

**An exploration of experiences of yoga practice and eating disorders from the perspective of women with a history of eating disorders.**

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## ABSTRACT

**Objectives:** The existing literature demonstrates a need for more effective treatments and support for people diagnosed with “eating disorders”. The limited research available demonstrates the potential for yoga to be helpful as a treatment for “eating disorders”. However, only one study investigated people’s experiences of yoga and “eating disorders”, and none looked at the aspects of yoga that people may find more or less helpful. This study aimed to explore women’s experiences of yoga practice in relation to their experiences of “eating disorders”, with the hope of identifying such aspects.

**Methods:** 12 semi-structured interviews were conducted with women with a history and current experience of “eating disorders” (Anorexia or Bulimia Nervosa), 6 of whom were trained as yoga teachers, and 6 were practicing yoga regularly during their journey to recovery. Average age of participants was 27 years. Duration of yoga practice ranged from 1 to 21 years. The transcripts were analysed using inductive thematic analysis.

**Results:** Two superordinate themes were identified, with participants describing a joint journey between their ED and yoga practice, ways through which yoga may be helpful for achieving a better mind-body connection, such as through mindfulness, spirituality and related principles; as well as noting ways through which yoga may potentially be unhelpful to those experiencing EDs, such as when ED manifests in the practice, or if yoga becomes another manifestation of ED in the form of excessive exercise, or when yoga industry and the current presentation of yoga negatively influences individual’s practice.

**Conclusions:** This study provides insights about potential mechanisms through which yoga could be helpful or detrimental for those experiencing “eating disorders”. The clinical and research implications are discussed. It is hoped that the findings will contribute to the development of more effective and client-accepted ways of supporting people with “eating disorders”.

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## **1. INTRODUCTION**

This study explores women's experiences of yoga practice in relation to their eating difficulties. The first chapter outlines definitions and diagnostic classifications of eating disorders, together with prevalence, outcomes and costs, and presentations. Then, relevant theories are discussed together with standard interventions currently used for the treatment of eating disorders, followed by a discussion of complementary and alternative treatments. This leads to review and critical consideration of the existing literature on the use of yoga for difficulties labelled as "eating disorders", and difficulties that often co-occur with these. The chapter concludes with the rationale for and the research questions addressed in the current study. Cronin, Ryan, and Coughlan's (2008) guide was used to inform the work undertaken as part of the literature review.

### **1.1. Eating Disorders**

#### **1.1.1. Definitions and Classifications**

There are a number of different ways eating disorders (EDs) can be viewed. From one perspective they are defined as "biologically based, serious mental illnesses" (Klump, Bulik, Kaye, Treasure, & Tyson, 2009), whereas others see them as "extremely complicated response[s] to a confusing social identity" (Orbach, 2005). Whilst, it is acknowledged that there are many ways of viewing EDs that are beyond the scope of this thesis, the two prominent ideas addressed here are of a psychiatric and psychological nature. First, the psychiatric approach will be discussed; following this, the psychological. In relation to the psychiatric approach, as with many categories of psychiatric classifications there are dilemmas in regards to the use of such classifications with EDs (e.g. Boyle, 2002). However, such classifications need to be considered due to their need for individuals to be able to access services, as at present the services are organised with the use of such classifications. Hence, these are presented here next.



The Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5; American Psychiatric Association (APA), 2013a) outlines the main characteristics of EDs as persistent disruption of eating-related behaviours, which leads to altered consumption of food and significant impairment in psychosocial or physical functioning. Some types of EDs are accompanied by preoccupation with body shape and/or weight and related distress (APA, 2013a).

DSM-5 provides classification of the following EDs: anorexia nervosa (AN), bulimia nervosa (BN), Pica, rumination disorder, avoidant/restrictive food intake disorder, binge-eating disorder (BED), other specified feeding or eating disorder (OSFED), and unspecified feeding or eating disorder (UFED) (APA, 2013a). The outlined categories have undergone substantial changes from DSM-IV to DSM-5, such as introduction of the BED, and revisions to diagnostic criteria of AN and BN. These changes were introduced with the intention to provide people who have ED-related experiences with a diagnosis that matches their symptoms, and to avoid the catch-all categories, such as Eating Disorder Not Otherwise Specified (EDNOS) that were present in the previous version (APA, 2000, 2013b). However, with OSFED and UFED it is unclear whether this is possible. In fact, it is already evident that these two categories have become the new “rag bag[s]” or “residual categor[ies]” (p. 3, Palmer, 2005) and continue to include many of the other ED classifications, as did EDNOS (Murray & Anderson, 2015).

There are a number of other problems surrounding these diagnostic categories and diagnoses, and their use in clinical and societal settings also require acknowledgement and questioning. For example, how helpful is it to medicalise people’s experiences and can such experiences, so bound up in cultural and other practices, be clustered and judged to be disorders (Palmer, 2005; Parker, Georgaca, Harper, McLaughlin, & Stowell-Smith, 1995; Rapley, Moncrieff, & Dillon, 2011)?

To illustrate the complexity of these difficulties, their presentations, epidemiology, and outcomes and costs are presented next.

### 1.1.2. Presentations

EDs vary widely in their presentation and intensity (Miller & Golden, 2010). However, there are some behaviours and thought patterns that have been noted to be similar across a number of EDs. Observable behaviours include restriction (limiting of calorie intake), binge eating (consuming an amount of food that would be considered too large for a given context), compensatory behaviours (behaviours aimed at preventing weight gain, such as exercise or vomiting), and body-image avoidance (behaviours that aim to avoid or change one's experience of own body). Subjective experiences include patterns of feelings, beliefs, and perceptions, such as those about beauty and thinness (Sandoz, Wilson, & Dufrene, 2011).

### 1.1.3. Epidemiology

The prevalence rate of EDs in the UK has been estimated to range from 600,000 to 725,000 (PricewaterhouseCoopers (PwC), 2015). The incidence rates are on the rise, with variations in ED types, gender and age. Incidence rates in females are significantly higher than in males. In 2009, age-standardised incidence for females and males was estimated to be around 63 and 7 per 100 000 respectively (Micali, Hagberg, Petersen, & Treasure, 2013).

### 1.1.4. Outcomes and costs

At present, EDs are considered extremely difficult to treat (Van Hoeken, Seidell, & Hoek, 2003), with great physiological and psychological consequences and costs (Agras, 2001; Fairburn & Harrison, 2003; PwC, 2015). The direct cost to individuals experiencing EDs and to their carers (e.g. treatment travel and other) has been estimated to be on average £4,300 per year, with higher financial impact if time off work and education is taken into consideration. Estimated annual overall treatment costs to the NHS range between £3.9 billion and £4.6 billion (PwC, 2015).

Outcomes for most EDs are not very promising, though they vary greatly with type of difficulty, individual characteristics and context. Duration of most EDs tends to be long, with an average for AN being 8 years (Vos et al., 2001).

Recovery rates are relatively low, with examples of less than 50% recovering, for

those diagnosed with either AN or BN, whether they receive treatment or not (Steinhausen & Weber, 2009; Steinhausen, 2002). These outcomes may be due to a number of factors, one of which may be due to delay of treatment effect, or due to the type of support available. Based on a survey carried out by Beat (a leading EDs charity) and PwC, nearly half of individuals with EDs report waiting more than a year before they seek help. Out of those who were required to wait for a diagnosis and/or treatment 41% had to wait for more than 6 months, and 19% for more than 1 year (PwC, 2015).

EDs, and especially AN, are associated with the highest mortality rates among mental health difficulties, including a high suicide rate and with chronic courses (Steinhausen, 2009). Emotional effects may include depression, anxiety and other difficulties (Murphy, Straebl, Cooper, & Fairburn, 2010). Physiological consequences depend on the type of ED and can range from electrolyte disturbance in individuals with BN (Wolfe, Metzger, Levine, & Jimerson, 2001) to hypothermia, a number of cardiovascular complications, and other health problems in those with AN (Sharp & Freeman, 1993).

## **1.2. Eating Disorder Theories and Interventions**

### **1.2.1. Standard Treatment Approaches**

EDs are complex and their development and maintenance are influenced by multiple factors, which a number of psychological theories attempt to explain. These are presented here next together with relevant interventions, as each intervention is informed by a specific related theory. Treatments greatly depend on each individual case. Most cases are multifaceted in their presentation, especially as sufferers often experience other mental health difficulties alongside the ED (e.g. depression, anxiety) (Braun, Sunday, & Halmi, 1994). A psychological therapy that serves as a first-line treatment for many EDs is cognitive behaviour therapy (CBT) adapted to each ED. Other treatment recommendations vary depending on the classification of the eating difficulty. Treatments for AN include interpersonal psychotherapy (IPT), family interventions, dietary counselling, and others. For BN, the National Collaborating Centre for Mental Health (NCCMH) recommends evidence-based self-help

programmes; if these and CBT are found to be ineffective in symptom reduction, then IPT may be considered. Similar recommendations are made for other EDs (e.g. BED) (Fairburn & Harrison, 2003; NCCMH, 2004).

#### *1.2.1.1. Cognitive Behaviour Therapy*

As the therapy of choice, CBT has received significant research support (Hay, 2013). The transdiagnostic CBT approach assumes that EDs have shared psychopathological processes of “overevaluation of the importance of shape and weight and their control” (Fairburn, Cooper, & Shafran, 2003; Murphy et al., 2010, p.1). It focuses on factors that are assumed to initiate and maintain EDs, and on ED-related characteristics, such as low self-esteem, excessive perfectionism, interpersonal difficulties and mood intolerance. CBT-based approaches acknowledge other factors that could contribute to eating difficulties in the form of risk factors. Some recognise not only the psychological and biological risk factors, but also the impact of society and socio-cultural norms, such as emphasis on thinness and stressful life events (Gard & Freeman, 1996; Halmi, 2005; Pate, Pumariega, Hester, & Garner, 1992). CBT assumes that these factors then lead to individuals developing EDs, and that physiological effects of starvation also contribute to the maintenance of eating difficulties (Fairburn, Cooper, & Cooper, 1986). Hence, the treatment targets these psychopathological features and processes in order to reduce ED symptomatology (Fairburn, Cooper, & Shafran, 2003). They do so by collaboratively developing a formulation, having weekly weighing, establishing “regular eating”, and addressing the cognitive and other ED-related difficulties with a range of techniques and strategies (Fairburn, 2008).

#### *1.2.1.2. Interpersonal Psychotherapy*

Another treatment that is recommended as an alternative to CBT is IPT, though NCCMH recommends that clients are informed that it takes longer to produce results similar to those of CBT (NCCMH, 2004). It hypothesises that what sparks eating difficulties are events related to interpersonal relationships (Schmidt, Tiller, Blanchard, Andrews, & Treasure, 1997). Such events and later interpersonal difficulties, combined with a coping response that includes avoidance or insufficient support-seeking, may be a contributing factor to the onset and

maintenance of EDs (Treasure, Schmidt, & Van Furth, 2003). For example, social withdrawal that often occurs when someone is experiencing EDs may be what is both causing and maintaining the interpersonal difficulties, as the individual is unable to challenge their fears. Such difficulties often have a significant impact on self-esteem, which can lead to increased ED-difficulties, such as attempts at gaining control over eating (Murphy, Straebl, Basden, Cooper, & Fairburn, 2012). From this approach the EDs are seen as a way of coping with interpersonal and life difficulties and social stressors, as well as being a way to manage difficult emotions. Therefore, treatment targets interpersonal patterns that are considered problematic, helping the individual adapt to their interpersonal circumstances, with the aim of reducing ED symptoms (Markowitz & Weissman, 2012).

#### *1.2.1.3. Psychodynamic approaches*

Depending on the school of psychodynamic therapy different ways of understanding EDs can be seen. From a more contemporary psychodynamic framework EDs are seen as a result of social pressures to be thin and the vulnerability to succumb to these. These vulnerabilities are viewed as coming from attachment needs that have not been met. These are hypothesised to lead to negative affect and unhelpful coping mechanisms, which then become ED symptoms and other maladaptive defences (Tasca & Balfour, 2014). From this perspective the therapy attempts to help the individual to understand the antecedents to the eating-related difficulties by offering a safe space to talk through their history. The therapeutic relationship is often used to help the client manage unexpressed difficult feelings, whilst learning to use other coping strategies instead of using the ED behaviours (Zerbe, 2001). The psychodynamic approach has received some support as a treatment for EDs, but only when modified for a specific problem rather than as a generic supportive treatment (Fonagy, Roth, & Higgitt, 2005).

#### *1.2.1.4. Family therapies*

The original family therapy approach hypothesised that there are specific family contexts within which EDs are more likely to develop. Certain family processes, such as rigidity, overinvolvement, enmeshment, conflict avoidance, were

suggested to arise around ED behaviours, interacting with an individual's vulnerabilities and their role within the family (Minuchin et al., 1975). This approach has since changed from seeing families as problematic, to seeing them more as a way to introduce change, with families offering context for change rather than being the object to change. This has led to family therapy being more collaborative, with a focus on family resources and their use for looking for solutions and targeting the client's ED (Eisler & Lask, 2008). The majority of research on family therapy has been carried out on adolescents with AN, where it shows promise. Less evidence is available for adults and other types of EDs (Eisler, le Grange, & Asen, 2005; Eisler, 2005).

#### *1.2.1.5. Dialectical Behaviour Therapy*

Similar to other therapeutic approaches and psychological theories described so far, Dialectical Behaviour Therapy (DBT) also assumes that eating serves a function for regulating intolerable emotions by those with few other coping strategies. It sees bingeing, restricting or other ED behaviours as a way to escape or block aversive emotions by immediately narrowing the focus away from difficult thoughts and feelings. Factors assumed to maintain the ED, such as interpersonal difficulties and low self-esteem, are mediated by the effects of emotional responses and the inability to tolerate these responses. The treatment therefore aims to understand the emotional patterns and their potential triggers, and increase the client's behavioural control and exposure to avoided emotions. It addresses these by including mindfulness skills training, as well as strategies to promote change, such as behavioural chain analysis and emotion regulation (Linehan & Chen, 2005; Wisniewski, Safer, & Chen, 2007). The evidence base for DBT for EDs is weak as of yet, consisting mostly of uncontrolled trials, but indicating that DBT is effective in attending to ED behaviours and other related difficulties. However, it is not clear whether these changes are necessarily due to improvements in emotion regulation abilities (Bankoff, Karpel, Forbes, & Pantalone, 2012).

#### *1.2.1.6. Acceptance and Commitment Therapy*

Acceptance and Commitment Therapy (ACT) supposes that ED behaviours are learned based on an individual's life events, and are affected by context. It also

suggests that individuals affected by EDs have learned ineffective emotion and behaviour regulation strategies, which, if modified, could reduce ED symptoms. An individual's attempts at controlling their negative emotional, behavioural or cognitive states are seen as potentially worsening their mental health difficulties. Traditionally ACT is a transdiagnostic approach, as it aims to reduce experiential avoidance and increase psychological flexibility (ability to adapt behaviours to circumstances in order to reach valued life goals) rather than treating any specific disorder (Godfrey, Gallo, & Afari, 2015; Hayes & Pankey, 2002; Heffner, Sperry, Eifert, & Detweiler, 2002; Heffner, Eifert, & Hayes, 2004; Manlick, Cochran, & Koon, 2013; Merwin et al., 2011; Merwin & Wilson, 2009; Orsillo & Batten, 2002). Evidence on ACT for EDs has only recently started to develop, and currently there is great variability in the way ACT is used as an intervention for EDs, making it difficult to assimilate the results. On the whole the literature is mixed, with findings dependent on the type of ED. Some studies show very small or negative effects (Katterman, Goldstein, Butryn, Forman, & Lowe, 2014; Katterman, Kleinman, Hood, Nackers, & Corsica, 2014; Lillis, Hayes, & Levin, 2011; Smith, Shelley, Leahigh, & Vanleit, 2006; Smith et al., 2008; Tapper et al., 2009), and others show more positive results (Anderson & Simmons, 2008; Kristeller, Baer, & Quillian-Wolever, 2006; Safer, Telch, & Chen, 2009; Wade, Treasure, & Schmidt, 2011; Wildes & Marcus, 2011).

#### *1.2.1.7. Conclusions*

From the described ways of understanding EDs it is evident that there are a number of factors on which many theories agree. For example, many psychological theories seem to be based on the assumption that ED behaviours are a person's way of regulating difficult thoughts and emotions. However, the amount of research support available for the use of these approaches with EDs varies significantly, and both advantages and limitations can be identified in their use with those experiencing EDs. For example, CBT-based therapies do not take into account the body or spirituality and they have been criticised for potentially being psychologically reductionist due to their focus on individual's cognitive processes, and the assumption that changing these will change a person's well-being and mental health, at times implying that "reality is not a problem" (p. 272, Pilgrim & Bentall, 1999). This can place blame and responsibility for the disorder

on the individual and pathologise their difficulties (Boyle, 2002). Other NICE-recommended approaches, such as IPT, have similar pitfalls, as they attempt to reduce ED symptoms by targeting interpersonal difficulties that are assumed to be the maintaining factors (Champion & Power, 2012; Fairburn et al., 2003). The only treatments that look outside of the individual appear to be family-based therapies, but they are only recommended for AN and are mainly used with children and adolescents (Royal College of Psychiatrists, 2012).

Additionally, despite the acknowledgement of the impact of societal norms, standard treatments do not tend to include body or spirituality in their conceptualisation or application, with the exception of medication that is mainly used to reduce related difficulties (Brown & Keel, 2012). It could be argued that approaches which incorporate mindfulness, such as DBT or ACT, address the body, but even then the mindfulness practice is one of several strategies rather than the main approach. The low recovery rates indicate that something is missing from existing treatments (Steinhausen & Weber, 2009; Steinhausen, 2002), and further investigation is needed into potential components that could lead to more effective treatments and support for people with EDs diagnoses, as highlighted by systematic reviews (Berkman, Lohr, & Bulik, 2007) and by the NCCMH (2004).

#### 1.2.2. Complementary therapies

The alternative to standard psychological approaches that could potentially help address unmet spiritual and emotional needs are complementary and alternative medicines (CAMs) (Machleidt & Ziegenbein, 2008). Some of the most widely used CAMs that have been recognised for their psychological benefits are tai chi, qi gong, some mindfulness-based treatments and yoga (e.g. Clarke, Black, Stussman, Barnes, & Nahin, 2015; Kabat-Zinn et al., 1992; Select Committee on Science and Technology, 2000).

##### 1.2.2.1. *Mindfulness-based approaches*

As mentioned above, one of the approaches used on its own and in addition to CBT, DBT, and ACT, is mindfulness. Even though it is now included in the emerging trends of psychological therapy, it has its roots in traditional Buddhist



meditative practices, and is, therefore, discussed here (Williams, Mark, & Kabat-Zinn, 2011). It has been defined as awareness in the present moment, which is created by “paying attention on purpose” and without judgement “to the unfolding of experience moment by moment” (p.145, Kabat-Zinn, 2006). Through mindfulness individuals learn to observe their thoughts, feelings, and physical sensations without evaluating them, and not trying to avoid, or change them. The assumption is that mindfulness can lead to increased self-acceptance and awareness, improvements in ability to make choices more adapted to life circumstances, and reduced reactivity (Baer, Fischer, & Huss, 2005; Linehan, 1993a, 1993b). It has been growing in popularity in recent years, with increasing evidence for its use with a range of mental health difficulties (e.g. Fjorback, Arendt, Ornbøl, Fink, & Walach, 2011; Kallapiran, Koo, Kirubakaran, & Hancock, 2015; Vøllestad, Nielsen, & Nielsen, 2012), including EDs. The available research has mostly been carried out with mindfulness as part of an intervention. The findings show promising results in relation to some types of EDs, but not others, and also depend on the intervention used. For example, DBT and Mindfulness-Based Cognitive Therapy (MBCT) were found to be moderately helpful in studies on BN or binge eating. Less research is available in the use of mindfulness-based therapies for AN. Additionally, the literature suffers from a number of limitations that make it difficult for reviews to draw definitive conclusions. Most studies are heterogeneous, with different approaches, limited sample sizes, and differences in the level of intensity and amount of time allocated to mindfulness within the interventions (DeSole, 2013; Godfrey et al., 2015; Wanden-Berghe, Sanz-Valero, & Wanden-Berghe, 2011).

On the other hand, there are advantages to mindfulness-based approaches, including the standardisation of such approaches and availability of manuals. However, even though such approaches incorporate the body in the practice of, for instance, mindful walking, their focus is still on the mind. The practice is therefore not grounded in the physicality of the body, potentially due to the way mindfulness has been operationalised in the West (Baer, 2006; Bishop et al., 2006). This puts them in line with standard psychological approaches to EDs, such as CBT, which tend to neglect the body.

Alternative approaches, such as yoga, aim to harmonise the mind with the body, and offer a way to bring the body into the treatment, specifically focusing on the physicality of the body. It also combines elements of mindfulness and exercise in a way that might produce synergistic benefits (Gard, Noggle, Park, Vago, & Wilson, 2014). It has advantages of being more easily available than many other CAM or psychological treatment, which is a big advantage, considering the waiting times for most treatments, as discussed above (PwC, 2015).

However, even though mindfulness-based manualised approaches that incorporate yoga practice have been shown to have beneficial effects on mental health (e.g. Fjorback, Arendt, Ornbøl, Fink, & Walach, 2011), yoga has not received much research attention on its own, despite existing research showing that it is one of the more effective CAMs for a number of mental health difficulties (e.g. Powers, Bannon, & Key, 2011; Saeed, Antonacci, & Bloch, 2010).

#### 1.2.2.2. *Yoga*

There are a number of definitions of yoga. It has been translated from Sanskrit as meaning to unite, referring to the joining of mind, body and spirit (Panesar & Valachova, 2011). Yoga is hypothesised to work through a combination of yamas (moral and ethical restraints), niyamas (individual discipline), asanas (postures), pranayama (breathing), pratyahara (mind withdrawal from the sense), dharana (concentration), dhyana (meditation), samadhi (superconsciousness), sutras (wisdom philosophy), and mantras (chants) (Sturgess & Kriyananda, 2002). The number of different types of yoga has grown progressively over the years resulting in a great breadth of practices being grouped under the term “yoga” (Appendix 1).

Yoga has shown promise as a supportive treatment and is offered in that capacity in some NHS trusts (e.g. First Steps Derbyshire, 2009) and more widely in the US, with two-thirds of residential programmes offering yoga (Frisch, Herzog, & Franko, 2006). However, it requires further evidence in order to be included in guidelines and offered to clients more widely and frequently.

The existing literature is deficient due to a scarcity of both systematic reviews and

large-scale, rigorous studies, and there is little research focusing specifically on problems directly related to EDs, such as body awareness (Daubenmier, 2005). This is surprising, as yoga has demonstrated the potential to be beneficial for numerous mental health difficulties that often co-occur with EDs (Braun, Sunday, & Halmi, 1994), such as depression and anxiety (Saeed et al., 2010), is relatively cost-effective and is widely practised (Büssing, Michalsen, Khalsa, Telles, & Sherman, 2012; Cramer et al., 2016). Existing evidence of yoga's impact on ED-related constructs and ED symptoms are addressed in the literature review.

### **1.3. Why Focus on Women in Relation to Yoga and Eating Difficulties?**

While there are disagreements in the theories in regards to the development of EDs in men and women, the data currently suggests that EDs are more common in women (Micali et al., 2013) and that many of the putative causal factors affect women to a greater extent (e.g. DeGroot & Rodin, 1994; Garfinkel & Garner, 1982). The differences in presentation also justify investigating women's and men's experiences separately (Anderson & Bulik, 2004; Lewinsohn, Seeley, Moerk, & Striegel-Moore, 2002). Moreover, yoga appears to be an activity that, at least in the West, is taken up more by women (Cramer et al., 2016). Therefore, investigating effects of yoga on ED-related difficulties in women may be more appropriate at this stage of this topic's development, as the results may be applicable to a larger proportion of those experiencing EDs and those practicing yoga.

### **1.4. Literature Review: Yoga and Eating Disorders**

A literature review was conducted to further investigate yoga as a treatment for EDs and to provide justification for this research. The aim of the review was to answer the following questions:

1. Do yoga-based treatments have an impact on the symptoms of and recovery from EDs?
2. In what ways might yoga impact EDs?

#### 1.4.1. Literature Search

A narrative review approach was employed, as it was felt to have the flexibility to permit broader focus and coverage of the existing literature on the topic, as well as allowing for a more holistic interpretation and critical evaluation of the findings (Baumeister & Leary, 1997; Collins & Fauser, 2005; Educational Research Review, n.d.).

#### 1.4.2. Databases and Search Terms

The searched databases included: PsycINFO, Scopus, ScienceDirect, CINAHL Plus, Academic Search Complete, PubMed and SPORTDiscus. Additionally, relevant references from identified books and articles were investigated. The terms used were “yoga” and “eating disorder/s”, plus: “Anorexia”, “Anorexia Nervosa”, “Bulimia”, “Bulimia Nervosa”, “Eating disorder not otherwise specified”, “Pica”, “rumination disorder”, “avoidant/restrictive food intake disorder”, “binge-eating disorder”, “other specified feeding or eating disorder”, and “unspecified feeding or eating disorder”<sup>1</sup> (see Appendix 2).

#### 1.4.3. Inclusion and Exclusion Criteria

The search included studies from a range of countries, but was limited to work written in English. No limit was placed on the publication date; therefore the search included all records published up until January 2016. Source types included journals, academic journals, abstracts (where sufficient information was available), dissertations, books, and reviews. Magazines and news articles were excluded. Only studies where yoga was a central element in the intervention and where a substantial part of the article was devoted to yoga were included. Studies where the main focus was on mindfulness, and related interventions were excluded.

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<sup>1</sup> ED classifications have been revised in DSM-5 (APA, 2013b). To ensure the inclusion of all available literature on EDs, diagnostic labels from DSM – IV Text Revision (APA, 2000) were also included in the search.

#### 1.4.4. Summary of Search Results

The search resulted in 1164 records, which were reduced down to 35 based on the selection process outlined in Appendix 2 and Figure 1 (as in Moher, Liberati, Tetzlaff, & Altman, 2009). The resulting literature focused on conceptualisations of yoga as therapy for people with EDs, studies investigating the influence of yoga on ED symptoms and ED-related difficulties, and reviews of the literature on the effectiveness of yoga in helping those with EDs. The identified literature was then analysed in relation to answering the above-stated questions.

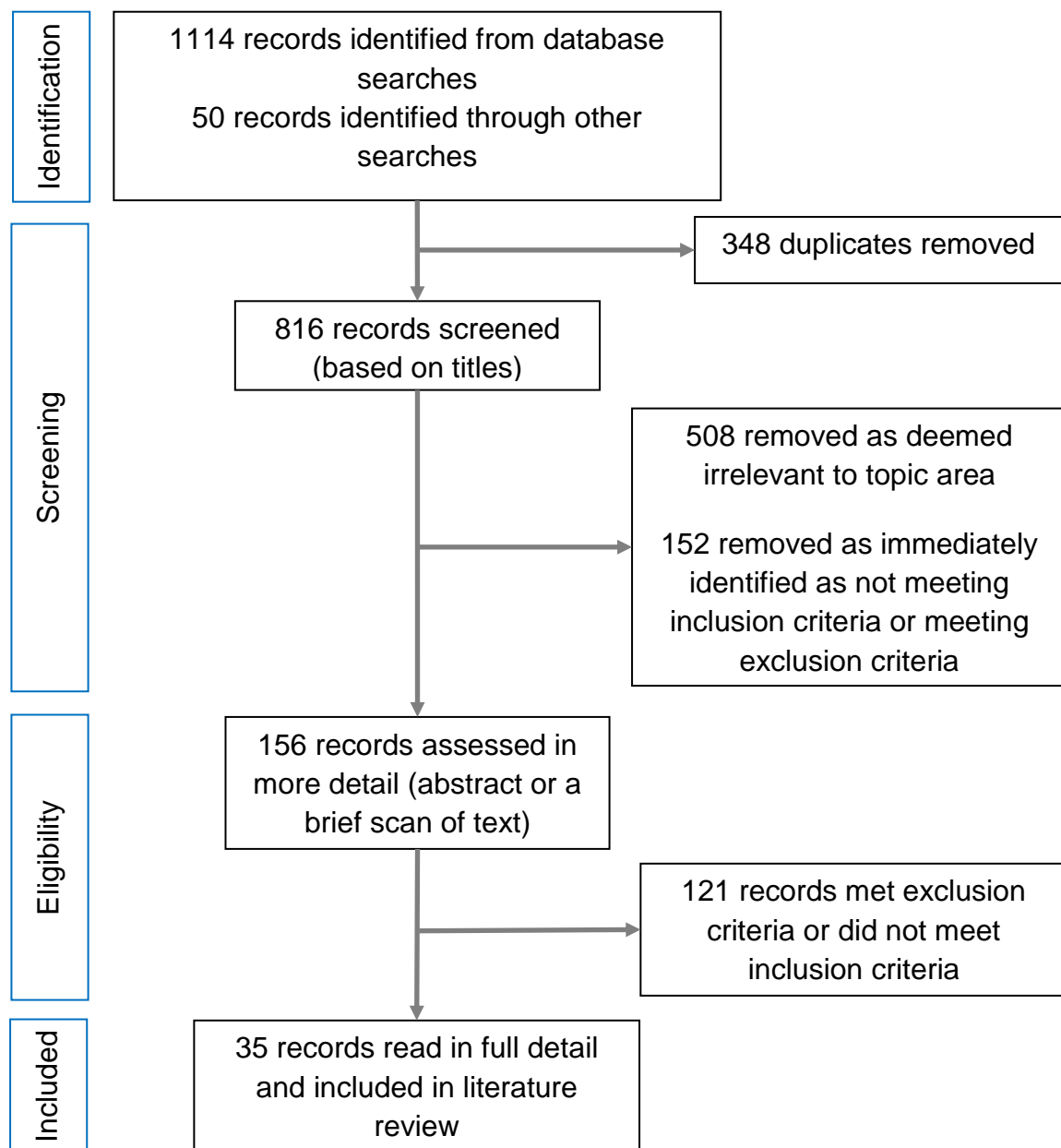


Figure 1. Flow diagram of the literature search and review process.

#### 1.4.5. Reviews

To date, one main review has been published evaluating the literature specifically on the effects of yoga on ED symptoms and its correlates (Klein & Cook-Cottone, 2013), with three others providing brief information or not yet being published (Balasubramaniam, Telles, & Doraiswamy, 2013; Ramos-Jiménez, Wall-Medrano, Corona-Hernández, & Hernández-Torres, 2015; Vogel, Cramer, & Ostermann, 2015). Of the latter, one review focused on the impact of the energy, assumed to be cultivated through yoga, on eating behaviours and to some degree on EDs (Ramos-Jiménez et al., 2015). The authors reported that Hatha yoga practice is associated with healthy eating behaviours (e.g. higher consumption of vegetables) and therefore could be helpful in EDs. They also stated, however, that more research is needed to be able to recommend it as CAM. Another systematic review, completed by Balasubramaniam et al. (2013), looked at research on yoga for what the authors termed “neuropsychiatric disorders”, which included schizophrenia and EDs. They determined that at present evidence in relation to EDs is conflicting and inconclusive, with further research necessary.

The most recent systematic review and meta-analysis is currently in preparation and only an abstract was available for examination here. Vogel et al. (2015) searched six databases from inception to March 2015. The authors identified four Randomised Controlled Trials (RCTs) and two observational studies, resulting in a meta-analysis of 209 participants. The analysis revealed positive effects of yoga on drive for thinness and body dissatisfaction, when comparing scores before and after a yoga intervention. When compared to usual care, the results were no longer significant, but still positive for the two outcome measures. However, a high risk of bias was identified in many studies.

Klein and Cook-Cottone (2013) searched six databases for related literature between 1980 and December 2012, using the terms “disordered eating”, “eating disorders”, and “body image”. They identified 115 citations, 14 of which were then included in their review. They reported a number of positive findings. These included yoga practitioners potentially being at reduced risk for EDs, and yoga interventions either producing no change or reducing symptoms and risk of EDs.

They also concluded that no identified study reported adverse effects (e.g. on ED risk factors), suggesting that yoga is safe for those experiencing EDs. As with other reviews, this one also highlights the need for further research and the challenges for conducting reviews in this field, such as great variation in study quality and the types of yoga used. Others stress that study outcomes depend on many internal and external factors, such as age and type of ED (McFarlane, MacDonald, Royal, & Olmsted, 2013).

#### 1.4.6. Current Review

The current literature review identified 4 reviews, 26 records that were concerned with the impact of yoga on ED-related constructs and ED symptoms, and 5 articles which discussed mechanisms of yoga's influence on EDs. The difference in the number of records found here compared to Klein and Cook-Cottone's (2013) review was due to differences in databases searched, due to time difference since their review was carried out, and broader inclusion criteria in the present thesis, allowing for dissertations and theoretical papers.

The current review resulted in a range of studies that varied greatly in their design and quality. A number of studies investigated yoga as part of an intervention or prevention programme (e.g. Scime, 2007), while others looked at yoga on its own (e.g. Impett, Daubenmier, & Hirschman, 2006). Some compared yoga practitioners to those not practicing yoga (e.g. Woolley, 2010), while others compared yoga practice with other forms of exercise (e.g. Daubenmier, 2005). An additional focus was on the influence of the environment on the effectiveness of yoga (Prichard & Tiggemann, 2008). The variables measured differed greatly between studies, making it difficult to draw definitive conclusions. However, the results broadly separated into yoga's influence on ED-related risk and protective factors and yoga's influence on ED symptomatology. The ED-related factors mainly included self-objectification, body dissatisfaction, body awareness, drive for thinness, and emotion regulation. A summary of identified studies and their main relevant outcomes are presented in Appendix 3.

Yoga's influences on ED-related constructs and processes are addressed first, as the bulk of the research focused on these. This is likely because they play an

important part in ED development and could be important targets for ED prevention and reduction. This is followed by effects of yoga on ED symptoms. The identified papers are then synthesised and critiqued, with discussion of gaps in the research, and the research questions presented.

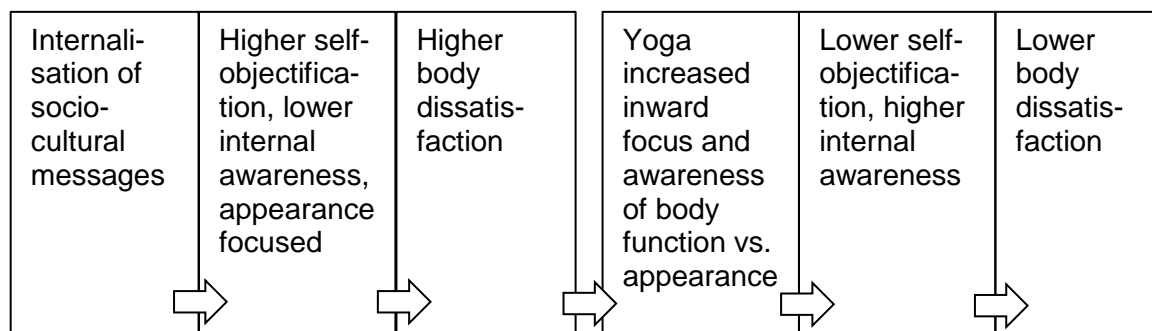
## **1.5. Yoga and Eating Disorder-Related Risk and Protective Factors**

### **1.5.1. Self-Objectification**

One of the ED-related constructs most discussed in the identified literature was self-objectification. It has been hypothesised to occur when women internalise sociocultural perceptions of themselves as sexualised objects (Fredrickson & Roberts, 1997). These perceptions then affect their conceptualisation of self and body, potentially reducing their ability for internal focus and awareness. This can result in more critical evaluations of self, own body and appearance. These effects are then hypothesised to lead to body shame and ED symptomatology (Clancy, 2010; Fredrickson & Roberts, 1997; Impett et al., 2006), suggesting that interventions that target self-objectification could reduce EDs (Calogero, Davis, & Thompson, 2005; Tiggemann, 2013). Some existing treatments, such as dissonance-based interventions, have focused on this construct with some success. However, further investigations of other mindfulness and body-focused approaches have been warranted, and yoga-based interventions are one of these (Menzel, 2013).

Yoga has been hypothesised to reduce self-objectification and thereby possibly have a positive impact on eating difficulties through a number of ways. The main premise is that it increases the experience of flow states — states of internal, rather than external, focus, body awareness, and concentration (Allard & Harwood, 2014; Calogero, Tantleff-Dunn, & Thompson, 2011; Impett et al., 2006). This has been illustrated by Clancy (2010) in the following way (Figure 2):





*Figure 2.* Potential mechanism of yoga's influence on self-objectification and body dissatisfaction, and of yoga treatment based on Fredrickson and Roberts's (1997) objectification theory (reproduced from p. 6, Clancy, 2010).

Six studies, all involving participants from non-clinical populations, investigated the potential influence of yoga on self-objectification. The only two intervention studies found conflicting results. One did not identify any significant changes in self-objectification post-intervention (Clancy, 2010), whereas the other did (Impett et al., 2006). However, even these positive results may be questioned, as Impett et al.'s (2006) study did not include a control group, and Clancy (2010) noted improvements in self-objectification in their wait-list control group. Therefore, it is not clear whether Impett et al.'s (2006) positive findings would have also been present in a control group, if one was employed. If they would not be, it would suggest that the reductions in self-objectification may have been due to factors other than yoga practice.

On the other hand, when compared to other types of exercise, time spent practicing yoga has been found to be linked with reduced self-objectification. However, the relationship appears to be partially mediated by reasons for exercise. Research suggests that those who practice yoga-based activities for appearance-related reasons may miss out on the beneficial body image effects of yoga, whereas those who practice for health and fitness reasons may not (Prichard & Tiggemann, 2008). Yet, there is also evidence that yoga may facilitate an increase in more helpful reasons for exercise due to its increased focus on mindfulness during practice (Cox, Ullrich-French, Cole, & D'Hondt-Taylor, 2016).

The environment in which yoga is practiced is also worth noting. After all, time spent exercising in fitness centres has been found to be positively related to disordered eating and self-objectification, and negatively linked with body esteem compared to time spent exercising outside such an environment (Prichard & Tiggemann, 2008). This highlights the importance of considering both reasons for yoga practice and context, when examining its effects on EDs. It is evident that these appear to influence how much someone is able to focus on their internal body states compared to their own or others' external appearance (Cox et al., 2016; Impett et al., 2006; Prichard & Tiggemann, 2005, 2008).

Overall, the only two identified intervention studies investigating the use of yoga for reducing self-objectification and EDs show mixed findings (Clancy, 2010; Impett et al., 2006). The remainder of the studies employed a prospective design, did not employ a robust design or methodology, and suffered from a number of other limitations (discussed below). Nevertheless, many findings still show that yoga may have a positive influence on this ED risk-factor (Cox et al., 2016; Daubenmier, 2005; Prichard & Tiggemann, 2008; Woolley, 2010).

#### 1.5.2. Body Dissatisfaction

Body dissatisfaction was the construct explored most by the identified literature, likely because it is “one of the most consistent and robust risk and maintenance factors for eating pathology” (Stice, 2002, pp. 832-833). It has been defined as negative beliefs, feelings, or judgments about own body or appearance (Stice & Shaw, 2002). As suggested above, yoga may have the potential to reduce body dissatisfaction by increasing inward focus and awareness of the body. Through this process it may have a positive impact on eating-related difficulties.

This review identified 13 studies examining yoga's effectiveness at improving body satisfaction. Most studies included samples from the general population, with the exception of one study with a clinical sample (Cook-Cottone, Beck, & Kane, 2008). Twelve out of the 13 studies showed a positive impact on or a positive association between yoga practice and body satisfaction. However, the majority looked at the general population practicing yoga, or had a cross-sectional design. Only three intervention studies were identified. One used yoga

as part of a multi-module intervention with a clinical sample (AN or BN;  $n = 24$ ) and found that yoga was effective in reducing body dissatisfaction, with a large effect size (Cohen's  $d = .876$ ; Cook-Cottone et al., 2008). Another compared a cognitive dissonance group, a yoga group, and a control group in a non-clinical population. These findings showed significant reductions in body dissatisfaction in the cognitive dissonance group, but not in the yoga group (Mitchell, Mazzeo, Rausch, Cooke, & The PRISMA Group, 2007). The third study found a significant reduction in body dissatisfaction scores in both the yoga intervention group and the wait-list control group. This suggests that it may have been not the intervention that led to the change (Clancy, 2010). Therefore, the research investigating interventions for reducing body dissatisfaction, with the aim of reducing EDs, is once again mixed.

The remainder of the studies, however, that looked at yoga in prevention programmes (Cook-Cottone, Jones, & Haugli, 2010; Keddle, 2014; Scime, Cook-Cottone, Kane, & Watson, 2006; Scime & Cook-Cottone, 2008), or in epidemiological studies comparing different groups (Daubenmier, 2005; Dittmann & Freedman, 2009; Flaherty, 2014; Neumark-Sztainer, Eisenberg, Wall, & Loth, 2011; Zajac & Schier, 2011) report positive outcomes in relation to yoga practice and body dissatisfaction. For example, greater body satisfaction and less negative body-related emotions have been noted among yoga practitioners when compared to aerobics or weight training practitioners (Daubenmier, 2005; Flaherty, 2014; Zajac & Schier, 2011). Also, Dittmann and Freedman (2009) found that yoga practitioners in general score highly on body satisfaction.

The literature also highlights the importance of considering the type of yoga practice in relation to those affected by EDs. It has been found that women who attend yoga classes that have more mind-body focus may have higher levels of body satisfaction and body awareness, compared to those who attend classes with a less mind-body emphasis. Also, participants in classes with high and medium mind-body emphasis seem to have more positive beliefs about yoga's benefits, and show greater internalisation of yoga's beliefs. These practitioners may see yoga more as a way to develop physically and mentally than purely as exercise (Delaney & Anthis, 2010). It is possible that this is due to less emphasis

being placed on the appearance of the body, highlighting the importance of both the mind and the body. This, in theory, could help redirect focus to internal sensations rather than avoidance of these, potentially leading to a reduction in dissatisfaction with the body and hence a reduction in eating difficulties.

### 1.5.3. Body Awareness

As research demonstrates reduced body and interoceptive awareness in ED sufferers, and both have been suggested as risk factors for EDs (Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004; Peck & Lightsey, 2008; Taylor, Parker, Bagby, & Bourke, 1996), the reason for the focus on this construct in the identified literature is clear. It has been hypothesised that individuals diagnosed with EDs have reduced body awareness because their attention may be orientated to external sources for information on bodily signals. Additionally, recognition and reliance on internal bodily signs may also be negatively impacted by dietary restraint (Spoor, Bekker, Van Heck, Croon, & Van Strien, 2005). Therefore, improving body awareness may lead to a reduction in eating difficulties. It has been suggested that yoga improves body awareness by directing a person's focus to the body through the use of mindfulness (Daubenmier, 2005).

Six studies were found investigating the impact of yoga on body awareness, all with non-clinical samples. Only two identified studies investigated the influence of yoga interventions on body awareness. One found higher body awareness scores among the group that went through a 3-month yoga programme than the control group. However, as the groups were tested at different times, it was not possible to conclude whether the results would have been the same had the groups been assessed at the same time (Rani & Rao, 1994). The second study did not find any changes in body awareness following a 2-month yoga programme. However, it did find that more frequent yoga practice during the programme was linked with increased body awareness, though not statistically significant (Impett et al., 2006).

Other research shows that yoga practitioners have significantly higher levels of body awareness than non-practitioners (Daubenmier, 2005; Rani & Rao, 1994).

Additionally, when compared to other exercise types, yoga practice has been found to be positively related to trait mindfulness, mindful eating, and body awareness (Martin, Prichard, Hutchinson, & Wilson, 2013). In contrast, increased participation in cardio-based exercises correlated negatively with trait mindfulness and was not associated with body awareness. This suggests that participation in yoga-based activities, especially in those with greater mind-body emphasis (Delaney & Anthis, 2010), is likely to be significantly more beneficial for increasing body awareness than other forms of exercise for individuals experiencing EDs. However, just as for self-objectification, reasons for yoga practice also need to be taken into account for it to be more likely to benefit body awareness. Again, this is because those who practice for psychospiritual reasons appear to have higher levels of body awareness and responsiveness than those who practice for physical- or appearance-related reasons (Dittmann & Freedman, 2009).

#### 1.5.4. Drive for Thinness

Drive for thinness has been suggested to be an important motive for engaging in physical activity in those affected by EDs, due to the assumed value placed on weight and body shape in such individuals (e.g. Vansteelandt, Rijmen, Pieters, Probst, & Vanderlinden, 2007). Hence a part of the literature was dedicated to this construct, especially in relation to prevention of EDs. Drive for thinness has been defined as preoccupation with dieting and weight, often with an excessive fear of weight gain, and is considered to be a risk factor for EDs (Garner, 2004).

Four of the six studies identified through the current literature review demonstrated positive outcomes, and two showed no significant changes (Mitchell et al., 2007; Scime & Cook-Cottone, 2008). Three studies showed a significant decrease in drive for thinness following group prevention programmes in young females (Cook-Cottone et al., 2010; Keddie, 2015; Scime et al., 2006; Scime & Cook-Cottone, 2008). One intervention study showed a significant decrease in drive for thinness with a moderate effect size (Cohen's  $d = .58$ ) in young adult females with a history of EDs (Cook-Cottone et al., 2008). More specifically, the authors noted that participants had a reduced desire to be thinner, as well as a reduced concern with dieting and fear of gaining weight.

They hypothesised that the content of the programme and its group setting offered the space where participants could learn to connect with others, to practice mindfulness and self-regulation, and to develop their mind-body skills through yoga practice. These and other skills were then hypothesised to lead to a reduction in drive for thinness and other ED-constructs. However, as with others, this study suffered from a number of limitations discussed below. It had a small sample ( $n = 24$ ) and the intervention consisted of a number of different components in addition to yoga.

#### 1.5.5. Emotion Regulation

Difficulties with emotion regulation have been found in those experiencing EDs (Harrison, Tchanturia, & Treasure, 2010). They have been proposed to be some of the contributing and maintaining factors in EDs (Monell, Högdahl, Mantilla, & Birgegård, 2015; Svaldi, Griepenstroh, Tuschen-Caffier, & Ehring, 2012). A number of identified studies discussed ways through which yoga may impact abilities related to regulating emotions. These are significant to note, as it has been suggested that due to difficulties tolerating and managing negative emotions, individuals with EDs may use food for this purpose (Corstorphine, 2006). This factor is therefore a focus of many psychological therapies discussed above. One example of the use of ED behaviours for emotion regulation has been presented by Escape Theory. The theory suggests that binge eating is an attempt to escape from the unpleasant sensations related to being in a state of negative self-awareness (Grant, 2012; Heatherton & Baumeister, 1991).

Only one out of all identified studies examined effects of yoga on emotion regulation abilities using quantitative measures. It demonstrated a significant decrease in mood instability, anger, recklessness, impulsivity and self-destructive behaviours, following a 6-day intensive yoga workshop. Results also showed an increased ability to recognise and respond to emotional states, and to understand and tolerate mood states (Dale et al., 2009). However, the workshop also consisted of components other than yoga, such as mindful eating and self-reflection; and the sample size, even though clinical, was particularly small ( $n = 5$ ).

The only other study that looked at emotion regulation related abilities did so through qualitative analysis. Dittmann and Freedman (2009) found similar results in a sample of 18 women who regularly practiced yoga and reported disordered eating or body image issues. One participant reported learning to control her emotions better and improving mindfulness ability. Another woman reported understanding emotions that were previously hidden from her due to feelings of hunger. Another felt that she acquired tools for coping with difficult emotions: “When I’m really upset, I come into awareness ... it’s really important for me to be connected to my body and be grounded ... so when I get out of it I know what to do to get back” (p. 283). Overall, even though existing studies show potential in yoga as a way of improving emotion regulation abilities, the literature is particularly limited for this ED-related construct, showing the need for further research.

## **1.6. Yoga and Eating Disorder Symptoms**

### **1.6.1. Quantitative Studies**

The literature discussed so far illustrates that the research to date has mostly focused on the effectiveness of yoga in reducing EDs indirectly, such as through the reduction of ED-related risk factors. Such research has shown some support for its use in this way. However, much of it lacks quality, the findings are often mixed, and most of it has been conducted in non-clinical samples. The literature investigating yoga’s influence on ED symptomatology is also limited, but it appears to be better in quality than that discussed above. Most of the identified studies once again point to potential benefits from yoga for EDs. Two of the identified studies included participants who had past or present diagnosis of an ED. Three others included community samples of individuals who either self-reported a history of EDs or met diagnostic criteria for one. The remainder of the studies looked at non-clinical samples. Six of the nine identified studies report somewhat positive findings.

From all of the identified literature, one study involving participants with ED diagnosis (AN, BN, and EDNOS) had the strongest design and methodological procedures (e.g. controlling for interinstructor reliability). Carei, Fyfe-Johnson,

Breuner, and Brown (2010) carried out an RCT, comparing a yoga intervention plus standard care with a control group that received standard care and was on a wait-list for the yoga intervention. This was the only identified study where the intervention was delivered on a one-to-one basis. As the comparison group received treatment as usual, it was not surprising to see improvements in both groups in ED symptoms, measured using Eating Disorder Examination (EDE; Cooper & Fairburn, 1987). However, unlike the scores for the control group, which significantly increased at 3-months follow-up, the EDE scores for the yoga group continued to decrease, though not significantly. This suggests that, even though the reductions in ED symptomatology may be due to factors other than yoga, it appears that yoga adds something to the treatment that extends its effects.

Also, following examination of the EDE subscales, the authors hypothesised that the results may be due to differences between groups that approached significance on the Weight and Shape Concern EDE subscales. This could be a result of yoga's potential ability to reduce preoccupation with food by moving an individual's attention to the way their body feels in particular yoga postures. Additionally, as food preoccupation scores decreased following each yoga session, the authors proposed that yoga may be used as an acute intervention because it seems to have the ability to produce some immediate effects (Carei et al., 2010).

The other study evaluating a yoga-based intervention in a sample of individuals with a history of AN or BN did not find any significant improvements in symptoms of bulimia, as measured by the bulimia scales of the Eating Disorder Inventory-2 (EDI-2; Cook-Cottone et al., 2008; Garner, 1991). However, in this intervention, yoga was only one of its many components. Another study had yoga at the centre of the intervention, and had a good quality design, including a wait-list control group, a 3-month follow-up, and a reasonable sample size ( $n = 50$ ), with individuals who met diagnostic criteria for BED. This study found a significant decrease in binge eating scores in the yoga group, with a large effect size (Cohen's  $d = 2.2$ ), while no significant changes were found in the control group (McIver, O'Halloran, & McGartland, 2009). Small but significant reductions in



BMI, waist and hips measurements, and a significant increase in physical activity were also reported in the yoga group, but not in the control group. The outcomes for binge eating scores and physical activity were maintained at 3 months' follow-up. The authors highlight that the positive outcome of the study in reducing binge eating is comparable to those achieved by psychological and dietary-led programs (Eldredge et al., 1997; McIver, McGartland, & O'Halloran, 2009; Raymond, de Zwaan, Mitchell, Ackard, & Thuras, 2002).

The remainder of the studies, involving community samples who met diagnostic criteria for BED or self-reported EDs, reported reductions in ED symptoms after yoga interventions. However, these consisted of particularly low samples and did not have control groups (Clarke, 2008; Dale et al., 2009). Of the research with non-clinical populations, the most robust study with both a comparison and a control group, though no follow-up, did not find any beneficial effects of yoga on ED difficulties (Mitchell et al., 2007). Nonetheless, the authors suggest that the difference between their findings and those of other studies that provide more favourable evidence for yoga interventions for EDs may be due to other interventions being more intense or longer in duration (eg. McIver, O'Halloran, & McGartland, 2009). This was supported by a shift in scores in the right direction in their yoga group. The researchers also hypothesised that their yoga intervention targeted ED-related constructs much more indirectly, compared to the comparison (dissonance) intervention. Therefore, a yoga intervention more tailored to eating and body-related concerns could be more effective.

The findings are thus mixed overall, some showing the usefulness of yoga in reducing ED symptoms in ED samples, and others not showing any effects. However, none of the identified studies suggested any negative consequences from yoga, and the studies with robust designs, higher yoga focus and clinical relevance, suggest that yoga may have some beneficial effects in relation to EDs. It may be that yoga aids with the development of present-moment awareness which potentially could help reduce binge eating, without specific dieting or nutritional advice (McIver, O'Halloran, & McGartland, 2009). It could also help to reduce other ED symptoms when added to standard treatment (Carei et al., 2010).

In summary, from the quantitative studies identified in the current literature review definitive conclusions cannot be drawn. The intervention studies do not permit conclusions to be made in regards to aspects of the interventions that contributed to the effects most, or which yoga components were most or least helpful. Qualitative research may provide a better understanding of this.

#### 1.6.2. Qualitative Studies

Only two qualitative studies were identified as part of the literature search: a qualitative evaluation of the 12-week yoga programme discussed above (McIver, McGartland, & O'Halloran, 2009), and a study on the perceived benefits of yoga in women in recovery (Grant, 2012). Both of these suggested that yoga appears to lead to certain beneficial processes in individuals affected by EDs.

The first study analysed 20 personal journals of women who participated in the yoga programme using existential phenomenological inquiry (McIver, McGartland, & O'Halloran, 2009). Analysis led to conclusions that the main shift noted was from “feeling distracted and physically absent to feeling focused and physically present” (p. 1237), which the authors summarised as disconnected versus connected. Participants reported feeling unsettled at the beginning of the programme, especially when required to practice mindfulness of eating in addition to yoga practice. However, this changed over the course of the intervention. For example, one participant's journal moved from stating:

“I hate what I'm doing to myself. I recognize it as self-punishment/mutilation but my intellect and emotions aren't communicating with each other. The urge to overeat is overriding all other considerations, even vanity...” (p. 1238)

to saying:

“I feel peaceful and hopeful. I'm eating like a normal person, enjoying what I eat and not obsessing like usual.” (p. 1238)

As the programme progressed the entries began to focus more on connection to

the body and increased ability to understand the role of food and make positive choices. Within this overarching component were themes of “changing body” and “changing palate”. The subthemes of the “changing body” involved a change in participants’ views of exercise from one where it was seen as enforced and difficult to one where it was seen as supporting the body. In the “changing palate” subtheme women wrote about how food could have two conflicting roles, on the one hand helping to transform feelings and on the other to isolate from oneself and others. These results demonstrate that yoga may bring about change in women experiencing BED-type difficulties by changing the relationship with their bodies and promoting exercise without goals. This is because yoga places less focus on the way the body looks (McIver, McGartland, & O’Halloran, 2009).

Grant (2012) reported similar findings and was the only identified study that looked at women’s experiences of yoga practice in relation to their eating difficulties and recovery in a more exploratory manner. Inductive grounded theory was used to analyse the data. The themes emphasised the importance of gentle yoga styles, with 85% of participants reporting starting with more rigorous styles of yoga (e.g. Ashtanga) and moving to gentler yoga that emphasized more meditation and breathing. All participants reported associating benefits of yoga in relation to recovery with the gentler yoga types. For example, one participant stated: “focus was very much on exercise and I got caught up in that. Now, yoga isn’t my form of physical exercise and I do mostly less intense classes, like restorative” (pp. 29-30).

Other themes demonstrated the usefulness of yoga for increasing participants’ self-acceptance, mind-body and spiritual connections, improving body image, and incorporating a sense of calmness into their daily lives. For the “mind-body connection” theme, 71% of the sample spoke about learning to be more present to be more in tune with their emotional states. In relation to self-acceptance, participants spoke about gradually moving away from criticising and judging themselves to accepting themselves and their abilities and possible limitations (Grant, 2012).

Overall, the findings appear to be in line with the literature discussed so far, supporting the evidence for yoga's ability to benefit those experiencing eating difficulties. The qualitative articles, however, add to the quantitative data by providing a more in-depth understanding of how yoga may influence ED-related symptoms, such as by helping to mend the potentially disrupted mind-body connection.

However, the identified qualitative research also has its limitations. For example, in Grant's (2012) study the participants were all undergoing outpatient treatment for their EDs in addition to the yoga practice. This may mean that they were more focused on recovery and possibly spoke more about beneficial effects of yoga, than would someone who was not receiving any treatment. Moreover, all participants were taking yoga and body image classes as part of their treatment, and that the interview questions were all positively framed. Hence, it is likely that the potential negative effects of yoga were not explored, and the positive sides of yoga were paid more attention than they would have otherwise. The small sample size ( $n = 7$ ) in this study also limits the ability to generalize the results to the wider ED population or to those affected by eating-related difficulties.

McIver, McGartland, and O'Halloran's (2009) study has similar pitfalls, as their data was collected as part of a trial that examined the effectiveness of the yoga intervention. It is possible that the findings were positively biased, because participants may have felt less able to write negative entries into their journals, knowing that someone might read them later. The diary format of the data may have also provided a more positive portrayal of their experiences, as participants had the opportunity to omit their answers as they wished, potentially. The authors also admitted that there may have been possible positive bias in the analysis of the data based on the authors' expectations.

Therefore, there is a need for a more neutral stance to be taken in exploring the effects of yoga on EDs in those experiencing such difficulties. Additionally, there is a specific need to investigate the potentially unhelpful sides of yoga, as there are many such possibilities (discussed later here). Further exploration of yoga's

influence on ED processes is also needed, though within a larger, more homogenous sample to make the findings more reliable and generalizable.

### **1.7. Conclusions and Quality of the Findings**

Overall, it appears that most of the investigated constructs are interlinked and influence each other and eating difficulties. For example, even though self-objectification has been hypothesised to lead to body dissatisfaction (e.g. Clancy, 2010), it is not possible to state this with certainty. A lot of the research does not demonstrate directionality in the relationship, and measures of these constructs are often strongly correlated (Clancy, 2010; Strelan, Mehaffey, & Tiggemann, 2003). Therefore, it has been difficult to unpick the exact mechanisms of yoga's influence on EDs, and only further research may shed some light onto exactly how yoga influences ED-related constructs and ED symptoms.

Additionally, even though the literature points to a mixed picture, on the whole, there does appear to be a favourable relationship between yoga practice and ED-related constructs and symptoms. Thus, further investigation into yoga as a potential adjunct treatment for those experiencing EDs is warranted.

However, it must be noted that not all research demonstrates yoga's usefulness for reducing ED-related difficulties (e.g. Mitchell et al., 2007), and most of the studies that do suffer from a number of limitations, discussed next.

#### **1.7.1. Samples**

Many of the identified studies, especially those investigating the effectiveness of yoga interventions and employing an experimental design, consisted of small sample sizes, having as few as five participants (Dale et al., 2009). Some had a sufficient sample size, with 93 participants (Mitchell et al., 2007). The direction of the findings did not appear to differ by sample size of the studies. As expected, the largest samples were reported in correlational, prospective or cross-sectional studies (e.g. 148 – 2,287 participants; Cox et al., 2016; Neumark-Sztainer et al., 2011). This meant that definitive conclusions could not be drawn in regards to yoga's effectiveness in reducing EDs or related constructs due to the nature of their design.

Moreover, the majority of the samples, especially those of experimental design, consisted of female participants of white ethnic background, with some experience of yoga practice prior to study participation. Most samples were limited to younger age groups, with only a few studies involving older participants. Most importantly, majority of the identified literature appears to have investigated the utility of yoga in non-clinical samples, with only a handful of studies involving individuals with current or past experiences of EDs. This makes it difficult to make conclusions based on this literature review that would be reliably applicable to the population with EDs. The majority of the findings would likely be applicable to the general population with some concerns in relation to body image or other ED-related constructs, discussed above.

#### 1.7.2. Measures

A majority of identified studies employed standardised or at least previously investigated measures of the constructs they were measuring, such as subscales of the EDI to measure drive for thinness (Prichard & Tiggemann, 2008), or the EDE to measure ED symptomatology (Carei et al., 2010). There were some exceptions, where untested measures were used, but this was likely due to the fact that no measure existed to measure “spiritual readiness” or some of the other constructs (e.g. Dittmann & Freedman, 2009). Overall, the quality of the measures used did not appear to differ by the outcome of the study, though as there seems to be considerable diversity in the measures employed, it is difficult to conclude for certain.

#### 1.7.3. Design, Methodology and Procedures Followed

Only three RCTs were identified in the literature (McIver, O'Halloran, & McGartland, 2009; Mitchell et al., 2007), with only one of them employing a clinical sample (Carei et al., 2010). The studies with more robust study design and procedures (i.e. those using randomisation, including a control group, and a follow-up period, and using standardised, reliable and valid measures) seemed to show a more mixed picture in their findings (e.g. Carei et al., 2010), compared to studies with weaker design. Such studies included non-randomised controlled studies (Scime & Cook-Cottone, 2008), non-randomised non-controlled studies (Dale et al., 2009; Scime et al., 2006), or those with epidemiological design

(Daubenmier, 2005; Dittmann & Freedman, 2009; Martin et al., 2013; Neumark-Sztainer et al., 2011). These studies may have steered the outcome of the literature review in the positive direction. Only two qualitative studies were reported in the literature, and those had a similar limitation. Overall, the literature lacks well-designed studies with larger samples, especially those investigating yoga in its own right, as well as qualitative more exploratory investigations undertaken with a neutral stance. Currently, the conclusions that can be drawn from the existing literature that holds merit are that yoga *may* hold promise as a supportive or adjunct treatment, with more literature supporting its use than discouraging.

## **1.8. Other Considerations Stemming From the Literature**

The remainder of the studies identified as part of this literature review were theoretical in nature. They hypothesised around the best ways of using yoga for EDs and factors that need to be considered when it is employed by those experiencing ED-related difficulties. These are discussed next in conjunction with the conclusions drawn from the above literature.

### **1.8.1. Potential Dangers of Yoga**

From the examined studies, it has become clear that there is a significant gap in the literature in regards to the potentially unhelpful aspects of yoga or factors related to it. Health professionals are likely to have concerns regarding the use of activity-based treatments with those diagnosed with EDs. In this respect it is helpful to note from the limited research available that changes in BMI post-yoga intervention were only noted in individuals with BED characteristics who were overweight (McIver, O'Halloran, & McGartland, 2009). No such findings were noted in the sample of individuals with diagnosis of EDs that are more prone to being affected by excessive exercise (APA, 2013a; Carei et al., 2010). However, further research is needed to support these findings.

Neumark-Sztainer (2014) also emphasised the need to pay particular attention to these issues in those affected by EDs because yoga, as any other type of group exercise, may lead to unwelcome effects. Such effects may include comparisons

of self to others in the room, perhaps particularly in light of what seems to be a fashion for yoga-wear that emphasises body shape and appearance. This may lead to students having a more critical view of themselves and their bodies, the very thing yoga is trying to avoid. It is possible that teachers need to be more aware of these issues and emphasise non-judgement of self and others, and to create more space for practitioners to observe themselves as they are, without paying attention to others. However, there is often an emphasis on this in classes already, yet participants still find it difficult not to compare. In such cases, it may be that these individuals require more time to be able to adopt this attitude, or possibly require a different kind of support that does not involve a group. As Douglass (2009) points out, there may be variability in ways yoga is utilised, due to differences between individuals and in the messages emphasised in classes. Some may adopt yoga as part of self-care, whereas for others it may become another way to self-discipline and influence their bodies. She emphasises that practitioners need to be careful that yoga does not become an addictive process, like some other addictive behaviours experienced by those with eating difficulties.

#### 1.8.2. Related Essential Considerations

Bearing in mind the potential for negative effects of yoga on those affected by EDs and the mixed findings in relation to its effectiveness, there are a number of factors that require thought when considering yoga as an adjunct treatment for EDs.

First, it appears from the literature that brief yoga interventions are not as effective as longer treatments and those of higher intensity (Carei et al., 2010; McIver, O'Halloran, & McGartland, 2009; Mitchell et al., 2007). In fact, the more someone practices the better the ED-related benefits seem to be, with the suggested time required for these benefits being at least three to five 90-minute practices weekly for approximately 8 to 10 weeks (Clancy, 2010; Daubenmier, 2005; Impett et al., 2006; Neumark-Sztainer, 2014).

Second, it has been suggested that a group based intervention may be more helpful as it could provide social modelling and practice in intra- and interpersonal experiences (Cook-Cottone et al., 2008; Siegel, 2007). It may also allow



networking that may reduce feelings of isolation and possibly help to improve self-care (Wren, Wright, Carson, & Keefe, 2011). However, considering the potential negative effects of a group class (e.g. comparisons), individual support may be just as effective for some people (Carei et al., 2010).

Third, it is important to consider the type of practice that is suitable for each individual working to overcome an ED. Some individuals may prefer a class with a more physical emphasis or a type of practice that is more intense. Others may want a more spiritual class or slower practice, and some may move from one to the other as their recovery progresses (Boudette, 2006; Grant, 2012). It is important to note that a slow practice may not be for everyone, or at least not right away (Douglass, 2009), although gentler yoga practice and one that focuses on the mind appears to be more beneficial (Delaney & Anthis, 2010; Grant, 2012).

Other important aspects include: providing modifications for each client, taking into account their physical state; using language that emphasises acceptance, non-judgement, and the exploratory nature of the practice; avoiding suggestions about cleansing or dieting techniques; and not having any mirrors in studios (Boudette, 2006; Neumark-Sztainer, 2014).

### 1.8.3. Ways Through Which Yoga May Impact Eating Disorders

Taking into account the identified literature the ways through which yoga may impact eating difficulties are discussed next.

#### 1.8.3.1. *Changing Habits Through Increased Awareness*

In the only identified conceptualisation of yoga as a therapy for EDs, Douglass (2011) proposes that yoga may be a way to separate and change the way people habitually view the world, by raising awareness of the way individuals think and behave. As the evidence discussed above demonstrates, yoga may be able to improve one's body responsiveness, awareness and satisfaction, and possibly reduce self-objectification. Therefore, it would be reasonable to assume that through the increased awareness and mindfulness of bodily sensations and thoughts during yoga practice and in daily life, those practitioners may be more

able to recognise unhelpful habitual thoughts and behavioural responses to those thoughts. Then, once they are able to distinguish between thoughts and bodily sensations, they may have more of a choice to act or not to act on these thoughts. By learning to listen to the body and practicing responding to it, practitioners may be able to “think through the body” and learn to think about the body in different ways (Douglass, 2011).

In theory, increased body and interoceptive awareness, responsiveness and improved emotion regulation ability may lead to a better mind-body connection and a different relationship with the body. All of these may be cultivated through the practice of mindfulness, learning to be present in the moment, yoga postures, breathing. Other elements at play may be the spiritual and philosophical aspects of yoga, such as yamas and niyamas — yoga’s ethical guidelines (e.g. “ahimsa” — meaning non-violence and being more compassionate to self and others) (Boudette, 2006; Douglass, 2011; Sri Swami Satchidananda, 2012). Additionally, by practicing these aspects of yoga the individual may develop more self-acceptance, as it is often emphasised in yoga classes (Boudette, 2006) and has been illustrated in the discussed research (Grant, 2012)

#### 1.8.3.2. *Stress and Different Ways of Coping*

In addition to studies that demonstrate how yoga helps to regulate stress, such as through a reduction in cortisol levels (e.g. Thirthalli et al., 2013), Douglass (2009) states that yoga helps practitioners to “let go”. The author suggests that by being in the present moment (i.e. through mindfulness) yoga practitioners are able to let go of the critical thoughts that are so prevalent in individuals diagnosed with EDs. Boudette (2006) and Douglass (2009), both yoga teachers, state that their students often report to them experiencing relaxation, peacefulness and a sense of freedom after the practice of asanas and savasana, which involves mindfulness and relaxation. Therefore, it is likely that both of these (mindfulness and postures) and other aspects of yoga are required to achieve the positive effects discussed, with mindfulness alone likely insufficient.

These feelings of relaxation and peacefulness seem to be reported, albeit not in a scientific manner, as something that is missing for individuals affected by EDs

and as something that is particularly important due to their typically busy minds. It can therefore be hypothesised that the practice provides students with a new way of coping with difficult thoughts and feelings. First, it may be providing a different way of perceiving things (e.g. with acceptance). Second, it may be giving them the option to do a yoga practice to relieve stress or cope with difficult feelings, instead of reverting to food as the main way of coping with emotions (Boudette, 2006; Dale et al., 2009; Dittmann & Freedman, 2009; Douglass, 2009; Douglass, 2011). Also, yoga may serve as a “metaphor for life”, where tolerating a potential discomfort of being in a particular asana may be similar to tolerating a sense of fullness (Boudette, 2006).

### **1.9. Summary and Rationale for the Study**

The clear need for more effective, acceptable and accessible treatments for EDs has been illustrated by the literature (Berkman et al., 2007; NCCMH, 2004). Yoga has been proposed to be one such potential adjunct treatment to address this gap. It is highly accessible and has been growing in popularity in recent years (Clarke et al., 2015). The reviewed research showed that there is emerging evidence, although with some conflicting findings, that provides support for yoga’s beneficial effects for difficulties that are often comorbid with EDs, such as depression and anxiety (e.g. Saeed et al., 2010). Some support is available for its use for prevention and therapeutic improvements in ED-related constructs, such as self-objectification, body awareness and satisfaction, drive for thinness and emotion regulation (e.g. Cook-Cottone et al., 2010; Cook-Cottone et al., 2008; Dittmann & Freedman, 2009).

The evidence in relation to yoga’s beneficial effects for ED symptoms also appears to be mixed, albeit with some positive outcomes. Six out of nine identified quantitative studies showed promising results, including yoga’s effectiveness in prevention of EDs (Cook-Cottone et al., 2010; Scime & Cook-Cottone, 2008), beneficial effects on binge-eating (Clarke, 2008; McIver, O’Halloran, & McGartland, 2009), and other ED symptoms (Carei et al., 2010; Dale et al., 2009). Three studies did not find any significant results (Birnbaum & Thompson, 2014; Cook-Cottone et al., 2008; Mitchell et al., 2007), demonstrating

the mixed picture of the available literature.

Little qualitative research was identified on the topic. However, what is available suggests that yoga may have beneficial effects in relation to EDs in samples of those experiencing BED and those in recovery from other EDs (Grant, 2012; McIver, McGartland, & O'Halloran, 2009), though with a number of limitations. These include positive bias being evident in the findings. From all of this evidence, it would appear that yoga holds significant promise as a supportive treatment for EDs. However, a number of issues need to be considered. The quantitative studies suffer from a number of confounding factors in many cases, as well as self-selection bias and other problems. The fact that yoga is not a single universal concept complicates matters further, as there are different styles and approaches to teaching and perceptions of what yoga is.

Recommendations for future research in many studies highlight that further research is needed to be able to draw more definitive conclusions (e.g. Carei et al., 2010). As most available research is quantitative, there are unanswered questions not only about the utility of yoga for EDs, but also about the details of how it may work or which of its aspects are helpful. The two identified qualitative studies provided some insight into this (Grant, 2012; McIver, McGartland, & O'Halloran, 2009). Yet, they still failed to recognise the importance of considering the potential negative effects of yoga, leaving this important subject to the hypothesising of yoga teachers (Boudette, 2006; Douglass, 2009).

Many of the practice considerations discussed above appear to be very important when deliberating yoga as an adjunct treatment for those affected by EDs. Yet, again, these were suggested by yoga teachers rather than identified through research, and many remain unexplored. There is also limited information available on which aspects of yoga are responsible for its beneficial effects and in what way these influence ED-related difficulties. Furthermore, no study was identified from the literature review that looked at the timing of when people begin their yoga practice; or whether that time makes a difference to the development of or recovery from their ED. Only one study investigated women's experiences of yoga in a more open way (Grant, 2012), and even it missed the potentially

negative effects or aspects of the practice. Therefore, there is an evident need for further such exploration.

In order to address some of these gaps identified in the existing literature and gain a better understanding of the aspects that surround yoga practice and its potential benefits or disadvantages to the field of EDs, the present thesis presents a qualitative study that explores the experiences of women who practice yoga and self-identify as previously or currently experiencing EDs.

#### 1.9.1. Aims and Research Questions

The present study has three aims:

1. to explore women's experiences of yoga practice in relation to their experiences of EDs and recovery;
2. to examine women's thoughts about potential beneficial or unhelpful effects of yoga on their EDs, and the aspects of yoga that may have contributed to that; and
3. to investigate practitioners' views on the timing of their introduction to yoga in relation to their experiences of EDs, with the hope of potentially identifying a time most appropriate for start of a yoga-based treatment.

With these aims in mind the following research questions were set for the study:

1. What are women's experiences of yoga practice in relation to their experiences of EDs?
2. What aspects of yoga do women perceive as helpful or unhelpful?
3. What are women's beliefs about timing of starting yoga practice in relation to recovery from EDs?

## **2. METHODOLOGY**

### **2.1. Overview**

The current chapter outlines the rationale for the qualitative approach to the design of this thesis, its epistemological position, ethical considerations, procedures of data collection and analysis, reflexivity, and participant characteristics.

### **2.2. Epistemological Position**

In order to choose a method through which to investigate a selected topic, the researcher's epistemological stance needs to be considered first as this will inform the choice of the methods available (Willig, 2013). This research takes a critical realist stance, acknowledging that reality exists, but also recognising that it is constructed from each person's own perspective, and is therefore shaped by their context (Bhaskar, 1989; Maxwell, 2010). This approach also posits that it is not possible to directly access the reality (Willig, 2013). For example, the construction of EDs as serious mental health difficulties is not rejected here, but it is questioned as the dominant construction of such difficulties. The influences of social structures on each person's view of reality are also acknowledged (Parker, 1997). The underpinning assumptions of this approach emphasise the construction of potentially different realities by participants and researchers (Willig, 2012). This enabled me to pay particular attention to the ways in which study development, data collection, and the interpretations made were influenced by the research questions asked, and by myself, my social context and my interaction with the literature and the participants.

### **2.3. Design**

#### **2.3.1. Qualitative Approach**

The aim of the qualitative approach is to understand the experiences of people who live through the situations under study. Such investigations are not possible

using quantitative approaches, as these employ pre-determined measures of concepts and do not permit participants to provide descriptions of their experiences (Creswell, 2002; Smith, Harré, & Van Langenhove, 1995; Willig, 2013). Qualitative approaches, on the other hand, allow an exploration to take place and for people to describe the phenomena they experience in their own language (Kirk & Miller, 1986; Willig, 2008). It can also be argued that qualitative approaches focus on the phenomena they investigate in greater depth and allow for an exploration of phenomena that cannot be directly observed or measured. It is possible, through using qualitative research, to notice and highlight differences and inconsistencies between individual accounts, and to examine topics that are particularly sensitive in nature, as the researcher has a better opportunity to develop trust and a connection with the participant (Burman & Parker, 1993; Griffin, 2004). Finally, qualitative approaches are increasingly used in health care research, as they capture and place emphasis on the meaning of experiences of people with particular health and mental health difficulties (Al-Busaidi, 2008).

A qualitative approach was felt to be most appropriate as the research questions were concerned with women's experiences of yoga practice in relation to their experiences of EDs, and the aspects of yoga they regarded as helpful or unhelpful. This is in line with the chosen epistemological position, and allows for a more open exploration of the complexities and meaning of the chosen topic (Willig, 2013). Additionally, a qualitative approach can be used as a precursor to a quantitative study (Clarke & Braun, 2013). It is hoped that by developing a better understanding of the impact of yoga on EDs and the aspects potentially responsible for its helpful or unhelpful effects, future research may be able to take the findings further and investigate the effectiveness of these components in a larger sample, achieving more generalizable results.

### 2.3.2. Thematic Analysis

Taking into consideration the focus and exploratory nature of the present study, the past available literature, its epistemological stance and the set research questions the selected methodology was interpretative thematic analysis (TA) (Braun & Clarke, 2006; Braun & Clarke, 2013; Clarke & Braun, 2013). It was felt that TA offered the flexibility necessary to analyse the data without the strict

theoretical framework that other potential methodologies, such as interpretative phenomenological analysis and grounded theory, tend to rely on (Braun & Clarke, 2006). TA is used to find and analyse patterns of meaning in the data (Braun & Clarke, 2006), and has grown in popularity in healthcare research (Braun & Clarke, 2014). By looking at the content of the data the researcher is able to highlight the most prominent patterns of meaning present and thereby represent the findings in the most meaningful way possible in order to achieve the aims of the study (Joffe, 2012). The selected TA is referred to here as interpretative, as the aim was to go beyond semantics or what Clarke and Braun (2013) call “obvious content”. It was felt that this approach would be in line with the primary aim of the present research, which was to explore women’s experiences of yoga practice in relation to their experiences of EDs in a more open way. The TA used was not deductive because no pre-existing coding frame was used, and the data was not approached with a specific theory or direction in mind. It is also not possible to claim that the analysis was inductive, as the researcher is never completely free from their epistemological and theoretical stance. Hence, it is acknowledged that the TA carried out here was likely influenced by thoughts formed through the completion of the literature review and my past experiences and knowledge (Braun & Clarke, 2012; Braun & Clarke, 2006; Braun & Clarke, 2013).

## **2.4. Ethical Considerations**

### **2.4.1. Ethical Approval**

Ethical approval was obtained from the University of East London (UEL) prior to commencement of the study (Appendix 4). Approval for an amendment was obtained at a later stage (Appendix 5), although still at the beginning of recruitment. The amendment added the ability to conduct interviews via the Internet. It removed the exclusion criterion of a current mental health diagnosis, and allowed for the recruitment of participants not only with a past diagnosis of an ED, but also those who sought professional help with regard to eating problems, those who experienced ED-type difficulties and those with a present diagnosis or ED-type difficulties. This was both to make the arrangements for participation more flexible, and to increase participation.



#### 2.4.2. Consent

Prior to obtaining consent, all participants were given an information sheet (Appendices 6–7), providing them with all necessary details about the study, the interview procedure, the questions they would be asked, the use of the data obtained, and information on data governance. Then, participants were asked if they had any questions about taking part in the research. Once all the questions were answered, but before the interview began, participants were asked to sign a consent form (Appendix 8). For those interviews conducted over the Internet, using Skype or FaceTime, participants were asked to type their name in the consent form and email it back to make the process easier. They were then also asked for verbal consent at the beginning of the interview. Before the interview started, verbal information about the study and participation was again provided, and participants were informed of their right to withdraw at any time up to the commencement of data analysis.

#### 2.4.3. Ethical Considerations

Participants were informed both verbally, and in writing, that even though there were no risks involved in taking part in the study, there was the possibility that they might become distressed or find some of the topics discussed emotive, such as when talking about their experiences of eating difficulties. They were notified that, on such occasions, a break or a different time for the interview would be offered; or if they felt unable to continue, or did not wish to continue, the interview could be terminated and they would be encouraged to contact the services provided on the information sheet to seek support.

#### 2.4.4. Anonymity and Confidentiality

All participants were informed that all the data provided by them would be anonymised, treated as confidential and stored securely (i.e. in a password-protected file). The collected recordings, and the transcripts, were assigned a pseudonym, with all identifying information changed to ensure anonymity. It was explained to participants that selected quotations might be used in the thesis and any following publications. This information was repeated at the beginning of the interview.

## **2.5. Data Collection**

### **2.5.1. Recruitment**

Advertisements for the study (Appendices 9–10) were disseminated via the Beat website (a UK ED charity (BEAT, 2014)), in London gyms, on psychology forums (after obtaining permission from administrators), and on several other websites ("Callforparticipants", 2015, "Facebook", 2015, "GooglePlus", 2015, "Twitter", 2015). Yoga teachers known to me and found online were also encouraged to inform their students of the study, if they felt it was appropriate. Once potential participants were in touch, they were provided with further information about the study via the information sheet and were given the opportunity to ask any questions. Participants were offered a choice of method of interview (Internet or face-to-face). Participants were also notified through the information sheet and prior to the start of the interview that they would be entered into a prize-draw at the end of the study for an Amazon voucher worth £20. This was in order to recognise the participant's contribution to the study and to encourage participation, as offering an incentive to participants for giving up their time was felt to be usual in the field of ED research.

### **2.5.2. Inclusion and Exclusion Criteria**

Criteria for participation in the study were listed in the advertisement for the study. Participants were required to be English-speaking women above the age of 18 years. They should have had a self-reported history of an ED, or a present diagnosis of an ED, or have sought professional help in regard to problems with eating, or having or having in the past had experiences of ED-type difficulties. Participants were also required to have started practising yoga while still experiencing ED-related difficulties. Yoga practice was defined as a regular practice undertaken in a class or at home approximately once a week or more, as in Dittmann and Freedman's (2009) study. Only women were sought in order to keep the sample homogenous, as was done by Vann, Strodl, and Anderson (2013). Also, the sample was limited to women in order to aid recruitment, because EDs are more common amongst women than men (Fairburn & Harrison, 2003), and yoga appears to be an activity that is taken up more by women (Atkinson, 2009).

### 2.5.3. Interview Schedule

The data was collected using semi-structured interviews, as these allowed me to explore each individual's perspectives openly and on the participant's own terms (Frith & Gleeson, 2012). The interview schedule (Appendix 11) used to guide the interview was developed in light of the literature review, the set research questions and after discussions with the research supervisor, and with an external supervisor, professional with extensive experience in the field of yoga as therapy for EDs.

Two pilot interviews were carried out in order to assess any flaws in the interview design and to make any changes necessary before proceeding with data collection (Kvale, 2007). The pilot interviews took place after ethical approval was obtained and every procedure was followed for the pilots as planned for the data collection phase. Both interviewees had characteristics similar to those of the intended participants. One was a 35-year-old White-British female yoga teacher with a previous diagnosis of AN, and the other was a 33-year-old White-British female yoga practitioner with experiences of binge-eating and compulsive overeating. Several yoga teachers with experiences of EDs had contacted me at the beginning of recruitment, volunteering for the study, and I hypothesised that their interpretation of questions might be different to those of non-yoga teachers. The purpose of having two pilot interviews was to assess the interview schedule and procedure appropriateness for both yoga teachers and non-yoga teachers.

The pilot interviews were listened to and attention was paid to the way questions were asked, the appropriateness of the questions, the follow-up questions generated, and the procedure of interview completion. After this, and a discussion with the supervisor, the interview schedule was felt to be suitable without any changes necessary. However, some reflections were taken into consideration for future interviews on the way questions were asked and the follow-up questions (Appendix 12).

### 2.5.4. Procedure (Interviews)

Once participants got in touch with me and all the necessary ethical procedures were followed through, the interview was agreed. Six face-to-face interviews took

place at the UEL library, at participants' homes, and at libraries local to the participants. Six took place over the Internet (five via Skype and one via FaceTime). An audio recording device (Olympus VN-713PC) was used to record the interviews, which lasted 30-80 minutes, and were carried out with the use of the interview schedule. Following completion of the interview, a verbal debrief was offered. Participants were reminded that contact details of support services were provided on the information sheet, and that they were free to contact me should any queries or concerns arise at a later stage.

#### **2.5.5. Participant Characteristics**

The study aimed to recruit 7–12 participants, as in previous related literature (Grant, 2012; Rawal, Park, Enayati, & Williams, 2009) and because this number has been suggested to be sufficient for achieving data saturation (Guest, Bunce, & Johnson, 2006). A total of 12 participants were interviewed, with a variety of presentations, some with current diagnosis of EDs and some with a history of EDs. Participants had experiences of a range of treatments (including inpatient and outpatient treatments) and therapies (e.g. CBT, IPT, etc.). Also, participants had experiences of a number of different yoga styles (with the main ones being Ashtanga, Hatha, and Vinyasa). Participant characteristics are set out in Table 1.

### **2.6. Data Analysis**

#### **2.6.1. Transcription**

Potter and Hepburn (2008) advocate more in-depth transcriptions, including indication of intonation and timing of pauses, but other authors propose a less thorough transcription, especially for analysis of broader content in the material, where details of intonation and other speech elements, if included, may even interfere with the analysis (Poland, 2002; Potter & Wetherell, 1987). A roughly orthographic transcription was chosen as the most suitable vehicle for the level of analysis planned for this research. In the first transcript, non-verbal utterances, sounds (e.g. “mmm”), and pauses were recorded, but when the transcript was reviewed, these were felt to distract from the content. Subsequently, only words and beginning of words (e.g. where a participant started to say something but did not finish), and notable expressions of emotions (e.g. laughing) or incidences

occurring during interviews (e.g. someone interrupting) were recorded in [brackets]. The first transcript was adapted to match this transcription style.

The transcription conventions used were those suggested by Parker (2005). Punctuation marks were placed to represent the way information was conveyed. All interviews were transcribed by the author, which ensured familiarity with the subtler elements of the interviews as well as initial familiarisation with the content. When presenting extracts of transcripts to illustrate examples for themes identified from the analysis, some adaptations were made. For example, words were at times omitted to improve readability and “(…)” was inserted to represent this, with any added comments placed in [brackets].

Table 1. *Participant characteristics*

<u>Participant pseudo- nym</u>	<u>Age</u>	<u>Ethnicity</u>	<u>Self- reported ED</u>	<u>Age at diag- nosis</u>	<u>Yoga experience</u>	<u>Yoga teacher status</u>
Joanne	20	White-British	AN	16	3 years (regularly) from twice-a-week to every day	Yoga teacher
Patricia	31	White-Scottish	AN	13	10 years (sporadically) once-a-day to every day	Yoga teacher
Debora	24	White-British	AN/BN	14	6 years (sporadically) once to several times a week	Yoga teacher
Chloe	23	White-British	AN	16	2–3 years (regularly) from one to six days a week	Yoga teacher in training
Davina	28	White-European	BN	20	3 years (regularly) from a couple of times a week to every day	Yoga teacher
Kamila	35	White-British	BN	28–29	10 years (sporadically) once a week to every day	Yoga teacher and yoga therapist
Lucy	28	White-British	AN/BN	14	1–1.5 years (regularly) once a week	Non-yoga teacher

Elle	28	White-British	AN/BN	22	1–1.2 years (regularly) once a week	Non-yoga teacher
Heidi	23	White-British	AN/EDNOS/exercise addiction/orthorexia	18	Approximately 6 years (sporadically) every day to once a week	Non-yoga teacher
Marisa	28	White-British	AN	14–15	4–5 years (regularly) two to three times a week	Non-yoga teacher
Reanne	34	White-European	BN	20	21 years (regularly) twice-a-week to every day	Non-yoga teacher
Vickie	23	White-British	BN/AN	14	2 years (regularly) twice-a-week to several times a week	Non-yoga teacher

### 2.6.2. Thematic Analysis

The rationale for selecting TA for analysing the data has already been explained. Steps taken to analyse the data obeyed Braun and Clarke's (2006) guidelines, with some input from other sources to ensure the necessary procedures were followed for quality assurance (Elliott, Fischer, & Rennie, 1999; Joffe, 2012; Willig, 2013). The process was completed using both pen and paper (mostly for notes) and NVivo 11 for Mac OS (for coding and review of codes and themes). The phases of data analysis were as follows (Braun & Clarke, 2006):

#### Phase 1: Familiarisation with the data

As already noted, familiarisation with the data started at the stage of transcription. Then I “immersed” myself in the data to ensure an understanding of the depth and breadth of it. This was done by repeated reading of the material, while at the same time attempting to find meaning and patterns, making notes of anything that stood out to aid later coding.

#### Phase 2: Generating initial codes

A list of ideas generated from phase one was then used, together with the data, to develop initial codes. NVivo was used as a tool to code the extracts manually. All extracts were given initial codes based on semantics rather than attributing

meaning. Any similarities between codes, as well as contradictions and inconsistencies, were noted. NVivo was then used to collate the data for each code. Some surrounding data was coded together with extracts to avoid losing context of the data (Bryman, 2001). Some extracts were attributed to more than one code. 245 codes were produced as a result of this process (Appendices 13-15).

### Phase 3: Searching for themes

In phase three, making use of the noted similarities, codes that appeared to be related were combined in NVivo, together with the relevant extracts. Then, all the codes were read through and potential themes were identified. Theme nodes were created and codes were clustered together under the corresponding initial themes (Appendix 16). A thematic map was then drawn to attempt a preliminary grouping of themes, and to offer a visual representation of the analysis carried out so far (Appendix 17) (Braun & Clarke, 2006).

### Phase 4: Reviewing themes

This phase consisted of two review sections. First, all extracts were re-read in accordance to their codes and preliminary themes to assess their coherence with the proposed theme and with each other. Where extracts within a theme did not appear to be in line with each other, themes' internal homogeneity was questioned and the extracts and related codes were refined. For example, some extracts were placed under separate themes or new themes were proposed. At the same time, themes were checked with their coded extracts for external heterogeneity, to ensure sufficient distinctions were present between themes. This stage also involved discussion of the initial themes and relevant codes with an external supervisor, in order to verify the representativeness of the codes in the themes and to review the themes. At the end of this process, the proposed thematic map was refined (Appendix 18). The second review phase involved re-reading all the data to check for the validity of the themes in relation to the whole data set, and to code any data that was missed in the initial coding (Braun & Clarke, 2006; Patton, 1990). Few new codes were identified at this stage, and the themes appeared to reflect the data set accurately, possibly because they had already been refined and re-read several times.

### Phase 5: Defining and naming themes

All themes were reviewed once more while analysing the data they contained, and identifying the story from the data that each theme captured. This was done by checking the relevant extracts merged into a consistent representation of the theme, and appending summary of each theme in relation to the narrative that was developed from the data and the set research questions. These themes and extracts were then discussed with the research supervisor and the external expert in the field to assess the utility of the findings and to check the findings were consonant with their experiences. The themes were then refined. Some were placed under higher order themes, some were moved to other themes, and some remained as main themes, leading to a final thematic map, used in phase six, and presented in the next chapter.

### Phase 6: Producing the report

Finally, the analysis was completed by writing-up the results section of this thesis. Every attempt was made to provide a coherent story of the data and to give the most “vivid” extracts in order to demonstrate evidence for each theme (Braun & Clarke, 2006).

## **2.7. Reflexivity**

As suggested by Seale (1999) the data collected via interviews is a construction of reality made collaboratively by the researcher and the interviewee.

Additionally, one of the criteria for good quality qualitative research, discussed further in Chapter 4, is the researcher’s ability to “own their perspective” (Elliott et al., 1999). Therefore, reflexivity was attended to during the development of the research and during data collection and analysis. Reflective journals were used to aid my awareness of potential bias towards yoga, due to my personal experience with it (Appendix 19).

To put the results of this research into context it is important to acknowledge elements in my background that could influence my position, especially in relation to data collection and analysis. I am a twenty-eight-year-old White-European female, who has lived some of her life in Latvia and almost half in England. I am



a Trainee Clinical Psychologist at UEL. I have worked as a Research Worker in the field of EDs, and have practised yoga for the past 3 to 4 years. I also trained as a yoga teacher two and a half years ago and have taught occasionally. It was important for me to note that my engagement with yoga and EDs may have influenced my interaction with participants during interviews. This may have affected the direction I chose to take with additional questions, potentially paying attention to areas that others would not have. For example, I sometimes tried to clarify certain statements that participants made, to try to understand the processes occurring in their lives as a result of yoga or other factors, such as when I asked Marisa “So, the mindfulness part of things is helping you with the calmness?”.

Also, having certain knowledge about yoga, I may have, at times, felt that I knew more about yoga than the respondent, potentially being less curious or less accepting of their views of it (internally). At other times I may have asked questions more curiously and openly, as I had an assumption that the respondent had comprehensive knowledge of yoga, and viewed them as more of an expert. However, making these reflections during and after interviews, helped me to be aware of this and to try to be curious at all times, not depending on respondent’s yoga experience. I then was able to bear in mind that the way in which EDs and yoga are conceptualised by any one individual is not the only one or the “correct” one and that others may see and identify with them differently (Douglass, 2011). Hence, I paid particular attention to remaining open to others’ views.

Listening back to the interviews, I also noted that the explanation of my role as a Trainee Clinical Psychologist and the explanation of the study (the same as in the information sheet) may have also influenced participants’ thinking. It may have directed them to interpret the study aims as looking at yoga as a potential treatment for EDs. which may have implied a positive view of yoga. However, by having pre-prepared interview questions on potential negative sides of yoga and explaining that the study was looking at both potentially helpful and unhelpful effects and aspects of the practice, it was ensured that the interview was as unbiased as possible.

During the analysis stage, I was again aware that my previous experience and knowledge of yoga and of EDs may have partly influenced data interpretation. Although no theoretical framework was intentionally used for data analysis, my training in Ashtanga-Vinyasa yoga and its philosophy may have had some influence on the way data was perceived. For example, one of the participants talked about not seeing Ashtanga yoga as a strenuous practice, and not seeing her daily practice and inability to miss it as potentially obsessive ED tendencies. Reading this I wondered whether her practice was one of the manifestations of the ED, which was not helped by the structure and prescribed routine of this type of yoga. I felt that knowing that Ashtanga is a challenging practice, which prescribes daily practice with only one day break, and knowing that individuals experiencing EDs often struggle with breaking a routine, likely influenced my interpretation of this data. I then noted that other participants also often reflected that yoga was sometimes a manifestation of their ED. Hence, I interpreted this connection as manifestation of ED through yoga, as well as noting the particular elements of yoga that may be unhelpful for those experiencing EDs. Another researcher, with other experiences, may have not made this connection and could have interpreted this in a different way, leading to different results. However, I feel that, at least in this case, my knowledge and experience within these two fields has been helpful. Yet, I acknowledge that the results presented here represent only one way of interpreting the participants' views of yoga in relation to EDs.

### 3. RESULTS

#### 3.1. Overview

This chapter presents the themes developed through the analysis discussed above. The final thematic map is illustrated in Figure 3, and each theme and its subthemes are subsequently described, with excerpts used for illustration purposes. Discussion and further interpretation of the results in the light of the existing literature are presented in the next chapter. The pseudonyms used in Chapter 2 are used here for ease of reference.

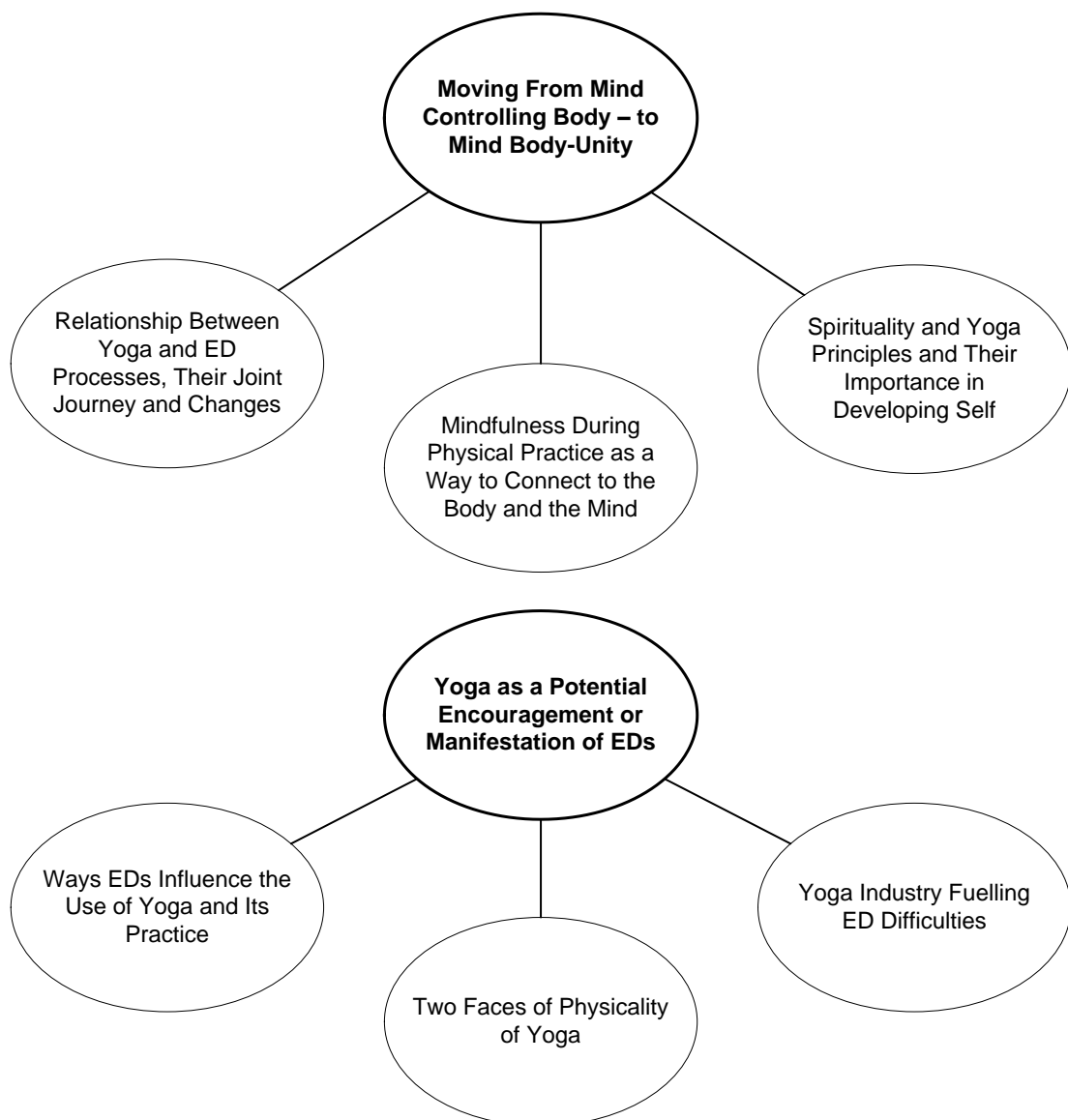


Figure 3. Final thematic map

### **3.2. Moving From Mind Controlling Body – to Mind Body-Unity**

A major theme identified from the interviews was that practicing yoga appeared to lead to a shift that helped participants unite their minds and bodies. They spoke about ways in which their mind was controlling their body or the whole of their life, and how this subsequently changed through their yoga practice. There seemed to be particular processes of change that occurred in their EDs and related recovery, and in their yoga practice. Participants felt that the mechanisms through which these changes were possible were those of mindfulness and breath, as well as spiritual and philosophical principles of yoga and its physical practice. The biggest change noted from the yoga practice was psychological. Participants reported an improved ability to be calmer, to understand themselves, their ED, their behaviours and reactions to situations, and the ability to better manage their responses to situations, as well as their emotions and mood.

#### **3.2.1. Relationship Between Yoga and ED Processes, Their Joint Journey and Changes**

All participants spoke about their ED journey, in that their EDs changed and developed over time, with increasing severity of symptoms. At the same time, a parallel journey was noted in several participants' yoga practice, with the practice increasing in frequency and intensity. It appeared that these developments continued to go in parallel at the time of their journey through recovery, as their yoga practice also softened. Participants noted pushing themselves less in the practice, just as they pushed themselves less in their ED behaviours. This suggested a potential relationship between individuals' recovery from the ED and their yoga practice, and to their mutual impact on each other.

Many participants spoke about the way their EDs developed gradually, with influences from certain external factors, such as life experiences and family circumstances. They noted how their ED presentation changed over the years and how their symptoms changed, increasing in severity and then reducing as recovery began.

[ED] just started off, I don't really know how, or why, but that started off, like the bulimia and binge-eating side of it, and then I was about, it was when I moved to uni I started restricting a lot more, and it turned into Anorexia (Vickie).

I think, I basically recovered from anorexia by binge eating, and I think I've starved myself for so long, I think it was inevitable (Lucy).

(...) it didn't start like from zero to ten, it just started really slowly, once in a while, like every three months that was happening, and then more and more, until it became quite serious and the highest point, the most difficult, when I was, I believe, three years ago, I was actually vomiting quite a lot, like two or three times a week, and was very, it was very, very sad for me (Davina).

Parallel to their journeys through the ED, participants' yoga practice also appeared to change with time, potentially because their ED was influencing their practice in an unhelpful way. A few participants noted that the frequency and intensity of their practice increased when they began their yoga journey, or when their ED was strongest, meaning that they felt they perhaps needed to practice more to burn calories.

Yeah, cause I'd come out of hospital and I was, I was holding my own, I was fairly well, and I'd started the uni course and things, and I was living in a flat on my own, or I was sharing a flat, so the class was near, and I just kept going and going. I kind of went every week and I asked her [the teacher] what to do to, kind of, advance the practice a wee bit, and she gave me some like DVDs that she'd done, and I would practice them at home. So I just built it up like that (Patricia).

The two journeys appeared to be occurring in parallel based on participants' descriptions of their EDs, life and yoga practice. However, some participants noticed a more immediate relationship between their ED and yoga practice. For example, one participant's practice was affected negatively when she was feeling

more unwell, due to not eating. Another participant noticed that her practice became stronger after she started gaining weight. This appeared to motivate her to work towards recovery even more.

(...) think the one thing I would say which always amazes me with yoga is I know when things are a bit more unbalanced when I'm more unbalanced on my mat. So, like I know when I'm heading downhill or I do get really low potassium sometimes that becomes really quite dangerous, so I always know it's dropping really, like it's dropping when things are going really badly on the mat, like the classes [inaudible]. I know like my body just isn't very well, and isn't coping at all, so that's quite, I haven't felt that before (Vickie).

(...) I've noticed again, like at the minute I'm doing quite well, and I am gaining weight quite regularly, but I'm practicing every day, and it's getting stronger, my practice is. I love it, like I just, just this week I've been really loving it, because I feel more able to actually, I'm not dragging myself through it, I'm jumping through it (Patricia).

Participants noted progressing with their yoga practice and moving on in their recovery from the ED, both with the influence from yoga and from other factors in their life, such as therapy and family support. When this occurred, their practice, their reasons for it, and their use and perception of it appeared to change. It seemed to reduce in frequency and intensity, and became more as a way to enjoy and celebrate their body rather than a way to use it and punish themselves.

(...) when I came out of St Thomas' hospital I had good support from family and friends. I was able to, you know, realize when I hadn't had enough to eat, or when I should be eating, particularly if other people weren't, I was able to, kind of, say "no, I need to have something", and I'd lessened the exercise that I was having (Elle).

I slowed down my yoga practice now, before I was practicing every morning empty stomach, then I started to feel that it wasn't really good for

me, I need to wake up and eat and relax, and then I practice yoga, if I do, cause I don't practice every day (Davina).

I still had the same sort of feelings arise, you know, it's my time, it's my time to relax, and, yeah, I just really enjoy it, really, really enjoy it (Lucy).

I think to start with it [reason for practice] was quite negative, because it [yoga] just fed into it [ED]. It was just a way for me to exercise. But then, when I was in recovery, and I'd do it, I'd just do yoga and go to the gym afterwards, because I wouldn't have exercised enough, even though I was trying to get better. So that was negative in that I was just using it as a way to push myself, feed the eating disorder behaviours. But, then, now it's quite positive, cause it's just relaxing, you feel strong, and you just see, cause there's so many people that, everyone has like different body shapes, and it's just, it's not really about how you look, it's just more of a mental thing (Heidi).

Vickie's description of the way she saw and utilised yoga illustrates this change the most.

Vickie: (...) it was while I was at uni, and it was, well, I started doing yoga because I was like compulsively exercising, and I was always at the gym, and the yoga class just happened to be the class after the one I was taking, well, one of the ones I was taking at the gym.

(...)

Researcher: And you said that you started practicing just because you wanted to try out, or stay for a class. < Vickie: yeah> And I wonder why did you continue practicing it, so you went for one class, and what made you come back?

Vickie: I think it wasn't the exercise side of it because I don't think I really do it for that, it was more like the mind side of it, the mindfulness. And just

sort of like the emotion from that first class that I haven't experienced before.

Another process that appeared to occur potentially as a result of the yoga practice, or a combination of different factors in participants' lives and yoga, was the changing relationship with their bodies, food, and in their attitude towards these and themselves.

(...) you sort of start thinking of your body as something you're responsible to look after, which is completely different to like any eating disorder thoughts, so you want to start nourishing your body and, I think that's been a major benefit, like what you're doing to actually look after yourself (Vickie).

I think learning about, as I said, the ego, compassion, and the prana, about changing my mentality about food being something for my body and for my mind, and using food to make my body strong and healthy (Debora).

### 3.2.2. Mindfulness During Physical Practice as a Way to Connect to the Body and the Mind

One of the aspects of yoga that may have facilitated the changes in participants' reasons for practice and their relationship with food and body was mindfulness and related practices. All participants spoke about ways in which mindfulness, facilitated by other yoga aspects, such as the breath, helped them in many ways. These included increasing their body awareness and focus, and leading to greater mind-body unity.

Participants spoke about how mindfulness helped them to communicate with their body again by paying attention in the present moment. Some felt that it helped them to reduce the destruction that their mind wanted to do to their body, and helped to connect the mind with the body.



I think there is this connection to your body again, like, you know, obviously the connection with your mind and your body, it completely brings them into sync, rather than having a really crazily chaotic mind that's wanting to destroy the body that you're living in, cause that's, kind of, what the anorexia does. You are forced to try and somehow connect them, like you have, you're forced to try and make them both work in harmony. And I think that's the aim of yoga anyways, to have things united, you know, like as one, and with anorexia, you're constantly in a battle between your head and your body. You know, your head is telling you to do things that your body's like "wrhoaaa, nooo", whereas it's definitely bringing them into sync (Patricia).

It appeared that this was partly because mindfulness allowed participants to gain a better awareness of their body as well as of their mind. Participants reflected that through yoga they learned that mindfulness and meditation did not necessarily mean to not have any thoughts, but rather that it meant noticing what was happening in their mind and body. This led to a sense of clarity and a feeling of being grounded.

(...) it's definitely mindfulness, yoga really teaches you to focus on how you feel in your body, and, it just makes you more aware of it, more so than anything I've done. Somebody could easily say — "how do you feel?", and you're like, your mind tells you that. Yoga really teaches you what your body wants (Heidi).

I've, kind of, understood that meditation is not about necessarily blanking your mind, but it's about just understanding what's happening in your mind, and rather than trying to just analyse it so much, just being aware of what's in there can just help you feel a lot more grounded, more aware, and less clouded. So, yeah, the mindfulness, meditation aspect, just gave me a bit more clarity (Debora).

Many participants felt that it was the use of the breath in the practice that served as a link between the mindfulness and the physical, or asana, aspects.

Participants reported that they enjoyed the connection of the breath, awareness, and movement in their practice, as it was something not found in any other form of exercise or activity. Some felt that it was the combination of these aspects that helped them gain control over, and freedom from thoughts, which were usually too difficult to manage. This in turn encouraged a different, more positive type of focus on and relationship with the body, already noted above as one of the changes resulting from yoga practice.

(...) when you're focusing on your breathing and your movements, and coordinating the two together, it's just doesn't really leave room for anything else (Reanne).

(...) breath allowed me to then control my lungs, and control the energy moving around my body, and how that felt, and that was really exciting, because that completely distracted me for 5 minutes. It completely stopped me thinking about what food was coming up for the rest of the day, or what anorexia-based thoughts was going on. It stopped me thinking about for that 5 minutes and that was just so offloading (Chloe).

The classes was a way to, sort of, to flush out like, even mentally, not even physically, you know, like "oh, God, I'm such a mess, I need to go and clean myself", you know? And that was what it became in more than any other way. It's because the classes talk, don't talk about your mind and things, that it's not like going for a jog, and it's not like going to the gym, because it makes it, it brings in self-awareness, and it brings in self-acceptance. And so they're the things that keep you going back, whereas other exercises don't have that (Kamila).

[You] get to focus on your body in a way that you wouldn't really in any other type of situation, you really have to focus on the feeling of certain postures, where you wouldn't be doing that normally, in other parts of life, so you're focusing on your arm, or your leg, or, but it's a positive focus, as opposed to when you're obsessing about how much fat you've got on

something, or whether you can feel bone, or whatever. It's more of a positive thing (Marisa).

Through increased awareness and focus participants seemed to not only gain freedom from thoughts, but also gain a better understanding of them, and gain a feeling of clarity and honesty with themselves. This led them to appreciate their time on the mat, because that was the only space where they were able to not be so immersed in their ED, having some “me” time, away from their struggles; that is if they were able to stay truly focused on the practice rather than the ED (as discussed in the next theme). Guidance from the yoga teacher was highlighted as an important element in enabling some participants to achieve such results.

(...) where I can remember having my biggest moments of clarity on the mat, in those moments, where you just pause in a fast practice and it make[s], and something that a teacher says, if you have a good teacher, really makes you think about why you're actually really there, and then you start to explore (Joanne).

I think also, just the practice in general has made me feel like I'm not going crazy [laughs], because I spend so much time in my head. I think it helps me to think “well, there is an escape”, “there is something I can do that means I don't have to be in there all the time” (Elle).

Being more aware of their thoughts and their bodies also enabled some participants to separate their thoughts from the ED thoughts.

I think being able to differentiate your own voice from the eating disorder voice as well, because with yoga you're like much more in tune to yourself. And you're able to sort of filter out your own thoughts as opposed to any like eating disorder thoughts, so that's quite a big one as well (Vickie).

The use of the breath, combined with mindfulness, was also important to participants in other ways, as it was readily available to them even outside of the practice. Through the use of the mindfulness of the breath and controlled

breathing during the yoga practice participants were able to learn to direct their awareness to a particular bodily process. Through repeated practice, they were able to learn to use this redirection of attention in their daily life. This may have enabled participants to regulate their responses to situations, especially the response of anxiety. This was in line with participants' general comments in regards to experiencing a sense of calmness as a result of their practice.

I think breathing is something that is so easy to practice in your everyday life and, like I said before, you know, I suffer from anxiety and terrible panic attacks, and the one thing that helped me get over is knowing how to do certain types of breathing, and like calming myself down with that. That's amazing (Reanne).

(...) yoga is still my favourite one. I think cause it's not just about the body it's about the mind as well, and it's about the breathing exercises, so it all sort of links in with just that calming yourself down and just sort of grounding yourself and I think I'm somebody, I need that, I'm, you know, I need that time. And, if I go to step [aerobic exercise], it's just, it's crazy and you come out and you're sweating, and, it's just, it's the calm, I think it is just like calm, it's just that hour, just to really relax, just to get in touch with yourself, with your mind and your thoughts, but in a really good, positive way (Lucy).

Just as the use of the breath helped participants manage anxiety, yoga also helped them to regulate their emotions better and increased their confidence in relation to eating. However, the mechanism through which this occurred was not clear. It may be hypothesised that this was due to their increased awareness of internal states, and potentially a learned ability to gain distance or observer perspective of these internal events.

(...) I also felt like it, sort of, released some endorphins afterwards. And I felt like it had a positive aspect on my relationship with my partner and friends and I think that, kind of, had a knock-on effect with food, in terms of

being more confident to try, sort of, challenging foods, and foods that I wouldn't normally, kind of, allowed myself to have. (...) I didn't, kind of, come out of the session, right I'm going to eat a chocolate bar or something, you know, [laughs], but, you know, on the back of my mind, it, sort of, played out, and just me feeling happier and just more content with myself (Elle).

It's definitely allowed me to maintain a much more, like, even level of mood, so that I'm not really, really high or really, really low, so it's kept things on a nice level (Patricia).

(...) you feel a bit more energised, but calmer, you know, you feel like you've just let go of something, you've got oxygen in your body, and you feel a bit more aware of, you feel a bit more centered, aware of what's goin[g] in yourself (Debora).

### 3.2.3. Spirituality and Yoga Principles and Their Importance in Developing Self

Even though a number of participants said that they were not very spiritual, 11 out of 12 participants spoke about the importance of this aspect of yoga. They felt that it taught them a different side to yoga, showing that yoga is not only about the physical practice. It seemed to be especially noted by participants who were yoga teachers or those who have been practicing yoga for a long time, potentially because spirituality and yoga principles are not always discussed in all yoga classes. Some of the spiritual and philosophical aspects of yoga, such as acceptance and kindness, linked with teachings found in mindfulness (discussed above), likely due to their joint origin.

Some participants felt that their improved ability to have a more stable mood and react less to difficult life events, discussed above, was a result of them taking on board the spiritual and philosophical aspects of yoga, learning to be calmer, and having less anxiety related to food, eating, their body, and daily life. This appeared to have a positive effect on participants' EDs. For one participant this meant a reduction in overeating, and for another – a reduction in purging.

(...) it really helps with you being a more relaxed and calmer person, and that then leads onto not reacting to certain issues the same way as you would have previously. So, my overeating always was a reaction to something negative that I was exposed to, and, when you do yoga, and you are quite spiritual, and then you don't react to those negative things as badly as you did before. So, I think that's how it works (Reanne).

Three years ago I actually went to my first yoga class, as a student of course, and I burst into tears, the first yoga class I've been. I was like moved from deep within me, just because of the words that the teacher was saying, like compassion and kindness, and forgiveness, and just moved something inside me, and I felt that that was my path, and, but of course it took me a while, it took me 3 years to arrive to the point now, when I believe, I still have some behaviours, and of course it's a long process, I know. But at least I'm not purging anymore, which is a huge success for me (Davina).

One of the related aspects that some participants found very useful in applying to their life was the belief that everything happens for a reason. This allowed them to let go of some of the rigidity that was often part of their ED.

I mean it's definitely added a whole another element to my life since I found the spiritual aspect of yoga. Just things like being grateful and appreciating the moment, and going with the flow, and not stressing about things that have already happened, you know, not worrying and not panicking, cause obviously with my kind of mindset it can be easy to be quite obsessive about things, and wanting to plan everything, wanting everything to go exactly as you plan it, and then when it doesn't, you're having a panic, like that's kind of how I've always my whole life. But it feels now like, since I've started practicing yoga, my life has been a lot more within the kind of range, if that makes sense, like not so drastic, the ups and the downs, because I've been able to kind of think in my head, coming back to kind of spiritual aspects that like it's just life and that's the flow of life you just gotta go with it and this is what it is and you can't really. Yeah,

I don't know, and just having a faith that things will always work out how they're meant to work out in the end (Joanne).

Related to the principle of allowing events to unfold as they will was the practice of acceptance. Participants noted that they were more able to practice acceptance of and kindness towards themselves as a result of their yoga practice. Some noted that it can be difficult to accept issues related to the ED, but also highlighted that those are some of the most important aspects to be accepted, if the person is to feel better.

(...) practice love and kindness on a different level, even to the most horrible things we have inside, actually more than ever on that, cause it's easy to love yourself, when you're feeling great and, when in the parts of yourself that you like, and it's really hard to give yourself love, just after you vomited everything in the toilet (Davina).

(...) the self-acceptance definitely, and, just respecting your body, and what it tells you, what it can and can't do, and listening to that (Heidi).

At times it was the combination of awareness and the principle of acceptance that was needed to help some participants to understand and reflect on their ED, and to reduce some of their worries.

Yoga gave me that understanding of it, which then released my worry so much about what I was eating, or why I felt worried about it. Or, even if I did feel worried, I'd go "Ok, it's fine that you feel worried about it". It just gave an awareness that, right "why do I feel anxious today", I've sat down [for] 5 minutes looking, having that mindfulness think "Ok, I feel a bit anxious. Why do I feel anxious? Ok, maybe it's because I had some bread earlier. Ok, what's actually gonna happen if I have a bit of bread. You know, it's fine." (Debora).

For one participant, taking on board the spiritual and philosophical aspects of yoga meant that she was better able to deal with episodes of low mood, which

were linked with her ED and were therefore likely to play a role in it. The principles of acceptance, forgiveness, and kindness to self, and nonviolence also seemed to help Kamila to reduce her difficult thoughts and prevent the ED behaviours from spiralling out of control. By trying to accept her experiences, no matter how unpleasant they were, she was able to allow them to pass without as much struggle.

And the depression, knowing I get little waves of it now, knowing it's gonna end and treating yourself with kindness and stuff, which is a lot of what comes out of your yoga practice, feeling appreciative of what you've got, rather than seeing it as lacking. Which is such a huge thing. (...) I think, giving yourself a break about it means that it's less likely to spiral, because if you can make a mistake and forgive yourself, then you're in a better place not to do it again. Whereas if you hate yourself immediately afterwards, then of course you're gonna try and get rid of that hate by stuffing more food in your mouth. So, having that, that's like absolutely key I would say, is having an understanding of why it's happening, and then a complete forgiveness and softness for that. (...) Yeah, so from like a yogic perspective, I'm just thinking about like treating yourself with kindness, I mean like the basis of yoga like, you know, nonviolence truthfulness, it completely, you know, links to that of nonviolence, when I did a lesson about ahimsa, nonviolence, saying about it's not even an external thing, it's an internal thing, all the little thoughts that you think about yourself, like "oh, you're stupid", or you're this, or you're this, or you're fat, ra ra ra. That's like violence all day that you're giving yourself (Kamila).

Some participants found that the associated spiritual practices of yoga were also very important for their recovery. For some it was the chanting, for others it was the energy coming from a practice done jointly with other like-minded people. It appeared that the group format was important for these aspects to be helpful for some participants, whereas others felt that they could utilise these on their own. Overall, for most participants it seemed that the group practice brought something to their lives that was seen as often missing in their life with ED. This may have reduced some participants' feelings of isolation, providing them with



more than mind-body unity – a sense of unity with others or with a belief of something greater.

(...) what I find as well like from some yoga classes, when we do like work, like we'll all meditate together, or we'll do "OM" together, the unity of that and it's sort of good to be part of something as a group, which you don't norma[lly], which you don't get in an eating disorder, when you're very isolated and by yourself, so like, the togetherness of it as well (Vickie).

(...) just all the different, kind of, philosophical elements just gave me something about everything, you know, everything is from the inside, everything is your soul, everything is your energy, everything you're giving out to the world is coming back to your world, you know, you're creating your own future, and your own life, and your own body (Debora).

Yeah, I think helpful things were, I really liked the chanting. I found it really soothing, and I quite often on the tube, because I know no-one can hear me, I will sometimes still do it. Or if I'm walking on my own. I just find the, sort of, vibrations really soothing, and I think by concentrating on them it helps not to think about other things as well (Elle).

### **3.3. Yoga as a Potential Encouragement or Manifestation of EDs**

As can be seen in the previous theme, participants mostly felt that they benefited from yoga through a number of different processes, be it with the use of mindfulness, spirituality and related principles, or the combination of several yoga aspects. However, not all of the findings were positive. Participants also felt that their ED has at times negatively influenced their yoga practice, such as when they used it for unhelpful reasons (e.g. to lose weight). The helpfulness of yoga appeared to be influenced by manifestations of ED in the practice. Taking this into consideration, some positive comments about the physical side of yoga were doubted. This led to a question of the helpfulness of yoga in terms of the physical nature of the practice. Finally, it was noted that the yoga industry seemed to stimulate the negative uses of yoga, and potentially fuelled EDs.

### 3.3.1. Ways EDs Influence the Use of Yoga and Its Practice

All participants felt that there were a number of ways through which their EDs influenced their yoga practice, such as when their obsessive tendencies meant that they used yoga as a way to exercise excessively. Either directly or indirectly participants described how at times, especially at the beginning of their yoga journey, yoga practice or yoga teacher training were manifestations of their EDs.

From participants' descriptions of their EDs and yoga journeys it can be hypothesised that the time when participants were more likely to use yoga in a negative way was when they felt as though they had recovered; but in reality their ED-related habits had just changed. For example, obsessions with exercise or low-calorie diets may have changed to obsessions with yoga practice and yoga-recommended diets.

Quite a lot of people do that. Like, once they've had an eating disorder they say "oh, I'm recovered now, I'm strong", and they turn to the gym, and they're super-muscly and things like that. And it's not that, it's not better than before, cause obviously it's better than when they [were] like on death's door, underweight, but it's almost like another manifestation of the eating disorder, if that makes sense. (...) And I feel like almost the healthy, yogi diet and practicing most days is almost like another manifestation of that. I'm not saying it's like that for everybody, a lot of people can live that kind of lifestyle and just do without getting so obsessed with it, but I think for me it was just, another, it was just like that, like it was a way to indulge my eating disordered habits. Even if you wanted to take the eating disorder aside, it's like obsessive-compulsive habits and competitive perfectionism (Joanne).

Several participants felt that the obsessive tendencies in their ED influenced their use of the practice, yoga becoming one of the rituals that they needed to complete. Some types of yoga appeared to be particularly suited for this purpose, due to their recommended structured routine, such as with Ashtanga yoga.

(...) with Asthanga, it's like 6 days a week, sort of, the set routine, and that just appealed to me, like so much, because it was, very, very structured, and, you know, there was a set I had to do, but there was a set amount, you couldn't just go and run forever, but I wouldn't let myself just do a bit of it, so it was, kind of, a little bit of an obsessive element to it as well (Patricia).

However, there appeared to also be a helpful element to the structured nature of yoga as an physical practice, in that participants found it easier not to over-exercise. It seems that the extent to which this aspect of yoga is helpful or unhelpful depends on where the person is at in terms of their recovery.

(...) because of, I looked into ashtanga, I used to give myself Saturday off, because it told me to, and I was happy to stick to rules. But again, and I continue doing that now. And I give myself just Saturday to do nothing. Well, nothing exercise-wise. Whereas in the past, I would say "right, I will do two ashtanga, two this, two that, and maybe something else on a Sunday, I might go for a long walk". And to have one day to just not have to get sweaty, not have to do any physical exercise, to just be able to sit and relax, and maybe go for a cup of tea with a friend and things like that. And just for it to be Ok. And to not feel like I failed that week, because I've not achieved what I wanted to tick off from exercise terms. I think that was really powerful (Chloe).

I think it's controlled exercise as well, which I think it's quite good if you had an eating disorder, because I tried going to the gym and that was hopeless because there is no time limit on it, and I think you always have that slightly addictive personality. Whereas I think, if you do a yoga class, it's very controlled, it's a set time, and it's, you know, you walk out the door and that, that's it, it's done (Lucy).

Yoga teacher training and yoga teaching were two additional ways to give in to ED, described by participants, as these justified their excessive exercise.

(...) even when I went to my teacher training, I was still in that mindset. So, my teacher training was perfect for me, cause all the other people on it were like “oh my gosh, we’re doing so much, I’m so tired! I need to skip class today. I need to have a break”, cause obviously you practice twice a day. And I was like loving it. It was the perfect, it was just like my, that’s what I was doing at home anyway, practicing twice a day (Joanne).

Similarly, another contrast related to the potential for yoga to become another ED obsession was found in participants’ view on whether yoga should be a lifestyle or *part* of a balanced lifestyle. Some participants felt that yoga could be taken to extremes if it is treated as a lifestyle, whereas others felt that having yoga as a lifestyle meant that all of yoga aspects could be incorporated into person’s life.

I think if somebody has an addictive mind-set, addictive personality and obsessive, kind of, thing, like I do, then it can do, it can happen with anything. So I think, you know, a lot of people can do yoga as part of balanced lifestyle, but I think people who do have an addictive or obsessive mind-set have to just be like careful, because you can, you know, we take things to extremes, and I think that’s the person, rather than the thing, if that makes sense. (...) So like you take your yoga practice with you off the mat, and without even thinking about it too much, it’s always, kind of, underlying there to help you just be a bit more mindful, and, you know, take your breath into consideration and things like that. But I think it should be more seen that way as, as part, an integral part of your lifestyle, but not like your whole lifestyle (Joanne).

Well, now it, sort of, takes over my life a little bit. Like, I don’t, if I drink, I maybe have half a glass of wine or something like that, it’s not, it’s very, very rare. And I don’t really eat a lot of meat anymore, I’ve supplemented with a lot of, a lot of nuts and lentils, and quinoa, and try and cook my own stuff, and it’s a lot more, yeah, it’s a lot more relaxed. Well, I’m more kind to my own body really (Chloe).

There is yoga for everyone, no mat[ter], whether it's a totally physical Vinyasa class or whether it is mindfulness, or about, you know, yoga is not just in a class, yoga is a lifestyle. It's about connect[ing], yoga, it's, yoga means to yoke, you wanna be in line together, it's not a class, it's not a fitness trend, it's a lifestyle, it's a way of living (Debora).

Self-criticism, perfectionism, and competitiveness were the other ED processes that seemed to manifest in participants' yoga practice. These appeared to interfere with yoga being a helpful practice. Participants described comparing themselves to others and judging how well they themselves performed the poses, seeking perfection in their practice. Due to the influences of these constructs, it is likely that participants were not practicing the other, helpful, aspects of yoga, such as mindfulness or acceptance. It also meant that the practice potentially negatively affected their ED. It may have led to even lower body image, and even stronger self-objectification, making them feel dissatisfied with themselves, be it with their looks or their practice.

I guess the only thing that can be like negative is, like sometimes the competitive side of it, so if you're in a class, and you know you've got really, you've got a lot of thinner people around you, or you've got people who are a lot better at doing it, kind of feeds into the competitive side of things and thinking, yeah, "I want to look like that" or "I want to be doing it like that", or, yeah. Which can feed into the, sort of, not feeling great. But I think, I try and recognise that, and try and not focus on it, but, yeah, it definitely is there (Marisa).

I think when I'm sat there comparing my body to other people's body because of size and I always feel like I'm too fat to be doing yoga, but I'm comparing myself like that, but then, when you see other people comparing as well in class, and they're like "Oh, how can she do that", or something, or because they're more flexible, and like I've just, it's quite unhelpful as well that they're comparing. I can't really explain it, it's just a complete eating disorder head thing (Vickie).

I think a self-competitiveness in yoga wasn't helpful, because regardless of that first lesson, where she said "let go of your ego", I would still focus on my postures and be quite competitive with myself, and if I went to a class, where I didn't really know anyone and I would push myself. I still go to classes and think "well, people know that I'm a yoga teacher in here, so I need to be good", in that respect I'm still a bit too self-competitive (Debora).

In line with the descriptions of ways in which yoga may be influenced by the ED processes, and the ways the practice can impact the ED in return, one participant described yoga as a "tool". A few participants also felt that yoga could be used as a route to self-development or simply as another manifestation of ED.

So it's definitely like, 80% I say of my practice helped me a lot with my disorder, and then 20% it was the side where I used it against me. Cause it's a tool so, like every tool can be used correctly or badly (Davina).

It may be that the direction that the practice is taken depends on the time when the practice is started. For example, some participants felt that it is better to start yoga practice earlier in life to help increase individual's awareness of thoughts and feelings sooner. That way if the difficulties arose the person would be able to withstand them and cope with them better. Others felt that there could be benefits to starting yoga practice later, so that ED rules are not created around yoga. As noted below, yoga may be utilised as an easy form of exercise to burn calories, if it is practiced by someone who is still very much affected by the ED rules and thoughts.

I'd like to think things would be, like I'd be a bit more aware of what was going on and relapses if I started when I was much younger, but it's hard to know. I think it would have been helpful earlier (Vickie).

(...) but I think maybe, if I'd waited until after my recovery had sort of finished, if it ever does [laughs]. If I'd have waited until later on, maybe a lot of those rules wouldn't have been created, like those rules that I've

created for myself just by kind of reading magazines and blogs, and instagrams and things like that, maybe that wouldn't have developed so much, if I'd have waited until it was longer. I can see how if I was just starting yoga now, actually maybe it would have been better (Joanne).

### 3.3.2. Two Faces of Physicality of Yoga

All participants felt that physicality of yoga was important for them, as it facilitated the sense of calmness, or helped them see the strength of their body, or changed the appearance of their body. However, taking into consideration the described negative ways in which yoga may be used by individuals experiencing EDs, and the initially negative reasons for its practice, the positive ways in which the physical side of yoga was described by participants was questioned. Could it have been due to participants' still present prioritisation of the body and the physical self? Or, perhaps, the physical side of yoga is truly needed, as it has been emphasised as an essential part of the whole of yoga, needed to achieve its beneficial effects?

One participant in particular emphasised the need for the physical side of yoga, combined with mindfulness, to be able to gain a sense of calmness from the practice.

(...) by doing the asanas, by doing the flow, by having your drishti, you can't help but, that is a moving meditation, you are in a meditative state as you go through it, especially when you come to the end, and I just feel like it starts as a physical practice, but ends with you being really calm (Patricia).

A few participants spoke about the indirect effects of the physical side of yoga on their ED. For example, for Reanne and Vickie, it seemed that seeing the power of their bodies during the practice, such as its strength and flexibility and ability to hold difficult poses, gave them a belief in the ability of both their mind and body to "beat" the ED. It appears that, for some participants, yoga practice served as a metaphor for other aspects of their lives.

And to know that there's, your body is amazing and your body is capable of so many things that you could never thought, it could be amazing, so why not it can also be capable of beating an eating disorder, and it can also be, you can train your mind to take your focus onto other things as well as doing the position, but also to get your mind off eating and purging (Reanne).

I think the thing that I really benefited from, it was like being amazed at the power, the power of it, and like the power of what your body can do. So that's been like really beneficial (Vickie).

Others seemed to gain even more than just feeling the power of the body. Kamila felt that by doing particular postures, such as a handstand, it was possible to prevent the ED mind from taking over, possibly not permitting it to go into the spiral of overeating.

(...) other little things I tried for a while, which was good, but again I didn't keep up with, was like, when you like you're going into like a negative, like a "oh my God, I wanna eat something, aaa" – handstand, downward dog, something just to completely change your like brain around, and like flip the energy, and like, when I was away that was, that worked really well if I felt like I was just about to do something I really didn't wanna do. And again feeling that like power in your body, if I could quickly do like an arm balance or something, it really did work, because it would make me feel good about myself, it would completely like change me around, you know. And that was great (Kamila).

However, several participants spoke about the asana practice in terms of its physical benefits, helping them feel stronger, more flexible, and changing their body to be more muscular.

And then the asana helped me feel stronger, it helped me, I used to wake up the next day and feel energized, and, rather than feeling lethargic with running, and tired with going to the gym, and the asana helped me vent



the nervous energy that I needed to get rid of, but in a constructive way. And I used to feel better for it, and I used to stand tall for it (Chloe).

(...) when I went to India, I started practicing every day, and my body changed completely. I was very different in my body, and now I'm much more muscular, and slender. But, I'm very happy about that (Davina).

I think it's more it is, sort of, wanting to, there is something about, sort of, the toning and the strength that I like. (...) and I guess you can, sort of, see a bit of an effect on like your body, like if you're more flexible, or a bit more toned, you then tend to feel a bit more positive (Marisa).

It is possible that the physicality of yoga may have been helpful to participants in many respects, such as by providing them with an arena where they could see the strength in their body or a place where they could obtain a sense of relaxation in the body. However, this importance of the physicality of yoga also seemed to have the potential to be unhelpful to participants.

Examples of ways through which the physicality of yoga may have been unhelpful were noted in the earlier subtheme. These include participants' reflections of the ways in which yoga became another manifestation of ED, such as as another obsession in the form of excessive exercise. Additionally, the physicality of yoga also appeared to be a central element in participants' reasons for beginning and continuing to practice yoga, which could be for positive or negative reasons. If the physical side of yoga practice was perceived as just exercise and was used to move, to burn calories, to satisfy the ED's drive for thinness, it appeared to have the potential to be detrimental. It seemed from participants' very positive view of the physical side of yoga practice that this may have remained the case even for those who felt that they were in recovery, or for those who were also open to the other sides of yoga. It may be that this is due to ED's strong hold on participants' thoughts and feelings and a long recovery process (the questionability of the concept of recovery was acknowledged in Chapter 1).

There were also conflicting interpretations of how helpful it is that yoga is a form of exercise that is easy to do. On the one hand, participants were grateful that they were able to move in some way, without doing too much, especially when unwell; but, on the other hand, this meant that they were able to exercise and lose weight, even when unwell and underweight, which may have been detrimental to their physical health.

I guess I must have heard about it or something, that yoga's good, and, and gone in. And my aim at the time was to be fit and healthy, and lose weight, definitely (Kamila).

(...) it was, when I started doing it like every day, when I was at university and had the DVDs there, then that was, I think, went hand in hand, but just because it was a form of exercise maybe, and, cause obviously I wasn't eating a lot, I was quite weak, but I could do yoga, so that was the relationship there (Heidi).

I wanted it to be, like a gymnastics-based workout that was low intensity, so I didn't have to put in loads of effort, but I could do it. I could manage it every day, or I could manage it twice a day, or three times a day.... three times a week, and just still get that workout and feel like I've done a lot without having to do much (Chloe).

I actually, kind of, found it to be a bit of a relief. Like once a week I would go to my Yin class and I knew that I could just, kind of, you know, still get a really good stretch without pushing myself so far (Joanne).

Alternatively, the importance of the asana practice appeared to also be linked to the way participants' reasons for the practice changed with yoga practice and recovery. It seemed that the physical side of yoga drew participants into the practice, where they then were able to open up to the idea of mindfulness and other yoga principles. Without the physicality of yoga, it may be that many of the participants would not have learnt about the other beneficial aspects of yoga that may have facilitated their recovery.

I think that, well, the physical practice drew me in, and then with time the philosophical practice took over, as more important to me, but on their own, I don't know, I don't know that I would have taken to them on their own. But that's cause I was still in a disordered mind set really (Joanne).

### 3.3.3. Yoga Industry Fuelling ED Difficulties

The final subtheme where the conflicting views about yoga were noted was around the ways in which the current westernised presentation of yoga and the yoga industry may be negatively affecting individuals experiencing EDs and those who may be vulnerable to such difficulties. All participants spoke about the negative ways the yoga industry, the wellness community, and the yogic diet influenced them, such as by impacting their body image, self-criticism, and their weight and eating; and factors that influenced the extent of this impact. The only positive side of this appeared to be the social aspect of the wellness community, which was perceived as helpful.

Well, the community, that's great. It's great to be in London and be able to connect with so many like-minded people, and feel part of something bigger, and I do believe this is the reason why yoga is becoming so popular (...) (Davina).

That's when I started practicing yoga, when I came out of hospital, and then I, kind of, got enraptured in this whole, kind of, wellness community, which has been a positive for me in some respects, and then I think a bit triggering in other respects (Joanne).

The yoga industry which portrays yoga practitioners as necessarily slim, wearing tight clothes and being seen doing perfect poses on Instagram (online social networking application), was noted as one of the major aspects that negatively impacted participants. This publicity of the practice, which is meant to be about the internal processes, seemed to fuel the manifestations of EDs, discussed in the earlier subtheme. Such manifestations included self-criticism, feelings of

judgement, comparison with others, impacting individuals' body image, mood and likely causing other harm.

I think with a lot of yoga at the moment, and I know I can stop at any time, but there's quite a high publicity thing on the Instagram, and it's really, sort of, it's really big to put pictures up and things like that. And, part of it is really nice, but then part of it is also quite terrifying that you're putting your body on a picture for people to see. And just for me to take pictures of myself and look back and accept them. That bit has always been quite tough to accept. And I know, I don't know, it's not like it's the fault of yoga, but I suppose, it's a norm to do it. It's a norm to practice yoga and, if you tell people, you know, "what do you, what sports, what sort of sports do you do?", and they say "yoga", and they say "oh, well, I'd like to see it", you know, "show me what you do", and that sort of thing, and, yeah, I don't. I suppose it stirs up feeling of judgment again. You being judged (Chloe).

But a lot of the times, this gym classes are full of women that are doing yoga for different reasons, and, when you suffer from an eating disorder you tend to have body image issues, and some form of body dysmorphia, and sometimes going to these classes actually, you know, you end up comparing yourself to other women, and comparing your abilities to do whichever position it is to other people, and it's a little bit disheartening. And I actually read an article, I think it was in "women's health magazine", last month issue, about how yoga's doing a lot of harm now, because it's becoming a very, very competitive market, and there is this hot yoga, and bikram, and all sort of things, and it's almost, kind of, making people compete, women compete against each other. And, you know, who can do the headstand, and who can do this, and that, and for someone who has body image issues already, it's not helpful at all (Reanne).

Even for the yoga teachers, or especially for them, the competitiveness and publicity of yoga seemed to get in the way of recovery, and instead likely

promoted the self-criticism and the use of yoga and body for competitive reasons, to please the ego.

(...) there is this double face of the yoga practice. Now, on one side it tells you, it teaches that you, you know, be kind to yourself and look within, and love yourself for what you are, and like feel your limits and then, on the other side it tried to push you, and there are like teachers that are beautiful and slim, and then you look online and you see these beautiful bodies practicing yoga, and it's, just buying the magazine, "yoga OM", whatever it's called, there is always a really attractive woman on the front page and it, and then you look at Instagram pictures and all my colleagues in London, they're posting pictures and videos of them doing these crazy asanas, wearing Lu Lu lemon tops. And I'm a bit fed up with all these things. I, you know, I'm part of it because I am fit and I am young, but I wanna take a step out, because it really didn't help me in the past. Every time I was trying to really concentrate and do my own thing, and then I was looking on Facebook and seeing these other colleague doing better than me and then I was thinking "oh my God, I can't do that", and then I was pushing myself to go into that position. (...) I think, it needs to be slowed down, all this visualising yoga, making it visual. It's not visual, you can't prove to the world that you're doing yoga. You can feel it within and you can't post a picture or a video to prove that you're a yogi (Davina).

Related to this, some participants felt that there is a pressure from society to be a certain way in order to be a yogi. Participants spoke about a yogic identity and needing to match their and society's idea of a "perfect yogi". This was another negative aspect that some participants found surrounded their yoga practice and possibly contributed to some of the ED tendencies. For some, their practice was about needing to be very good at yoga or needing to be slim to be a yogi. One participant even felt that her yogi identity was challenged due to her weight gain.

And living this virtuous yogic life, that's maybe contributed to my perfectionism. I wanted to be a perfect yogi, in this image of like grace and being tiny and superflexible, and being able to do everything, that's

definitely contributed to that, so I suppose that's also what held me back from doing this for a while as well, like teaching and having students in this community, where I live, and being, sort of, known as this petite, like tiny yogi person. And obviously I gained, I don't know, like a stone, or whatever, since I've properly, trying to eat right and look after myself a bit more, and done this. And that's been hard, cause it definitely feels like a identity of being a yogi, it's like a bit of an identity that I've attached to, and once, I know it sounds like that shouldn't be thrown out of bounds just cause I've gained weight, but the way my mind works, it's just thrown my whole identity into question, and that's been hard (Joanne).

The westernisation, publicity, and popularity of yoga seemed to not only come through online and in yoga/wellness communities, but also in classes. Several participants noted how yoga teachers and students alike often wore revealing clothes. This led to practitioners affected by EDs to feel even more self-conscious. It is possible that due to such factors participants may have been less able to maintain their focus on being aware of the way their body felt and being mindful. Instead, they may have been more likely to be concerned with their body's appearance.

(...) so the negative effects are not yoga, it's the people that do yoga. So the community, as I say I've been part of that competition thing and to somebody who like sees the world through a filter of body image, going to yoga classes and people being in, you know. I mean, oh my God, I took a class the other day and the teacher like was in a tiny cropped top, and her chest was showing every time she like put her arms up, cause her clothing fit very well, and she had the most amazing body, but for me that whole class was basically just feeling shit about myself, because all I could see was her rack on display [laughs]. And so, there's a lot of "look at me", Instagram, oh my God, like "I can do this pose" and "look how amazing I am here" (...). And so that's definitely not yoga, but it is how yoga is being practiced a lot now (Kamila).

As evident from Kamila's comment, the environment in which yoga is practiced also seems to be influenced by the yoga trend. For some participants there appeared to be a difference in the helpfulness of the practice depending on whether it was done in a gym environment, a studio with mirrors, or in "proper" yoga studios, or at home. Participants felt that the environment and the teacher can make a significant difference in whether the person internalises self-criticism or non-judgement from the class.

I think, a negative side of it is like the self-criticism, and the fact that sometimes you're in a studio and it's full of mirrors, that's really hard sometimes, so I think that's a big negative (Vickie).

And I actually, the gym I go to, it's a "Virgin", not far from here, we have, there's one teacher, I went to her class twice, and that was enough, because even the teacher herself, she comes across as very narcissistic, she might not be, but she comes across as very narcissistic, and she in hardly any clothes on, and, you know, she does a split in front of you, and you can, kind of, see her underwear. That scantily dressed. So, it's making me, at least, feel very uncomfortable, because I'm not confident in my own body, and these are the negative effects of doing yoga, when you're also suffering from some sort of body disordered eating, or body disorder (Reanne).

It was like, the kind of inexplicable, I don't know, the kind of vibe, the calmness and connection from the teacher, this real sense of wisdom that you got from, from her as well that she really knew what she was doing, and I didn't always like what she was telling me, because you know she'd be saying like "you don't have to, to do a certain amount every day. You don't have to push yourself, you can stay for relaxation", and all those things were like "no, no, no, no, no, no". So it's quite interesting that I still kept going back, even though it wasn't entirely comfortable (Patricia).

I went to this place that is beautiful. Yoga places are not like a normal gym, where you are sometimes you're feeling a bit stressed, also in a gym,

you're feeling stressed around working and living in London, and then you go to a gym, and then instead you go to a yoga place and it's actually another reality. It's like peace and incense, and candles, and that is part of the thing and it does help a lot, so I went in and I got this "Whoa, oh my God", and I felt so relaxed and at home and at ease, and, then I took this class, and then I cried at the end. (...) it was wonderful (Davina).

I mean, my favourite thing to do now, to be honest, is just to practice on my own, in my room. That's when I get the most from yoga, when I'm not really thinking about anybody else, or. You know, hot yoga classes, let's all get juice afterwards, or whatever, or go on a detox cleanse, juice day, yoga whatever, [laughs] like when I'm not even thinking about any of that, when I'm just on my own practicing, doing what I want to do, with my music, alone. There's nobody looking at me, I don't have to wear my fancy yoga clothes, and I can just wear my pyjamas, and that's just my favourite way to do it now (Joanne).

Part of the unhelpfulness of the yoga and the wellness industry was also the yogic diet, promoted by the yoga industry. It appeared that the attractiveness of yogic diets impacted participants most when they thought they were feeling better, but were actually still unwell and some of the ED rules remained and manifested through yoga (as emphasised in the earlier subtheme). They reflected on how the yogic diet justified some of the restrictions they themselves placed on food, how the "clean" diet and foods at times became the new ED rules, and how this may have fuelled the ED.

I think, in terms of yoga, there's a lot of the yoga culture, they have very clean recipes, a lot of vegetarian things, like lentils and vegetables and stuff, and I think I used to get quite into that, searching for those, cause it's easy to make a big, something quite bulky that will fill you up, sort of food, but still be really low in calories, and that definitely encouraged me, I think. So, my mum had a yoga book at home, which had a big recipe section, so I'd be like "Oh, yeah, great", and then this book was like "oh, yeah, so, coffee, and chocolate and bla are really bad for you". I was like "good", this



sort of, that reinforced what I already felt about usual things (...). It was like — well this is reinforcing that I shouldn't eat bad foods, which definitely encouraged the eating disorder (Heidi).

Yeah, I think, they were there, definitely like, I knew I had really bad eating habits in terms of I had a lot of fear foods, like a lot of foods, because again coming into this whole, it's kind of a lot driven by the whole yoga and wellness community, you know, certain foods that are, I use quotes here, like "clean" foods, so I would definitely be afraid to eat anything that wasn't like that, even just occasionally. You know, like some people can just eat generally healthy and have a treat now and then, like for me it would just never be a treat. Like, I knew I had habits like that and they were, kind of, controlling my life really (Joanne).

## **4. DISCUSSION**

### **4.1. Overview**

This chapter considers the findings in relation to the aims and the research questions of the current thesis, and in the light of the existing literature in the field, discussed in Chapter 1. This is followed by the clinical and research implications and the methodological considerations, including potential limitations, and ends with the conclusions drawn from the study.

### **4.2. Summary**

The aims of the study were to explore women's experiences of yoga practice in relation to their experiences of EDs and recovery; and to examine women's thoughts about potential beneficial or unhelpful effects of yoga on their EDs, and the aspects of yoga that may have contributed to that. It also aimed to investigate views on the appropriateness of timing of the start of yoga practice in relation to women's EDs and the process of their recovery.

Two main themes were identified from the analysis. Under the first theme participants described ways in which they felt yoga helped them to move from their mind controlling their body to greater mind-body unity. This was noticed by observing descriptions of changes and developments in participants' EDs and yoga practice and the relationship between the two. The potential mechanisms through which these changes may have been occurring were also noted.

However, participants also reflected that yoga may at times become a manifestation of their ED, or that the ED would manifest in different ways in their yoga practice. These manifestations meant that sometimes yoga may have become unhelpful for their recovery. A conflicting view of the physical side of yoga was also noted from participants' overly positive descriptions of the asana practice and due to its potential for use in an unhelpful way. Yoga industry, the wellness community and the yogic diet were highlighted as potentially

contributing to the maintenance or development of EDs, and to the manifestations of EDs in yoga practice.

The mechanisms through which participants felt yoga led to certain beneficial processes included mindfulness, breath, movement and spiritual and philosophical aspects, all of which appeared to be linked to a greater sense of body awareness. The use of these yoga aspects, and mindfulness and philosophical and spiritual aspects in particular, seemed to help participants feel more accepting of themselves, less anxious, and overall, more able to regulate their emotions. These effects may have been linked to developments and improvements in participants' ED-related difficulties. A reduction in such difficulties also seemed to be related to changes in participants' yoga practice. From the way participants described the interrelated changes and developments in their EDs and yoga practice, it appeared that the two went hand in hand in participants' journey to recovery.

The discussed wellness community and social aspects of yoga, together with the yogic diet, provided a justification for some participants' strict diet, and possibly promoted perfectionism, self-criticism and competitiveness in their practice, influencing the ED and its manifestations in their yoga practice. Participants felt that their ED manifested through yoga when they used it in unhelpful ways, such as to lose weight or to fulfil the need to exercise. The physical practice also appeared to be influenced by societal and cultural views about yoga, and by ED. This is because participants' descriptions of the physical practice and their emphasis of the physical benefits may have been the manifestations of ED as well. On the other hand, the social aspect of group practice and the yoga community were also seen as helpful, as it provided individuals who felt isolated and alone, due to the nature of their ED, with a sense of unity with others.

#### **4.3. Present Findings in Relation to the Existing Literature and the Research Questions**

The current results appear to be consistent with the literature, in that they point to participants' view of yoga as a beneficial practice in relation to their EDs,

notwithstanding the need to pay attention to the aspects surrounding yoga practice that may pose a challenge to its beneficial use is also highlighted. The inevitable differences noted between people mean that exploration with the individual, and support, are needed to make their unique journey with yoga more likely to be a useful one. These findings are next discussed in detail in relation to the existing literature.

Mindfulness, with the use of the breath, appeared to be one of the most valued aspects of yoga, and one participants linked with improved body awareness. This is in line with Daubenmier's (2005) and Rani and Rao's (1994) findings, though they only reported that yoga practice, not specifically mindfulness, was linked to better body awareness. As low body awareness has been linked to EDs (Taylor et al., 1996), this finding is encouraging. It may be pointing to potential mechanisms through which yoga could be helping to improve body awareness in ED sufferers, as suggested by participants. Additionally, participants reported that mindfulness, combined with the use of the breath and the asanas, allowed them to "let go" of thoughts, some of the ED rules, and tension, as well as helping them to feel relaxed. Similar mechanisms have been previously suggested by Douglass (2009) and Boudette (2006). These results highlight the importance of emphasising these aspects in classes in order to gain these beneficial effects.

The present results are also in agreement with earlier literature which concluded that yoga practice has a positive relationship with mindful eating, trait mindfulness, and body awareness, and a negative relationship with disordered eating (Martin et al., 2013). It is also linked to having better control over emotions and understanding emotions better (Dittmann & Freedman, 2009), with positive effects on depressive symptoms and anxiety (Sharma & Haider, 2013), and with reductions in mood instability and self-destructive behaviours (Dale et al., 2009). These findings are important to note, as difficulties with emotion regulation have been suggested as being one of the contributing and maintaining factors in EDs (Svaldi et al., 2012), with suggestions that food serves as a way to regulate emotions (Corstorphine, 2006). Participants in the current study likewise discussed ways in which yoga practice, such as its use of mindfulness, spiritual and related principles, and breathing, was helpful to them. For example, it

seemed to help them to improve their body and emotional awareness, reduce anxiety, better cope with low mood, and stabilise their mood.

Participants' descriptions of changes in their relationship with food and body, and the shift from their mind controlling their body to improved mind-body connection, seemed to be linked to these improved abilities. As noted in Chapter 1, psychological theories, such as those based on IPT, DBT, or psychodynamic approaches, stipulate that ED behaviours are unhelpful coping mechanisms. Taking these theories into consideration, it can be hypothesised that the effects from yoga, noted by participants, could have been a result of reduced need to turn to food during stressful times in their life, as alternative coping strategies were learned. This hypothesis could be supported by some of the extracts from the data. The best example would be Reanne's reflection on a reduction in her overeating, which she linked to her yoga practice, in particular, her improved ability to be calmer and to react less to negative life events. Other participants equally noted reductions in some of their ED behaviours and related difficulties as a result of their practice of yoga's spiritual and related principles, such as kindness, compassion, and forgiveness. Past literature similarly shows yoga's link with reduced binge episodes and scores (Clarke, 2008; McIver, O'Halloran, & McGartland, 2009), and bulimia scores (Cook-Cottone et al., 2010; Scime & Cook-Cottone, 2008). However, the current findings suggest potential mechanisms through which these beneficial effects may be occurring, which were not explored in those studies.

Also, participants described their enjoyment of the use of breath during the practice, and its importance in connecting the mindfulness side of yoga practice with the physical side. This link likely played an important role in achieving the beneficial effects from yoga, because participants felt that the combination of all or many of yoga's aspects were needed. They also thought that the combination of these aspects was the unique feature of yoga that distinguished it from other types of physical activity. The use of the breath was equally highlighted as important by participants for its usefulness outside of yoga practice. It has been hypothesised that by practicing redirecting their attention to the breath and to the way their body feels during the practice, participants learned to do the same in

their daily life. This may have been what enabled them to regulate their responses to situations, and stabilised their mood. The increased awareness of internal states, together with the use of principles of acceptance and forgiveness, may have taught participants the ability to take the observer perspective of such internal processes at their will; because participants felt that during their yoga practice they learned to bring their attention back to the present moment, to their breath, and to the way their body felt. This, in theory, could have led to improvements in participants' metacognitive abilities, just as posited by Slyter (2012) in respect to mindfulness.

Many participants also reported using these new skills of control of the breath and attention outside the practice to reduce their anxiety. This allowed them to be less worried about food, and reduced other ED-related thoughts. This is similar to Carei et al.'s (2010) finding of a reduction in food preoccupation following each yoga practice in their RCT. Therefore, the use of the breath and focus could theoretically be used to help individuals more immediately and in daily life, as some participants made use of these aspects of yoga when needed in the moment, for example to stop a panic attack. Alternatively, some participants felt that the internalisation of spiritual and philosophical aspects, such as forgiveness, allowed them to prevent some of the ED behaviours from spiralling out of control or taking the typical unhelpful route. For one participant, it was the use of some of the asanas that she felt were needed to stop the ED thoughts from taking over. She felt the asanas, such as handstands, shifted her mood and thoughts immediately, and gave her more confidence in her body and abilities.

Additionally, the spiritual and philosophical elements of yoga appeared to be at play in promoting a different attitude to life, such as participants adopting a view that everything happens for a reason, and becoming more accepting of themselves and of life events. In line with Douglass's (2011) conceptualisation, participants' use of yoga, and possibly mindfulness in particular, seemed to help them be more aware of ED-related thoughts. One participant described it as being able to distinguish "the ED voice" from her voice. These may have been the other routes through which yoga led to the beneficial results discussed by participants.

The present findings are also similar to earlier qualitative research, with beneficial effects of yoga being noted by numerous studies (Clancy, 2010; Grant, 2012; McIver, McGartland, & O'Halloran, 2009). In the current study participants reflected on the ways and key processes through which yoga may have contributed to improvements in their ED symptoms and possibly their recovery, as in previous literature (e.g. Clarke, 2008; McIver, O'Halloran, & McGartland, 2009). For example, participants' reflections suggested that the changes may have been possible due to increases in the variety of coping strategies available to them and the potential improvements in their ability to regulate their mood.

The discussed changes in EDs were first noted from patterns observed in participants' descriptions of the developments in their EDs and what appeared to be interlinked changes in their yoga practice. As participants' ED symptoms appeared to deteriorate, their yoga practice seemed to increase in frequency and intensity, potentially becoming one of the manifestations of the intensifying ED. Nevertheless, as participants' recovery began, their practice relaxed. The ED and the practice appeared to influence each other in participants' journeys. Their recovery may have been facilitated by their yoga practice and related beneficial effects. Equally, it was likely influenced by a combination of different factors in participants' lives, including therapy, family support, as well as yoga practice and its teachings. Similarly, as their practice took a facilitative direction and softened, it appeared to start to have more of a positive influence on their ED symptoms and behaviours. This is in line with findings of qualitative studies that investigated individuals' experiences of ED development and recovery, though not in relation to yoga. Their findings pointed to similar patterns in individuals' ED journeys and highlighted the factors that appeared to lead to a journey of self-development. Some of these included self-care, seeing the bigger picture, and celebration of themselves, which meant having a sense of peace with who they are (e.g. Patching & Lawler, 2009; Weaver, Wuest, & Ciliska, 2005). The findings appear to be similar to processes reported as beneficial by current participants.

However, before the recovery began and sometimes even after, there appeared to be ways in which yoga could be unhelpful for participants, be it because of the

ED's influence or due to societal pressures and norms. Related to the developments in participants' EDs and yoga practice were their initially unhelpful reasons for practising yoga, which later changed to more positive reasons, as in Cox et al.'s (2016) study. This was linked to a change in their view of exercise from something that is enforced to something that supports the body, as in McIver, McGartland, and O'Halloran's (2009) paper. The negative reasons for practising yoga included practising yoga as a way of "feeding" the ED and the need to exercise, or practising to lose weight. For some this appeared to change to more helpful reasons, such as practising because they enjoy the practice, or to feel relaxed and strong, or to be mindful and obtain clarity in their thoughts. Literature demonstrates the importance of the reasons for yoga practice, as it suggests that those who practise yoga for appearance-related reasons may not benefit as much from the practice when compared to those who practise for health and fitness, or for psychospiritual reasons (Dittmann & Freedman, 2009; Prichard & Tiggemann, 2008).

Taking these conclusions into consideration, participants' original negative reasons for beginning to practice may be a discouraging finding. However, negative reasons for starting to practise yoga may not be unhelpful in the long-term. For example, they may be helpful if they lead to a practice that may change the practitioner's relationship with their body, bring a number of other positive changes, and eventually change the reason for the practice to a more helpful one. In relation to the mechanisms through which these changes may occur, participants' reflections suggested that their view of themselves has shifted as a result of yoga. They reported that their relationship with their body, food and with eating, as well as with their yoga practice, has changed over time. For example, their view of food seemed to change from being all bad to it being nourishing and a fuel, although at times still challenging. Hence yoga practice seems to have been helpful even for those who began practising for unhelpful ED-related reasons. Yet, monitoring of future practitioners' motivation for the practice would still be advisable to prevent the practice from escalating to detrimental levels.

Current findings also support the caution suggested in Chapter 1 in relation to the use of yoga by those experiencing EDs, such as AN or BN (Davis et al., 1997;



McIver, O'Halloran, & McGartland, 2009), as participants noted a number of ways in which yoga could be used in an unhelpful way. As discussed, these included using the practice to exercise when unwell; using yoga teacher training or yoga teaching to “give into” an ED; or using it to punish themselves, especially if they started practising while still unwell and for unhelpful reasons. This bears some similarity to reports from McIver, O'Halloran, and McGartland's (2009) study, where participants described how they punished themselves through ED behaviours, such as overeating.

Related to this, was the question of the impact of ED on participants' descriptions of all the positive effects that they associated with the physical side of yoga, especially those that focused on yoga's impact on the body, its appearance, strength, and flexibility. As hypothesised above, participants' view and appreciation of the physicality of yoga may have been justified, in that there truly may be beneficial effects of yoga's physical side. Alternatively, their views may have been influenced by their ED beliefs and values (i.e. yoga being beneficial, because it satisfies the need to move, and makes the body look more in accordance with the ideal body). Hence, this emphasises the above point about the need for monitoring and support for individuals who are experiencing EDs and practice yoga. This is needed in order to facilitate the use of yoga in a helpful way, so that its principles of kindness and acceptance could be utilised, and its asana practice could be used to facilitate the awareness of body's internal states, instead of its appearance.

Additionally, as highlighted by Douglass (2009), ways in which yoga is used appear to depend on the individual, with some using it for self-care and others for self-discipline. Participants recognised that in this study, with one participant illustrating it clearly by calling yoga a “tool” that can be used for positive or for negative reasons.

Nonetheless, findings also point out that the way yoga is utilised is also dependent on a number of other factors. These findings appear to be new to the literature on yoga for EDs. Here participants noted that yoga's effects on the individual and its use are likely to be significantly influenced by societal norms

and pressures. It appears that with the westernisation of the practice these may have more of a negative impact. Many participants felt that the yoga industry, which portrays yoga practitioners as slim and perfect in the way they present themselves and in their asana practice, emphasises the importance of appearance. This appeared to influence the extent of ED manifestations in participants' yoga practice. For example, the publicity of the practice, such as photographs of thin women doing yoga poses, in magazines and on social media, appeared to negatively influence participants' practice and their ED. It seemed to increase their perfectionism and impact their body image and the way they felt about themselves.

Hesse-Biber, Leavy, Quinn, and Zoino (2006) emphasised a similar point in their paper on social psychology of women, culture and thinness. There, they state that EDs are "culturally-induced diseases promoted partly by economic and social institutions that profit from the "cult of thinness" promoted by the mass media" (p. 208). In the current study, some practitioners similarly noticed this same, significant, impact of the society and the media, which aims to profit from the "thin ideal" message, on yoga and the wellness community. This influence, they felt, in turn, negatively affected their ED and their yoga practice. This suggests that even potentially helpful approaches, such as yoga, may be subject to unhelpful social influences.

Douglass (2009) and the current findings suggest that the extent of helpfulness of yoga may be mediated by several factors, which are also influenced by the westernisation of yoga. These include the differences in the messages emphasised in classes, and the appropriateness of teacher, environment, and timing to the individual, their ED, and life. For example, having a calming atmosphere was seen by some participants as an environment that would be helpful. For others it was the particular characteristic of the teacher, such as perception of the teacher as wise and compassionate versus narcissistic, that seemed to make a difference.

Participants noted that a gym environment may be less helpful than that found at a yoga studio. Rooms with mirrors were also seen as unhelpful for participants'

self-criticism. The people with whom participants practiced were noted as just as important as the physical environment. Some participants felt that, when teachers and students wore tight or revealing clothing, it made them focus on the appearance of their body even more. They noticed that they compared themselves to others and competed with them, trying to be their best in their appearance and ability to do postures. This appears to be in line with past literature that suggests that the extent to which the person is able to benefit from yoga depends on the environment in which yoga is practised. More specifically, the environment has been shown to influence how much the person is able to focus on the internal body states compared to their own or others' external appearance (Cox et al., 2016; Impett et al., 2006; Prichard & Tiggemann, 2005, 2008). Considering the competitiveness and comparison issues mentioned above, this appears to be a reasonable assumption to make.

Therefore, the environment in which individuals practice yoga may be highlighted as an important aspect to pay attention to in relation to those affected by EDs. Neumark-Sztainer (2014) likewise emphasised the need to pay attention to such issues in classes, especially as competitiveness and perfectionism have previously been linked to excessive exercise (Picard, 1999; Shroff et al., 2006).

Moreover, some of the ED manifestations discussed by participants appeared to also be related to aspects of specific yoga styles. Some participants described how the structured nature of Ashtanga yoga fitted well with their need for routines, becoming one of their obsessions, while providing justification for the frequent and intensive practice. Hence, the style of yoga practice may need to be taken into consideration when advising individuals with ED-related difficulties. Also, as noted in Chapter 1, Delaney and Anthis (2010) found that yoga styles that had a greater mind-body focus had higher levels of body satisfaction and awareness. From participants' reflections, it could be theorised that Ashtanga yoga may be one of those yoga types more likely to be unhelpful for those experiencing ED-related difficulties, possibly due to its set structure and rules, and higher physical intensity.

Finally, it appeared from participants' views that the extent to which yoga practice was beneficial and the likelihood of it becoming a manifestation of their ED were also affected by the timing of the beginning of participants' journeys with yoga, particularly in relation to their ED and the stage of their recovery. Participants were divided in their opinions on whether it is better to start the practice before or after recovery. Some felt that it would have been better to start to practise yoga after their recovery began, because it was possible they would not have then created ED rules. However, more participants stated that they wished they had started their yoga practice earlier. They felt that had they experienced the practice of yoga and its teachings earlier, that might have helped them to be more aware of what was happening to them, and potentially could have prevented ED or its relapses. This is in line with previous literature that supports the use of yoga for prevention of EDs starting from school age (Cook-Cottone et al., 2010; Scime & Cook-Cottone, 2008).

Overall, the findings highlight the potential mechanisms through which yoga could be leading to its beneficial effects in relation to EDs. Yet, they also illustrate the importance of being aware of potentially unhelpful ways it could be utilised if it becomes one of ED manifestations, especially when influenced by social pressures and the yoga industry. The differences identified in participants' views also highlight the need for further exploration of the ways in which aspects related to the yoga industry, the societal influences, and individual differences may determine the direction of the use of yoga by those affected by EDs.

#### **4.4. Implications and Recommendations**

##### **4.4.1. Research Implications and Future Research**

The current study contributes to the existing literature in a number of ways, many of which have been discussed above. Even though past literature examined the effects of yoga on EDs, the present study offers a more detailed account of women's experiences of yoga practice in relation to their experiences of EDs and recovery. An element that was probably explored uniquely in this study was the way participants used the different aspects of yoga, which they saw as helpful or unhelpful for recovery. It adds new ideas to the potential mechanisms through

which yoga could be affecting EDs (highlighted in the next section on theoretical implications). To my knowledge, no past literature has explored aspects of or surrounding yoga that may be unhelpful for EDs from the perspective of those with experience of EDs. It also appears to be the first study to highlight the impact of the society and yoga industry on yoga practitioners who experience EDs. A further element that has not been directly explored is the issue of the timing when individuals start practicing yoga, in relation to their EDs and recovery. Participants' views on whether yoga should be introduced earlier in life, possibly before the ED even started, or after recovery, shed the first light on this important treatment consideration.

The findings suggesting that yoga should be introduced earlier in life provide support for a less developed strand of ED research in early intervention (Nicholls & Yi, 2012). Despite potential critique of early intervention in EDs, it appears to be an important issue to be considered for future research in relation to yoga as an intervention (Currin & Schmidt, 2009). However, caution needs to be exercised when using yoga in such a way, as some participants' answers suggest that yoga has the potential to be utilised in an unhelpful way if taken up by individuals who are just seeking a means to exercise and lose weight, especially while unwell. Related to this is the highlighted importance of further investigation into yoga as a preventative measure for EDs, as both participants in the current study and in the past literature (Cook-Cottone et al., 2010; Scime & Cook-Cottone, 2008) suggest its effectiveness and lack of detrimental effects if it is introduced early in life.

Current findings also support past literature that demonstrated that yoga is safe for those experiencing EDs (Klein & Cook-Cottone, 2013), as participants could not think of any negative effects from yoga practice itself. The only possible negative influences were noted to have the potential to occur if yoga becomes a manifestation of ED, or if ED manifests in the practice, such as through obsessive and perfectionistic tendencies, or if the individual's practice and perception of yoga is influenced by the yoga industry. However, some of these potentially unhelpful aspects and effects were reported as likely to change with time, and with individual's progress in yoga and improvements in ED. These changes may,

still, be partially dependent on having an appropriate teacher, yoga style, and practice environment. Further research is needed to confirm this, before it can be concluded that yoga is a “safe” form of exercise for those experiencing EDs. In the meantime, individuals who practise yoga while still unwell, such as those who may use yoga in a detrimental way, may need monitoring of their practice as part of their treatment.

Overall, the findings demonstrate the importance of considering individual differences in people who experience EDs and practise yoga. Factors to be considered include the timing of the introduction of yoga, the environment and people in the classes, and other aspects discussed above. This indicates the need for sensitivity on the part of those intending to introduce yoga specifically as a therapy and may have more general implications for the training of yoga teachers, as they may have people with EDs in their classes. The variety of participants’ views on these aspects and preferences also demonstrates the importance of further research. It possibly also shows the need for a theory that would suggest the most appropriate ways and times for yoga to be introduced and practised by those experiencing EDs to help teachers and therapists meet the individual where they are at in terms of their life, ED and recovery. Lastly, subjectively, responses given by non White-British participants did not appear to differ from those of White-British participants. However, further research is still required to explore these topics in populations of other cultures and ethnicities, and in men, as all the participants in the current sample were white females.

#### 4.4.2. Theoretical implications

A number of theoretical implications follow from the current study. Most of these have already been discussed in the earlier exploration of results and are also addressed in the clinical implications section below, hence only a summary is provided here. First of all, the current findings add to the literature the potential mechanisms through which beneficial effects of yoga could be occurring. From participants’ accounts of their experiences, it seemed that a combination of mindfulness, breath, spiritual and philosophical aspects of yoga, together with the physical practice, were needed to achieve beneficial effects. These components appear to have led to participants feeling that the practice helped improve their

body awareness, and understanding and awareness of their thoughts and feelings. This, in turn, may have facilitated better mind-body connection, emotion regulation, and ability to regulate responses to difficult life events. This reported and hypothesised development of new coping strategies and emotion regulation abilities is in line with the theories behind a number of psychological therapies used for EDs, including DBT and ACT, discussed in Chapter 1.

Second, based on these interpretations of participants' reflections and on the literature on DBT and mindfulness theories (e.g. Slyter, 2012), it was hypothesised that these changes may be a result of participants learning to redirect their attention to their internal processes during the practice, and becoming able to do so in their daily life. This ability to distance from and be aware of current thoughts and feelings was hypothesised to be linked to improvements in participants' metacognitive abilities. This seems to be related to links drawn by Sinclair (2005) between increased body awareness achieved through yoga and yoga becoming the instrument through which individuals can learn and develop insight.

#### 4.4.3. Clinical Practice

Current results especially contribute to clinical practice, as they suggest various considerations that need to be taken into account when employing yoga as an intervention for EDs. As discussed above, past literature (e.g. Clancy, 2010) and participants' reflections suggest that yoga may be able to support individuals with increasing the stability of their mood, promote self-acceptance and kindness to self and the body, reduce anxiety, increase calmness, and have a number of other beneficial effects. This means that yoga may have the potential to be used as an additional aspect of a psychological treatment to reduce some of the ED maintaining and risk factors.

Based on participants' reports, the use of yoga as part of a psychological intervention to address the "body" and "mind and body" aspects of treatments may be supported. This is because participants felt that yoga helped them gain a greater mind-body unity, and improved their awareness of their body and mind. Yoga is already being used to serve this function in some preventative

interventions (Scime et al., 2006). The mindfulness element was perceived as important for obtaining these beneficial results. Mindfulness and breath were also reported to be used in isolation at times when participants needed tools for stress reduction in daily life. However, participants' accounts also emphasised the need for the combination of all yoga aspects. Hence, even though there appear to be specific uses for mindfulness and breath elements of yoga on their own, clinicians need to be aware of the potential helpfulness of the combination of all of yoga's aspects, while remaining vigilant of clients' use of the purely physical side of yoga. Additionally, other practices that consist of similar constructs (e.g. tai-chi) may also be suggested to clients, who may not wish to practice yoga, or who find it too difficult to distance themselves from the publicity and the social pressures that have come with the westernisation and popularity of yoga.

One of the main contributions of the current study to clinical practice and research is that it provides evidence to support some of the factors that require consideration when using yoga with EDs, some of which have previously been suggested by yoga teachers but not researched (e.g. Boudette, 2006; Neumark-Sztainer, 2014). An important implication is that if clinicians are to recommend yoga to their clients, they may need to consider each client's individual differences and preferences for yoga teacher and style of yoga. They need to bear in mind the potential for particular yoga styles to be more likely to be unhelpful, as reflected by Ashtanga yoga practitioners in the current study.

Future yoga treatments or recommendations made to those affected by EDs, who wish to practice yoga, would especially need to consider the aspects discussed as potentially challenging to the helpful use of yoga, such as the wellness community. Participants felt that this social aspect of yoga could be helpful as it provided a sense of community, but it was also seen as potentially unhelpful as it and the yoga industry could fuel the "thin is beautiful" construction (Malson, 1998). It was seen as giving ED-sufferers ideas of ways to cleanse and justify eating less through the usually low-calorie, "healthy" yogic diet. Clinicians need to be aware of the impact of such factors, as they may be impacting the clients they may be seeing for therapy. In such cases it may be helpful to discuss the helpfulness of yoga practice for their clients in relation to their stage of ED or



recovery. It is also worth bearing in mind that these aspects could theoretically impact other activities that may be taken up by their clients, such as pilates.

Being aware of the particular manifestations of ED in yoga and related risks is also important for clinicians working with clients who practice yoga or similar activities. Such manifestations included perfectionism, competitiveness, self-criticism, self-objectification, and obsessive tendencies, which have the potential to result in the use of yoga for unhelpful purposes (e.g. to exercise excessively and/or when unwell). For example, clinicians could focus on reducing the impact of these tendencies and patterns in therapy, in order to increase the likelihood of yoga being helpful to their clients, especially as some participants may not wish to stop their practice. It may be helpful to address such manifestations, because participants in the current study and the past literature suggest that there are a number of important beneficial effects that can come from yoga, which could potentially be inhibited by the influence of ED. Additionally, interventions may be developed or amended to incorporate the use of yoga, with particular emphasis being placed on addressing the possibly unhelpful elements that may be influencing the practice.

It is also important for clinicians and yoga teachers to consider the environments in which yoga is practiced that may encourage these manifestations, as participants noted gym environments to be unhelpful, as well as noting the importance of the people who join the class and the teacher. As noted in Chapter 1, yoga is often used in residential treatment programmes (First Steps Derbyshire, 2009; Frisch et al., 2006). Hence, the current findings may be helpful when considering the environment in which yoga is delivered. Participants' reflections suggest that the environment may need to be thought about to increase the likelihood of yoga being helpful and to help related principles (e.g. of acceptance and non-judgement) to be utilised and internalised. For example, paying attention to the surroundings of the clinic room where yoga intervention is delivered, to what the yoga teacher is wearing. If delivered in a group environment it may be important that the teacher or the facilitating clinician highlights the principles of non-judgement, no competition, and no comparison, as these were noted as main manifestations of the ED in participants' practice.

However, as already emphasised, the use and manifestation of the discussed aspects is likely to depend on the individual and on a number of factors that surround the practice, meaning that the practice of yoga may require close monitoring, open discussion, and adaptation to the individual to make it both helpful and enjoyable for them. The elements discussed as potentially helpful or unhelpful for individuals practicing yoga and battling EDs could be incorporated into training provided to psychologists or other clinicians working with clients with EDs, and especially yoga therapists. This could enable them to consider these aspects in their practice and potentially pre-empt any risk in the form of detrimental use of yoga. This is especially relevant at this time when yoga practice seems to be very popular and may be often practiced by those experiencing ED-related difficulties (Cramer et al., 2016).

In order for research to be beneficial for clinical practice and research its dissemination is essential (McSherry, Simmons, & Abbott, 2002). As this study offers support for the use of yoga as an adjunct treatment for EDs it felt important to begin dissemination of the findings early on. A poster demonstrating the preliminary results was presented at the Eating Disorders International Conference 2016, hosted by Beat in the UK, where it received positive feedback and interest from the conference attendants. Further dissemination will be prepared following thesis completion, probably in the form of a journal article and a presentation at one of the UK Yoga Researchers' Group meetings.

## **4.5. Methodological Considerations**

### **4.5.1. Quality in Qualitative Research**

Bearing in mind the potential future dissemination of the study and the common critiques of qualitative research, paying attention to the quality of this study was important. For the purposes of achieving good quality qualitative research it was helpful to use the guidelines for reporting qualitative research suggested by Elliott et al. (1999), discussed next:

1. In consideration of “owning one’s perspective” (Elliott et al., 1999) and transparency (Yardley, 2000), I specified my theoretical orientation of a critical realist in Chapter 2 and would like to believe that I have demonstrated that I have been in line with it throughout. In places I re-emphasised it explicitly, but the majority of the time it was implicit in the use of language and in the analysis of the data. I also stated my assumptions and position as a yoga teacher and a trainee clinical psychologist, and the potential influence of this on data collection, analysis and interpretation as part of reflexivity sections in the methodology and current chapters. It is hoped that this gives an indication of who I am and allows the reader to understand the data in the light of this background information.
2. In order to “situate the sample”, participant characteristics relevant to the present topic were provided in Chapter 2, giving the reader an understanding of who the results may apply to. For example, the findings are more likely to be relevant to White-European or White-British women aged 20 to 35 years, with a past or present diagnosis of AN or BN, who have 1 to 21 years’ experience of practising yoga regularly.
3. It was hoped “grounding in examples” would be achieved by providing the excerpts for different sides of each subtheme, by offering an example of a one-page extract with initial coding, examples of extracts made for some of the codes, and by demonstrating the process of the analysis through the illustration of the development of the thematic map (Appendices 13–18). It is hoped that this demonstrated the development of my understanding of the data.
4. To “provide credibility checks”, I discussed the initial codes and developing themes with the external expert in the field. At a later stage of the analysis, the expert read through a sample of the extracts in accordance with the proposed themes and subthemes. These were then discussed to check whether the results were consonant with their experiences. This, and a discussion of the themes with the research supervisor, worked as a “verification step” for the

review of the data quality, as well as contributing to the development of the results.

5. “Coherence” of the results was demonstrated by presenting a thematic map and providing a narrative with examples of each theme and subtheme. I hope that through this my understanding of the data was illustrated with sufficient structure and representation of the data.
6. “Accomplishing general versus specific research tasks” was only partially applicable to the current study. The current study intended to gain an understanding of a more “general” phenomenon (i.e. yoga in relation to EDs), based on the experiences of 12 women who had sufficient experience of both the ED and of yoga. Potential limitations of generalizability from a sample of 12 participants are discussed later.
7. The extent to which the present study “resonates with the readers” remains to be judged by the readers. Structure has been used throughout the thesis to aid in understanding of the topic and to illustrate the ways in which the study adds to the topic area, such as the challenging areas that surround yoga, ways in which people can use different aspects of yoga and those that are important to consider in relation to using yoga as a treatment for EDs.

#### 4.5.2. Potential Limitations

As with any research, the current study has a number of limitations. It may be argued that one of the limitations could be the somewhat heterogeneous sample. Guest et al. (2006) argued that a sample of 12 interviews of relatively homogeneous individuals would be sufficient for data saturation, making the current sample size potentially ideal if it was to be considered homogenous. However, it is unclear whether a group of people can be “homogenous” considering how complicated people’s lives are and how unique this makes each person’s experiences (Wray, Markovic, & Manderson, 2007). The current sample was heterogeneous to a degree, in that it consisted of individuals with a diagnosis of AN or BN and one with a past diagnosis of EDNOS; the amount of yoga experience varied from 1 to 21 years between participants; and half of

participants were trained as yoga teachers with the other half being regular yoga practitioners. However, the fact that many participants spoke about experiencing different types of EDs throughout their life demonstrates the transdiagnostic nature of EDs already described in the literature (e.g. Fairburn, Cooper, & Shafran, 2003), suggesting that participants with a history of any ED may be “relatively homogenous”. Moreover, the sample consisted of young women with a relatively narrow age range of 20–35 years, the majority of whom were White-British or White-European.

As with the majority of qualitative research, the small sample size and relative homogeneity of participants means that the findings may not be generalizable to the wider population. As all participants were young white females, the findings may not apply to individuals of other ethnic or cultural backgrounds, those of non-Western mentality, those of older or younger age, or to men. As already mentioned above, further research is necessary to rectify this.

The fact that the sample was self-selected, with participants contacting me if they were interested in the study, may have biased the sample to those individuals who felt positively about yoga or who benefited from it in relation to their ED or their life. However, a number of participants spoke without prompting about the elements surrounding their yoga practice that they felt may have been unhelpful, and the fact that participants were explicitly asked about unhelpful effects or aspects of yoga ensured that another side of yoga was also explored, unlike in the past literature (Grant, 2012; McIver, McGartland, & O’Halloran, 2009).

Finally, it is important to note the potential influence of confounding factors on participants’ experiences, including treatments, travels, and family. It was even noted by participants that it was difficult for them to distinguish whether the overall improvements identified were as a result of yoga practice, or treatments, or life events, or a combination of all of these. However, this will always remain a challenge for any study. Additionally, just as the studies identified in Chapter 1 suffered from the limitation that their yoga interventions utilised a number of components, making it difficult to identify those components that were the most effective; participants in the current study sometimes reported attending

interventions that involved mindfulness practice, psychotherapy and yoga, leading to similar difficulties. However, everyone in the current study had some experience of yoga practice on its own, and was therefore able to reflect on the use and helpfulness of yoga in its own right and as part of an intervention.

#### 4.5.3. Critical Evaluation

Although thematic analysis was the most appropriate approach for answering the set research questions for reasons described in Chapter 2, other methods may have permitted a deeper understanding of the topic on other levels. For example, using thematic analysis the researcher aims to construct themes in order to capture the most important meaning in the data in relation to the research question (Braun & Clarke, 2006; Willig, 2013). Due to this, some of the more in-depth, very focused exploration of participants' experiences of yoga in relation to their EDs was not possible here. If the focus of the research had been different, then a case study would have allowed for more detailed attention to be paid to each aspect of participants' experience of practising yoga and its influence on their ED. Another approach that could have been useful was grounded theory, as no comprehensive, data-grounded, tested theory yet exists explaining the ways through which yoga may influence EDs (Strauss & Corbin, 1990). The current study may have been the first step necessary to give a glimpse of the processes involved. A further study employing grounded theory could build on this and develop the much needed theory.

Additionally, the analysis in the current study was undertaken with a critical realist stance, which considered women's experiences of yoga in relation to their EDs and the aspects of yoga that they felt were helpful or unhelpful. Had a phenomenological approach been taken, then thematic analysis could still have been used, but the focus would have been on the quality of women's experiences and perceptions of EDs and yoga, rather than on any reality of the reported experiences or aspects of those experiences (Willig, 2013). This could have led to interesting conclusions in relation to what it is like to have an ED and practise yoga, but it would not necessarily have provided any answers in relation to those aspects of yoga that might be helpful for those experiencing EDs, or on ways through which yoga may impact EDs.

#### 4.5.4. Researcher Reflexivity

As noted in Chapter 2, data collection through interviews means that reality is constructed jointly by the researcher and the participant (Seale, 1999), making reflexivity an important aspect of qualitative research. Reflexivity was paid particular attention in Chapter 2, where I acknowledged my position as a White-European female in my late 20s, a trainee clinical psychologist and a yoga teacher. Reflections made from this position on the recruitment, data collection, and data analysis phases have already been noted in Appendix 19. Further reflections are made here.

Firstly, it is likely that I have selected the topic in question due to my own past personal and professional experiences. In my past experience as a research worker in the field of EDs, I noted that participants in the study I worked on told me that they often felt restricted in what they could do while in treatment, and I became curious about their experiences of different treatments. Later, during my yoga teacher training, I felt that many of the philosophical and physical elements of the practice might be beneficial for those affected by EDs. However, at the end of my Ashtanga-Vinyasa yoga training, I noted how large an impact the training had had on my body, both positive (it made it stronger) and negative (my whole body ached). I wondered about the different sides of yoga in relation to different mental health difficulties. Looking back at the process of completing this research, I can see the influence of some of these experiences and thoughts on the design and completion of this study. For example, I feel that I may have started off the data collection process feeling optimistic about finding specific aspects of yoga that may have specific effects on ED difficulties, but found during the interviews that participants often felt that it was the yoga practice as a whole that impacted their EDs.

Secondly, I noticed that the fact participants knew I was a trainee clinical psychologist and assumed I was also a yoga practitioner, may have impacted the way they felt they needed to present themselves, or have impacted their assumptions of my knowledge of EDs, therapy or yoga. For example, one participant asked if I practised yoga and then frequently stated “you know”, while discussing her experience of the practice. To avoid assumptions being made, I

sometimes found myself asking participants to tell me more, and saying that I did not know about their *personal* experiences of the discussed issues.

Thirdly, I reflected on the impact of me being a yoga teacher. I noted that I may at times have asked follow-up questions that were somewhat more focused on the details of the yoga aspects. At those times I possibly shifted more to the position of a yoga teacher, whereas at the beginning of the interview I sometimes noticed myself asking participants for more detail about their experiences of EDs. My intention in doing so was to bring those experiences to the forefront of their minds before beginning an exploration of how yoga related to them. However, I felt that on occasion I was moving to a “therapist mode”, feeling as though I was conducting a first therapy assessment session. Reflexive journals helped me to be more aware of this during and after each interview, allowing learning to happen before the next interview and prior to the analysis taking place.

Finally, one of the most interesting reflections that I made for myself was that I felt that there was a difference between yoga teachers and practitioners in the way yoga was discussed. When reflecting on the data, I felt that the yoga teachers were able to provide more information on the detail of the yoga aspects, whereas the yoga practitioners were able to focus more on their experiences of yoga overall and give a better understanding of them. Therefore, I believe that having the combination of both yoga teachers and practitioners with experiences of EDs added greatly to the richness of the data.

#### **4.6. Conclusions**

This study aimed to carry out an in-depth exploration of women’s experiences of yoga in relation to their experiences of EDs. Themes identified through thematic analysis suggest ways through which yoga may be helping individuals achieve a better connection between their mind and body, such as through mindfulness, spirituality and related principles. It is assumed to be the first study to identify ways through which yoga may potentially be unhelpful to those experiencing EDs, such as when ED manifests in the practice, or if yoga becomes another manifestation of ED, or when yoga industry and the current presentation of yoga



negatively influences individual's practice. The results shed light on these underdeveloped topics, providing ideas for consideration in interventions for EDs and thoughts on further research in this area. It is hoped that the findings will contribute to the development of more effective and client-accepted ways of supporting people with diagnoses of EDs, such as by integrating the practice of yoga in ED interventions.

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## 6. APPENDICES

### Appendix 1: Descriptions of Main Types of Yoga

*Descriptions of main types of yoga (adapted from Balasubramaniam, Telles, & Doraiswamy (2013), Beirne (2014), and Cook (2007))*

Type of yoga	Description
Ashtanga yoga	Fast-paced series of sequential postures based on six series of asanas
Hatha yoga	Basic form of yoga which incorporates postures, regulated breathing and meditation
Ilyengar yoga	Focuses on the precise alignment of postures
Power yoga	Westernization of Ashtanga yoga. Popular in the US
Jivamukti yoga	Physically challenging postures highly meditative
Kali RayTriYoga	Consists of flowing, dance-like movements, often accompanied by music
White Lotus Yoga	Consists of flowing movements with varying difficulty levels
Integrated yoga therapy	Designed for medical problems. May include meditation and guided imagery
Viniyoga	Gentle practice which particularly emphasizes on the synchronization of poses with breathing
Svaroopa	Emphasizes on the opening of the spine beginning at the tailbone progressing through each spinal area
Bikram Yoga (Hot Yoga)	Consists of a series of 26 postures performed in a space with temperature above 100°F
Phoenix rising yoga therapy	Combines traditional yoga with client centred and mind body psychology, that incorporates non-directive dialog
Sivananda yoga	Consists of 12 basic yoga postures along with chanting and meditation
Integral yoga	Consists of basic hatha yoga postures
Ananda yoga	Consists of basic hatha yoga postures with use of "silent affirmations while holding up a pose"
Kundalini yoga	Focuses on awakening the energy at the base of the spine and channelling it upwards
ISHTA yoga	Combination of Ashtanga and Iyengar yoga
Kripalu yoga	Consists of three stages namely wilful practice, wilful surrender, and meditation in motion
Anusara yoga	Consists of basic hatha yoga postures but emphasizes on attitude, alignment, and action
Yin yoga	Focuses on passive, seated postures, with poses held for anywhere between one and 10 minutes
Restorative yoga	About healing the mind and body through simple poses often held for as long as 20 minutes, with the help of props. Similar to yin yoga
Vinyasa flow	Flowing from one pose to the next without stopping to talk about the finer points of each pose. Also an umbrella term for other styles

## Appendix 2: Literature Search Process

The used databases included: PsycINFO (including use of subject term search), Scopus, ScienceDirect, CINAHL Plus, Academic Search Complete, PubMed and SPORTDiscus. The search included studies from inception to January 2016, from a range of countries, but was limited to work written in English. Source types included academic journals, dissertations, books, book chapters, and reviews. Additionally, relevant references of identified books and articles were also investigated.

Terms consisting of two words or more were placed into quotation marks in order to limit the search to the specific term, rather than separate words used in the term. Search terms used included:

1. Yoga
2. ED-related terms: "Eating disorder"/ "Eating disorders", Anorexia, "Anorexia Nervosa", Bulimia, "Bulimia Nervosa", "eating disorder not otherwise specified"/EDNOS, Pica, "rumination disorder", "avoidant/restrictive food intake disorder"/ "avoidant restrictive food intake disorder"/ "restrictive food intake disorder"/ "avoidant food intake disorder", "binge-eating disorder"/"binge eating disorder"/"binge eating", "other specified feeding or eating disorder", "unspecified feeding or eating disorder"
3. Other ED-related terms identified through PsychInfo "Suggest Subject Terms" function: Purging, "Appetite Disorders"

The initial search including all articles identified 1897 results on ScienceDirect, 2106 on Scopus, and 1005 on PubMed. After a brief overview of the articles it became clear that majority were not relevant to the topic, so another search was completed on ScienceDirect and Scopus, only searching for ED-related terms in abstracts, titles, and keywords, and for "yoga" in all fields, and on PubMed for ED-related terms only in abstracts and for "yoga" in all fields, as it did not have the option to carry out a combined search in abstracts, titles, and keywords. This was to ensure relevance of the results to EDs. It resulted in a smaller number of more relevant articles and was incorporated into the final search results from the



other databases. In the remaining databases, the selected terms were searched in all fields.

The final search included 1114 results and together with 50 articles identified from additional literature searching, the final search result was 1164 records. These included empirical, quantitative, and qualitative studies, and systematic and literature reviews. After duplicates were removed, 816 records remained. Titles of these were checked for relevance to EDs and yoga. 508 records were removed as they were deemed irrelevant to topic area, and 152 were removed as they did not meet the inclusion criteria or met exclusion criteria. Then abstracts or text of the remaining 156 records were read to check for exclusion and inclusion criteria. This led to 35 records that were included in the literature review, which were read in detail and included in the literature review.

*All search results in all used databases (each term was combined with the term “yoga”)*

<u>Search Term</u>	<u>Psych Info</u>	<u>CINAHL Plus</u>	<u>Academic Search Complete</u>	<u>SPORT Discus</u>	<u>Science Direct - All</u>	<u>Science Direct – restricted*</u>	<u>Scopus - All</u>	<u>Scopus – restricted*</u>	<u>PubMed - All</u>	<u>PubMed – restricted*</u>
“Eating disorder”	19	10	12	3	377	62	457	162	142	30
“Eating disorders”	36	10	22	10	377	62	457	162	183	19
Anorexia	8	4	8	2	392	25	292	102	198	15
“Anorexia Nervosa”	7	3	6	2	164	18	192	48	91	11
Bulimia	8	9	7	3	130	12	173	50	90	8
“Bulimia Nervosa”	3	3	1	1	73	9	125	21	70	6
“eating disorder not otherwise specified”	2	1	0	0	20	1	14	3	11	3
EDNOS	0	0	0	0	11	0	13	1	8	2
Pica	0	0	0	0	46	0	13	2	11	0
“Rumination disorder”	0	0	0	0	0	7	1	0	0	0
“avoidant/restrictive food intake disorder”	0	0	0	0	1	1	0	0	1	0
“binge-eating disorder”	5	3	1	1	56	5	147	3	70	3
“binge eating”	9	7	5	2	126	5	195	7	97	7
“other specified feeding or eating disorder”	0	0	0	1	1	1	0	0	0	0
“unspecified feeding or eating disorder”	0	0	0	0	0	0	0	0	0	0
Purging	0	0	0	0	122	2	24	0	33	0
“Appetite Disorders”	2	0	0	1	1	2	3	0	0	0
Total	99	50	62	26	1897	212	2106	561	1005	104

*Note.* \* = ED-related term searches restricted to abstract/title/keyword

### Appendix 3: Summary of the articles identified in the current literature review

Reference and study design	Intervention, treatment/control groups, follow-up period	Population	Measured variables/symptoms	Main conclusions (outcomes, effect sizes)
Carei, Fyfe-Johnson, Breuner, and Brown (2010)  Experimental (RCT)	One hour of Viniyoga yoga semi-weekly for 8 consecutive weeks (1:1 instruction), administered in clinical research rooms  Groups: 2 groups: standard care (wait-list for yoga intervention) and yoga plus standard care  Follow-up: 1-month	N: 50 Gender: 46 female and 4 male Age: 11–21 years old, mean 16.52 Ethnic group: mostly white ethnic background Nature of ED/Type of difficulty: AN, BN and/or EDNOS Yoga practice: not stated	Eating disorder psychopathology, BMI, depression, state and trait anxiety, and food preoccupation	<p>A significant interaction was found for group and time effects (<math>F(2, 35) = 3.26, p = .05, \eta^2 = .16</math>). The two groups' scores declined from pre- to post-intervention, but the yoga group's scores continued to trend downward through follow-up (<math>t(21) = 1.74, p = .09</math>). The no yoga group's scores went in the opposite direction at the follow-up, significantly increasing between post-intervention and follow-up time points (i.e. between weeks 9 and 12), <math>t(15) = 2.67, p = .02</math>.</p> <p>There was a main effect of time, with decreases in scores in depression (<math>F(2, 31) = 5.29, p = .01, \eta^2 = .26</math>), state anxiety (<math>F(2, 35) = 4.28, p = .02, \eta^2 = .2</math>), and trait anxiety (<math>F(2, 35) = 10.92, p &lt; .001, \eta^2 = .38</math>). There were no main effects of group and no significant interactions on these outcome measures.</p> <p>There were no significant main effects or interactions in regards to BMI, showing that the yoga treatment did not adversely affect BMI over time.</p> <p>With data for the yoga group and the no yoga group combined, highly significant reductions (<math>p &lt; .01</math>) were noted on measures of food preoccupation before and after each yoga session. Effect sizes ranged from medium to large (Cohen's <math>d = .4 - .8</math>).</p>

McIver, O'Halloran, and McGartland (2009)  Experimental (RCT)	12-week 60-minute per session yoga program (including a series of yoga postures, breathing and meditation practice, home-based practice with the use of a CD, and eating mindfully)  Groups: Yoga group Wait-list control groups  Follow-up: 3-month	N: 50 Gender: Female Age: 25-63 years old Ethnic group: 84% Australian, 16% European Nature of ED/Type of difficulty: community-based sample identified with diagnostic criteria for binge eating disorder (BED) and a BMI > 25 Yoga practice: regular yoga practitioners were excluded from the study (past experience not stated)	Binge Eating, Physical Activity, BMI, hips and waist measures	<p>There was a significant decrease in binge eating in the yoga group (<math>F(1,48) = 38.3</math>, <math>p &lt; .001</math>, with large effect size (Cohen's <math>d = 2.2</math>)), and a significant increase in overall physical activity for the yoga group from pre- to post-test (<math>F(1,48) = 12.8</math>, <math>p = .001</math>, with large effect size (Cohen's <math>d = .8</math>)), but not in the control group.</p> <p>There were no significant differences between post-intervention and 3-month follow-up on either measure, indicating that outcomes were maintained for the yoga group at the 3-month follow-up.</p> <p>There was a significant reduction in BMI, waist and hips measurements of the yoga group (Cohen's <math>d = 0.1-0.2</math>). There were no significant changes on any physical measures in the control group.</p>
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Mitchell, Mazzeo, Rausch, Cooke, and The PRISMA Group (2007)	Dissonance-Based and Yoga Interventions (45 minutes, once a week for 6-weeks)	N: 93 Gender: Female Age: mean 19.56 (SD = 4.12) Ethnic group: 55.4% white, 44.6% other Nature of ED/Type of difficulty: non-clinical, undergraduate psychology students; 73.1% no or mild binge eating, 21.3% met cutoffs for moderate binge eating, 5.6% severe symptomatology Yoga practice: not reported	Eating disorder symptomatology, binge eating, state and trait anxiety, depression, subscription to the female ideal body stereotype, cognitive restraint, body dissatisfaction, drive for thinness, alexithymia, body image preoccupation	<p>The dissonance group had marginally lower scores than the control group on the measure of eating disorder symptomatology (<math>b = -0.17</math>, <math>t = -1.72</math>, <math>p = 0.09</math>), and significantly lower scores than the control group on the body dissatisfaction measure (<math>b = -0.21</math>, <math>t = -2.55</math>, <math>p = 0.01</math>), drive for thinness (<math>b = -0.20</math>, <math>t = -2.26</math>, <math>p = 0.03</math>), the trait anxiety subscale (<math>b = -0.20</math>, <math>t = -2.02</math>, <math>p = 0.047</math>), alexithymia measure (<math>b = -0.23</math>, <math>t = -2.37</math>, <math>p = 0.02</math>) than those of the control group.</p> <p>No significant decreases were found for the yoga group on the measure of eating disorder symptomatology (<math>b = -0.14</math>, <math>t = -1.37</math>, <math>p = 0.18</math>), though mean scores demonstrated a shift in the right direction (26.34 pre vs 22.47 post intervention); or on body dissatisfaction (<math>b = -0.08</math>, <math>t = -0.92</math>, <math>p = 0.36</math>), drive for thinness (<math>b = -0.09</math>, <math>t = -0.97</math>, <math>p = 0.33</math>), trait anxiety subscale (<math>b = -0.03</math>, <math>t = -0.34</math>, <math>p = 0.74</math>), alexithymia measure (<math>b = -0.06</math>, <math>t = -0.59</math>, <math>p = 0.55</math>).</p> <p>There were no significant decreases for both the dissonance and yoga groups on measures of binge eating, body image preoccupation, cognitive restraint, subscription to the female ideal body stereotype.</p> <p>Effect sizes ranged from small to moderate (<math>\eta^2 = 0.03</math> to <math>0.09</math>).</p>
Experimental (RCT)	<p>Groups:</p> <p>2 intervention groups: yoga group and dissonance group</p> <p>Control group - no intervention</p> <p>Follow-up:</p> <p>None reported</p>			

Cook-Cottone, Beck, and Kane (2008)	Group-Based Attunement In Mind, Body, And Relationship (The body component of the program was action in the form of yoga and breathing techniques)	N: 24 Gender: Female Age: 14-35 years old, mean 20 Ethnic group: Caucasian Nature of ED/Type of difficulty: diagnosed with AN or BN and varied in stages of recovery Yoga practice: not stated	Drive for Thinness, Body Dissatisfaction, and Bulimia measures	<p>A significant decrease was found for drive for thinness, <math>t(23) = 2.84</math>, <math>p = .009</math>, Cohen's <math>d = .58</math> (pre-test: <math>M = 17.75</math>, <math>SD = 4.94</math>, post-test: <math>M = 11.33</math>, <math>SD = 10.94</math>).</p> <p>A significant decrease was noted for body dissatisfaction, <math>t(23) = 4.29</math>, <math>p = .0005</math>, Cohen's <math>d = .876</math> (pre-test: <math>M = 29.88</math>, <math>SD = 2.77</math>, to post-test: <math>M = 16.33</math>, <math>SD = 15.57</math>).</p> <p>No significant difference was found in bulimia scores, <math>t(23) = 1.487</math> (pre-test: <math>M = 29.54</math>, <math>SD = 15.15</math>, post-test: <math>M = 21.75</math>, <math>SD = 22.87</math>).</p>
Experimental	<p>Groups: Intervention group (Some groups one and a half hours per week for six weeks and others two hours per week for eight weeks) No control group</p> <p>Follow-up: None reported</p>			

Scime and Cook-Cottone (2008)	Prevention: The Girls' Group (90 minute 10 weekly sessions) The "mind" component covered topics related to ED risk and protective factors (e.g. competence, self-esteem). The "body" component related to action, which consisted of yoga practice. The integration component consisted of relaxation and visualisation exercises.	N: 140 Gender: Female Age: 9-11 years old Ethnic group: ethnicity for the intervention and comparison groups, respectively: 63.5% and 82% Caucasian, 36.5% and 18% other Nature of ED/Type of difficulty: non-clinical, 5th grade students Yoga practice: not stated	Drive for thinness, bulimia, body dissatisfaction, current methods and future intentions of eating disordered behavior, treatment efficacy, perceived stress, and self-concept	Significant decrease in body dissatisfaction (time by status interaction), $F(1,133) = 18.58$ , $p < .001$ (intervention group: pre- $M = 1.01$ , $SD = .75$ , post- $M = 0.72$ , $SD = .72$ ; control group: pre- $M = 0.85$ , $SD = .73$ , post- $M = 0.91$ , $SD = .69$ ), $\eta^2$ partial = 0.121 (medium to large effect).  Drive for thinness and current methods and future intentions related to eating disordered behaviour were not impacted by the programme.  Findings showed significantly decreased tendencies to think about and engage in uncontrollable eating (bulimia measure; time by status interaction), $F(1,134) = 6.34$ , $p < .02$ (intervention group: pre- $M = 0.26$ , $SD = .40$ , post- $M = 0.12$ , $SD = .21$ ; control group: pre- $M = 0.16$ , $SD = .23$ , post- $M = 0.17$ , $SD = .35$ ), $\eta^2$ partial = 0.045 (small to medium effect).  Social self-concept increased significantly for participants in the Girls' Group, $F(1,134) = 4.17$ , $p < .05$ (intervention group: pre- $M = 3.06$ , $SD = .43$ , post- $M = 3.21$ , $SD = .42$ ; control group: pre- $M = 3.26$ , $SD = .45$ , post- $M = 3.30$ , $SD = .47$ ), $\eta^2$ partial = 0.03 (small effect).
Experimental	Groups: Intervention group  Follow-up: None reported Control group - 55 no intervention participants and 14 wait list controls			No changes found in the control group.

Cook-Cottone, Jones, and Haugli (2010)	Prevention: The Girls' Group (90 minute 10 weekly sessions) The "mind" component covered topics related to ED risk and protective factors (e.g. competence, self-esteem). The "body" component related to action, which consisted of yoga practice. The integration component consisted of relaxation and visualisation exercises.  Groups: Groups participating in the prevention programme, with data split by ethnic group (minority and Caucasian) No control group  Follow-up: None reported	N: 50 Gender: Female Age: 9-11 years old Ethnic group: 50% Caucasian, 20% Asian American, 18% African American, 8% Native American, 4% Hispanic Nature of ED/Type of difficulty: non-clinical, 5th grade students Yoga practice: not stated	Drive for thinness, bulimia, body dissatisfaction, perceived stress, and self-concept	Both groups showed significant improvement from time 1 to time 2 in the areas of drive for thinness, $F(1, 48) = 9.302, p = .004$ (means reducing from 12.86 to 11.5), bulimia, $F(1, 48) = 5.625, p = .022$ (means reducing from 9.74 to 9.02), body dissatisfaction, $F(1, 48) = 15.869, p = .000$ (means reducing from 19.78 to 17.3), competence, $F(1, 48) = 4.224, p = .045$ (means increasing from 77.31 to 79.56), physical self-concept, $F(1, 48) = 10.375, p = .002$ (scores increased from 72.97 to 76.44), and social self-concept, $F(1, 48) = 10.217, p = .002$ (scores increased from 76.90 to 80.34).  No significant main effect for time on the tests of within-subjects contrasts was found for perceived stress, $F(1, 48) = 1.054, p = .310$ , although the scores dropped from a mean of 27.14 to 26.52.  Findings indicated that minority and white participants were equally responsive to the prevention program.
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Clarke (2008) Experimental	<p>Finding Om, a yoga and CBT-based discussion-based treatment Weekly hour-long yoga class for 10 weeks (starting and ending with guided meditation specific to BED-related issues) 7 also participated in a 30 minute discussion (discussing stressful daily life situations, especially involving eating and food)</p> <p>Groups: All participants were in the asana group, and half also in post-asana discussion group No control group</p> <p>Follow-up: 8-week informal</p>	<p>N: 10 Gender: 7 female, 3 male Age: 19-47 years old, mean 31.5 Ethnic group: Caucasian Nature of ED/Type of difficulty: people who met criteria for BED Yoga practice: reported some level of physical activity pre-intervention (not reported previous yoga experience)</p>	<p>Eating disorder symptomatology, yoga practice frequency, yoga feelings, body responsiveness, mindfulness (observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience)</p>	<p>Objective binge episodes significantly decreased from 4.75 to 1.98 per week (<math>t = 5.78</math>, <math>df = 9</math>, <math>p = .001</math>) (reducing from 4.75, to 1.95). At follow-up binge rate was 1.2 per week, with significant difference found in the number of objective binge incidents pre, post, and at 8-week follow-up (<math>F(1,7)=13.96</math>, <math>p=.007</math>)</p> <p>Significant improvements were found in eating disorder symptomatology (<math>t = 4.301</math>, <math>df = 9</math>, <math>p = .002</math>), eating concerns (<math>t = 5.12</math>, <math>df = 9</math>, <math>p = .001</math>), shape concerns (<math>t = 4.83</math>, <math>df = 9</math>, <math>p=.001</math>), weight concerns (<math>t = 3.48</math>, <math>df = 9</math>, <math>p = .007</math>), body responsiveness (<math>t = -2.23</math>, <math>df = 9</math>, <math>p = .050</math>), mindfulness ("nonreacting to inner experience scale") (<math>t=-3.572</math>, <math>df=8</math>, <math>p=.007</math>), but not in restraint.</p> <p>No significant differences were found between the yoga and discussion and no discussion groups, but descriptively discussion group's objective binge episodes decreased by 2.93 per week, and non-discussion group's by 2.5.</p> <p>In relation to yoga feelings, majority of responses reflected improvements in affect at the end of each class, with 56% reporting that mood was "much better" at the end of class, and 29% "somewhat better".</p> <p>Post-asana discussion group: even though no significant findings, many reported experiencing therapeutic factors ingrained in group therapy.</p>
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Dale et al. (2009)  Experimental (pilot)	6-day Forest yoga workshop (included learning deep breathing, and other techniques to facilitate body connection; it also provided an interactive cooking class and education about the basics of whole foods theory; it also included practice of mindful eating, and fostering of self-reflection by the use of journals)  Groups: Yoga workshop intervention group No control group  Follow-up: 1-month	N: 5 Gender: Female Age: 22 - 36 years old, mean 30 Ethnic group: Caucasian Nature of ED/Type of difficulty: part clinical (mixed diagnoses, including anxiety, depression, and ED) part general population Yoga practice: reported practicing yoga for an average of 6 years, 3.7 times per week	ED psychopathology, fluctuation of mood states	Found significant changes from pre- to post-workshop on measures of Interoceptive Deficits ( $t(4) = 3.03$ , $p < .05$ ), Emotion Dysregulation ( $t(4) = 2.90$ , $p < .05$ ), and Affective Problems Composite ( $t(4) = 3.14$ , $p < .05$ ).  Significant differences from pre- to post- workshop were also found for the Eating Disorder Risk Composite, $t(4) = 3.50$ , $p < .05$ , and General Psychological Maladjustment composite, $t(4) = 2.90$ , $p < .05$ . Medium to large effects were found for a number of sub-scales on the EDI. Effects sizes ranged from $\eta^2 = .03 - .91$ , with majority being medium to large.  No changes were found between post-workshop and one-month follow-up scores.  No significant changes were found for the measure of fluctuation of mood states. However, large effects were noted for a number of related subscales, and significant differences for the Tension-Anxiety and Total Mood Disturbance scales, $t(4) = 3.50$ , $p < .05$ and $t(4) = 3.50$ , $p < .05$ .
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Birnbaum and Thompson (2014)	Yoga practice	N: 382 Gender: 149 men and 233 women Age: mean 20.68 (male; SD=4.13), 20.41 (female; SD=2.77) Ethnic group: 76% Caucasian, 24% other	BMI, yoga practice reports, measures of eating problems, depression, and anxiety	No significant differences were reported between those who reported practicing yoga one or more times a week compared to those who did not on measures of eating problems or depression.
Epistemological (comparison of groups)	Groups: Individual practice No control group Follow-up: Not applicable	Nature of ED/Type of difficulty: non-clinical sample, undergraduate students Yoga practice: 76.3% did not report yoga practice, 21.6% practiced 1-3 times a week, 1.8% - 4-6 times a week, 0.3% - 7-10 times a week		Yoga practice was positively correlated with the measure of eating problems with a coefficient of .10 ( $p < .05$ ). This may suggest that as participants' eating problems increased so did their yoga practice.  Significant differences were found in current BMI ( $p = 0.0140$ ) and desired BMI mean scores ( $p = 0.0003$ ) by yoga practice. Those who reported practicing yoga had lower means for both current and desired BMI scores.  A number of significant differences were found in scores of depression, anxiety, and eating problems between men and women, with women scoring higher on all of the measures compared to men.

McIver, McGartland, and O'Halloran (2009)	12-week 60-minute per session yoga program (including a series of yoga postures, breathing and meditation practice, home-based practice with the use of a CD, and eating mindfully)	N: 20 Gender: Female Age: 25 to 61 years, mean 42 Ethnic group: predominantly Australian or European Nature of ED/Type of difficulty: community-based sample who identified with diagnostic criteria for binge eating disorder (BED) and a BMI > 25 Yoga practice: regular yoga practitioners were excluded from the study (past experience not stated)	20 personal journals completed throughout the intervention	Existential phenomenological inquiry was used to analyse the data.  Qualitative analysis revealed a positive shift experienced by participants, summarized by a general structural description: disconnection versus connection. Participants' reflections suggested that the program appeared to encourage a healthy reconnection to food, as well as the development of physical self-empowerment, through cultivating the awareness of present moment. Participants noted a reduction in the amount of food they ate, reduced speed of eating, and an improvement in their food choices during the program. Participants also noted that they felt more positive about and connected to their physical well-being.
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Grant (2012)	Own practice at least one, one-hour yoga session per week	N: 7 Gender: Female Age: 18-50 years Ethnic group: not stated	Semi-structured interviews	Main themes of yoga's beneficial effects on EDs: "the role of yoga in promoting self-acceptance"; "the importance of gentle, meditative-styles of yoga"; "the positive impact of yoga on body image"; "yoga practice as a way to experience a meaningful mind-body connection"; and "yoga as a way to experience a spiritual connection".
Qualitative	Groups: Individual practice No control group  Follow-up: None reported	Nature of ED/Type of difficulty: in recovery from an ED (AN, BN, or BED) Yoga practice: 4 practiced for 5+ years (3-5 classes per week), 2 practiced for 1 year (1-2 classes per week), 1 practiced for 3 months (1 class per week)		

Impett, Daubenmier, and Hirschman (2006)	2-month Anusara (a type of Hatha yoga) yoga immersion program (included yoga classes, and learning about yoga philosophy, meditation, and breathing exercises)	N: 19 Gender: 17 women, 2 men Age: 23-57 years, mean 34.4 Ethnic group: 90% Caucasian Nature of ED/Type of difficulty: non-clinical, community sample Yoga practice: practiced yoga for an average of 5 years and 6 months. The majority described themselves as intermediate-level	Frequency of yoga practice, well-being (including positive affect, negative affect, satisfaction with life, and self-acceptance), embodiment (body awareness and responsiveness), self-objectification	<p>Self-objectification scores reduced from pre- (M = 3.18, SD = .96) to post-yoga immersion (M = 3.71, SD = .93), <math>t(13) = 2.68</math>, <math>p = .05</math>. No other significant changes were noted on any of the other variables from pre- to post-immersion.</p> <p>Higher frequency of yoga practice during the immersion programme was linked with higher follow-up life satisfaction (<math>\beta = .46</math>, <math>p = .08</math>), and higher follow-up self-acceptance (<math>\beta = .53</math>, <math>p = .02</math>).</p> <p>More frequent (than own average) yoga practice was linked with statistically significant increased positive affect, decreased negative affect, increased satisfaction with life, and increased body awareness (though not significantly, <math>p = .056</math>). More frequent yoga practice was not linked to self-acceptance, self-objectification, or body responsiveness.</p> <p>Body awareness was positively linked to positive affect (<math>p = .06</math>), and body responsiveness was positively linked to positive affect, satisfaction with life, and self-acceptance and was negatively linked to negative affect.</p>
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Clancy (2010)  Experimental (mixed methods)	10 week yoga intervention (3 days per week for ten weeks)  Groups: Group 1a (Fall Yoga Group), Group 2a (Waitlist Control Group), Group 2b (Spring Yoga Group)  Follow-up: 6-month follow-up (with Group 1a)	N: 32 (12 for interviews) Gender: Female Age: 18-30 years old Ethnic group: 81% Caucasian, 19% other Nature of ED/Type of difficulty: non- clinical, student volunteers Yoga practice: 50% did some yoga in the past (25% practiced for less than a week, 9.4% for one week to one month, 12.1% for six months to a year, and 3.1% for one to three years)	Self- objectification, body satisfaction, body dissatisfaction, and mindfulness of the body.  Follow-up interview with 12 participants	Within-groups analysis showed an improvement in scores from pre- to post-intervention (with data combined for groups 1a and 2b) on measures of body dissatisfaction ( $F(1,19) = 8.950$ , $P < .01$ , $\eta^2$ partial = .32), and body satisfaction ( $F(1,19) = 16.462$ , $P < .01$ , $\eta^2$ partial = .46), but not on measures of self-objectification or mindfulness of the body.  Within-groups analysis also showed an improvement in scores from pre- to post- in the waitlist control group on measures of body dissatisfaction ( $F(1,18) = 8.057$ , $P < .05$ , $\eta^2$ partial = .31), and body satisfaction ( $F(1,18) = 5.403$ , $P$ $< .05$ , $\eta^2$ partial = .90), and self-objectification ( $F(1,18) =$ $7.851$ , $P < .05$ , $\eta^2$ partial = .24), but not on the measure of mindfulness of the body.  No significant differences were found at post test for BMI.  No significant differences were found between groups on measures of Self-Objectification, Body Satisfaction, Body Dissatisfaction, and Mindfulness of the Body.  Qualitative analyses revealed six general themes: "Acceptance", "Mind-Body Connection", "Awareness and Spirituality", "Body Compassion", "Mindfulness of the Self", and "Physical and Functional Body".
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Scime, Cook-Cottone, Kane, and Watson (2006)	Prevention: The Girls' Group (90 minute 10 weekly sessions) The "mind" component covered topics related to ED risk and protective factors (e.g. competence, self-esteem). The "body" component related to action, which consisted of yoga practice. The integration component consisted of relaxation and visualisation exercises.	N: 45 Gender: Female Age: 9-11 years Ethnic group: 78% Caucasian, 22% other Nature of ED/Type of difficulty: non-clinical, 5th grade students Yoga practice: not stated	Drive for thinness, Body Dissatisfaction, media influence (using questions: 1) "I believe the media and magazine ads encourage females to feel that their bodies are too fat." and 2) "Looking at female models in magazines and on TV makes me want to be thin.")	A significant decrease from pre-test (M = 5.62, SD = 5.36) to post-test (M = 4.35, SD = 4.43) was found for drive for thinness (t (36) = 2.47, p = .02), for body dissatisfaction (pre-test (M = 9.32, SD = 6.99), post-test (M = 6.16, SD = 6.49), t (37) = 4.80, p < .01).  A significant decrease was also noted from pre-test (M = 1.92, SD = 1.08) to post-test (M = .63, SD = .82) for media influence (question 1), t (37) = 6.85, p < .01, but not for question 2 (pre-test (M = 1.26, SD = 1.11), post-test (M = 1.00, SD = .99), t (37) = 1.53, p = .13).  Effect sizes (Cohen's d) were: drive for thinness d = .24, body dissatisfaction d = .45, media influence (question 1) d = 1.19, media influence (question 2) d = .23.
Experimental	Groups: Three intervention groups conducted over the course of 13 months combined No control group  Follow-up: None reported			



Keddie (2014) Experimental	Girls Growing in Wellness and Balance, a 12-session school-based program for fifth grade girls, in preventing eating disorders and anxiety  Follow-up: Information unavailable (only abstract available)		Drive for thinness, body dissatisfaction, eating disorder symptoms, anxiety	The program was found to be effective in reducing drive for thinness and body dissatisfaction, but not in eating disorder symptoms or childhood anxiety.
Rani and Rao (1994) Experimental	3-month yoga-training programme  Groups: A yoga-trained group and a control group of individuals who were about to start the programme  Follow-up: None reported	N: 36 Gender: 32 men, 4 women Age: 17-36 years Ethnic group: not stated Nature of ED/Type of difficulty: not stated Yoga practice: not stated	Body Awareness	The yoga-trained group obtained higher body awareness score (M = 92.4) than the control group (M = 83.4) ( $t = 1.71$ , $p < .05$ ). However, the two groups were tested at different times. Therefore, it is not possible to judge whether the two groups would have scored the same if measured at the same time.

Cox, Ullrich-French, Cole, and D'Hondt-Taylor (2016)	Six yoga classes that met 2-3 times a week across an 8-week period (class duration: 50 min 3 times per week or 75 min 2 times per week)	N: 148 Gender: Female (80%) Age: 18-23 years Ethnic group: 91% Caucasian, 9% other Nature of ED/Type of difficulty: non-clinical, students Yoga practice: 58% beginners, 26% beginner-intermediate, 14% intermediate, 2% intermediate-advanced	State mindfulness, self-objectification, physical self-concept, and reasons for exercise	<p>Change over time: Self-objectification, physical self-concept, and health/fitness reasons for exercise changed significantly over the eight weeks in the expected directions (<math>F(6, 142) = 15.02, p = .00, \eta^2 \text{ partial} = .39</math> (i.e. a large effect size)), and state mindfulness of the mind and of the body also increased significantly (<math>F(2, 146) = 5.99, p = .00, \eta^2 \text{ partial} = .08</math> (i.e., a small effect size)).</p> <p>Regression analyses: gender, yoga level, yoga class, level of yoga class, yoga days per week, instructor, and number of days missed were all nonsignificant as potential covariates that might explain some of the variability in change over time.</p> <p>Mindfulness variables from week eight explained 4% of the variance in change in self-objectification, <math>F(2, 145)=3.19, p=.04</math>, 7% in change in health/fitness reasons for exercise, <math>F(2, 145) = 5.21, p = .01</math>, 4% in change in mood/enjoyment related reasons for exercise, <math>F(2, 145) = 3.22, p = .04</math>. Mindfulness variables did not significantly predict changes in body shame, physical self-concept or appearance-related reasons for exercise.</p>
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<p>Martin, Prichard, Hutchinson, and Wilson (2013)</p> <p>Epistemological (comparison of groups)</p>	<p>Yoga (incorporating hatha, bikram, dru, yin, ashtanga, integral yoga) and cardio-based exercise (e.g., running, cardio fitness classes, cycling, netball, dancing)</p> <p>Groups: Yoga and cardio-based exercise No groups - Correlational analysis</p> <p>Follow-up: None reported</p>	<p>N: 159 Gender: Female Age: 18-80 years Ethnic group: not stated Nature of ED/Type of difficulty: non-clinical Yoga practice: participated in 5.97 hours of physical activity per week (2.91 hours on moderate-intensity cardio-based exercise, 1.32 hours on yoga)</p>	<p>Food frequency consumption over the past week, Mindful Eating, Mindful Awareness Attention, Awareness of internal bodily sensations, drive for thinness, body dissatisfaction, and bulimia symptoms</p>	<p>A positive relationship was found between yoga practice and fruit and vegetable intake (<math>r = .17, p &lt; .05</math>), mindful eating (<math>r = .19, p &lt; .05</math>), trait mindfulness (<math>r = .23, p &lt; .01</math>), and body awareness (<math>r = .35, p &lt; .01</math>); and a negative link with disordered eating (<math>r = -.24, p &lt; .01</math>) and intake of take-away food (<math>r = -.20, p &lt; .05</math>). Cardio-based exercise was negatively linked with trait mindfulness (<math>r = -.18, p &lt; .05</math>) and positively related to disordered eating (<math>r = .25, p &lt; .01</math>).</p> <p>Mediation analysis showed that body awareness (and not trait mindfulness) mediated the relationship between yoga participation and mindful eating and disordered eating.</p>
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Daubenmier (2005)	<p>Iyengar and Astanga-based classes (1.5 hours long)</p> <p>Aerobic classes (45–60 minutes long)</p> <p>Groups: 3 groups: yoga practitioners not currently taking aerobic classes, aerobic exercisers not currently taking yoga classes, and a baseline comparison group who had not practiced yoga or aerobics in the past 2 years</p> <p>Follow-up: None reported</p>	<p>Study 1: N: 139 Gender: Female Age: 18-87 years, mean 37.16 Ethnic group: 79% Caucasian, 21% other Nature of ED/Type of difficulty: non-clinical Yoga practice: not stated</p> <p>Study 2: N: 133 Gender: Female Age: not stated Ethnic group: 52% Asian American, 26% Caucasian, 8% Hispanic/Latina, 22% other Nature of ED/Type of difficulty: non-clinical, students Yoga practice: not stated</p>	<p>Self-Objectification, Body satisfaction, Body-Self Relations, eating attitudes, attentiveness to normal, internal bodily processes and sensations, Body responsiveness</p>	<p>Study 1: Yoga participants reported significantly better body awareness (<math>F= 9.18</math>, <math>P&lt; .01</math>), responsiveness (<math>F= 5.41</math>, <math>P&lt; .01</math>), body satisfaction (<math>F= 6.79</math>, <math>P&lt; .01</math>), and lower self-objectification (<math>F= 8.34</math>, <math>P&lt; .01</math>) than the aerobic and baseline comparison groups. The aerobic and baseline groups did not differ on these variables. Lower scores were found in the yoga group on disordered eating attitudes when compared to the aerobics group, and similar to the baseline group (<math>F= 3.70</math>, <math>P&lt; .05</math>).</p> <p>Body responsiveness appeared to mediate the differences between yoga and aerobics groups on self-objectification (<math>Z = -2.77</math>, <math>p&lt; .01</math>), and body responsiveness seemed to mediate disordered eating attitudes (<math>Z = -3.45</math>, <math>p&lt; .01</math>).</p> <p>Body awareness and responsiveness seemed to work as a mediator for self-objectification for yoga and baseline groups (<math>Z = 2.36</math>, <math>p&lt; .05</math>. and <math>Z = 2.32</math>, <math>p&lt; .05</math> respectively).</p> <p>Time spent practicing yoga was negatively related to self-objectification (<math>r = -.30</math>, <math>p = .05</math>). Greater yoga expertise was associated with greater body satisfaction, after age was controlled for (<math>r = .38</math>, <math>p&lt; .05</math>). Time spent doing aerobics exercises was positively linked with disordered eating attitudes (<math>r = .35</math>, <math>p&lt; .05</math>), in that more hours weekly aerobics practice meant greater disordered eating attitudes. No other correlations were significant (<math>p&gt; .05</math>).</p> <p>Study 2: Self-objectification had a positive relationship with disordered eating attitudes, and a negative one with body responsiveness. Disordered eating attitudes were negatively linked with body responsiveness, though not with body awareness. BMI was not significantly related to any of the measured variables.</p>
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Prichard and Tiggemann (2008)	Cardio-based classes, weights-based and yoga-based fitness classes	N: 571 Gender: Female Age: 18-71 years, mean 35.99 Ethnic group: not stated (assumed to be predominantly Australian)	Current levels of physical activity, Reasons for Exercise, Self-Objectification, Body Esteem, disordered eating	<p>Time spent exercising within the fitness centre was positively related to self-objectification (<math>r=.06</math>) and eating disturbance (<math>r=.19</math>, <math>p&lt;.01</math>), and negatively related to body esteem (<math>r=-.12</math>, <math>p&lt;.01</math>), while the opposite relationships were found for time spent exercising outside of the fitness centre environment (<math>r=-.08</math>, <math>r=-.05</math>, <math>r=.02</math> respectively).</p> <p>Time spent on cardio-based exercise was positively linked to self-objectification (<math>r=.06</math>), eating disorder symptomatology (<math>r=.16</math>, <math>p&lt;.01</math>), and appearance-related reasons for exercise (<math>r=.09</math>, <math>p&lt;.05</math>), and negatively associated with body esteem (<math>r=-.09</math>, <math>p&lt;.05</math>). Increased time spent participating in yoga-based exercise was negatively associated with self-objectification (<math>r=-.19</math>, <math>p&lt;.01</math>) and appearance-related reasons for exercise (<math>r=-.12</math>, <math>p&lt;.01</math>). No such relationships were found with time spent in weights-based classes or individual workouts. Weights-based and yoga-based exercise was positively linked to health and fitness reasons (<math>r=.10</math>, <math>p&lt;.05</math> for both).</p> <p>Appearance-related reasons for exercise appeared to mediate the relationship between body esteem and cardio-based fitness classes (<math>z(2, 544) = -2.19</math>, <math>p&lt;.05</math>), and partially mediated the relationship between disordered eating and cardio-based fitness classes (<math>z(2, 562) = 2.21</math>, <math>p&lt;.05</math>).</p> <p>Appearance-related reasons for exercise fully mediated the relationships between individual cardio workouts and self-objectification, body esteem and disordered eating (<math>z(2, 555) = 3.92</math>, <math>p&lt;.0001</math>; <math>z(2, 546) = -3.77</math>, <math>p&lt;.001</math>; <math>z(2, 564) = 3.88</math>, <math>p&lt;.001</math>, respectively).</p> <p>Reasons for exercise partially mediated the relationship between self-objectification and time spent doing yoga-based fitness classes (<math>z(2, 553) = -2.84</math>, <math>p&lt;.01</math>).</p>
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Dittmann and Freedman (2009)  Epistemological (comparison of groups)	Yoga practice  Groups: Total sample was divided into two subgroups - those who practiced for psychospiritual reasons and those who practiced primarily for physical or appearance reasons  Follow-up: None reported	Study 1: N: 157 Gender: Female Age: 22–72 years, mean 47.4 Ethnic group: Caucasian Nature of ED/Type of difficulty: non-clinical; 74% reported having experienced some weight or body image struggle at some point in their lifetime, 32% thought they might have had an eating disorder Yoga practice: 12.1 - average number of years of yoga practice (range 4 months to 40 years). 48% attended yoga teacher trainings or advanced yoga courses  Study 2: N: 18 Gender: Female Age: 23-62 years	Study 1: Body awareness, intuitive eating, spiritual readiness, BMI, reasons for yoga practice  Study 2: 15 minute interviews talking about history of disordered eating and body image issues, and development of yoga practice.	Study 1: Significant differences were found between groups in spiritual readiness ( $t(35) = 4.66, p < .001$ ) and body satisfaction ( $t(37) = 2.07, p < .05$ ). Those who practiced for psychospiritual reasons scored higher (spiritual readiness: $M = 4.22$ , body satisfaction: $M = 4.06$ respectively) than those who practiced for physical or appearance reasons ( $M = 3.54, M = 3.59$ respectively). There were no significant differences among the two groups.  Responses of open-ended questions were coded into: Improved body image/ acceptance/content/happy/ love ( $n = 65$ ), Improved awareness/ connection/more in tune/ more open ( $n = 32$ ), Appreciation/functionality/ respect ( $n = 29$ ), Improved strength/flexibility/ mobility/fluidity/grace ( $n = 4$ ), No change ( $n = 11$ ), other ( $n = 9$ )  Scores were favourable on all measures with significant correlations ( $p < .01$ ) among all main variables except between spiritual readiness and intuitive eating, and between BMI and both body awareness and spiritual readiness.  Study 2: Answers: Overall, women reported improvements in body satisfaction and disordered eating due in part to yoga and its associated spirituality. They also reported that yoga offered something different from other forms of exercise. Some noticed becoming more accepting and less critical of their bodies. Increased sense of body awareness was noted by many. An element of yoga that several women reported as helpful was the focus on the breath (e.g. "Being in contact with the breath is my time to be with the divine and experience myself in my body as I am.")
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Neumark-Sztainer, Eisenberg, Wall, and Loth (2011)	Project EAT-III (Eating and Activity in Teens and Young Adults) - population-based study	N: 2,287 Gender: 1,030 men, 1,257 women Age: mean 25.3 years Ethnic group: 48.4% Caucasian, 18.6% African American, 33% other Nature of ED/Type of difficulty: non-clinical, population-based sample. 55.2% women and 33.1% of men reported unhealthy weight control behaviors Yoga practice: 17.6% of women and 5.2% of men practiced 30 minutes or more of yoga/pilates per week	Body dissatisfaction, unhealthy and extreme weight control behaviors, binge eating, physical activity	<p>Women practicing yoga/pilates were found to be less likely to report body dissatisfaction than those who did not (36.1% vs. 51.4%, <math>p &lt; .001</math>).</p> <p>Female participants who practiced yoga/pilates did not differ from those who did not in reports of unhealthy weight-control behaviours, extreme weight-control behaviours, and binge eating.</p> <p>In male participants, the predicted probability of extreme weight-control behaviours was significantly higher among yoga/pilates practitioners (17.0%) compared to nonpractitioners (7.4%, <math>p = .014</math>). Also, male yoga/pilates practitioners were more likely to report extreme weight control behaviours (18.6% vs. 6.8%, <math>p = .006</math>), binge eating (11.6% vs. 4.2%, <math>p = .023</math>), and unhealthy weight control behaviours (49.1% vs. 34.5%; <math>p = .053</math>), compared to those not practicing yoga/pilates.</p>
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Flaherty (2014) Epistemological (comparison of groups)	Yoga practice and non-yoga aerobic and weight training exercises  Groups: Yoga beginners, experienced yoga practitioners, and non-yoga practicing aerobic and weight training exercisers  Follow-up: None reported	N: 82 Gender: Male Age: 18-69 years, mean 42.3 Ethnic group: not reported Nature of ED/Type of difficulty: non- clinical Yoga practice: 22 experienced yoga practitioners, 26 yoga beginners, 34 exercisers (weight training and aerobic training, and not practicing yoga, Pilates, or any martial arts)	Body image, body dissatisfaction	<p>Body dissatisfaction was significantly lower among experienced yoga practitioners than among those who did other exercise (Mann-Whitney U = 184, <math>z = -3.67</math>, <math>p = .0001</math>, <math>r = -.49</math>), just as yoga beginners had significantly lower body dissatisfaction than the exercise group (Mann-Whitney U = 318, <math>z = -2.09</math>, <math>p = .04</math>, <math>r = .26</math>). However, yoga beginners did not differ from experienced yoga practitioners (Mann-Whitney U = 231, <math>z = -1.26</math>, <math>p = .21</math>, <math>r = .18</math>).</p> <p>The exercise group's ideal body shapes were significantly more muscular than their current perceptions of their bodies (<math>t(33) = -4.05</math>, <math>p = .0005</math>, Cohen's <math>d = -1.41</math>). However, there was no significant difference between the current and ideal body image perceptions in the beginner yoga group (<math>t(25) = -1.37</math>, <math>p = .18</math>) or the experienced yoga group (<math>t(21) = -1.28</math>, <math>p = .21</math>).</p>
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Delaney and Anthis (2010)	Yoga practice	N: 92 Gender: Female Age: 23-81 years, mean 45.31 Ethnic group: 95% European American, 5% other Nature of ED/Type of difficulty: non- clinical Yoga practice: 3.45-4.22 hours per week, 2.30- 11.22 years	Yoga experience, attitudes toward Yoga and the internalisation of Yogic principles, body awareness, Body Parts Satisfaction, Body Shape concerns and their impact on social functioning, Eating Attitudes, objectified body consciousness Scale (measuring surveillance, body shame, control beliefs)	<p>Yoga attitude differed between groups, <math>F(2,89) = 5.55</math>, <math>p &lt; .01</math>. Both the high mind-body group (<math>M = 132.80</math>, <math>SD = 6.59</math>) and the medium mind-body group (<math>M = 131.07</math>, <math>SD = 6.92</math>) showed significantly higher scores than the low mind-body group (<math>M = 126.19</math>, <math>SD = 9.55</math>), but there were no significant differences between the high mind-body and medium mind-body groups. Self-rated level of yoga expertise had a positive relationship with their yoga attitude scores (<math>r = .24</math>, <math>p &lt; .05</math>).</p> <p>On other measures, the groups only differed on Body Awareness, with the medium mind-body group having significantly higher scores than the low mind-body group (<math>p &lt; .01</math>); and on Body Parts Satisfaction, with significant differences between two of the three groups, <math>F(2,89) = 4.43</math>, <math>p &lt; .01</math>. The medium mind-body group had significantly higher satisfaction than the low mind-body Yoga group (<math>p &lt; .05</math>). The length of time attending yoga classes had a positive relationship with Body Awareness (<math>r = .24</math>, <math>p &lt; .05</math>). Degree of internalisation of the teachings of Yoga was found to have a positive link with Body Parts Satisfaction (<math>r = .21</math>, <math>p &lt; .05</math>). Scores of yoga attitudes were positively linked with the Control Beliefs subscale of Objectified Body consciousness (<math>r = .26</math>, <math>p &lt; .01</math>).</p> <p>Participants' yoga expertise was positively linked with body awareness (<math>r = .28</math>, <math>p &lt; .01</math>) and negatively with the measure of Body Shape concerns (<math>r = .26</math>, <math>p &lt; .05</math>), suggesting that the greater the yoga expertise the fewer body shape concerns participants experienced.</p>
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Woolley (2010) Epistemological (comparison of groups)	Yoga, non-yoga physical activities (engaged in three or more hours per week), and sedentary/low physical activity (engaged in non- yoga physical activity zero to two hours per week)  Groups: 3 groups: yoga practitioners, physically active individuals, and sedentary/low physically active individuals  Follow-up: Information unavailable (only abstract available)	N: 375 Gender: Female Age: college-aged Ethnic group: information unavailable Nature of ED/Type of difficulty: information unavailable Yoga practice: information unavailable	Self- objectification, flow and internal bodily awareness, appearance anxiety, depression, disordered eating	Participants who practiced yoga reported lower levels of self-objectification compared to those who reported being sedentary/low physically active, and higher levels of flow and internal bodily awareness compared to individuals who reported being physically active and sedentary/low physically active. Participants who were sedentary/low physically active noted more depressive symptoms compared to those who were physically active and those who practiced yoga. For the whole sample, anxiety about appearance mediated the relationship between self-objectification and disordered eating and depressive symptoms.
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Zajac and Schier (2011)	Yoga or aerobics	N: 138 Gender: Female Age: 17-67 years, mean 27.86 Ethnic group: not stated (from Poland and Canada) Nature of ED/Type of difficulty: non-clinical Yoga practice: past experience not stated	Frequency of practice (yoga or aerobics), body image, motivation to exercise	<p>A significant difference was found between groups on the measure of body image, <math>F(3,134)=6.62</math>, <math>p&lt;0.001</math>, <math>\eta^2=0.13</math>. The Polish yoga group (<math>M=1.13</math>, <math>SD=0.56</math>) differed significantly on scores of body image distress experienced in daily life situations compared to the Polish aerobics group (<math>M=1.81</math>, <math>SD=0.77</math>), <math>p=0.001</math>; the Canadian aerobics group (<math>M=1.64</math>, <math>SD=0.74</math>), <math>p=0.029</math>; and the Canadian yoga group (<math>M=1.88</math>, <math>SD=0.85</math>), <math>p=0.001</math>.</p> <p>Aerobics practitioners had higher scores on the measure of weight management exercise motives than those practicing yoga (73.42 and 59.51 respectively), <math>U=1739</math>, <math>z=-2.07</math>, <math>p=0.039</math>, <math>r=-0.18</math>. Yoga practitioners had higher scores on the measure of positive health exercise motive compared to aerobics practitioners (75.91 and 62.65 respectively), <math>U=1835.50</math>, <math>z=-2.03</math>, <math>p=0.042</math>, <math>r=-0.17</math>, and on the measure of stress management (ranked 76.12 and 62.06 respectively), <math>U=1760</math>, <math>z=-2.07</math>, <math>p=0.039</math>, <math>r=-0.18</math>.</p> <p>A significant positive relationship was noted between scores of body image distress experienced and those of the weight-management exercise motive (<math>r_s=0.432</math>; <math>p&lt;0.001</math>) in both Canadian and Polish women. Similar positive relationship was found between body image scores and the measure of appearance as exercise motive (<math>r_s=0.185</math>; <math>p=0.030</math>). A significant negative relationship was found between scores on the enjoyment scale and body image scores only in the Polish Aerobics group (<math>r_s=-0.378</math>; <math>p=0.018</math>).</p> <p>There were a number of significant differences in motivational orientations between Canadian and Polish women.</p>
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## Appendix 4: Ethical Approval

### NOTICE OF ETHICS REVIEW DECISION

**For research involving human participants**  
BSc/MSc/MA/Professional Doctorates in Clinical, Counselling and Educational Psychology

**SUPERVISOR:** Kenneth Gannon

**REVIEWER:** Francisco Jose Eiroa Orosa

**STUDENT:** Anna Lose

**Title of proposed study:** An exploration of experiences of yoga practice and eating disorders from the perspective of women with a history of eating disorders.

**Course:** Professional Doctorate in Clinical Psychology

**DECISION** (*Delete as necessary*):

**\*APPROVED**

**APPROVED:** Ethics approval for the above named research study has been granted from the date of approval (see end of this notice) to the date it is submitted for assessment/examination.

**APPROVED, BUT MINOR AMENDMENTS ARE REQUIRED BEFORE THE RESEARCH COMMENCES** (see Minor Amendments box below): In this circumstance, re-submission of an ethics application is not required but the student must confirm with their supervisor that all minor amendments have been made before the research commences. Students are to do this by filling in the confirmation box below when all amendments have been attended to and emailing a copy of this decision notice to her/his supervisor for their records. The supervisor will then forward the student's confirmation to the School for its records.

**NOT APPROVED, MAJOR AMENDMENTS AND RE-SUBMISSION REQUIRED** (see Major Amendments box below): In this circumstance, a revised ethics application must be submitted and approved before any research takes place. The revised application will be reviewed by the same reviewer. If in doubt, students should ask their supervisor for support in revising their ethics application.

**Minor amendments required** (*for reviewer*):

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**Major amendments required** (*for reviewer*):

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**Confirmation of making the above minor amendments** (*for students*):

## Appendix 5: Amendment Ethical Approval

### UNIVERSITY OF EAST LONDON School of Psychology

#### REQUEST FOR AMENDMENT TO AN ETHICS APPLICATION

#### **FOR BSc, MSc/MA & TAUGHT PROFESSIONAL DOCTORATE STUDENTS**

**Please complete this form if you are requesting approval for proposed amendment(s) to an ethics application that has been approved by the School of Psychology.**

Note that approval must be given for significant change to research procedure that impacts on ethical protocol. If you are not sure about whether your proposed amendment warrants approval consult your supervisor or contact Dr Mark Finn (Chair of the School Research Ethics Committee).

#### **HOW TO COMPLETE & SUBMIT THE REQUEST**

1. Complete the request form electronically and accurately.
2. Type your name in the 'student's signature' section (page 2).
3. When submitting this request form, ensure that all necessary documents are attached (see below).
4. Using your UEL email address, email the completed request form along with associated documents to: Dr Mark Finn at [m.finn@uel.ac.uk](mailto:m.finn@uel.ac.uk)
5. Your request form will be returned to you via your UEL email address with reviewer's response box completed. This will normally be within five days. Keep a copy of the approval to submit with your project/dissertation/thesis.
6. Recruitment and data collection are **not** to commence until your proposed amendment has been approved.

#### **REQUIRED DOCUMENTS**

1. A copy of your previously approved ethics application with proposed amendments(s) added as tracked changes.
2. Copies of updated documents that may relate to your proposed amendment(s). For example an updated recruitment notice, updated participant information letter, updated consent form etc.

3. A copy of the approval of your initial ethics application.

Name of applicant: Anna Lose

Programme of study: Professional Doctorate in Clinical Psychology

Title of research: An exploration of experiences of yoga practice and eating disorders from the perspective of women with a history of eating disorders

Name of supervisor: Dr Kenneth Gannon

Briefly outline the nature of your proposed amendment(s) and associated rationale(s) in the boxes below

Proposed amendment	Rationale
Methods of data collection/location of the interviews need to change to include not only face-to-face interviews in research rooms at UEL, or in a private room in a local library (if one is available), or participant's homes, but also any other reasonable location suitable for participants (e.g. a quiet place at a suitable location within London), and interviews over the internet (e.g. using Skype/FaceTime).	This is to make the arrangements more flexible in order to reduce obstacles to and increase participation, which is currently low.
To change inclusion/exclusion criteria. 1. I propose to remove the exclusion criteria of current mental health diagnosis. 2. To allow for recruitment of participants not only with a past diagnosis of an eating disorder, but also those who sought professional help in regards to problems with eating, those who experienced eating disorder-type difficulties and those with present diagnosis or eating disorder-type difficulties.	1. I would like to remove the exclusion criteria of current mental health diagnosis, as people with eating disorders often experience other comorbid mental health difficulties (Braun, Sunday, & Halmi, 1994) and I am currently excluding a large proportion of people, who might be interested in taking part. 2. The reason for implementing this change is to broaden the criteria in order to increase participation, and to widen the views and experiences of yoga to potentially negative ones, as those who are still struggling with eating disorder-related difficulties may have found that yoga has not been as helpful to them, as those who have recovered and used yoga for their recovery. Additionally, many people may not identify with the term

	<p>“recovered” and feel that eating difficulties are an ongoing battle. Therefore, setting a requirement for participants to be “recovered” may exclude many individuals, who may have wanted to share their experiences. As this amendment would mean potential inclusion of more vulnerable participants, I added a suggestion “to contact your GP/doctor to discuss other sources of support” to the information sheet, in addition to “contact one of the organisations listed below to obtain further support” that was already present, to ensure that participants are encouraged to seek support if they feel distressed by the discussion of their experiences. The remainder of the protocol to be followed during interviews will remain unchanged, with me seeking support from my supervisor should any issues arise during interviews.</p>
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Please tick	YES	NO
Is your supervisor aware of your proposed amendment(s) and agree to them?	X	

Student’s signature (please type your name): Anna Lose

Date: 23/07/15

TO BE COMPLETED BY REVIEWER		
<b>Amendment(s) approved</b>	YES	
<p style="text-align: center;"><b>Comments</b></p> <p>Proposed amendments are approved</p>		

Reviewer: M Finn

Date: 24/07/15

## Appendix 6: Original Information Sheet

### UNIVERSITY OF EAST LONDON

School of Psychology  
Stratford Campus  
Water Lane  
London E15 4LZ



#### **The Principal Investigator(s)**

Anna Lose  
Tel: xxx xxxx xxxx  
Email: U1331799@uel.ac.uk

#### **Consent to Participate in a Research Study**

The purpose of this letter is to provide you with the information that you need to consider in deciding whether to participate in this study. The study is being carried out as part of a Doctorate in Clinical Psychology at the University of East London.

#### **Project Title**

An exploration of experiences of yoga practice and eating disorders from the perspective of women with a history of eating disorders.

#### **Project Description**

The aim of the project is to investigate people's experiences of yoga practice and its relationship to their eating disorders or journey to recovery, as well as attempting to identify components that could be beneficial or detrimental to recovery. It is hoped that this research will contribute to the development of more effective ways of supporting people with eating disorders, thereby increasing the variety of treatments offered.

Taking part in the study will involve discussing your experiences of yoga and eating disorders and answering questions asked by me as part of an interview. The interview will take approximately one to one and a half hours and will involve answering questions such as: "what has been your experience of practicing yoga?" and "what have been the effects of yoga on the eating disorder and your recovery?".

There are no risks involved in taking part in this study. However, it is possible that you may get distressed when talking about your experiences of the eating disorder either during or following the interview. If that happened, you would be offered an opportunity to take a break, to reschedule the interview for a different time or to terminate the interview if you felt unable to continue. I would also encourage you to contact one of the organisations listed below to obtain further support.



### **Confidentiality of the Data**

The interview will be carried out with me (Anna Lose) and recorded on a digital recorder. The recording will only be listened to and transcribed by me. Any names or other identifiable information will be changed in the transcripts to ensure anonymity. The data will only be accessible to my research supervisor at the University of East London and by the examiners who will be assessing my thesis. The audio recordings and transcripts will be stored securely on a computer in a password-protected file.

Following completion of examination of my thesis the audio recording will be deleted. The anonymised written transcripts might be used for additional articles or publications based on this research and they will be deleted after five years following completion of the study.

The thesis and relevant publications will include a number of quotes from interviews. I will ensure that it is not possible to identify people from these extracts.

### **Location**

Interviews will take place at the University of East London. If this is not possible for you, we can discuss alternative places.

### **Reimbursement**

At the end of the study you will be entered, should you wish, into a prize-draw for an Amazon voucher worth £20. A winner will be picked at random and notified shortly after the end of the study.

### **Disclaimer**

You are not obliged to take part in this study and should not feel under any pressure to do so. You are free to withdraw at any time. Should you choose to withdraw from the study you may do so without disadvantage to yourself and without any obligation to give a reason. Should you withdraw after the completion of the analysis of the interviews, the researcher reserves the right to use your anonymised data in the write-up of the study and any further analysis that may be conducted thereafter.

### **Support available**

If you feel upset during or after the interview, please feel free to speak with me or contact one of the following support services:

#### *Support from Beat:*

##### **Help for Adults**

The Beat Adult Helpline is open to anyone over 18 who needs support and information relating to an eating disorder.

Helpline: 0845 634 1414 Email: [help@b-eat.co.uk](mailto:help@b-eat.co.uk)

##### **Help for young people**

If you are 25 or under, call the Beat Youthline.

Youthline: 0845 634 7650 Email: [fyp@b-eat.co.uk](mailto:fyp@b-eat.co.uk)

If you would like a call back, send Beat the text message 'call back'

to 07786 20 18 20. They will then get back to you within 24 hours and during Youthline open hours.

Both helplines are open from Monday to Friday 1:30pm to 4:30pm and Monday and Wednesday evenings 5.30pm to 8.30pm.

*Support from Samaritans:*

Confidential support for people experiencing feelings of distress or despair.

Phone: 08457 90 90 90 (24-hour helpline)

Website: [www.samaritans.org.uk](http://www.samaritans.org.uk)

**Ethics**

If you have any questions or concerns about how the study has been conducted, please contact the study's supervisor: Dr Kenneth Gannon, Research Director, School of Psychology, University of East London, Water Lane, London E15 4LZ.

(Tel: 020 8223 4576. Email: [K.N.Gannon@uel.ac.uk](mailto:K.N.Gannon@uel.ac.uk))

**or**

Chair of the School of Psychology Research Ethics Sub-committee: Dr Mark Finn, School of Psychology, University of East London, Water Lane, London E15 4LZ.

(Tel: 020 8223 4493. Email: [M.Finn@uel.ac.uk](mailto:M.Finn@uel.ac.uk))

Please feel free to ask me any questions. If you are happy to continue you will be asked to sign a consent form prior to your participation. Please retain this invitation letter for reference.

Thank you in anticipation.

Yours sincerely,

Anna Lose

Date

Tel: xxx xxxx xxxx

Email: [u1331799@uel.ac.uk](mailto:u1331799@uel.ac.uk)

## **Appendix 7: Amended Information Sheet**

### **UNIVERSITY OF EAST LONDON**

School of Psychology  
Stratford Campus  
Water Lane  
London E15 4LZ



#### **The Principal Investigator(s)**

Anna Lose  
Tel: xxx xxxx xxxx  
Email: U1331799@uel.ac.uk

#### **Consent to Participate in a Research Study**

The purpose of this letter is to provide you with the information that you need to consider in deciding whether to participate in this study. The study is being carried out as part of a Doctorate in Clinical Psychology at the University of East London.

#### **Project Title**

An exploration of experiences of yoga practice and eating disorders from the perspective of women with a history of eating disorders.

#### **Project Description**

The aim of the project is to investigate people's experiences of yoga practice and its relationship to their eating disorders, eating disorder-type difficulties or behaviours, as well as attempting to identify components that could be beneficial or detrimental to recovery. It is hoped that this research will contribute to the development of more effective ways of supporting people with eating disorders or eating disorder-type difficulties, thereby increasing the variety of treatments offered.

Taking part in the study will involve discussing your experiences of yoga and the eating disorder, or eating disorder-type difficulties and answering questions asked by me as part of an interview. The discussion will take approximately one to one and a half hours and will involve answering questions such as: "what has been your experience of practicing yoga?" and "what have been the effects of yoga on the eating disorder or eating disorder-type difficulties?".

There are no risks involved in taking part in this study. However, it is possible that you may get distressed when talking about your experiences of the eating disorder or your eating disorder-type difficulties either during or following the interview. If that happened, you would be offered an opportunity to take a break, to reschedule the interview for a different time or to terminate the interview if you felt no longer able to take part. I would also then suggest that

you contact one of the organisations listed below to obtain further support, or to contact your GP/doctor to discuss other sources of support.

### **Confidentiality of the Data**

The interview will be carried out by me (Anna Lose) and recorded on a digital recorder. The recording will only be listened to and transcribed by me. Any names or other identifiable information will be changed in the transcripts to ensure anonymity. The data will only be accessible to my research supervisor at the University of East London and to the examiners who will be assessing my thesis. The audio recordings and transcripts will be stored securely on a computer in a password-protected file.

Following completion of examination of my thesis the audio recording will be deleted. The anonymised written transcripts might be used for additional articles or publications based on this research and they will be deleted after five years following completion of the study.

The thesis and relevant publications will include a number of quotes from interviews. I will ensure that it is not possible to identify people from these extracts.

### **Location**

Interviews can take place either at the University of East London (Stratford), or at another location convenient for you (e.g. your home, local library, etc.; if you live within London), or over Skype (if you live outside of London).

### **Reimbursement**

At the end of the study you will be entered, should you wish, into a prize-draw for an Amazon voucher worth £20. A winner will be picked at random and notified shortly after the end of the study.

### **Disclaimer**

You are not obliged to take part in this study and should not feel under any pressure to do so. You are free to withdraw at any time. Should you choose to withdraw from the study you may do so without disadvantage to yourself and without any obligation to give a reason. Should you withdraw after the completion of the analysis of the interviews, the researcher reserves the right to use your anonymised data in the write-up of the study and any further analysis that may be conducted thereafter.

### **Support available**

If you feel upset during or after the interview, please feel free to speak with me or contact one of the following support services:

#### *Support from Beat:*

The Beat Adult Helpline is open to anyone over 18 who needs support and information relating to an eating disorder.

Helpline: 0845 634 1414 Email: [help@b-eat.co.uk](mailto:help@b-eat.co.uk)

The helpline is open from Monday to Friday 1:30pm to 4:30pm and Monday and Wednesday evenings 5.30pm to 8.30pm.

*Support from Samaritans:*

Confidential support for people experiencing feelings of distress or despair.

Phone: 08457 90 90 90 (24-hour helpline)

Website: [www.samaritans.org.uk](http://www.samaritans.org.uk)

**Ethics**

If you have any questions or concerns about how the study has been conducted, please contact the study's supervisor: Dr Kenneth Gannon, Research Director, School of Psychology, University of East London, Water Lane, London E15 4LZ.

(Tel: 020 8223 4576. Email: [K.N.Gannon@uel.ac.uk](mailto:K.N.Gannon@uel.ac.uk))

**or**

Chair of the School of Psychology Research Ethics Sub-committee: Dr Mark Finn, School of Psychology, University of East London, Water Lane, London E15 4LZ.

(Tel: 020 8223 4493. Email: [M.Finn@uel.ac.uk](mailto:M.Finn@uel.ac.uk))

Please feel free to ask me any questions. If you are happy to continue you will be asked to sign a consent form prior to your participation. Please retain this letter for reference.

Thank you in anticipation.

Yours sincerely,

Anna Lose

Date

Tel: xxx xxxx xxxx

Email: [U1331799@uel.ac.uk](mailto:U1331799@uel.ac.uk)

## Appendix 8: Consent Form

### UNIVERSITY OF EAST LONDON



#### **Consent to participate in a research study**

*An exploration of experiences of yoga practice and eating disorders from the perspective of women with a history of eating disorders.*

I have read the information sheet relating to the above research study and have been given a copy to keep. The nature and purposes of the research have been explained to me, and I have had the opportunity to discuss the details and ask questions about this information. I understand what is being proposed and the procedures in which I will be involved have been explained to me.

I understand that my involvement in this study, and particular data from this research, will remain strictly confidential. Only the researcher(s) involved in the study will have access to identifying data. It has been explained to me what will happen once the research study has been completed.

I hereby freely and fully consent to participate in the study, which has been fully explained to me. Having given this consent I understand that I have the right to withdraw from the study at any time without disadvantage to myself and without being obliged to give any reason. I also understand that should I withdraw after the interview, the researcher reserves the right to use my anonymous data in the write-up of the study and in any further analysis that may be conducted by the researcher.

Participant's Name (BLOCK CAPITALS)

.....

Participant's Signature

.....

Researcher's Name (BLOCK CAPITALS)

.....

Researcher's Signature

.....

Date: .....

## **Appendix 9: Advertisement of the Study**

### **Your experience of yoga practice and of your eating disorder**

I would like to invite you to take part in a research study that aims to investigate people's experiences of yoga practice and its relationship to their eating disorders or journey to recovery, as well as attempting to identify components that could be beneficial or detrimental to recovery. It is hoped that this research will contribute to the development of more effective ways of supporting people with eating disorders, thereby increasing the variety of treatments offered.

The study is being carried out as part of my Doctorate in Clinical Psychology at the University of East London.

#### **What's involved?**

Taking part in the study will involve discussing your experiences of yoga and eating disorders and answering questions asked by me as part of an interview. The discussion will take approximately one to one and a half hours and will involve answering questions such as: what has been your experience of practicing yoga and what have been the effects of yoga on the eating disorder and your recovery. At the end of the study you will be entered into a prize-draw for an Amazon voucher worth £20.

#### **Location**

Interviews will take place at the University of East London. If this is not possible for you, we can discuss alternative places.

#### **Who can take part?**

- Women over the age of 18
- With a past diagnosis of an eating disorder
- Have started practicing yoga either before receiving the diagnosis or during the recovery process
- Have been practicing yoga approximately once weekly or more
- Do not currently have a mental health diagnosis
- Are able to talk about their experience of yoga practice, eating disorder, and recovery

The study has received ethical approval from the School of Psychology, University of East London Ethics' Panel.

If you are interested in taking part in this study, would like an information sheet or have any questions, please feel free to contact me on [my email address] or [my phone number]. Please note you have the right to withdraw from the study at any point, up to and during the interview.

Anna Lose (Trainee Clinical Psychologist)

Supervised by Dr Kenneth Gannon

## **Appendix 10: Amended Advertisement of the Study**

### **Your experience of yoga and how it has related to your experience of eating disorder type difficulties**

I would like to invite you to take part in a research study that aims to investigate people's experiences of yoga practice and its relationship to their eating disorders, eating disorder-type difficulties or behaviours, as well as attempting to identify components that could be beneficial or detrimental to recovery. It is hoped that this research will contribute to the development of more effective ways of supporting people with eating disorders or eating disorder-type difficulties, thereby increasing the variety of treatments offered.

The study is being carried out as part of my Doctorate in Clinical Psychology at the University of East London.

#### **What's involved?**

Taking part in the study will involve discussing your experiences of yoga and the eating disorder, or eating disorder-type difficulties and answering questions asked by me as part of an interview. The discussion will take approximately one to one and a half hours and will involve answering questions such as: what has been your experience of practicing yoga and what have been the effects of yoga on the eating disorder or eating disorder-type difficulties. At the end of the study you will be entered into a prize-draw for an Amazon voucher worth £20.

#### **Location**

Interviews can take place either at the University of East London (Stratford), or at another location convenient for you (e.g. your home, local library, etc.; if you live within London), or over Skype (if you live outside of London).

#### **Who can take part?**

- Women over the age of 18
- With a past/present diagnosis of an eating disorder, or those who sought professional help in regards to problems with eating, or have experienced eating disorder-type difficulties
- Have started practicing yoga while experiencing eating disorder-type difficulties
- Have been practicing yoga regularly approximately once weekly or more
- Are able to talk about their experience of yoga practice, eating disorder or eating/food related difficulties

The study has received ethical approval from the School of Psychology, University of East London Ethics' Panel.

If you are interested in taking part in this study, would like an information sheet or have any questions, please feel free to contact me on U1331799@uel.ac.uk or xxx xxxx xxxx. Please note you have the right to withdraw from the study at any point, up to and during the interview.

Anna Lose (Trainee Clinical Psychologist)

Supervised by Dr Kenneth Gannon



## **Appendix 11: Interview Schedule**

This interview schedule provides a guide of the types of questions that will be asked during the interview. These are not exact representations of all the questions, as the interview will be adjusted depending on participants' answers. Prior to the interview the researcher will explain the aims of the study to the participant and provide an information sheet, answering any questions, and signing a consent form.

### **Introductions**

Introduce myself, remind of confidentiality, the right to withdraw at any time during the interview, and the length of the interview (approximately 1-1.5 hours). Ask a couple of questions to promote engagement (e.g. did you have to travel far to get here, commenting on the weather, checking how they are doing today).

### **Prompts:**

- Can you tell me about...
- Can you give me an example of...
- What do you think...

### **Information gathering**

1. How old are you?
2. How would you define your ethnicity?

### **Eating Disorder**

3. Which eating disorder were you diagnosed with? And when?
4. Have you received any treatment for your eating disorder in the past? If so, which kind?
5. Some people think of recovery from EDs as a journey. Where do you think you are on that journey? If you think of those terms. If not, then: Do you feel that you still have some difficulties with eating at present?

### **Yoga**

6. When did you start practicing yoga? Was it before or after you were diagnosed with an ED?
7. Why did you start practicing?
8. Which type of yoga have you been practicing? If participant names several types: which one have you been practicing the most/longest? Any particular type that you started practicing in relation to your ED?
9. How long have you been practicing it? How often and how much have you been practicing?

### **Yoga and Eating Disorder**

10. What do you think have been the effects of practicing yoga on your eating disorder? Please feel free to give both positive and negative examples.

11. Which aspects of yoga do you feel have had an impact (positive or negative) on the eating disorder, your recovery, and your life in general? (If the person is not sure as to what is meant by aspects, suggest: breathing, drishti (gaze/focus), postures, mindfulness, meditation, spiritual aspects (e.g. sounding "Om"), language used by the teacher, what the teacher looked like, other people in the class/social aspects).
12. Do you feel that the time when you started practicing yoga during your recovery was the right time? Why? Why not?
13. Is there anything else you would like to share with me that you think is important in relation to this research or the questions that I have asked you?
14. At the end of the interview, if the participant immediately focuses on only positive experiences/aspects of yoga, ask: Where there any unhelpful aspects/experiences related to yoga? And do the same if reverse applies.

### **Debrief**

How do you feel?

Is there anything that bothered you about the interview?

Do you have any questions or concerns?

If you have any questions after today, please feel free to contact me using the details provided on the information sheet. Alternatively, if you feel upset or have any concerns please contact either BEAT or Samaritans, whose contact details are provided on the information sheet, or any other organisation or other support that you may already have in place.

### **Prompts**

Would you be able to tell me more about that?

How did it affect you?

Why do you think that was?

Could you give me an example, please?

*Thank the interviewee and remind them that their contributions will remain confidential.*

### **After the interview**

Note down any reflections or any other important information about the interview.

## **Appendix 12: Reflections and Considerations From Pilot Interviews**

Prior to conducting interviews as part of data collection process I interviewed two individuals, who contacted me first to assess the appropriateness of the interview schedule, to check smoothness of the procedures planned for interviewing, to note any nuances to bear in mind during later interviews, and to become more comfortable with the interviewing process. This process proved to be very useful.

During both of the interviews I noted that at times I may have assumed knowing what a participant meant by a particular type of yoga, where someone else may have enquired more into that person's experience of that type of yoga. As the same type of yoga can be taught differently by different teachers, it was important for me to note this and to attempt to take a stance of not knowing in later interviews, despite my perceived belief of some awareness of the topic.

The questions asked seemed appropriate and, when I enquired at the end if interviewees had any concerns, they replied that they did not and that it was all "OK". Therefore, the interview schedule remained the same. However, I did take note of my tendency to assume knowing certain areas of yoga, and a potential tendency to ask too many follow-up questions. By becoming aware of this I hoped that I would be able to avoid doing that in subsequent interviews.

## Appendix 13: Example of Initial Coding of an Interview

Yoga as helpful for recovery	→	JOANNE: I think, I feel like, yoga at its route, and as a practice and the teachings have really helped me beyond measure, like they really help me a lot. I feel like what has been sometimes a bit more, having
Wellness community	→	negative impact on my eating disorder would be more so the community, not the community, I don't know, the whole, kind of, yoga
Yoga industry	→	wellness industry that seems to be a bit popular at the moment, you know what I mean. Like instagram and these, kind of, yogis and their
Yogic diet	→	like fancy poses and superskinny, and beautiful, graceful like yogis [laughs], and wellness recipes, and "don't eat this food, and this food", and bla, bla, bla, I think that's been confusing and definitely contributed
Comparing self to others	→	to it. I do compare, and I wish I didn't, but I'm getting better, but in terms of, you know, going to a class and comparing myself to other
Group yoga as difficult	→	people in the class, and, and to all the like instagram yogis, like I'm saying like that's been a bit, I don't know. And living this, kind of, you
Pressure to be a perfect yogi	→	know, virtuous yogic life, that's, that's maybe contributed to my, kind of, want, perfectionism. I wanted to be like a perfect yogi, in this image of
Pressure to stay thin when known as thin	→	like grace and being tiny and superflexible, and being able to do everything, yeah, that's definitely contributed to that, so... I suppose
Yogic identity	→	that's also what held me back from doing this for a while as well, like teaching and having students in this community, where I live, and
	→	being, sort of, known as this petite, like tiny yogi person. And obviously I gained, I don't know, like a stone, or whatever, since I've properly, you
	→	know, trying to eat right and look after myself a bit more, and done this. And that's been hard, cause it's, it definitely feels like a, kind of, identity
	→	of being a yogi, it's like a bit of an identity that I've kind of attached to, and once I, sort of... I know it sounds like that shouldn't be thrown out
	→	of bounds, just cause I've gained weight, but the way my mind, kind of, works it's just, kind of, thrown my whole identity into question, and,
	→	yeah, that's been hard. But I mean, when I, what I, my favourite thing to do now, to be honest, is just to practice on my own, like in my room.
Self-practice	→	That's when I get the most from yoga, when I'm not really thinking about anybody else or... You know, hot yoga classes, or, [laughs], let's
	→	all get juice afterwards, or, whatever, or go on a detox cleanse, juice day, yoga whatever, [laughs] like when I'm not even thinking about any
	→	of that, when I'm just on my own practicing, doing what I want to do, with my music, alone. There's nobody looking at me, I don't have to
	→	wear, you know, my fancy yoga clothes, and I can just wear like my pyjamas, and like that's just my favourite way to do it now.

## Appendix 14: Initial Codes

1. About what is inside
2. Acceptance
3. Allowing self to do yoga
4. Alone
5. Appropriateness of environment
6. Asanas, physical side of yoga
7. Aspects of yoga practiced
8. Aspects of yoga teaching
9. Attitude of everything being as it's supposed to/everything happening for a reason
10. Awareness
11. Awareness of body
12. Away from family
13. Barriers to classes
14. Barriers to therapy
15. Being competitive with others
16. Benefits of yoga
17. Better start after recovered
18. Better start early
19. Better understanding of ED and triggers
20. Breath
21. Breath and movement connection
22. Calmness/calming
23. Centred
24. Change in diet/eating habits
25. Change in ED presentation
26. Change in frequency of practice
27. Change in reasons for yoga practice
28. Change in relationship with body
29. Change in self/attitude from yoga
30. Change in symptoms intensity
31. Change in type of ED over the years
32. Change process
33. Change/recovery in stages
34. Changed relationship with/view of food
35. Checking in with self
36. Circumstances around starting yoga
37. Clarity
38. Class related
39. Class setting
40. Class setting or environment
41. Combination of yoga aspects that make it effective
42. Comparing self to others
43. Comparing yoga to other sport or exercise
44. Comparing yoga to other treatment
45. Compassion
46. Compensatory behaviours
47. Competitiveness and comparing

48. Copy first teacher
49. Delivery of class
50. Detrimental yoga types
51. Detrimental yoga use
52. Difficult to stop analysing self
53. ED as addiction
54. ED effects
55. ED factors-symptoms
56. ED journey
57. ED mindset
58. ED presence
59. ED specific vs. generic treatment
60. Effects after class
61. Effects of yoga
62. Emotional reaction/feelings after yoga practice
63. Emphasis in class
64. Encouraging being kind
65. Energised
66. Energy
67. Enjoyable aspects of yoga/what kept in
68. Environment
69. Environment influences ED
70. Excessive exercise
71. External factors
72. Factors surrounding practice
73. Facts
74. Family
75. Feeling grounded
76. Feeling healthy
77. Feeling in control
78. Felt strong
79. First teacher as a guru
80. Flexibility from yoga
81. Focus
82. Focus of class
83. Focus of potentially detrimental yoga types
84. Focusing on feeling
85. Found yoga at the right time
86. Frequency of practice
87. Friends
88. Group yoga treatment as difficult
89. Group yoga treatment as difficult
90. Guidance
91. Guided relaxation
92. Habit
93. Helpful yoga aspects
94. Holistic approach to treatment
95. Honest with self
96. Hooked
97. Impact of diet

98. Importance of teacher's qualities
99. In denial
100. Indirect effects
101. Individual differences
102. Individual differences in teacher suitability
103. Individual differences in yoga style suitability/preferences
104. Influence of external factors
105. Influence of unhelpful yoga types on ED
106. Inpatient experiences
107. Instability
108. Instructions
109. Introduction to yoga
110. Inward focus
111. Justification for diet
112. Justification for eating
113. Justification for exercise/practice
114. Justification to be unwell
115. Keeping yoga up
116. Kindness
117. Lessons learned from yoga
118. Letting go of ego
119. Letting go of looks
120. Letting go/release
121. Life demands
122. Life journey
123. Link between mind and body from yoga
124. Link between yoga and other approaches
125. Love teaching
126. Making sense from therapy
127. Manifestation of ED through yoga
128. Medical check-ups/monitoring
129. Meditation
130. Mental effects of yoga
131. Mindfulness
132. More practice leads to longer duration of positive feelings
133. More than just movement
134. Move
135. Moving meditation
136. Need perseverance to feel the effects
137. Negative influence of environment
138. Negative influence of external factors
139. No judgement
140. Non-judgemental environment
141. Not knowing what to do
142. Not own choice
143. Not ready to teach
144. Obsessed with diet
145. Obsessive element
146. Opens mind, more balanced perspective, clears mind, increases ability to rationalise

147. Other yoga aspects
148. Others helping
149. Out of control
150. Past experiences
151. People influence ED
152. Perception of ED
153. Perception/image/presentation of yoga
154. Phases
155. Philosophical aspects
156. Physical effects of yoga
157. Physical focus
158. Positive influence of environment
159. Pressure to be a great/perfect yogi
160. Pressure to stay thin when known as thin
161. Private treatment vs. NHS
162. Process of ED
163. Process of gaining weight
164. Process of recovery
165. Progress through yoga
166. Protective of ED
167. Push for therapy
168. Pushing self
169. Qualities in teacher
170. Reason for practice
171. Reasons for yoga
172. Reduces anxiety/agitation
173. Regimented
174. Right time to be introduced to yoga
175. Right time to understand self
176. Secrecy
177. Seeing power of body
178. Self-competitiveness, perfectionism
179. Self-practice
180. Self/home vs. class practice
181. Shift in perception of yoga
182. Some ED more present than the other
183. Some ED will stay forever
184. Spiritual aspects
185. Spiritual-philosophical effects
186. Spirituality
187. Stability from yoga
188. Start of yoga journey
189. Starting yoga
190. Staying still
191. Strength from yoga
192. Structure/rules of Ashtanga yoga
193. Struggle
194. Struggle to change
195. Support from others to start treatment
196. Teacher training



197. Teacher training as a personal journey
198. Teacher training as a way of giving into habits
199. Teacher's approach
200. Teacher's understanding
201. Therapy as helpful
202. Therapy as not helpful
203. Therapy factors
204. Time of finding yoga
205. To have ED need to look like it
206. Treatment only focusing on physical aspects
207. Trust in others
208. Type of yoga practiced
209. Type of yoga teaching
210. Type of yoga trained in
211. Understanding of self from therapy
212. Understanding of yoga
213. Unhelpful yoga
214. Use of breath
215. Weight
216. Wellness community
217. Wellness community
218. Yoga allowed to maintain even level of mood
219. Yoga allows to feel like done enough
220. Yoga and ED relationship journey
221. Yoga and life
222. Yoga as a guidebook for life/tool in toolkit/Approach to life
223. Yoga as a lifestyle
224. Yoga as good for her physically/as something healthy
225. Yoga as helpful for recovery
226. Yoga as less punishing on self/easier on self
227. Yoga as medicine
228. Yoga as more acceptable obsession/manifestation of ED
229. Yoga as motivation to being well
230. Yoga as something to go back to/Coming back to yoga
231. Yoga as space away
232. Yoga as time away
233. Yoga as treatment
234. Yoga aspects incongruent with ED rulebook
235. Yoga changed life
236. Yoga for life
237. Yoga industry
238. Yoga not appealing to someone with ED
239. Yoga not for everyone
240. Yoga practice as another ED obsessive element/manifestation
241. Yoga provides reassurance
242. Yoga should be started from school
243. Yoga teacher
244. Yogic diet
245. Yogic identity

## Appendix 15: Examples of Coded Extracts

<u>Code</u>	<u>Extract</u>
<b>Acceptance</b>  (Code no: 2)	<p><i>Heidi — 3 extracts coded</i></p> <p>it's not about how you look, or how you, you know, appear to other people, it's, sort of, about just what you can do and everyone can do things slightly differently. And, you know, it's not competitive, nobody's trying to win anything. It's just like - you can do this, and if you can't do this, that's fine. So, that's, it teaches you self-acceptance. I think that's definitely helps, yeah.</p> <p>I think, like I said, the self-acceptance definitely, and the, just respecting your body, and what it tells you, what it can and can't do, and listening to that.</p> <p>Don't know, I think it's, like I said, the self-acceptance thing and also seeing other people with, like, everyone's got different body shapes and everyone's doing the same thing, everyone's capable of doing it</p> <p><i>Joanne — 1 extract coded</i></p> <p>the practice of yoga in terms of letting things go, and just being aware of things without trying to change them, that mindfulness has actually just enabled me to kind of accept where I am at that point and not get too, too, too worried about it</p> <p><i>Patricia — 2 extracts coded</i></p> <p>yoga has allowed me to accept my body. It's definitely allowed me to maintain a much more, like, even level of mood, so that I'm not really, really high or really, really low, so it's kept things on a nice level.</p> <p>I think more, maybe indirectly in that it takes away the agitation from feeling uncomfortable with myself, or what I've eaten, or, you know, the niggle about "you need to do more, you need to do more", "I've done enough", you know, that, kind of, mind set</p> <p><i>Debora — 4 extracts coded</i></p> <p>It was just that hour of release that I had, you know, after being at a dance college all day. And then just going somewhere, where no one cared what I look like. No one cared what I, you know, what I wanted to do, if I wanted to just rest or whatever, it doesn't matter. It was that, kind of, someone just giving you a hug [laughs] for an hour and a half and saying "this is fine", you know "whatever". Acceptance, I always felt accepted there, yeah.</p> <p>Yoga gave me that understanding of it, which then released my worry so much about what I was eating, or why I felt worried about it. Or, even if I did feel worried, I'd, kind of, go "Ok, it's fine that you feel worried about it".</p> <p>So it's not that any of the therapy that I had before didn't work, cause, although I felt at the time it wasn't, because I was still bulimic. I was still bulimic, and I was going "well, this is rubbish",</p>

	you know, “nothing’s helping me”. But actually I think I just didn’t accept it. I didn’t accept to just take it in. And I think, yoga taught me how to do that.
	I just accepted that some people were gonna be better than me at certain things, and I was gonna be better at things than other people and it didn’t matter, actually, it just didn’t ma... It gave me just an acceptance...
<b>Change in relationship with body</b>  <b>(Code no: 28)</b>	<i>Elle — 1 extract coded</i>
	I think because, because it was relating to different parts of the body. So quite often the breathing would be focused on the heart, or the diaphragm, or the stomach. When we were doing, you know, like warrior pose and that was kind of, the breathing was, and the mindfulness was concentrated on that particular pose. And I think, I think it made you think about your body in a different way. It wasn’t about “how do I look?”, “how skinny am I?”, it was “how do I feel?” and “how am I connected?”, and “how are my feet touching the floor?”, and “how is that working with my breathing and my..., how is my body functioning in that, kind of, moment?”.
	<i>Marisa — 1 extract coded</i>
	I guess it, sort of, it, kind of, reasons with the rational part of your brain that, you know, yeah, that says you’re not massively overweight, and that... I don’t know, I think maybe it gives you a more, what’s the word? – unwarped view of your body. And it puts, yeah, it puts you in touch with your body in a more positive way, cause the, sort of, in general, the relationship I have with my body is very, very negative. So, sort of, being able to do something like yoga changes the focus to a bit more positive. You know, making it healthier, stronger, more flexible, trying to be good to your bones
	<i>Reanne — 1 extract coded</i>
	what I said earlier about being able to do something in yoga, you get to a level, when you can finally do the position that you couldn’t before. Like, you know, doing the splits, or headstand, or something like that, you definitely, kind of, realise that your body is such an amazing thing, that you can achieve things, just by practicing and focusing. So, that helps, because I don’t hate my body as much as I used to, but it hasn’t cured me yet entirely. So, I think it’s teaching me to appreciate my body more, instead of hating my body. And that’s how, how it is helping with body image.
	<i>Vickie — 2 extracts coded</i>
	you sort of start thinking of your body as something you’re responsible to look after, which is completely different to like any eating disorder thoughts, so you want to start nourishing your body and, I think that’s been a major benefit, like what you’re doing to actually look after yourself.
	I guess it’s, I’ve already mentioned like it helps me like eat as a fuel, because like I want to look after my body more, yeah.

## **Appendix 16: Intermediate Codes with Initial Themes**

### **1. Impact of context on outcome of the practice**

- 1.1. Group yoga treatment as difficult or helpful
- 1.2. Individual differences in yoga style suitability, preferences, time
  - 1.2.1. Individual differences in teacher suitability
- 1.3. positive results take perseverance
- 1.4. Treatment-specific effects
- 1.5. Yoga as treatment or medicine - considerations
- 1.6. Yoga not enough
- 1.7. Yoga not for everyone

### **2. Processes occurring as a result of yoga that are unhelpful, and related aspects influencing these**

- 2.1. Better start later
- 2.2. Circumstances around starting yoga
- 2.3. Competitiveness and comparing
- 2.4. Doing yoga because it is an easy exercise
- 2.5. Found yoga at the right time
- 2.6. Hooked-drawn to it
- 2.7. Impact of the type, environment, content and people in the class
  - 2.7.1. Emphasis in class
  - 2.7.2. Self/home vs class practice
  - 2.7.3. Physical environment and atmosphere and its impact on the practice
  - 2.7.4. Influence of people around you during the practice
- 2.8. Manifestation
  - 2.8.1. Teacher training as a way of giving into habits
  - 2.8.2. Reason for practice (Wanting vs having to practice, physical reason)
- 2.9. Negative use of yoga
- 2.10. No right time
- 2.11. Obsessive-addictive element
  - 2.11.1. Structure, rules, and controlled time, routine, guidance
- 2.12. Potentially detrimental yoga types and uses
- 2.13. Prevention or why it could help more if start earlier
- 2.14. Public perception of yoga
  - 2.14.1. Allowed, accepted exercise
- 2.15. Right time to be introduced to yoga (when still unwell, right state of mind, open-minded, not in denial, during treatment)
- 2.16. Social constructions of the perfect yogi and their influence on practice
- 2.17. The influence of yoga industry, wellness community and yogic diets
- 2.18. Yoga can be unhelpful through certain elements
  - 2.18.1. Yoga for life
  - 2.18.2. Yoga as a lifestyle

### **3. Psychological processes resulting from yoga**

- 3.1. Emotion regulation
- 3.2. Introduction to yoga

- 3.3. Yoga as a way to be calm in practice and in life
  - 3.3.1. calming
- 3.4. Yoga as time or space away
- 3.5. yoga facilitated other changes in life and in ED
- 3.6. yoga helping to understand yourself
  - 3.6.1. Clarity
  - 3.6.2. Yoga practice used as motivation to try to be well

#### **4. The need for the whole of yoga**

- 4.1. why I kept practicing
- 4.2. Yoga allows to feel like done enough (satisfies need to move)

#### **5. The ways EDs and yoga change and develop jointly**

- 5.1. Relationship between yoga and the ED
- 5.2. Progress through yoga
- 5.3. Process of recovery and yoga
- 5.4. ED
  - 5.4.1. ED effects
  - 5.4.2. ED factors-symptoms (In ED mind is destroying body, habits in relation to eating, fear about change and like routine, self-criticism, perfectionism)
  - 5.4.3. ED journey
  - 5.4.4. Change in ED presentation
  - 5.4.5. Change in type of ED over the years
  - 5.4.6. ED presence
  - 5.4.7. Process of ED (Out of control)
  - 5.4.8. Struggle
  - 5.4.9. ED mindset
  - 5.4.10. Perception of ED (exhausting, boring, monotone, time-consuming)
- 5.5. Can always return to yoga
- 5.6. Shift in perception of yoga
- 5.7. Changes in the practice
  - 5.7.1. Using yoga in a less punishing way with time
- 5.8. Changed relationship with/view of food (Food as nourishment)
- 5.9. Change in self/attitude from yoga
- 5.10. Change in relationship with body
- 5.11. Change in reasons for practice

#### **6. Yoga helping to improve body awareness and connect mind and body**

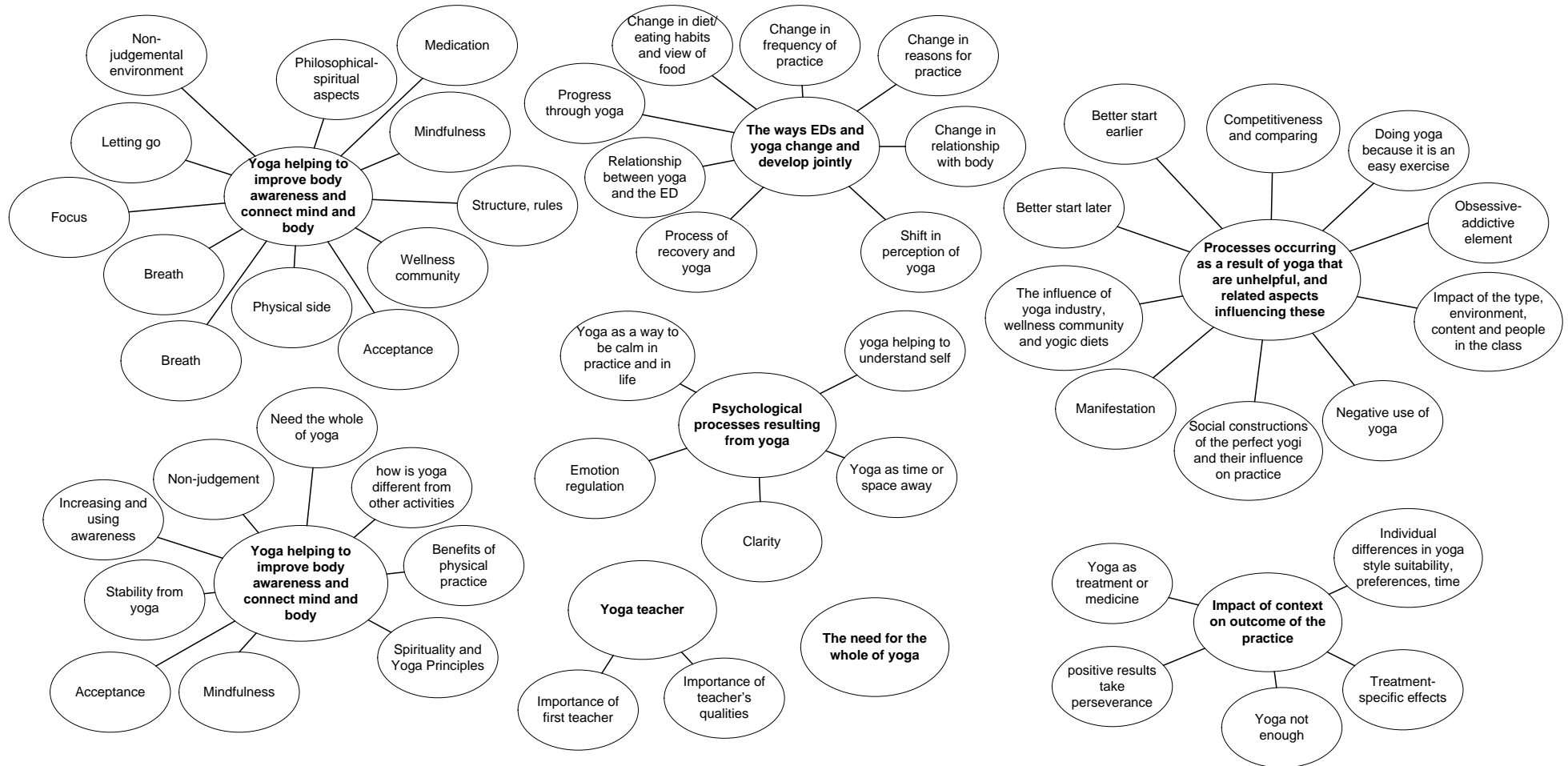
- 6.1. Mindfulness
- 6.2. Spirituality and Yoga Principles
- 6.3. Yoga as a guidebook for life
- 6.4. Teaching and teachings of yoga
- 6.5. Spirituality and philosophy of yoga being internalised
- 6.6. Self-acceptance and acceptance of the body
  - 6.6.1. non-judgement learned through yoga allows more acceptance in ED rules
- 6.7. Prana - energy cultivated through yoga
- 6.8. Non-judgemental environment

- 6.8.1. Non-judgemental environment
- 6.9. being kind and forgiving to self
- 6.10. Associated techniques
- 6.11. Using the breath, breath as connection between mindfulness and physical practice
- 6.12. Stability from yoga
- 6.13. Need the whole of yoga
- 6.14. Meditation
- 6.15. Increasing and using awareness
  - 6.15.1. Checking in with self
- 6.16. how is yoga different from other activities
- 6.17. Directing the attention, keeping the focus
- 6.18. communicating with the body again
- 6.19. allowing yourself to let go
- 6.20. Physicality of yoga
- 6.21. Body as a powerful
- 6.22. Benefits of physical practice

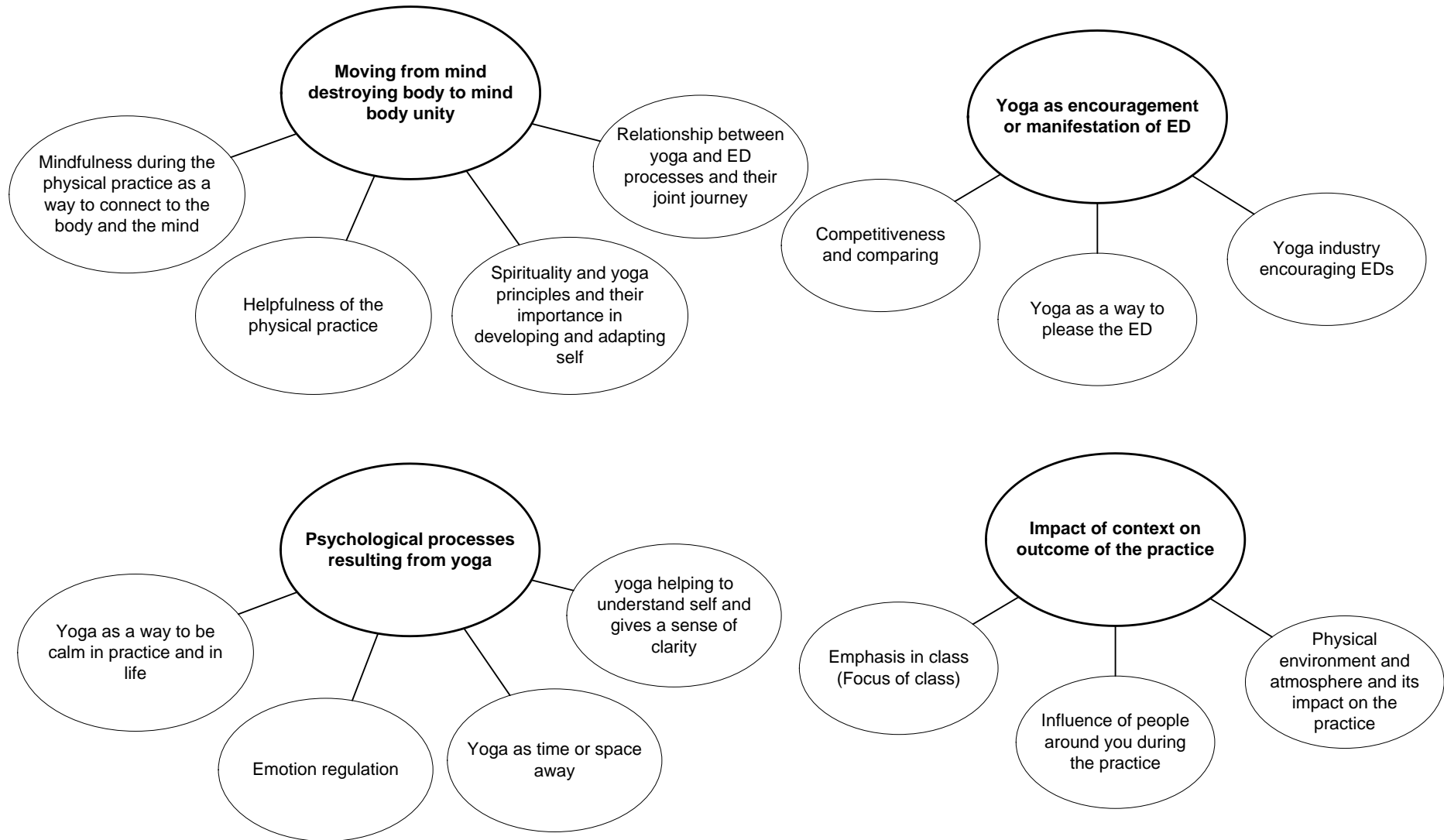
## **7. Yoga teacher**

- 7.1. Importance of first teacher
- 7.2. Importance of teacher's qualities

## Appendix 17: Initial Themes and Subthemes



## Appendix 18: Themes Following Review Phase





## **Appendix 19: Reflections Made During the Processes of Recruitment, Data Collection and Analysis**

### Appendix 19.1: Reflections Made During the Recruitment Phase

I initially advertised on Beat and CallForParticipants websites, hoping that these would attract participants over the summer period. A couple of weeks later I noted that no participants contacted me from those websites, so I proceeded to advertise on Facebook and contacted over 50 yoga instructors that I could locate on Facebook, asking for their help in recruiting for the study. I noticed myself being very pleased and grateful when two or three of them replied and showed interest in the study, and disappointed that none of the others did. As a yoga teacher myself, I remembered the teaching of kindness and support that goes hand in hand with yoga, and felt disheartened when there was no response from so many people. I spoke with a number of other teachers, when I went to yoga classes, and they promised to help, but then never replied. This led me to think that there are not as many people, who implement yoga philosophy in their daily life, although I also understood that they have their own context, which may be that they do not feel that research is important, or they may be particularly busy that they do not have the time to be involved.

When I started the recruitment process, I was quite passionate about the research and recruitment and was possibly under the illusion that others may feel similarly. Some of the responses led to a reduction in my enthusiasm, whereas others, those who helped or simply spoke to me about it, kept it going. I reflected on the importance of staying aware of other people's context and not implying my assumptions onto others, as everyone has different challenges in their lives, and everyone is different and perceives the world and yoga's philosophy in different ways.

### Appendix 19.2: Reflections Made During Data Collection

Following each interview, I took notes reflecting on the way I felt the interview went, my own feelings, questions asked to follow-up on participant's answers, my perception of participants, and of their responses. I tried to start each

interview gradually and gently, but noticed that this did not happen as much during interviews carried out online, as it felt that participants wanted to start with the interview quickly, with which I obliged. Next I present two examples of my notes taken after the interviews, one at the beginning of data collection stage with a yoga teacher, carried out over skype (Joanne), and another conducted in the middle of data collection phase with a non-yoga teacher, carried out face-to-face (Reanne).

### *Joanne*

I noticed myself feeling emotive (happy), when discussing transformation from yoga (based on personal experience), and when talking about the focus on identity of being a yogi and the impact of that. I became aware of my own interest coming through, and a potential agenda of focusing on developments of treatments with aspects of yoga, rather than on Joanne's experiences with yoga. When this occurred and I noticed it, I returned back to asking specifically about her experiences. I also noticed myself getting into "therapist mode", wanting to support Joanne (reassure her and ask the right questions), and, again, when I realised that I was changing my position from a researcher to a therapist, I attempted to change my stance to a more neutral one, still demonstrating empathy, but without going in the direction of therapeutic questioning.

I perceived Joanne as easy to talk to and to interview, forthcoming with information and having many ideas in response to the questions, as well as being engaging and pleasant in conversation. I wondered whether some of the laughter during the interview was a "nervous laughter" attempting to make the difficult feelings less threatening. I noticed that it felt to me that Joanne appeared older than her age in the way she was talking about her life experiences and in her thinking. I thought that possibly being through all the difficult life experiences and treatment may have contributed to her being more mature than her age. When she was talking about the negative effects of the yoga industry and having a yogi identity, I identified with it, in that I also believe that being a yoga instructor in a way implies that you must have a certain slim, fit figure, because majority of the media portrays yoga

practitioners in that light and possibly because there is a belief that students come to classes wanting to look like their teacher (if they practice yoga for physical/fitness reasons). Hearing this from someone else made me reflect on my own practice as a yoga teacher, wanting to be free from these assumptions, but also knowing that it is not possible to completely let go of the ego.

### *Reanne*

When I saw Reanne at the library I did my best to try to make her feel comfortable, but because she appeared very confident I noticed myself relaxing as the interview progressed. Later I noticed that I was relying on questions that aimed to create a timeline in my mind of her difficulties and her experiences with yoga, in order to avoid feeling uncomfortable or intimidated by her, because she appeared very confident. At the beginning of the interview, when Reanne said that she was European but has been living in the UK for a long time (appearing slightly defensive, saying that she has a British passport), I noted that I sometimes react in that way, when asked where I am from. This briefly led me to think about her context and why people, who were not born in the UK, feel defensive of their right to be here. I remembered on occasion not wanting other people to know that I am not from the UK, because sometimes that leads to feelings of being not welcome in the country that I now consider to be my home. I later wondered whether this is how Reanne felt, and whether that was why there was a hint of defensiveness in response to a request to define ethnicity.

Reanne's story struck me as one of someone who is very strong, but at the same time vulnerable inside, someone who was made to be strong, due to circumstances of her life. She also was easy to engage in conversation, but it seemed that she had a limited number of thoughts that she was happy to share with me (which I of course understood), and after she provided the answer to a question, my attempts at probing further were sometimes not very successful. Due to this, the interview was not as long as some of the other participants' (especially when compared to yoga teachers' interviews).

Overall, I found Reanne pleasant to talk to, though there was also a feeling of a slight barrier between us.

### Appendix 19.3: Reflections Made During Data Analysis

I made brief notes on my own reflections and experience of doing the analysis from the stage of transcription to theme finalising. At the stage of transcription I noticed how I was beginning to “get a flavour” from each interview in relation to how the participant related to yoga. I noticed that yoga teachers seemed more attached to yoga and were able to provide more in-depth and detailed answers to my questions, with the exception of Reanne and Marisa, who also appeared to be more familiar with many yoga aspects, potentially because they have been practicing it for longer. I noticed how yoga teachers were able to reflect somewhat more about yoga’s influence on their ED and provide greater detail about factors that may have influenced their ED. Once again, this was likely due to the fact that they were more familiar with the different sides of yoga. I reflected on how I perceived different participants. For example, I felt that Patricia seemed to me to be still somewhat unwell (still experiencing some of the ED tendencies), possibly not recognising some of the aspects of Ashtanga yoga practice that were maybe unhelpful for her at this stage, and she admitted that other yoga teacher friends felt that this was the case for her. However, I noted from the transcript that I was able to not demonstrate my point of view and remained curious about her thoughts on this, which I think allowed her to reflect that her reasons for the practice may be not the most helpful.

When I was analysing the data I was trying to remain aware of my own assumptions about yoga and EDs, such as when I tried to remain curious and not ask questions based on my beliefs about Ashtanga yoga. I noticed, however, that I did begin the analysis with some ideas of wanting to find out aspects of yoga that people perceive as helpful or unhelpful. Although this was the aim of the research too, I did not want to discard new ideas. My external supervisor and expert in the field helped me with this, as she listened to my thoughts about initial themes and through discussion with her I was able to change some of the themes, moving some of the codes and creating a

more novel theme of “changes” that was prevalent throughout the data. It is likely that it was difficult for me to see it myself at first as I was so immersed in it and was already beginning to feel “stuck” with the generated themes. Lastly, when re-reading the data and themes at the end, clustering some of the subthemes, and looking back through the extracts, I was able to see that the themes were finally representing the data well.