 – Fiona

00:36:40

- Face to face
- Whilst practising
- No Method Kampman (we were in a sporting venue with limited time. Additionally, due to the disability, drawing would have required special equipment – need to think about that in the future).

H: I let you throw – this is fun I can see you in action. Actually that was really interesting what you said about being stronger, because the body is one of the things that I am really interested in, so do you think you could tell me about how you felt in your body in the beginning when you started and then we can discuss how – like what you said –how it felt later?

[Omitted]

Interview 7 – Gary (Negative case)

00:36:40

- Face to face
- Negative case
- Sporting venue after practise

HK: ok. What what do you think, what was the meaning -because you mentioned that you couldn't play football? So what did it mean to you to find [current sport omitted] then?

[Omitted]

Interview 8 – Henry

00:58:00

- A lot of background noise to this interview
- Sporting venue after practise
- Face to face

H: Like the upper body strengths, you talked about being physically fit and what are the benefits of that?

[Omitted]

Interview 9 – Isac

00:30:00

- Face to face
- Negative case
- Sporting venue after practise

H: What about the first time you entered like a team sport environment, which one was that?

I: umm, [thinking]

H: Out of your hundreds of sports that you've done 😊

[Omitted]

Interview 10 – Jack a negative case

02:03:00

- Face to face
- Negative case: individual sport
- Private space

H: Yeah it is hard to know right? [P: Yeah] that's interesting. What do think in general after your injury, in general, like the big picture, what has been the role of sports in your life?

[Omitted]

Interview 11 - Kevin

00:44:50

- Face to face
- Negative case: individual sport only
- Sporting venue after practise

H: What do you mean by that, can you explain that to me a bit more? It's interesting.

[Omitted]

- *Interview 12 – too close to birth*
- *Face-to-face*
- *Sporting venue after practise (very loud)*

HK: So can you tell me about the first time you started doing sports? Which sport was that?

[Omitted]

- *Face to face*
- *Private space*

H: And can you actually talk about that more, like when you decided that, like when you decided, and you did the amputation and how did your life change at that point? Because you have said that that was the best decision- P: Making the decision? Or actually having it off?

H: Which ever you want, you want to start with making the decision.

[Omitted]

HK: So, my first question would be around the first time that you went to any sports after your injury, how was that like?

[Omitted]

Appendix J - Example of Line-by-Line Codes, Clustered into Initial Themes

Name
SPORT AS A POSITIVE ENVIRONMENT
Beginning of belonging
Being great vs. being the victim
Disability sport being a positive environment
Disability sport creating a normal environment
Disability sport providing a support network
Disability sport providing developmental support
Downward social comparison
Elite sport can be a selfish environment (bad influence)
Exchanging ideas about all areas of life in disability sports
Feeling like any other person at the disability sport club
Feeling of belonging due to disability sport
Feeling understood in the disability sport environment
Having a life outside hospital environment
I loved being in that environment
Non-judgemental environment
safe environment
THE BODY AND PHYSICALITY
Being very skilled in disability sport (natural)
Having talent and ability in disability sport
I was able to regain my physicality
I was physically so fit, strong,
negotiating you know physically sort of different things,
sport gives me that strength and power and self-esteem
Started playing disability sport again before she was allowed
there were times when my body wouldn't let me do things, so I had to be patient
FREEDOM Freedom
Being able to just be whilst playing the sport (mindful)
Disability sport providing a sense of freedom
Disability sport providing freedom to be yourself
Disability sport providing freedom to stay in the moment

Disability sport providing positive distraction from worries
Experiencing flow in sports
freedom
I was just free to be me.
it was a release
it was all about that freedom
Losing yourself into the practise of skills (positive)
Sport initially bringing enjoyment and freedom to life
3 TRAUMA - Later lessons of .. learnings fromf trauma
because of it, it made me a better person
Change is a part of everyone's life
Feeling that is a better coach because of the EI after trauma
Feeling that is emotionally tuned into people as a person
Feels that emotional intelligence might be a trait rather than learned
Feels that her experiences have made her patient (learning)
Feels that learned empathy through the trauma experience
Feels that the trauma experience made her more able to deal with other people better
Honesty
I am all right with the person I am now
I believed that there was always a reason
I don't make assumptions
I keep saying goodbye and I keep coming back
I think it's that resilience that I will not be beaten
I would have my life back it wouldn't be the same, but it would be my life all the same
I've never been spiritual as it were, I've never believed in god or anything
if you have life then you have the potential to do something
it does make you realise what other people need over yourself
Other skills like I said I do believe I was very patient
spiritual change
Talking about the importance of believing in something
the potential to be alive then that's pretty important, the ultimate thing.
Thinking about life and death
Trauma bringing humanity
Trauma experience building emotional intelligence

Trauma experience helping to be a better coach
Trauma experiences teaching you how to understand others in a team
Trauma making you the person you are now (positive)
Wanting to make most out of life (due to trauma)
you have to make it worthwhile every day
SPORT AS A ORGANIC EVOLVING THING in life
Awareness of mortality - mortality awareness
Death being a normal part of disability sport
Disability sport is like a living, breathing thing that always accepts you
Loving and doing different sports
Sport always a part of life
Sport as a organic evolving thing
Sport has always been a part of life (4th family member - safety net)
The importance of disability sport in her life
The relationship to disability sport evolves with time
VALUED, RESPECTED AND NEEDED
'yes, someone is proud of my achievement'
Disability sport making it possible to speak about disability honestly
Feeling needed in disability sport
Feeling valued
I am still of value
I am still of worth
it gave me everything in a sense of you know family, friendship, career, camaraderie you know social life
it was kind of like unsaid feeling I had with them
level playing field
Other encouraging you in disability sports to learn
People caring by asking
People expecting you to challenge yourself (positive)
People in disability sport believing in you
Sanoja ei tarvittu - kaikki tiesivat
The importance of people expecting something from you
The importance of somebody being interested in what you are doing
you were valued and respected and needed
PEERS

Becoming dependent of peers (Dsport) after trauma
Different peer groups
Feeling accepted again after trauma (peers)
Finding your peer group from disability sport
Having close friends with SCI before trauma
I love being around my friends
Losing friends (death)
Peer making her feel of belonging
Peers helping to re-integrate to normal life
Peers providing understanding after trauma
The importance of peer friends after trauma
ACCEPTING CHANGE
is all about how you cope with change
The importance of accepting change in life
The importance of coping with change
you will have something and it wont be the same but it will be something
OUR NORMALITY - NEW NORMALITY
it's your normality
Our normality (dsability sport)
The new normal(ity)
this is the new normal,
what we could talk about
what we couldn't talk about
1 TRAUMA - Initial experiences, immediate aftermath of it
Afraid of losing her freedom because of the trauma (loss of autonomy)
Being aware of the danger of the surgery
Contemplating on how she feels about the perpetual goodbyes
Contemplating on the seriousness of her symptoms before the surgery
Doctors are advising to say goodbye before operations
Feels that could not support parents because she didn't know exactly what was possible
Feels that generally people are not given enough honesty when going into surgery
Feels that there is no need for goodbyes if you make everyday count
Felt as she was happy and developing before trauma
Felt as the trauma changing everything in a heartbeat

Going through several minor operations
Hoping for full recovery from the surgery
I kind of fell apart really
I was pretty angry with the doctors actually
it all changed over night
Loss following trauma
neuropathic needs
Operations to save the ability to walk
People are preparing for her death (saying goodbye)
Strong memories though
that was mine it been taken away
The realisation of the impact of trauma
the rug was pulled from under me
INSTITUTION (NHS)
Contradicting worlds (hospital vs. dsports)
Demanding to be aknowledged - feeling objectified
Feeling as is being told what to do (lack of autonomy)
Feels that as a patient you should be able to know your whole situation
Feels that the NHS withhold information about the surgery
Hospital asking you to be something you are not
I had three very different experiences
I had to be patient, didn't have a choice,
I was completely out of control
Impersonal, objectified
In the hospital I was an object
institution
Learning to speak very mature language in hospital
Medical input that is not working for her
NHS as an institution (negative)
People looking at you (impersonal)
The importance of existing outside the institution (e.g. hospital)
Unpleasant environment
SPORT AND IDENTITY
Becoming a figurehead for disability sports

Being able to express yourself through disability sport
Disability sport defining her (identity)
Disability sport providing role models - something to aspire to
Feeling annoyed that sport defined her (at a certain time point)
Feeling yourself at sports
Feels that sport gave her overpowering identity
felt like I was a – an important woman
felt like I was able to achieve something
going from being nothing to the most important person there was
I felt good about myself
I had status
I'm still inspiring people
Idols and role models
Sport helping her to grew as a person
Super athletes - heroes
DISABILITY PERCEPTIONS
a societal view
disableism
disappointed
Doesn't feel accepted in the society as she is
Experiencing a lot of discrimination
Feel that she is trying to challenge societies view of her
Feeling disappointed
Feeling like an outsider to the society
Feeling of not belonging
Feeling tired about trying to understand people discriminating her
Feeling undervalued by people
Feeling unequal
Feels that people are assuming she is different because she is in a chair
Feels that she has had to fight for her rights
I feel very angry
I just didn't feel valued
I just don't feel really like a valued person within the society
I think a lot of people make assumptions

Just a normal person - normal mind
People expecting less of you
People not making effort to know you as a person
Perseives that society doesn't any worth or value in you (disability)
Realtionships take time to build because of disability
Society doesn't think that people with disabilities are of worth
Sometimes I feel very angry
you still have to make people feel ok with you
UNCLEAR NODES not sure where these belong
Different environments in life
CHILDHOOD
'oh my god, it's a tragedy'
Able bodied sport making her feel like there was something wrong with her
Being bullyed in mainstream school
Being left out
Being left out because of different abilities
Being seen as a punishment to parents
Believing in self, knowing that you are capable to play sport
Didn't feel valued by peers in school
Doctors saying when she was born that it is a tragedy (because of the disability)
Early childhood experiences relating to disability
Feeling excluded from able-bodied sport because not having the same abilities
Feeling incredible after strating disability sport
Feeling like a normal kid (belonging)
Finding her passion in basketball a little later
Going to mainstream shcool and being able to feel part of the group
Having important support and acceptance as a kid from disability sport
I felt that you know in school nothing made me special
I should have been aborted
none of my peers really thought I was anything
Not being able to engage in sports at the school
Not fitting in with able-bodied sport environment
People describing her as a mistake
Religion affected views of disabilities

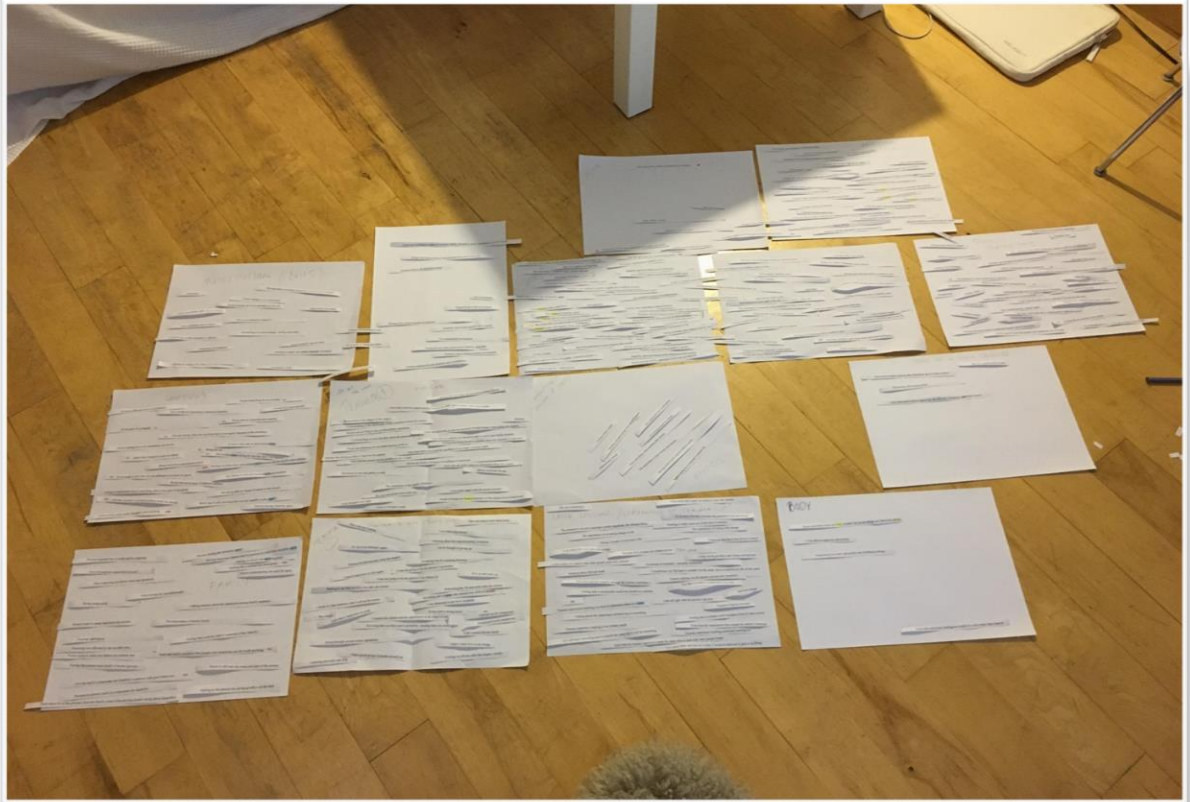
School asking you to be something you are not
Started playing disability sport
to be made to feel that you are different is no good, no good.
Trying to take part in able-bodied sport
2 TRAUMA - starting to put things into places
accepting loss by counting blessings
Feeling vry driven after the surgery (skills)
Finding her passion gratually in team sports
I had a good group of people around me
I had to learn how to do things
I had to learn how to live again
I just had to learn how to exist
I just wanted life too much
I never thought of giving up
I wanted the chance and the opportunity to do what I loved
I was desperate to get back (to sport)
I was not going to be the person I was before
I was not going to be the person I was before (2)
it was such a strong desire
it's ok to be different' again
Knowing that you have survived before - trusting that you could again
learning personal care first
Not being part of sport after trauma was difficult (a loss)
pick up and carry on
Rebuilding her life and skills after the trauma
resilience
Strating to see that not all is lost after the trauma
Thinking about the unpredictability of trauma
Upward social comparison
SPORT AS A SOCIAL LEVELLER
Able-bodied people realising that wheelchair sport is hard (a sport)
Disability sport providing a sense of equality
Disability sport providing positive challenges
Feels that athletes with disabilities have accomplished a lot

Feels that people need to appreciate the difficulty of starting a sport after trauma
Having an level playing field in disability sport
I was you know equal
Not having a level playing field
Sport as a great social leveller
FAMILY
Being moms child
Doesn't want to speak bad about the parents
Feeling as the parents are saying goodbye all the time
Feeling that could be what is expected of her (family)
Feeling that parents were scared of doctors (power)
Feeling that saying goodbye is hard for her parents
Feels that a lot of the pressure from the family comes from proving people wrong about disabilities
Feels that family perceives that people with disabilities are not worth anything
Feels that her parents saying goodbye to her is hard
Feels that parents expect her to excell
Felt like had to compensate her disability to parents with good behaviour
Getting involved with sport regularly
I yeah ended up scaring my family witnessed
Mom expecting excellence from her (positive)
Parent trying to make you behave an a certain way
parental upbringing
Parenting was affected by the era (80's 90's)
Parents expected her to smile and be outgoing
Parents finding the disability sport
Parents understanding the need for sport
Pressure to achieve more to compensate the disability
Sister loving her unconditionally
Talking honestly about the operations among family members
The importance of family (idols)
Wants to alleviate the stress and pain of the parents
POSITIVE EMOTIONS
I felt happiness
I think the first thing is the enjoyment

HUMOUR humor
Dark humour in disability sports
Dark humour used in a safe environment (disability sports)
humour
Using humour as a tool to break the ice
Using humour to cope with negative words about disability (in disability sports)
Using humour to lower barriers
Using humour to make people comfortable with disability
Using humour to take control back
we reclaim the word and we take away its meaning
AFFECTING CHANGE and GIVING BACK
because I had that opportunity, I give something back to
Creating positive change in her environment
Feeling guilt about being angry
Feeling that being honest to children about the disability is important
Feeling that she has made a difference by making people aware of athletes with disabilities talents
feeling that with great power comes great responsibility as a ex Paralympian
Feeling the need to educate people about disability
Feeling tired
Feels that can't be angry at people for discriminating her
Feels that disability sport needs more emotional intelligence
Feels that she has a purpose in chaging attitudes
Feels the need to change persepctions about disability
I am still making people better
I can't ask the world to be ok with me if I'm not ok with them
I know I've inspired a lot of people
it's tough to keep up sometimes
Ongoing prosess to change perspectives, opinions of outsiders
People need to see beyond the wheelchair
People needing education around disability
Providing a safe environment for others in disability sport (due to trauma)
Seeing people as equal
Talking about the importance of affecting change
Trying to make sure that the next generation has it better

Wanted people to understand what it means to be a Paralympian
Wanted to define herself through something else than sport
Wanted to influence world through her degree
Wanting to be valuable in a different way

Appendix K – Constant Comparison



Appendix L – Example of Memo writing

✦ “Beginning of belonging” TEAM SPORT AS A SAFE ENVIRONMENT

- ✦ A very central and common finding from the study was the idea of team sport as a safe environment. Often described as “safe” (1), “normal” (1,2) “positive” (1,4) “natural” (3) “unique” (4), it was clear that the sense of safety and belonging was central in the process of PTG to these athletes after their acquired disability. All these different ways of describing the environment had very related features in them. The team sport environment at best was helping individuals to accept their disability and have a sense of normality back in to their lives. In a sense it was for many of them the “beginning of belonging” (1), or “beginning of re-belonging”. This environment allowed individuals to be seen, valued and encouraged. In this environment people felt safe enough to be challenged to learn new skills and push their bodies. In fact it was often the expectations i.e. someone expecting from you and challenging you (e.g. coach or team mate) that created the sense of equality and importance. Thus it was not only the obligation to participate and get better but the privilege to do so that created the sense of belonging. There was a great sense of accountability in team that created a sense of autonomy in these athletes’ lives. Furthermore, team sport as an environment was an important social leveller as it created a level playing field where people could test their strength and skills against able bodied individuals. It is indeed this alternative perspective that makes people to re-evaluate their physicality and bodies, and to realise the potential that they hold with different abilities. In this way team sport additionally challenged people to use their bodies in new ways and learn alternative skills. Athletes often talked about the sense of normality in team sport, where you could talk about different aspect of your disability with people you understood and had knowledge around it. In a sense the team was often described as a family where people would take care of each other and genuinely care for each other. Interestingly the safe environment was not always present in Elite teams. The demands towards the body were at times felt and perceived dangerous towards the well-being of the body. Athletes reported that the culture in Elite teams was more selfish and competitive. Furthermore, athletes felt that often in **Elite sport** the team was **overpowering** the individual. Athletes talked about being controlled around personal care and training routines and there was a real lack of **autonomy**. Personal conflict and sense of unfairness in relation to player picks seemed to be often hindering the athletes’ journeys. Politics of sports. Perhaps controversially the *arena* of Elite sport competitions (e.g. Paralympics) were often the place that was mentioned as instrumental in accepting your body and your disability. This was due to seeing athletes with different abilities competing in a massive arena, which seemed to create a sense of freedom and normality that was not present anywhere else.

✦ *Vicarious PTG*

- ✦ I think seeing trauma around also creates **vicarious PTG** (see also **mortality salience**) and further growing from that
 - ✦ “it’s been there for me, I say “it’s” been there [sport] It’s like an organic thing really, because **people have changed as well and all my friends have died**, they’ve you know, that’s become normal, **the dead is normal part of our lives**, pretty young as well – I don’t know where I was going with that – it’s a organic process like I said, but it’s been with me all the way through my sort of like fourth family member almost – sports? – yeah, because it’s, and you know it changes all the time, you know people,

like I said they come and go, they don't – well it's little bit more serious than that, they come and they die, but it's still something that is ok though, - it's not ok, it's not ok for them and their families, but it's part of your normality, but you know that that thing [sport] is constant and it's always going to be there, and it's always going to be open arms to you, whether you're you know heavily disabled from the waist down or whatever, even if you're not able it will still accept you – [umm] can I say "it", I don't mean "it" I mean it's an organic thing you know, do you see what I am saying, it's like a living, breathing thing that always accepts you [getting emotional]."

Appendix M – Original Tentative Categories

ANALYSIS after 4 interviews: Tentative categories:

The following themes are all interconnected and represent different, yet intertwined aspects of the role of team sport in the process of PTG. A common idea around athletes with acquired disabilities who are participating in team sport and reporting PTG was that team sport was seen as an “organic thing – like a living, breathing thing that always accepts you” (Amanda – interview 1). At times team sport was on the background waiting, sometimes a memory from the past, often in the centre of life, but never irrelevant. It was clear that team sport had a key part in the process of PTG in these athletes’ lives.

(Master) “Beginning of belonging” TEAM SPORT AS A SAFE ENVIRONMENT

(Sub) TEAM SPORT & THE TEAM DYNAMICS

(MASTER) TEAM SPORT & THE BODY

TEAM SPORT & PURPOSE AND MEANING

TEAM SPORT & THE CHALLENGES

(Master) “Beginning of belonging” TEAM SPORT AS A SAFE ENVIRONMENT

A very central and common finding from the study was the idea of team sport as a safe environment. It was clear that the sense of safety and belonging was central in the process of PTG to these athletes after their acquired disability. All these different ways of describing the environment had very related features in them. The team sport environment at best was helping individuals to accept their disability and have a sense of normality back in to their lives. In a sense it was for many of them the “beginning of belonging” (1).

In this environment people felt safe enough to be challenged to learn new skills and push their bodies. In fact it was often the expectations i.e. someone expecting from you and challenging you (e.g. coach or team mate) that created the sense of equality and importance. Thus it was not only the obligation to participate and get better but the privilege to do so that created the sense of belonging. There was a great sense of accountability in team that created a sense of autonomy in these athletes’ lives.

Furthermore, team sport as an environment was an important social leveller as it created a level playing field where people could test their strength and skills against able bodied individuals. It is indeed this alternative perspective that makes people to re-evaluate their physicality and bodies, and to realise the potential that they hold with different abilities. In this way team sport additionally challenged people to use their bodies in new ways and learn alternative skills.

Athletes often talked about the sense of normality in team sport, where you could talk about different aspect of your disability with people you understood and had knowledge around it. In a sense the team was often described as a family where people would take care of each other and genuinely care for each other.

Interestingly the safe environment was not always present in Elite teams. The demands towards the body were at times felt and perceived dangerous towards the well-being of the body. Athletes reported that the culture in Elite teams was more selfish and competitive. Furthermore, athletes felt that often in Elite sport the team was overpowering the individual. Athletes talked about being controlled around personal care and training routines and there was a real lack of autonomy.

Controversially the arena of Elite sport competitions (e.g. Paralympics) were often the place that was mentioned as instrumental in accepting your body and your disability. This was due to seeing athletes with different abilities competing in a massive arena, which seemed to create a sense of freedom and normality that was not present anywhere else.

(Sub) TEAM SPORT & THE TEAM DYNAMICS

Team had naturally its own dynamics and athletes often talked about the camaraderie in the team, working towards common goals and sharing similar experiences. It was clear that the experience of acquired disability was a source of common ground and team cohesion. Athletes talked about trusting each other and feeling natural and normal in each other's company. It was an environment where they could talk about disability honestly. Even though they were a team with a clear sport goal, they were also a "family" and people often mentioned having "friends for life" through sport. This peer support and existence was crucial especially in the early recovery and losing it (e.g. due to injury or sickness) was reported being emotionally highly stressful.

It was these trusting relationships that created opportunities for growth through accepting their "new normality" (1, 2, 3, 4). Athletes reported both upward and downward social comparison as a key component of accepting the new normality. Having people that you admired, idols in the team showed athletes what is possible and achievable. Similarly realising that some people have greater injuries than you and are still achieving a lot and developing, was a great source of hope and perspective.

Furthermore, athletes in the team felt comfortable enough to challenge each other, demand more from each other and push each other. It was this sense of normality that created the opportunities for growth through first gaining a sense of normality and then pushing yourself and breaking limits, thus achieving more than originally imagined.

Additionally the team dynamics had a very distinctive feature, as it was clear that athletes had their own 'gallows' humour, that was quite dark and used safely only in this environment with peers. This common humour had often a protective role in their lives, as they "took power away from derogatory words" (1) that they heard at times outside sports. It was also a key bonding tool as well a way of dealing with difficult topics with relative ease.

Athletes often talked about death and the presence of mortality in their peer relationship. Due to the nature of disability sport, people are lost often to illness or complications. It seemed that death was a constant reminder of lives vulnerability and thus people reported appreciating their peers more and spending time with them.

Interestingly in Elite sport it was often reported that people had more individual goals and selfish intentions. Furthermore, women reported being patronised in men's teams and feeling undervalued, having very little time on the court.

THE COACH

At best the coach created a safe environment where people felt accepted. Coach was mentioned as somebody who saw potential, empowered people, inspired and motivated you. The role of the coach in the process of PTG was significant in a sense that it was often she/he who originally saw the potential in an athlete and provided opportunities to develop. A good coach made an athlete feel valued

(MASTER) *"Acceptance, understanding and desire"* - TEAM SPORT & THE BODY

"Acceptance of what doesn't work, Understanding of what does work, Desire to make what does work the very best it can be" (2)

Team sport had an instrumental role in the process of corporeal post-traumatic growth. It was through sport that individuals reported understanding and accepting the limitations of their current body. Athletes talked about times when their "body wouldn't let me do things, so I had to be patient" (1) and indeed it was that acceptance

that deepened the relationship with the body. Furthermore, It was often sport that highlighted the lost aspects of skills, however this acknowledging of what is lost and acceptance of it was key for moving forward to seek and cultivate new skills. These skills were both physical and psychological.

The period of rehabilitation was often very challenging both physiologically and mentally and it was this challenge that often demanded psychological skills beyond previous experience. Athletes talked about learning to be patient and set goals for themselves.

Athletes talked about the physical trauma forcing them to connect to their bodies whereas before they had “lived inside their head”. Additionally, “having an imperfect body” freed some athletes from thinking about the body image and appreciating it more.

Team sport had a sport specific skills that were transferrable to real life situations

It was team sport that helped people to “regain their physicality” (1), and realise that they have talent and ability.

TEAM SPORT & PURPOSE AND MEANING

Athletes appeared to really strive for their best, particularly elite athletes talk about being able to succeed and test your skills and having a clear reason, meaning in their life because of sport.

TEAM SPORT & THE CHALLENGES (this could be a theme on its own)

This could belong here too: The team sport can be a challenging environment as well. Interestingly the safe environment was not always present in Elite teams. The demands towards the body were at times felt and perceived dangerous towards the well-being of the body. Athletes reported that the culture in Elite teams was more selfish and competitive. Furthermore, athletes felt that often in Elite sport the team was overpowering the individual. Athletes talked about being controlled around personal care and training routines and there was a real lack of autonomy.

And this: Interestingly in Elite sport it was often reported that people had more individual goals and selfish intentions. Furthermore, women reported being patronised in men’s teams and feeling undervalued, having very little time on the court.

Appendix N – Example of Further Developed Categories

Life Before Trauma	TRAUMATIC EVENT	RECOVERY 1 - 3 YEARS	Team sport as an organic thing - "it's like a living, breathing thing that always accepts you"		Life Outside SportsThe
			Entering the safe team sport environment	"Our normality – New normality" - Belonging	
				Being seen, valued, encouraged & expected from	
				Social leveller - Versatility of abilities	
				Socializing, Camaraderie, idols & (Gallows) humour	
				A sense of accountability - Autonomy	
			The Evolution of The Body Through Team Sport	"Acceptance of what doesn't work"	
				"Understanding of what does work"	
				"Desire to make what does work the very best it can be"	
				New physical skills & Body confidence	
				"My body is world class"	
			Finding Purpose & Meaning Through Team Sport	Being true to yourself - Authenticity & Integrated sense of self	
				Achievements & Development	
				Reminders of mortality - Vicarious PTG	
				Humanity, Giving back & Affecting change	
				Affecting change	
			Facing Challenges In Team Sport	Fast-tracking to elite sport	
				Selfish environment	
				Neglecting the body well-being - Additional Injuries / impairment	
				Conflicts inside the team & Team overpowering the individual	
				Loss of complexity of the self - Overpowering / one dimensional identity	

[illegible]

Appendix P – Initial Questions After Theoretical Sampling

TEAM SPORT AS A SAFE ENVIRONMENT

- Could you tell me about team sport as an environment?
- How do you feel in that environment?
- How does this differ from other environments in your life?

TEAM SPORT & THE TEAM DYNAMICS

- Could you tell me about the relationships in team sports?
- What is good about working in a team?
- Are there any downsides in working in a team?

TEAM SPORT & THE COACH

- Could you tell me about the role of the coach in your life?
- Has there been specific coach that was important to you?
 - What was special about them?
- Have you had a negative experience with a coach?
 - How did this impact you?
- Has there been other important person for you in team sports?

TEAM SPORT & THE BODY

- Could you tell me about the demands that the sport has on your body?
- Have you learned new skills?
- How did your body feel when you started the sport?
 - Strong? Weak? Was it hard? Easy?
- Has your perception about your body changed during your sport participation?
- Has something surprised you?

TEAM SPORT & THE CHALLENGES

- What are the challenges around team sport?
- What has been your greatest challenge in team sport?

TEAM SPORT & PURPOSE AND MEANING

- What is the meaning of team sport in your life?

Appendix Q – Final Qualitative Questions for Phase III and the Number of Responses

Many of us have experienced traumatic situations in our lives. There may have been times when we were upset by events that regularly occur, or by events that are quite rare and unexpected, Please think back over the course of your life, and if you have experienced an event then please think of it. If you would like to tell us about this event, please do so in the space below: (Note: you don't have to describe this event if you do not want to).

N=22

Is there anything you would like to add about your experience in team sports?

N=13

When you are in your training session, what kind of conversations are valuable for you personally?

N=13

Since starting sports after your impairment, how if at all, have your views around your body's potential changed?

N=15

Can you tell me about a time in sports when you felt your body was in some ways better than before your impairment?

N=15

Could you tell me how, if at all, you discuss illnesses or death, with other people in your sport?

N=16

Can you describe a time after your impairment when sport was not good for you? (e.g. being around other people coaches, other athletes, teammates)?

N=14

Appendix R – The Route to the Qualitative Questions

Grounded theory finding	Theory behind	Questionnaires covering these	PTG - Theory	What is missing	What I want to ask based on phase 1&2
Entering the safe team sport environment	Psychological wellbeing, physical wellbeing	PWB (Ryff), group cohesion (also how often you participate)	Managing emotional distress and coping, fear/frustration of the new body, new relationship. Self-disclosure, social support, role models,	What kind of collective wisdom is being shared? Categorise these. Physical WB.	What kind of knowledge is shared among athletes in teams? Sport and everyday related. We know some but would be great to be able to categorise these.
The evolution of the body through team sport	Body image, body awareness, Corporeal PTG, Embodiment	The Body Appreciation Scale-2	Managing emotional distress and coping, fear/frustration of the new body, new relationship. Self-disclosure, social support, role models,	The meaning of different bodies around you for the development of PTG. Body well and illbeing	What it means to see different bodies? Did you ever feel "I can't believe this body could do this" What else can it do?? Accepting your own new/different body because you see other bodies that are different
Finding purpose and meaning through team sport	Self-transcendence, Mortality awareness	Self-transcendence scale, PWB	Changed narrative, more resilient, increased wisdom, compassion, acts of service. Proximate support for schema change, growth	The role of death in this this environment, how people discuss this, does it have and effect on their life and PTG, vicarious growth	What it feels like being surrounded by people who are dying? Does it become normal? Or do you try not to think about it? Or does it keep you grounded, give you perspective?
Fast-tracking to elite sport	Psychological wellbeing, physical wellbeing	Group cohesion, PWB	Emotional distress, increased by challenges	So that we do not only look at the positives, but where it can go wrong for PTG. A lot of research is looking at the positives only (mine included)	When does sport turn against you? Can it be hindering PTG? Can People report PTG but be low in wellbeing. Pushing too far? Overpowering identity through sport.

Grounded theory finding	Lay person question	Lay person question	Lay person question	Lay person question	Lay person question
Entering the safe team sport environment	<i>What, if anything, has changed for you since starting sport after your impairment?</i>	<i>Since you started sport after your impairment, how, if at all would you say you have physically changed?</i>	<i>How has your sense of appreciation changed toward what you have since starting sports?</i>	<i>When you are in practise, what kind of discussions/chats are useful/you find interesting?</i>	<i>Can you think of a time when you have discussed something with your teammates which has changed the course of your thinking/life/way you see things?</i>

The evolution of the body through team sport	Can you tell me about a time in sports when you were physically doing something that you had not done before?	Can you tell me about a time when sport was not good for your body after your impairment?	What are you thinking when you see other people with different abilities excelling (doing great) in sport?	How is the experience for you when you are doing sport with people who have different kind of bodies?	Can you tell me about a time in sports when your body got better/stronger/more able after your impairment?
Finding purpose and meaning through team sport	Could you tell me how, if at all, you discuss illnesses or death, in your sport?	Can you tell me about a time in your sport when you felt that you are making a difference to others?	Being in a team, what is your relationship now with mortality awareness	Within your team what are your discussion around illness or death	How if at all you discuss death
Fast-tracking to elite sport	Could you describe a time when you felt that sport was not good for you?	Can you describe a time in sports after your impairment when you felt that everything was moving too fast?	Can you describe a time after your impairment when team sport was not good for you?		

Appendix S – Ethical Approval from UREC for the Phase III



29th January 2019

Dear Hanna,

Project Title:	Exploring the role of recreational activity and sports participation in post-traumatic growth in individuals with acquired disabilities.
Principal Investigator:	Dr Marcia Wilson
Researcher:	Hanna Kampman
Reference Number:	UREC 1617 72

I am writing to confirm the outcome of your application to the University Research Ethics Committee (UREC), which was considered by UREC on **Wednesday 6 July 2017**.

The decision made by members of the Committee is **Approved**. The Committee's response is based on the protocol described in the application form and supporting documentation. Your study has received ethical approval from the date of this letter.

Should you wish to make any changes in connection with your research project, this must be reported immediately to UREC. A Notification of Amendment form should be submitted for approval, accompanied by any additional or amended documents: <http://www.uel.ac.uk/wwwmedia/schools/graduate/documents/Notification-of-Amendment-to-Approved-Ethics-App-150115.doc>

Any adverse events that occur in connection with this research project must be reported immediately to UREC.

Approved Research Site

I am pleased to confirm that the approval of the proposed research applies to the following research site.

Research Site	Principal Investigator / Local Collaborator
Online Survey	Dr Marcia Wilson

Approved Documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	Version	Date
UREC application form	2.0	30 December 2018
Demographic sheet	1.0	20 June 2017
Online Advertisement	1.0	20 June 2017
Participant Information sheet	1.0	20 June 2017
Consent form	1.0	20 June 2017
Debrief sheet	1.0	20 June 2017

Approval is given on the understanding that the [UEL Code of Practice in Research](#) is adhered to.

The University will periodically audit a random sample of applications for ethical approval, to ensure that the research study is conducted in compliance with the consent given by the ethics Committee and to the highest standards of rigour and integrity.

Please note, it is your responsibility to retain this letter for your records.

With the Committee's best wishes for the success of this project.

Yours sincerely,



Fernanda Silva
Administrative Officer for Research Governance
University Research Ethics Committee (UREC)
Email: researchethics@uel.ac.uk

Dear Hanna

Application ID: ETH1819-0184

Original application ID: UREC 1617 72

Project title: Exploring the complex relationship between Posttraumatic Growth, sport and athletes with acquired disabilities

Lead researcher: Mrs Hanna Kampman

Your application to Psychology School Research Ethics Committee was considered on the 25th of June 2019.

The decision is: Approved

The Committee's response is based on the protocol described in the application form and supporting documentation.

Your project has received ethical approval for 2 years from the approval date.

If you have any questions regarding this application please contact your supervisor or the secretary for the Psychology School Research Ethics Committee.

Approval has been given for the submitted application only and the research must be conducted accordingly.

Should you wish to make any changes in connection with this research project you must complete ['An application for approval of an amendment to an existing application'](#).

Approval is given on the understanding that the [UEL Code of Practice for Research and the Code of Practice for Research Ethics](#) is adhered to.

Any adverse events or reactions that occur in connection with this research project should be reported using the University's form for [Reporting an Adverse/Serious Adverse Event/Reaction](#).

The University will periodically audit a random sample of approved applications for ethical approval, to ensure that the research projects are conducted in compliance with the consent given by the Research Ethics Committee and to the highest standards of rigour and integrity. Please note, it is your responsibility to retain this letter for your records.

With the Committee's best wishes for the success of the project

Yours sincerely

Fernanda Silva

Ethics ETH1819-0184: Mrs Hanna Kampman

Appendix T - Recruitment Advertisement Examples

[The Ehlers-Danlos Support UK \(ehlers-danlos.org\)](http://ehlers-danlos.org)

Exploring the role of sports participation in post-traumatic growth in individuals with acquired physical impairments

Researcher

Hanna Kampman & Dr Marcia Wilson, University of East London

Summary

The purpose of this research is to explore the role of sports participation in the process of post-traumatic growth. Post-traumatic growth is defined as positive changes in some areas of life as a result of a struggle with a major life crisis. Participants over 18 years old, from the UK, participating in sport and with an acquired physical impairment are invited to complete an anonymous online survey.

View

[Personal twitter](#)



Hanna Kampman @HKampman · 16 Aug 2019

...

Do you have an acquired physical impairment that led to a disability? Do you regularly participate in sports? Would you be interested in participating in an online survey researching the importance of sports participation? Please see the link:

uelpsyh.eu.qualtrics.com/jfe/form/SV_eV...

10

11

7



Exploring the role of sports participation in post-traumatic growth in individuals with acquired physical impairments

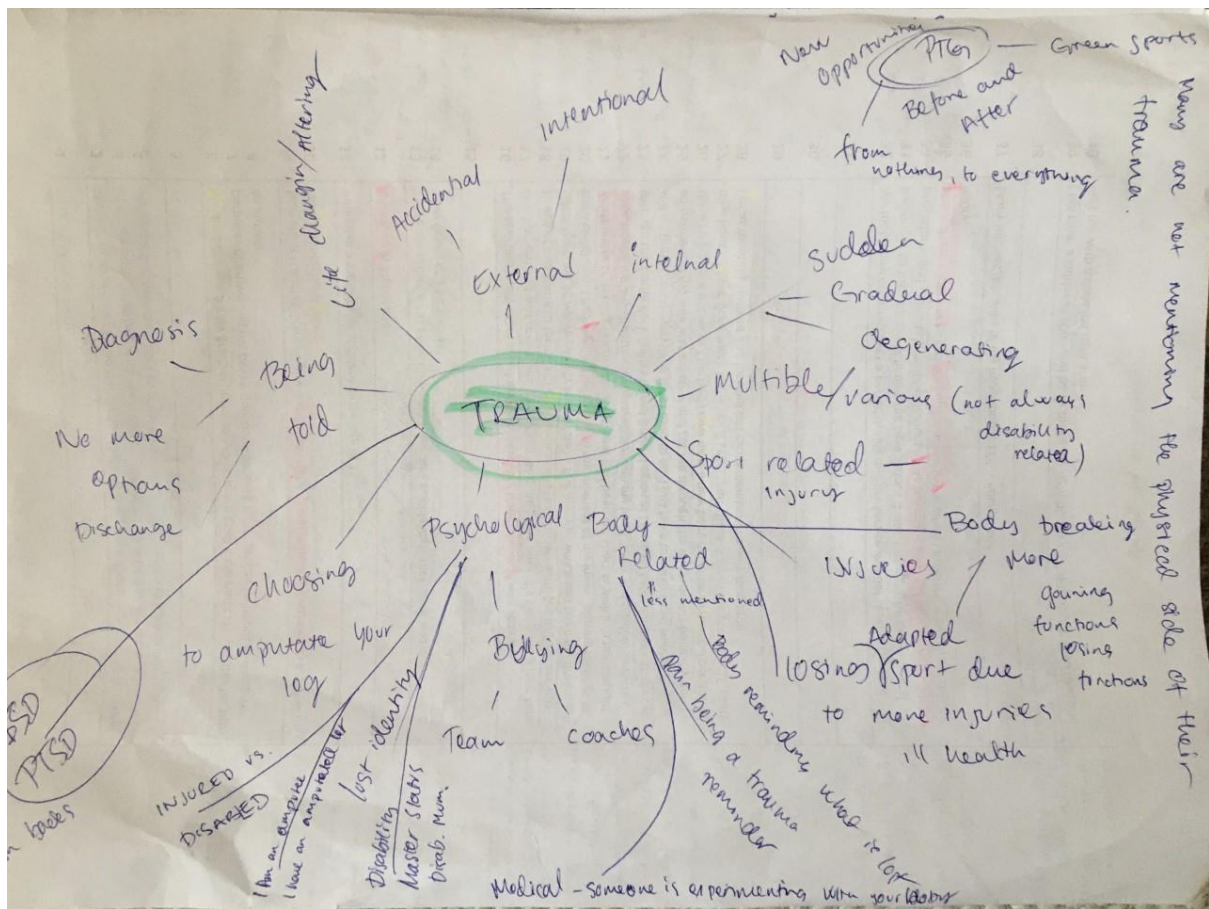
Do you have an acquired physical impairment that led to a disability? Do you regularly participate in sports? Would you be interested in participating in an online survey researching the importance of sports participation?

Appendix U - Analysis Focusing on Individual Questions and Participants

Due to the data being highly revealing and personal, these examples will be omitted from the final publication.

[Omitted]

Appendix V - Example of a Mind Map After the Question Around Trauma



Appendix W – An Example of Grouping the Initial Themes and Higher Order Themes

STEP 1 Themes before consolidating

TRAUMA

Cognitive vs. physical:

External vs. Internal:

Sudden vs. Gradual vs. Finite:

Unintentional vs. Intentional:

Multiple/various vs. single event:

TEAM SPORT

Importance of the coach

Psychological benefits

Sharing experiences

Skills in sports

NEGATIVES OF SPORTS

Losing your adapted spots

Feeling as an outsider

Bullying

Conflicting needs

CONVERSATION

Social

Coping

Skills based

Personal – private convo

THE BODY

Conflicting thoughts about the body

Acceptance and Appreciation

Different bodies, different abilities – alternative ways of doing

Negatives

Feeling disappointed about the body

Body vs. I

Negative impact of sport towards the body

BENEFITS of sport for your body

Find your sport and carry on

Learning from other bodies with different abilities

Transferrable skills

Feeling proud of your body

Appendix X - Example of Reflective Notes Kept Throughout the Analysis

Adapted sport can be excluding an athlete with a disability because of disability or drop them from the team because of the condition worsens. This is particularly concerning as the sport itself can make you more disabled due to overuse of the body or injuries. This might also be a surprising element of this sport which is adapted and talks about different abilities. However, it begs the question, when is your adapted ability not enough in adapted sports?

Many are not mentioning the physical side of their trauma, the reflections are cognitive in nature and what is often mentioned is what is lost due to trauma rather than the actual body part or functionality.

Method: Including both question by question and participant per participant data helps greatly with the analysis. Going from general to individual helps to look at the data from different angles. It is almost a form of triangulation.

Find YOUR sport and carry on: Not all adapted sports are the same and at times changing sports can be helpful. It matters what fits your personality and physicality. Rugby, high impact aggressive sport, volleyball, a tactical no contact sport.

Dividing your body into two: My body and I. Injured vs non injured part (at times ignoring the injured part). Seeing the body as separate from self. Body as a tool.

Different bodies, different abilities can work well to accommodate acceptance and provide idols. Can also be a source of discomfort when someone does not appreciate your struggle (e.g. minor injury, invisible disability, visible physical disability). Or if someone is complaining when they are dealing with "less" than you i.e. have a minor injury or lesser disability. (HK: could this be about acceptance and where you are in your acceptance process regarding your own situation).

I feel as if the talking and sharing works in good teams if they are well fixed together. If this fails the ripple effects go to many places, benefits do not happen, and harm does. Also, some people appear to be all about the business, sports, skills, and goals, other more about the sharing, caring and common goals.

Talking about the functional side of things but perhaps not so much as the emotional aspects. There is an acknowledgement of death (terminal conditions), it is hard to discuss about and accept but the presence of death is known. (HK: would education help?) People who have a terminal condition feel that this topic is difficult for others to discuss.

Appendix Y - Copies of Already Published Work

This thesis includes material, findings and discussions that have been published in conferences, journal papers or are in preparation as manuscripts. In compliance with the University of East London Manual of General Regulations, Part 9, section 19, clause 19.8, copies of already published work are included within the appendices of this thesis where possible, however, some are provided as a reference to adhere to the copyright regulations of the journals.



School of Psychology

Preliminary results

Post-Traumatic Growth & Team Sports: the complex relationship between acquired disability, team sports and post-traumatic growth

PhD. Candidate Hanna Kampman

Introduction

This study is a continuation of the previous findings from the researchers' (Kampman & Hefferon, 2013) study in which athletes from different Great Britain Paralympic teams were interviewed. This project aims to examine how previous trauma with severe physical injury after birth led to engagement and training for disability team sports at leisure or elite level. The purpose of this study is to examine the role of the team sports and the body in facilitating post-traumatic growth (PTG) as well as the role of PTG in facilitating peak performance (Hefferon, 2012, 2013; Hefferon, Grealy, & Mutrie, 2008).

Other studies in the area of sport, physical activity and PTG have already found that PTG is a process where both positive and negative experiences co-exist (Day, 2013; Day & Wadey, 2015; Kampman & Hefferon, 2013; Tamminen, Holt & Neely, 2013). Furthermore, physical activity and sport has been found to facilitate PTG through meaning making, body, safe environment and assimilation of previous life experiences and accommodation to current situation (Day, 2013; Day & Wadey, 2015; Kampman & Hefferon, 2013; Tamminen, Holt & Neely, 2013). The previous studies however, have not identified the role of team sport in PTG or the similarities and differences between elite and leisure team sport. Thus, a comprehensive model is lacking in this area. It is important to differentiate the different forms of sports (team & individual) to truly understand the factors promoting posttraumatic growth.

Overall this research is aiming to further knowledge in this area and examine this transformative process from the perspective of posttraumatic growth (Tedeschi, Park, & Calhoun, 1998).

Method

This study is utilizing Grounded theory method (Charmaz, 2014) to collect and analyze the data. In this study the data will be collected through semi-structured interviews, which allows a conversational style of interviewing. Thus far 4 interviews have been analyzed to present these preliminary findings.

This originally inductive method moves towards the deductive phase of the research as data collection proceeds. The proposed number of participants in this study is 12-14. These will be 18-65 years old male or female athletes who are participating in team sports for leisure, or at elite level and have suffered previous trauma with severe physical injury after birth. The purpose is to create a model of the phenomenon. This is the first study to build an all-encompassing model of post-traumatic growth in leisure and elite athletes with acquired disabilities and will add to our understanding of the phenomenon.

Preliminary themes

The results presented in this poster are based on preliminary analyses of four athletes interviews (3 Elite and 1 Leisure – all women). All themes are interconnected and results presented here are focused around team sport. Final model will discuss the other themes in more details as well. The final model will be presented after the research has reached a saturation point following further interviews based on these preliminary directions.

Table 1. Preliminary interrelated themes (2016)



Moving forward

These preliminary results are already suggesting unique elements that team sport could potentially offer for the process of PTG. Furthermore, there could be specific benefits and disadvantages in participating in team sport both at leisure and elite level. However, these preliminary results are merely a beginning of unravelling the process and model around PTG and team sport in athletes with acquired disabilities. Further data and analyses are required to form a comprehensive model of the phenomenon.

Understanding around these factors could build bridges between positive psychology, sports psychology and rehabilitation psychology.

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Conference presentation: Kampman, H (2016). Post-Traumatic Growth, severe injuries and team sport. Presented at EAS 2016: European Athlete as Student Network Rovaniemi, Finland 14 September 2016

Kampman, H., Hefferon, K., Beale, J. Joseph S., Hart, R. (in prep) '*Adaptive team sport as an organic thing – like a living, breathing thing that always accepts you*' – towards a model of the complex relationship between acquired disability, the body, adaptive team sport and post-traumatic growth in athletes with acquired physical disabilities.

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