Motivation to Recover from Bulimia Nervosa: An Application of the Theory of Planned Behaviour

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ABSTRACT

Background

Bulimia nervosa (BN) is an eating disorder (ED) characterised by recurrent episodes of bingeing and purging, and is associated with low motivation for change, a key barrier to recovery. The Transtheoretical Model (TTM) is the predominant framework for understanding motivation to recover from EDs; however, evidence for its applicability is mixed. The Theory of Planned Behaviour (TPB) remains relatively novel in research applications to recovery from EDs, despite existing literature suggesting it might offer a better framework for motivation to recover than the TTM.

Aims

This exploratory study aimed to use the TPB to identify whether there are different predictors of motivation to stop bingeing and purging, and motivation to recover from BN, and overall, whether the TPB has predictive utility for understanding and predicting motivation to recover from BN.

Methods

This was a quantitative study using the BN stage of change questionnaire (TTM), a purpose-designed TPB questionnaire, the Depression, Anxiety, and Stress scale, and the Eating Disorder Examination Questionnaire. Twenty-three adults participated from three community eating disorder services in the UK, and online via social media. Correlational and regression analyses were conducted.

Results

Stage of Change (TTM), attitudes, and perceived behavioural control (TPB) were identified as predictors of both intention to eat normally and not binge or purge, and intention to recover from BN; however, depression was also a predictor for the former. The TPB variables accounted for 18.9% additional variance in intention to eat normally and not binge or purge, and 54.3% in intention to recover.

Conclusions

This is the first study to apply the TPB to understanding and predicting motivation to change in BN. The TPB showed predictive utility above and beyond the TTM for recovery from BN, and attitudes were the most important predictor of change. This provides useful research and clinical implications.

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LIST OF ACRONYMS

AN – Anorexia Nervosa
ANSOC-Q – Anorexia Nervosa Stage of Change Questionnaire
APA – American Psychology Association
ARFID – Avoidant/Restrictive Food Intake Disorder
BED – Binge Eating Disorder
BN – Bulimia Nervosa
BNSOC-Q – Bulimia Nervosa Stage of Change Questionnaire
BPS – British Psychological Society
DASS-21 – Depression, Anxiety and Stress Scale
DSM-V – Diagnostic and Statistical Manual, 5th Edition
ED – Eating Disorder
EDE-Q – Eating Disorder Examination Questionnaire
EDS – Eating Disorder Service
MDT – Multidisciplinary team
NHS – National Health Service
NICE – National Institute of Health Care Excellence
ON – Orthorexia Nervosa
OSFED - Other Specified Feeding or Eating Disorder
PBC – Perceived Behavioural Control
RCT – Randomised Control Trial
SIV – Self-Induced Vomiting
TPB – Theory of Planned Behaviour
TTM – Transtheoretical Model of Behaviour Change/Stage of Change Model
UFED – Unspecified Feeding or Eating Disorder

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1. INTRODUCTION

1.1. Overview

This chapter provides a narrative overview of the current understanding of Bulimia Nervosa (BN) and issues related to the process of recovery. This is not meant as an exhaustive review, but rather to introduce concepts and important issues, grounding them in the context of BN and orienting the reader to the background of this study.

The chapter begins by summarising key terminology used throughout this study to facilitate the reader's understanding of the language. The background for this study follows, including the presentation of BN, associated risks, current treatments offered, and challenges for recovery from BN. Then, two key models of health behaviour change are considered: the Transtheoretical Stage of Change model (TTM) and the Theory of Planned Behaviour (TPB). A summary of the importance of focussing on recovery from BN is provided, before moving onto a scoping review of relevant literature on the TPB as applied to eating disorders. This is with the aim of critically considering the existing evidence-base, and identifying important issues and gaps that can inform the current study's research questions and methodology.

A brief personal reflection on the multiple positions held in relation to this study is included, and the chapter concludes with consideration of the relevance this study has for clinical practice, and an outline of the final research questions and aims.

1.2. Terminology

Self-induced starvation and distress in relation to eating can be found throughout history, and in the 19th century were considered a psychological condition requiring treatment (Cromby et al., 2013). These are now described as eating disorders (EDs) within psychological and psychiatric literature and

clinical practice, characterised by “persistent disturbance of eating or eating-related behaviour that results in the altered consumption or absorption of food and that significantly impairs health or psychosocial functioning” (American Psychiatric Association [APA], 2013). Currently, the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) categorises EDs into eight separate diagnoses: anorexia nervosa (AN), bulimia nervosa (BN), binge eating disorder (BED), pica, rumination disorder, avoidant/restrictive food intake disorder (ARFID), other specified feeding or eating disorder (OSFED), and unspecified feeding or eating disorder (UFED) (APA, 2013).

However, there is evidence of overlapping features across these diagnostic groups, such as risk factors, extreme dietary restriction, binge eating, over-evaluating control of intake, body-checking and body-avoidance and compensatory purging behaviours, such as self-induced vomiting (SIV), excessive exercise, and prolonged fasting (Fairburn et al., 2003; Fairburn & Bohn, 2005; Lantz et al., 2017; Waller, 1993). A transdiagnostic approach to EDs recognises shared clinical symptoms across ED diagnoses (Castellini et al., 2014), and research has also demonstrated that EDs correlate with other psychiatric diagnoses such as mood disorders, anxiety, and substance misuse ‘disorders’ (Altman & Shankman, 2009; Bulik et al., 2004; Udo & Grilo, 2019).

There are obvious limitations of diagnostic categories and psychiatric definitions of EDs, such as the overlapping features and the pathologizing of individuals’ distress. Nevertheless, this study refers to and uses these terms throughout, as the study design and implications are embedded within the context of the UK’s NHS Eating Disorder Services (EDSs), which are currently oriented towards a diagnostic framework for accessing treatment within these.

1.3. Bulimia Nervosa

Bulimia Nervosa (BN) is a type of eating disorder (ED) characterised by recurrent episodes of bingeing, followed by inappropriate compensatory behaviours such as over-exercising, fasting, use of laxatives, diuretics, or SIV.

Individuals with BN also tend to be excessively concerned about themselves in relation to body shape and weight.

The ‘binge-purge cycle’ describes that an individual might get stuck in a pattern of bingeing and purging, triggered by failure to adhere to strict self-imposed rules about diet and/or exercise (NHS, 2020). The sense of loss of control during binges often results in feelings of guilt and shame, which are managed by purging (e.g., SIV) to get rid of the calories consumed, thereby restarting the cycle. In between binges, individuals will typically continue attempts to restrict their intake: however, any weight loss or gain is usually unremarkable, and therefore BN can go unnoticed by others and the individual themselves for a long time (National Institute for Health and Care Excellence [NICE], 2019). Individuals with BN might avoid seeking professional help due to the perceived shame about their eating, which can have implications for the chronicity of BN (Ali et al., 2020).

1.3.1. Diagnosis and Symptoms

Expanding on the descriptions above, the DSM-V stipulates five criteria which must be met for a diagnosis of BN to be given (APA, 2013). These are outlined below.

1.3.1.1. *Recurrent episodes of binge eating:* An episode of bingeing is defined by the DSM-V as eating, within a discrete period, an amount of food that is objectively greater than what most people would consume in a similar period and in similar circumstances, accompanied by feeling unable to control how much is eaten. This is often explored at initial assessment for an ED, whereby the assessing clinician could ask the individual to list everything consumed in a typical or latest binge, to ascertain if the binges are subjective to the individual or are objectively large amounts of food for a discrete period.

1.3.1.2. *Recurrent inappropriate compensatory behaviour:* Compensatory behaviours are engaged in by individuals with BN in an attempt to counteract the perceived effects of eating on weight-gain (Mehler & Rylander, 2015), such as SIV, misuse of laxatives, diuretics, or other medications, fasting or excessive

exercise. These will be asked about directly at initial assessment for an ED; however, individuals may not disclose them. Professionals can instead consider clinical indicators; for example, possible SIV can be indicated through appearance or reports of declining oral/dental health (Nitsch et al., 2021), frequently leaving to go to the bathroom (Mitchell & Crow, 2006) and heart palpitations and/or dizziness (NICE, 2020). Self-induced vomiting and laxative misuse can account for more than 90% of compensatory behaviours in BN (Mehler & Rylander, 2015). The physical health risks of BN are explored further in section 1.3.2.

1.3.1.3. *Binge eating and inappropriate compensatory behaviours both occur, on average, at least once a week for three months:* The distinction between BN and EDs that also involve bingeing, such as BED, is the recurrence of the 'binge-purge cycle'. The frequency of this should be identified at initial assessment by the assessing clinician (NICE, 2020) and via self-report measures such as the Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994, 2008) which NICE (2020) recommends all professionals who provide treatment for EDs use.

1.3.1.4. Self-evaluation is unduly influenced by body shape and weight: Weight/shape based self-evaluation has been theorised as a fundamental maladaptive cognitive feature of EDs (Fairburn et al., 2003), and is listed as a criterion for both AN and BN in the DSM-V. Experimental research found that whilst associations of weight/shape concerns with non-appearance-related areas of self-evaluation such as interpersonal relationships and achievement can be seen across EDs, this association was stronger for patients with BN (Blechert et al., 2011). Weight/shape concerns can be explored at the point of referral or initial assessment; however the self-report EDE-Q (Fairburn & Beglin, 2011) also includes measures of shape and weight concerns.

1.3.1.5. Bingeing or purging does not occur exclusively during episodes of behaviour that would otherwise be explained by e.g., anorexia nervosa: Whilst clinical features and experiences of EDs can be shared across diagnostic groups, there are clinical presentations in, for example, AN that may require

different treatment than that of BN, such as a significantly low body weight in the context of developmental stage, age, sex, and physical health. As a result, the implications for treatment would be different. For example, if an individual met the first four criteria for BN but was also significantly underweight, they would be more likely to receive a diagnosis of AN 'binge-purge type'.

1.3.2. Physical Risks

Physical complications of BN are largely related to the compensatory behaviours of SIV, laxative, and diuretic misuses. Some, but not all, physical complications can be reversed with behaviour cessation (Mehler & Rylander, 2015).

1.3.2.1. *Fluid and electrolyte disturbance:* Different purging behaviours, such as SIV, diuretics, and laxative misuse, are associated with different electrolyte disturbances. Self-induced vomiting is the most common purging behaviour in BN (Mehler & Rylander, 2015). When an individual engages in multiple methods of purging, electrolyte disturbances can overlap and enhance risk of death (Nitsch et al., 2021). Low potassium levels can cause weakness in muscles and cardiac arrythmias due to difficulties in the body regulating fluid levels, and low sodium can cause disturbances in the nervous system (Mehler & Walsh, 2016). Low magnesium can contribute towards cardiac arrythmias, muscle weakness and changes in mood (Pickering et al., 2020). Chronic dehydration can occur with excessive SIV too (Puckett, 2023). In a study of patients with BN admitted for inpatient ED treatment (Mehler et al., 2018), 26.2% presented with hypokalaemia (potassium <3.6 mmol/L), 8.5% with hyponatremia (sodium <135 mmol/L) and 23.4% had a metabolic alkalosis (bicarbonate > 28mmol/L). Electrolyte disturbances can impact on cardiovascular health, described in section 1.3.2.4.

1.3.2.2. *Gastrointestinal damage:* Gastrointestinal complications also differ according to the type of purging behaviour. Self-induced vomiting mainly results in upper oesophageal damage. Excessive vomiting leaves the oesophagus repeatedly exposed to gastric acid from the stomach, potentially causing erosions and ulcers, increases the risk of Barrett's oesophagus (damage to the

stomach's lining), and in rarer occasions, oesophageal ruptures (Denholm & Jankowski, 2011; Mehler & Rylander, 2015). Excessive laxative misuse is typically related to lower gastrointestinal complications e.g., constipation, diarrhoea, melanosis coli (discolouration of the colonic mucosa) and more seriously, cathartic colon; loss of normal function making passing stools very difficult (Mehler & Rylander, 2015; Nitsch et al., 2021).

1.3.2.3. Dental complications: Erosion of the teeth is the most common dental consequence of SIV due to regurgitation of gastric acid into the oral cavity (Romanos et al., 2012). Dental erosion has been found to be significantly higher in ED populations compared to healthy controls, and even greater when individuals engaged in bingeing and SIV (Johansson et al., 2012). Dental erosions are also irreversible.

Other dental consequences of BN include greater risk of developing cavities. However, the outcomes of research investigating this has been conflicting; for example, Johansson et al. (2012) did not find a significant difference between decayed, missing or filled teeth between patients with BN and healthy controls.

1.3.2.4. Other physical risks: Literature that explores the impact of bingeing specifically in relation to BN is limited (Nitsch et al., 2021); however, we can cautiously consider the implications for individuals with BED, as these individuals tend to be 'overweight' and do not engage in subsequent purging behaviours. Risks include developing type 2 diabetes, non-alcoholic fatty liver disease, and hypertension, all of which are also obesity-related risks (Wassenaar et al., 2019).

Behaviours associated with BN, such as SIV, use of laxatives, excessive exercise and periods of restricted intake have potential to affect cardiovascular health. As discussed in section 1.3.2.1., purging behaviours can create electrolyte disturbances, which can increase the risk of cardiac arrhythmias (Mehler & Rylander, 2015), congestive heart failure or sudden cardiac death (Franko et al., 2013). A 12-year longitudinal cohort study of 416,709 women from 2006-2018 found that hospitalization for BN was associated with a

significantly higher risk of cardiovascular disease and death compared with pregnancy-related hospitalizations as a comparison group (Tith et al., 2020).

In the UK, recommendations for best practice in assessing physical health risks for BN include assessing for fluid and electrolyte balance (NICE, 2020), which can be done by taking blood tests, measuring resting heart rate and taking blood pressure readings, electrocardiograms (ECGs), and being aware of clinical indicators of malnutrition and purging (APA, 2023).

1.3.3. Psychological Risks

Deliberate self-harm has also been associated with BN (Cucchi et al., 2016; Favaro et al., 2008), perhaps because both behaviours might function as an emotional regulation strategy (Muehlenkamp et al., 2009). Furthermore, suicide attempts are more frequently reported in ED groups where purging behaviours are present, and where there are comorbid diagnoses such as substance misuse and personality 'disorders' (Favaro et al., 2008; Favaro & Santonastaso, 1997; Franko et al., 2004; Milos et al., 2004). Bulimia nervosa is often associated with impulsivity due to disregard of negative implications of behaviours such as restricted intake and purging, and impulsivity has been linked to suicidal attempts and deliberate self-harm (McHugh et al., 2019). Conversely, a recent systematic review described mixed findings for impulsivity in BN (Howard et al., 2020). This does not negate the risk of suicidality as demonstrated by the literature, particularly where the majority of deaths in individuals with BN are due to suicide (Crow et al., 2009; Huas et al., 2013).

1.3.4. Prevalence

There is a general lack of clear epidemiological data and evidence for BN in the UK (NICE, 2020). Earlier research concerning western Europe suggested that the one-year prevalence of BN was approximately 1% for women and 0.1% for men, although the population for this study was mostly under the age of 35 (Hoek & Van Hoeken, 2003). A more recent narrative review of European studies of EDs in 2015 and 2016 indicated BN in 1-2% of women, and EDs (not specified in the study) in 0.3-0.7% of men (Keski-Rahkonen & Mustelin, 2016). Due to the relatively low incidence rates of EDs in community settings, studying

incidence rates can be difficult. Micali et al., (2013) obtained general practice data in the UK from 9072 patients with a first-time diagnosis of an ED from the period 2000-2009 and found that whilst the incidence of AN and BN appeared relatively stable, there was a significant overall increase of diagnosed EDs during the 10-year period.

To further consider the context for BN in the UK, the impact of the COVID-19 pandemic should be noted. A national survey of 13 adult community Eating Disorder Services (EDSs) in the UK found that between 2016-2017 and 2019-2020, referral rates increased by 18.8%, with 46% of patients referred aged 18-25 and 54% aged 25 or older (Viljoen et al., 2023), and data from three UK adult EDSs found referral rates increased by 50% between January 2019-September 2020 (Hyam, et al., 2023). A German study exploring the psychological consequences of the pandemic found that patients with BN reported worsening of bingeing and SIV (Schlegl et al., 2020), and across diagnostic ED groups, frequency of bingeing and compensatory exercise significantly increased (Castellini et al., 2020), behaviours that are typically associated with the binge-purge cycle in BN. Qualitative research exploring the impact of the pandemic on individuals with EDs in the UK identified themes of lack of accountability, increased responsibility and increased intentionality, e.g., only being allowed out during lockdown for 1 hour, therefore, making that one hour 'count' through more rigorous exercise (Brown et al., 2021). This provides some context for the current situation of EDSs within the UK, whereby we may be looking at a longer-term impact of the pandemic on waiting times for assessment and treatment, of which is yet to be explored in research (Hyam et al., 2023).

1.3.5. Causes

The causes of EDs are subject to much consideration both clinically and in research. As mentioned in section 1.2, the transdiagnostic approach to EDs would consider that there are shared experiences and therefore contributions towards the development of EDs across diagnostic groups, and this is reflected in this section, whilst also considering BN-specific literature.

1.3.5.1. Family functioning and mental health: Initially, models of family functioning were used to understand the roles families could have in the development of EDs; however, difficulties with family functioning are inconsistent across studies, and are not unique to specific EDs (Waller & Sheffield, 2008). A review of literature looking at the causes of EDs reported that familial influences which were found to be 'significant' could be reflective of the impact of looking after a family member with an ED, rather than causative (Polivy & Herman, 2002); the disruption of family functioning seen in families could be a response to an ED (Treasure et al., 2008). It is also possible that difficulties with family functioning relate to wider emotional and interpersonal experiences often seen with BN presentations, such as social anxiety (Levinson et al., 2018), rather than being linked to specific BN symptoms. Eating disorders are commonly associated with other, serious mental health difficulties too. The psychological risks of BN have been discussed previously in section 1.3.3; however, additional mental health difficulties that are commonly associated with BN include mood changes, substance misuse, and anxiety disorders (Aspen et al., 2014; Baker et al., 2010; Godart et al., 2007; Kaye et al., 2004).

1.3.5.2. Genetics and sociocultural influences: The argument of genetic influence over the 'hereditability' of BN and associated behaviours is complex and nuanced, and difficult to distinguish between ED diagnoses. The first study to look at purging disorder (PD) within families found familial effects (additive genetics and shared environment) accounted for 44% of the variance in PD within European-American twins, with 56% variance relating to non-shared environmental effects (Munn-Chernoff et al., 2015). However, the researchers were not able to distinguish genetic and environmental familial effects, a common occurrence within genetics/environment studies. More specifically relating to BN, research has suggested that SIV is the most 'heritable' BN symptom (Mazzeo et al., 2010; Sullivan et al., 1998), which influences the propensity for using SIV as a method of weight and shape control (Peterson et al., 2016). Nevertheless, environmental factors compared to genetic factors are likely more responsible for the development of repeated and ongoing SIV (Peterson et al., 2016), such as the sociocultural pressure for thinness, prompting body dissatisfaction (Suisman et al., 2012) and exploration of methods to control weight and shape that reflect BN symptomology (Boone et

al., 2011). There is evidence for the Western idealization of thinness in the development of ED presentations, amplified globally through the media (Tiggemann & Slater, 2004) and more locally through peer, parental and community attitudes and behaviours regarding shape and weight (Sweetingham & Waller, 2008).

1.3.6. Current Treatments

In the UK, EDSs are made up of multidisciplinary teams (MDT) with a range of health professionals, incorporating medical, psychological, and dietetic interventions. It is recommended that most patients with BN should be treated in outpatient services; however, if physical health is severely compromised then admission to a medical inpatient service is advised to medically stabilise the individual and re-feed if this is not possible in an outpatient setting (NICE, 2020).

Within NHS EDSs, initial psychological interventions include guided self-help programmes that utilise cognitive behavioural approaches, followed by individual cognitive behavioural therapy for EDs (CBT-ED) of up to 20 weekly sessions if guided self-help has been ineffective after 4 weeks. The cognitive-behavioural theory of BN posits that it is the core psychopathology that maintains BN long term. Most features of EDs can be seen as coming directly from the cognitions and behaviours being engaged in, such as weight-control, body checking and avoidance, and preoccupation with weight, shape and eating (Fairburn, 2008). However, in BN, bingeing is not a direct expression of the core psychopathology, and instead, CBT-ED proposes that bingeing predominantly occurs due to the strict dietary restraint and self-imposed rules regarding this. Cognitive-behavioural approaches to treatment are therefore intended to disrupt cognitive and behavioural patterns that might be maintaining BN and introduce flexibility in thoughts and behaviours e.g., testing out reducing frequency of purging to see if this impacts on perceived weight-gain. Regarding other psychological treatments, such as systemic family therapy, whilst NICE guidelines have recognised the importance of assessing the impact of home and social environment on an individual's ED, there is less clarity on what

constitutes effective family inclusion for the treatment of adults with EDs, compared to children and young people (Fleming et al., 2022).

Both guided self-help and individual CBT-ED are well-established treatments for BN (Mitchell et al., 2007; Schlegl et al., 2015; Slade et al., 2018); however, group CBT-ED has can also decrease symptom severity in patients with BN (Bailer et al., 2004; Wade et al., 2017), paradoxically with generally low acceptance for treatment but strong compliance and completion (Moore & Waller, 2023). Other typical treatments offered within EDSs include psychiatry for pharmacological consideration (McElroy et al., 2019), dietetic intervention to support with diet and nutritional changes which can include psychoeducation (McMaster et al., 2021), and nursing input for monitoring and supporting physical health.

Despite the treatment options typically available through the NHS, individuals with BN often feel ambivalent about their ED and changing their behaviours (Schmidt & Treasure, 2006).

1.3.7. Recovery

1.3.7.1. Defining recovery: There is no universal definition of recovery in relation to EDs; however, the psychological components of EDs are often missing within literature exploring this. Not considering the psychological recovery may result in a 'pseudo-recovery' whereby physically and behaviourally the ED appears absent, although internally it still persists in an individual's attitudes (Keski-Rahkonen & Tozzi, 2005). Physically re-establishing a healthy body and eating behaviours has always been important; nevertheless, psychological aspects of BN such as 'undue influence of weight and shape' are included within the DSM-V, and evidence has supported its relevance to recovery from BN (Cogley & Keel, 2003).

The combination of physical, behavioural and psychological indices may yield a more accurate understanding of recovery (Couturier & Lock, 2006). Bardone-Cone et al., (2010) operationalised recovery as no longer meeting the DSM-V criteria for an ED, absence of bingeing and/or purging and fasting in the last

three months, a body-mass index of at least 18.5kg/m2, and scores within one standard deviation of age-matched community norms on all subscales of the EDE-Q (Fairburn & Beglin, 2011). They found that only individuals who were both cognitively and behaviourally 'recovered' were comparable to matched controls in relation to body dissatisfaction, which is consistent with previous research (Bachner-Melman et al., 2006). For the current study, the term 'recovery' refers to the physical, behavioural, and psychological aspects of EDs.

1.3.7.2. *Barriers:* Recovery from EDs is a complex process and is well-known within the field of mental health for difficulties relating to progress or change. Reviews of empirical literature have revealed a range of factors that contribute towards difficulties in help-seeking and recovery: personal feelings of shame and stigma, ED-related beliefs, lack of access, denial of the severity of EDs, low motivation to change, lack of encouragement from others and negative attitudes towards help-seeking (Ali et al., 2017; Regan et al., 2017).

Drop-out from treatment for EDs is also common (Bandini et al., 2006; Mahon, 2000), with some research suggesting that this may be more likely in individuals with BN than AN (Schnicker et al., 2013; Swan-Kremeier et al., 2005). A recent study exploring the impact of duration of ED on non-response to treatment and drop-out in 1199 patients treated for EDs highlighted that almost half of individuals with AN and BED had a good response to treatment compared with only a quarter of individuals with BN and OSFED (Fernández-Aranda et al., 2021). This emphasises the importance of optimising treatment early in the hope of preventing chronicity of EDs, and in turn increasing the likelihood of recovery.

Both drop-out and lack of engagement with ED treatment have been linked with low motivation to recover (Bandini et al., 2006; Bell & Newns, 2004; DeJong, Broadbent, et al., 2012). Difficulties with low motivation to recover from an ED can affect the development of shared therapeutic goals, subsequently impacting on the therapeutic alliance between the individual and the clinician, as well as increasing the risk of drop-out (Mahon, 2000). Furthermore, there is a demonstrable association between greater motivation for change and recovery behaviours in individuals with EDs, such as continuing with treatment, reduction

in ED pathology and maintenance of weight (Bardone-Cone, 2012; Castro-Fornieles et al., 2011; Mansour et al., 2012; Wade et al., 2009). For BN, some studies have shown that recovery rates tend to peak between 4-9 years after treatment, and do not substantially increase after 10 years (Fichter & Quadflieg, 2004; Keel & Brown, 2010; Steinhausen & Weber, 2009). A longitudinal follow-up study of recovery from BN and AN found that whilst recovery from BN tends to occur more rapidly than AN, the rates of recovery for BN do not increase over time as in AN (Eddy et al., 2017). The researchers concluded that early behavioural change can predict treatment outcomes for BN, supporting previous research findings (Wilson et al., 2002). This suggests that early behaviour change in treatment is a key prognostic predictor of recovery for BN.

However, Clausen et al., (2013) carried out a systematic review of ED literature and suggested that levels of motivation to change may be associated with change in some areas such as restrictive intake, bingeing and cognitive/affective measures of ED psychopathology, but not others. There were mixed conclusions for the effect of motivation to change on global measures of ED symptoms and little support for the effect on purging behaviours. This implies the need for careful consideration for how different ED behaviours and areas of recovery are operationalised within research, and further understanding about motivation to recover in EDs with associated purging behaviours, such as BN.

1.4. Current Theoretical Models of Change

Individuals with EDs are known to be conflicted about their symptoms (Schmidt & Treasure, 2006). This, coupled with the clinical relevance of motivation to change in EDs, emphasises the importance of understanding motivational processes in recovery.

1.4.1. Transtheoretical Stage of Change Model

The Transtheoretical Stage of Change model (TTM; Prochaska & DiClemente, 1982) represents the most common theoretical framework in the research area of motivation to change, and has been applied to a broad range of health

behaviours including smoking cessation (Prochaska et al., 1993), weight control (Wee et al., 2005), non-suicidal self-injury (Kruzan & Whitlock, 2019), and eating disorders (Hasler et al., 2004). The TTM is the predominant model within ED research and clinical practice for understanding motivation to recover (Hoetzel et al., 2013). It describes a series of six different 'stages' of readiness for change; precontemplation, contemplation, preparation, action, maintenance, and termination, with each categorised by varying levels of input during the therapeutic process. Each stage brings the individual closer to sustaining behavioural changes. At times, individuals may revert to previous stages (relapse); however, progression through these again recommences the process of change. Comprised within the TTM is a theory of decision making, necessary to progress through each stage. Decision making is dependent on the perceived advantages and disadvantages of a particular behaviour, also known as decisional balance (Janis & Mann, 1977).

From these theoretical assumptions, the TTM has been used to evaluate processes and stages of change in EDs, including BN (Ward et al., 1996), and specific assessment tools have been developed, such as the Stage of Change Questionnaire for both AN (the ANSOC-Q; Rieger et al., 2002) and BN (the BNSOC-Q; Martinez et al., 2007). The development of psychometric assessment tools has utility for research in ensuring a more consistent and valid methodology (Dray & Wade, 2012), and for clinical practice; perceptions of motivation to change are notably different between patients and clinicians (Muñoz et al., 2012). Research has found some predictive value in such tools; the ANSOC-Q has been able to predict weight gain during treatment for AN (Rieger et al., 2000) and demonstrate that higher scores could predict remission from AN nine months after treatment (Pauli et al., 2017). Lower scores from an interview developed in line with the TTM called the Readiness and Motivation Interview have also been associated with treatment drop-out (Geller et al., 2001). In contrast, Treasure et al., (1999) found that stage of change assessed in 125 individuals with BN was unrelated to drop-out. Interestingly, the researchers also found that the small number of individuals in the action stage showed a significantly greater reduction in bingeing but not purging compared to those in the contemplation stage. This could be reflective of the findings by Clausen et al., (2013) discussed previously, whereby purging behaviours may

be less understood in relation to motivation to change and recover within ED literature.

Furthermore, reviews of the TTM's applicability to recovery and change in EDs have drawn mixed conclusions (Dray & Wade, 2012; Vall & Wade, 2015; Wilson & Schlam, 2004). The TTM can be useful for identifying stages which are more likely to elicit behaviour changes in line with recovery, yet the model may not identify what the predictors of motivation for recovery are. This is an important distinction because these insights can help researchers and clinicians to understand how best to optimise treatment strategies for individuals with EDs. Wolk and Devlin (2001) found that stage of change could not predict drop-out from group therapy for BN and suggested that motivation was less related to stage of change and more to the ability of an individual to change. Additionally, a more recent study of 159 inpatient adults with EDs found no association between actively working towards behaviour change at baseline and improved ED symptomology (Iyar et al., 2019). The researchers proposed that this could be because behavioural work on symptom change may not be a function of readiness to change, and instead behavioural change could be for a loved one rather than for the individual themselves.

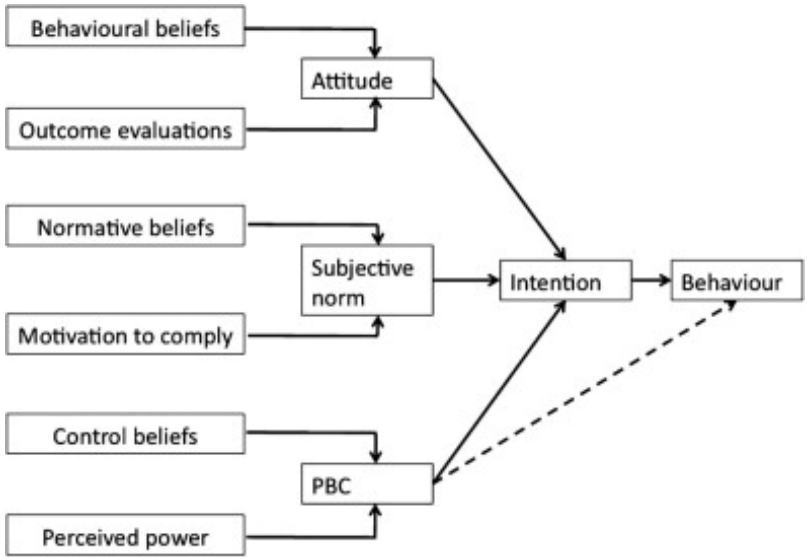
1.4.2. Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB; Ajzen, 1991) is an alternative framework for understanding motivation to change within health behaviours. It theorises that the most immediate predictor of behaviour change is intention to perform a behaviour. Intention is determined by three variables; attitudes: comprised of beliefs about the likely outcomes of a behaviour (behavioural beliefs) and the desirability of these outcomes (outcome evaluations); subjective norms: an evaluation of whether an individual feels that significant others think they should perform the behaviour (normative beliefs) coupled with motivation to comply, and perceived behavioural control (PBC): the individual's perceived power over performing the behaviour (control beliefs), and perceived likelihood or frequency of these (see Figure 1). Perceived behavioural control is also considered to directly influence behaviour (Ajzen, 2020). Furthermore, it is acknowledged that external factors can directly force or prevent behaviours

from happening, regardless of the intention. Achievement of a particular behaviour, therefore, depends on both the motivation to engage in a particular behaviour (intention) and ability to do so (behavioural control).

Figure 1

The Theory of Planned Behaviour (Ajzen, 1991).



With over 2000 studies exploring the utility of the TPB (Ajzen, 2020), applications of the TPB in relation to behaviour change include: glycaemic control in diabetes, attendance at prostate cancer screenings, smoking cessation, alcohol consumption, practice of safe sex, and diet (Armitage & Conner, 2001; McEachan et al., 2011). A range of dietary behaviours have been understood using the TPB (McDermott et al., 2015; McEachan et al., 2011), such as intentions to follow gluten free diets (Sainsbury et al., 2013), and to eat breakfast (Wong & Mullan, 2009).

Intentions have also been found to predict self-reported EDs and associated behaviours (Pickett et al., 2012); however, overall there are relatively few studies applying the TPB to EDs or ED behaviours generally, and this will be explored in the scoping review in section 1.5. Factors that have been identified as barriers to intentions and motivation to change in EDs include feelings of hopelessness and helplessness (Waller, 2012), low self-efficacy (decreased perceived belief that a behaviour under stressful conditions could result in a positive outcome) (Wade et al., 2011), and perceptions that recovery is impossible (Dawson et al., 2014). Additionally, across diagnostic ED groups, the

process of recovery can also be influenced by subjective norms of families, relationships and healthcare providers (Linville et al., 2012). Each is encompassed by the different variables within the TPB, implying that the TPB could be an appropriate alternative to the TTM for understanding motivational processes in ED recovery.

This is further supported by McLean et al., (2019), whom assessed ED treatment-seeking intentions amongst 200 participants via self-report questionnaires. They found that intention to seek treatment was positively associated with motivation to change, confidence in succeeding with change, increased bingeing (of which is highly relevant to BN), and greater recognition of the effects ED symptoms have on relationships and well-being. Additionally, a more recent qualitative study exploring motivational factors for ED recovery identified six key themes, three of which are also reflected within the TPB variables of subjective norms and PBC; important people and groups, actions and attitudes of others, and personal feelings and beliefs (Venturo-Conerly et al., 2020).

As discussed previously, recovery from EDs is a complex process that encompasses physical, psychological, and behavioural changes. One of the main critiques of the TPB in relation to ED or weight-loss intentions is the lack of consideration for the role of emotions. A recent study by Richards et al., (2021) examined the predictive utility of positive and negative emotions on weight loss intentions and behaviours, beyond the TPB constructs, in a population of people who were defined as ‘overweight’. Emotions were found to explain variance in both weight loss intentions and behaviours beyond the TPB, with negative emotions predicting consumption of ‘unhealthy’ food and seeking social support, and positive emotions predicting both intended and actual physical activity (Richards et al., 2021). These findings suggested that emotion should be considered when researching or working clinically with people intending to lose weight, as emotions might be meaningful targets for behaviour change interventions. This fits with the context of EDs, in which research and clinical practice should be sensitive to emotional or psychological recovery as well as physical and behavioural recovery. A similar critique is that the TPB does not consider unconscious and irrational influences on behaviour (Conner &

Norman, 2005), which also fits with the context of EDs, and research should endeavour to capture contributions of psychological influences, coping skills and emotional states in relation to recovery.

Another area of contention in the application of the TPB to EDs would be that the TPB assumes most behaviour is goal-directed, with individuals making considered decisions based on information available at the time (Conner & Armitage, 1998). This might raise queries as to how the TPB could relate to BN, as bingeing is often perceived as an impulsive behaviour resulting from restricted intake or attempts to relieve negative emotions (Fischer et al., 2008; Fischer & Smith, 2008; Heatherton & Baumeister, 1991). However, some theoretical models have stipulated that bingeing might be impulsive in the initial stages, and later become habitual (Pearson et al., 2015). Within clinical settings, individuals sometimes plan in advance for bingeing e.g., purchase foods specifically for a binge and allocate time within the day for bingeing, and this planning process may decrease motivation to try alternative coping strategies (Pearson et al., 2016). A study by Manasse et al., (2020) found that binge planning was most common in individuals with BN and individuals who encourage SIV compared to individuals with BED, suggesting that the engagement with compensatory behaviours such as purging mitigates the perceived consequences of bingeing. Therefore, believing in advance that calorific intake from a binge can be negated by purging may reduce ambivalence about deciding to binge, resulting in it becoming more of a planned behaviour, of which the TPB could be a useful framework for learning more about.

So far, this chapter has considered the clinical relevance of motivation and recovery from BN and EDs more broadly, and the TPBs utility for understanding motivation for change in a range of areas including ED behaviours, some specifically reflective of BN symptomology. It has provided grounds to explore whether TPB could offer an alternative framework to the TTM for motivation to recover in BN, taking critiques into account, such as the lack of inclusion of emotions within the model.

1.5. Scoping Review

The following review sought to explore the existing literature on the TPB as applied to EDs. At the time of the review, none of the papers identified focussed explicitly on the TPB and BN, immediately highlighting a gap. A scoping review was carried out looking at EDs more generally, to capture existing literature that would provide insight into the TPB's applicability to BN. This felt appropriate given the transdiagnostic nature of EDs previously discussed in section 1.2 where there can be shared experiences of symptomology and psychopathology across diagnostic ED groups. This indicated that ED literature non-specific to BN could be included as part of understanding the scope of the TPB for this research topic.

1.5.1. Search Strategy

The literature search strategy used for this study was a scoping review, which can be helpful in mapping the available evidence (Anderson et al., 2008) and identifying gaps in the literature to inform new research aims and questions (Arksey & O'Malley, 2005). To carry out a comprehensive search across databases, scoping review guidance was followed (Arksey & O'Malley, 2005). The databases (CINAHL, APA PsychInfo, Academic Search Ultimate, Pubmed) were searched using the terms 'Theory of Planned Behaviour' and 'eating disorders' or 'disordered eating' or 'bulimia' or 'anorexia' or 'binge eating disorder' or 'purging'. Supplementary strategies were employed to maximise the search; back and forward chaining, checking other work by authors relevant to the area of research, and contacting authors of key papers directly to enquire about literature they had come across that could be relevant. University repositories were also explored for unpublished theses that might have also been able to offer contributions to this literature search. Additional searches were made on google scholar to ensure all relevant papers had been identified.

1.5.2. Inclusion and Exclusion Criteria

The search was limited to work written in English, and to maximise the search studies from countries other than the UK were included. Date restrictions were from 1991 (the development of the TPB) to 2023; due to the identification that

this topic area is lacking within research, it seemed unhelpful to restrict the dates and risk missing out on earlier work.

1.5.3. Summary of Literature Search Results

The search yielded 49 papers. Once the abstracts were read for relevance to the current study topic (for example, papers were collected relating to binge-drinking rather than BED, BN or binge-purging), four key papers were identified as suitable for inclusion. The findings of these papers are detailed below.

1.5.4. Research on the Theory of Planned Behaviour and Eating Disorders

The literature search generated four key studies that directly applied the TPB to ED populations in their methodology. A fifth was identified (Fernandes et al., 2023), exploring beliefs about binge eating as related to the TPB, however, this paper was written in Portuguese. Accessing an English translated version was not available through open access, nor was it possible through the UEL library. As only the abstract was available in English, it was not appropriate to include as part of the scoping review.

To my knowledge and through this literature review, Dawson et al., (2015) are the only researchers to have directly applied the TPB explicitly to an ED diagnosis; AN. Their pilot study based in Australia aimed to determine whether the TPB could be an appropriate theoretical framework for understanding and predicting motivation to recover from AN. They carried out initial elicitation interviews with eight women ‘recovered’ from chronic AN to ascertain salient beliefs associated with recovery, to determine the appropriateness of the TPB for this population. From this, a 25-item TPB questionnaire was developed; Predicting Intention to Recover from Anorexia Nervosa (PIRAN). Responses to questions such as “I have the ability to recover from anorexia” were answered on a 100-point sliding scale, representing the level of agreement with each statement. The PIRAN was administered to 67 women, recruited online via ED forums, alongside four other questionnaires to measure the predictive utility of the TPB: the ANOSCQ, the EDE-Q, the Depression Anxiety and Stress Scale (DASS-21) and the Positive and Negative Affect Scale (PANAS). These

questions were framed towards recovery from AN, and the specific behaviour of eating normally and gaining weight, elicited from the formative interviews.

In a correlation analysis, participants reporting more positive intentions, attitudes and higher PBC scored higher for motivation to change (ANSOC-Q), and only attitudes, intention and PBC in relation to eating normally and gaining weight correlated to ED psychopathology. Measures of subjective norms for recovery and eating normally and gaining weight were not related to motivation to change or ED psychopathology, which was consistent with findings from the elicitation interviews that supportive relationships are not necessarily sufficient to influence recovery behaviours (Dawson et al., 2014). More negative attitudes towards recovery were associated with higher levels of depression, anxiety, and stress, highlighting the importance of considering psychological recovery as well as physical and behavioural recovery. Overall, multiple regression analyses found that the TPB's pre-intention variables accounted for 72% variance in intention to recover, and 51% in intention to eat normally and gain weight. The higher accounted variance for 'recovery' reflects an earlier discussion relating to barriers to recovery, whereby individuals with EDs might report strong motivation to change, yet experience ambivalence about engaging in the behaviours necessary to achieve this (Schmidt & Treasure, 2006). These results implied that the TPB is an appropriate model for understanding motivation to recover in AN; however, the researchers recommend future studies expand on their findings to consider the motivational processes for other behaviours associated with EDs, such as reducing bingeing and purging. Furthermore, the researchers did not include the ANSOC-Q in their regression analyses despite motivation to change significantly correlating with intention to recover and intention to eat normally and gain weight. Including the ANSOC-Q might have allowed for the researchers to explore the contribution of the TPB variables above and beyond the TTM.

Pickett et al., (2012) alternatively applied the TPB to the detection of EDs due to the limited amount of theory-driven literature on this topic at the time. They conducted an anonymous survey-based study to test the TPBs utility for identifying self-reported EDs, with six items addressing biographical information, and the remaining 30 items clustered equally into the TPB categories (attitudes,

subjective norms, PBC, intentions, and behaviours). Participants responded using a 10-point Likert scale to indicate their agreement with a statement e.g., a PBC item; 'It is easy to control my thoughts of food'. Participants were 404 undergraduate students from Texas enrolled in psychology classes, aged 18-27. Regression analyses revealed that attitudes, subjective norms, and PBC accounted for 42.1% variance in ED behaviour, with intention accounting for 21.1%. Additionally, intention was a significantly stronger predictor of ED behaviours than body satisfaction or BMI. However, it is important to acknowledge that the Cronbach's alphas for items relating to subjective norms and PBC were identified by the researchers as moderately low (α=.59 and α=.61), which may reflect items within the constructs measuring slightly different constructs to those of the TPB.

An interesting limitation of this study, and the TPB broadly, is that the TPB may be more successful and have greater utility in predictions of self-reported behaviours compared to actual behaviours. Armitage and Conner (2001) conducted a meta-analysis of TPB literature, finding that whilst there was substantial evidence for the applicability of the TPB in predicting behaviour, prediction of self-reported behaviours was 'superior' to observable, actual behaviour. Therefore, it may be that the TPB has greater value in predicting motivation characterised by intention to engage in ED behaviours, rather than the action of these. This is useful to consider in relation to understanding recovery from EDs such as BN, whereby low motivation has been identified as a key barrier to the process of recovery, as discussed earlier in this chapter.

A group of researchers based in Turkey conducted a study exploring the predictors of Orthorexia Nervosa (ON) behaviour in adult women; obsessional behaviour in relation to eating 'healthy' or 'pure' food (Beating Eating Disorders, 2023). Whilst ON is not yet included as an official ED diagnosis in the DSM-V, it has been argued that the symptoms are not entirely distinguishable from AN and BN (Dunn & Bratman, 2016). Therefore, given the previous discussion regarding the transdiagnostic approach to EDs in section 1.2, it felt appropriate to include this study as part of the scoping review, especially with the general gap in TPB literature for application to EDs. Özaydın et al., (2022) carried out a cross-sectional study of 418 adult women, recruited online via social media and

advertisement through a university. Participants completed a self-report internet-based survey made up of 15 items relating to sociodemographic and nutritional information, and 39 items measuring the TPB variables (attitudes, subjective norms, PBC and intention). A specific TPB questionnaire was not developed; instead, an existing Turkish measure was used to assess attitudes towards eating, and single items for assessing PBC and intention were used. The measure of ON behaviour was the ORTO-11 (Donini et al., 2005). The researchers found that more positive attitudes towards healthy eating and higher PBC were associated with greater intention to engage in ON behaviours, explaining 5% variance. More positive attitudes towards healthy eating and higher intention increased self-reported ON behaviours, accounting for 8% of ON behaviour variability, and 5% of the variation in BMI. Whilst attitudes towards healthy eating and PBC indirectly affected ON behaviour, more positive attitudes, PBC and intentions towards healthy eating indirectly affected an increase in BMI.

Overall, the findings suggested that stronger intention to eat healthily was associated with ON behaviour, ON behaviour was related to higher BMI, and that through application of the TPB, intention was found to be effective in predicting ON behaviours. Interestingly, the researchers removed subjective norms from the model due to lack of effect on intention and ON behaviour. Whilst the scoping review suggested that subjective norms may not be sufficient to promote ED recovery behaviours (Dawson et al., 2015), research has previously highlighted the role of sociocultural pressures, such as media representation of the 'thin ideal' (Tiggemann & Slater, 2004), and peer and parental attitudes (Sweetingham & Waller, 2008), in contributing towards body dissatisfaction and engaging with ED behaviours. The lack of findings for subjective norms' contribution towards intention to engage in ON behaviours could be related to issues of construct validity. The researchers used the Social Appearance Anxiety Scale (SAAS; Hart et al., 2008) to measure subjective norms in relation to healthy eating, rather than developing TPB-specific questions which might more accurately measure the TPB subjective norms variable. Additionally, the psychometric properties of the ORTO-11 (Donini et al., 2005) have been questioned in relation to detecting pathological stages of eating behaviour (Mitrofanova et al., 2021), raising uncertainty for how

accurately ON behaviours are being identified within a non-clinical population. In summary, this study found that the TPB could account for relatively small amounts of variance in BMI and ON behaviours. This research introduced another application of the TPB to understanding engagement with ED behaviours and highlighted the importance of using psychometrically and theoretically sound measures for TPB research.

The final study within this scoping review explored the applicability of the TPB in relation to understanding general practitioner (GP) attitudes towards referring patients with a possible ED. Green et al., (2008) carried out a vignette-based study aiming to look at variations in intentions to refer a hypothetical patient with disordered eating to an EDS, and the impact of patient weight on intention to refer. The researchers developed a TPB questionnaire, informed by elicitation interviews with GPs about EDs conducted as part of a separate study, to assess GPs' attitudes, subjective norms, PBC and intention to refer. Across three primary care trusts, 88 GPs took part. Intention to refer the hypothetical patient onto an EDS was found significantly related to cognitive attitudes and subjective norms, and in a multiple regression analysis explained 86% variance in intention. Weight did not have a significant impact on the decisions to refer; however, the lower weight vignette was associated with higher PBC over the referral. Generally, GP responses showed that cognitive attitudes were more positive regarding referral, yet emotional attitudes less so. The GPs sex had a significant effect on emotional attitudes, whereby female GPs tended to be more positive. Neither PBC nor feeling as though GPs had the necessary referral skills were found to be related to intention.

The finding that subjective norms did impact on referral behaviour contrasts with the previous studies discussed; whilst subjective norms may not be sufficient for individuals with EDs to engage fully with recovery (Dawson et al., 2015), nor the intention to engage in ED behaviours (Özaydın et al., 2022), they do influence professionals' behaviours, mobilising them to act in response to an ED presentation. Alternatively, the TPB questionnaire itself could have explained this. Only two items were used to measure PBC and only one for intention, whereas there were six items relating to attitudes and five for subjective norms, so the distribution of items for each of the TPB variables could also explain the

findings that attitudes, and subjective norms had stronger associations with intention to refer.

This study focussed on the intentions of professionals to refer patients onto an EDS; however, it still demonstrated that the TPB can be an appropriate model for ED contexts and provides a reassuring picture for patients with BN who would not typically have the low BMI associated more with an AN presentation. This study was carried out at a time where NICE were still recommending that patients with low BMI were prioritised and could be explained by the self-selected participation of GPs; perhaps those more interested in managing EDs took part, and therefore weight was less likely to trigger a referral decision.

1.5.4.1. *Summarising the scoping review:* In summary, the scoping review explored all the studies available under the search terms and limiters that have used the TPB to develop current understanding of motivation in different ED contexts. The studies collectively highlighted that the TPB has a range of utility in relation to EDs; from understanding motivation to recover from AN (Dawson et al., 2015), to the detection of ED behaviours (Özaydın et al., 2022; Pickett et al., 2012), and how professionals make decisions to refer patients onto ED services (Green et al., 2008).

Methodologically, three of the studies developed a questionnaire to measure the TPB variables in relation to their study area. There was variation in the development of these and how they were informed by TPB research guidelines (Ajzen, 2006; Francis et al., 2004), such as in the number of response choices on the Likert-scales for the TPB questionnaire developed for each study, and in whether the scale response choices were numbered (e.g., DISAGREE 1 – 2 – 3 – 4 – 5 AGREE), or given categories (e.g., DISAGREE, SOMEWHAT DISAGREE, NEITHER AGREE NOR DISAGREE, SOMEWHAT AGREE, AGREE). This meant that for some of the studies, participants had the option of providing more varied responses which better suit regression analyses. This could partly explain the greater variance accounted for by the TPB variables in Dawson et al., (2015), who used a 100-point sliding scale, and in Pickett et al., (2012) where a 10-point Likert-scale was used. Where a TPB questionnaire was not developed in the study by Özaydın et al., (2022), the psychometric

properties and construct validity issues of additional measures used (the ORTO-11 and the SAAS) may have contributed towards the low variance explained by the TPB variables. This emphasises the importance for research exploring applications of the TPB to develop a purpose-designed questionnaire that more accurately reflects the constructs of the TPB, and to carefully consider the psychometric value of non-TPB questionnaires, particularly if wanting to contribute to an area as novel as the TPB applied to EDs.

The very small body of research available mostly leans towards detection of ED behaviours, with only one study focussing explicitly on applying the TPB to an ED diagnosis (AN), and this was also the only study that focussed on using the TPB to understand motivation to recover. The attitudes and PBC variables within the TPB both featured in accounting for greater variance across two studies in relation to motivation for a specific behaviour. In the study by Dawson et al., (2015), this was motivation to recover from AN, and in Pickett et al., (2012), this was ED behaviours, although in the latter, subjective norms were also included in the greater accounted for variance. Interestingly, this suggests that attitudes and PBC could contribute to both the desire for recovery from EDs, and the desire to engage in ED behaviours. Future research looking at the TPB and EDs could investigate how the intention for recovery can be stronger than the intention to keep the ED if the same variables are involved. Subjective norms appear to be important for professionals' intentions for referring patients to ED services (Green et al., 2008); however, they do not appear to be sufficient to motivate recovery from EDs such as AN (Dawson et al., 2015), yet they do have an implied role in motivation to engage with ED behaviours (Pickett et al., 2012).

Due to the small number of studies identified that have directly applied the TPB to ED contexts, a clear gap in the literature has been highlighted. The existing literature that has applied the TPB has found that it maps well onto understanding behavioural intentions in individuals with EDs in ways that the TTM has not been able to, despite being the dominant model for understanding motivation to change within EDs. Typical variance in intention that is accounted for by the TPB variables in TPB-based studies is between 39-44% (Armitage & Conner, 2001; McEachan et al., 2011); however, findings by Dawson et al.,

(2015) achieved 72% and 51% for ‘recovery’ and ‘eat normally/gain weight’ respectively. This implies that the TPB can offer an understanding of the motivational processes for recovery from AN, and suggests that looking at its application to other EDs such as BN could have further clinical and research implications for recovery interventions, service-delivery, therapeutic effectiveness, and health outcomes.

1.6. Personal Reflexivity

I have lived and professional experience of the study topic, and I recognise that these positions affect my relationship with both the study and the interpretation of the existing literature. I aim to take these positions into the conduct of this study and hold them lightly, whilst also drawing from these experiences for knowledge and sensitivity towards participants, for whom I have the utmost respect for in their experiences of BN and recovery this far, and the experiences of these still to come.

1.7. Clinical Relevance

Given such serious consequences of EDs (Franko et al., 2013), understanding motivation for recovery is imperative for the improvement of ED services and development of appropriate interventions.

1.7.1. Literature Gap

There is a gap in current research within theories of change for EDs outside of the dominant TTM (Prochaska & DiClemente, 1982), despite literature questioning the applicability of the TTM to EDs (Dray & Wade, 2012; Iyar et al., 2019; Treasure et al., 1999; Vall & Wade, 2015; Wilson & Schlam, 2004; Wolk & Devlin, 2001). The scoping review identified four key studies that have used the TPB in a variety of ED contexts, with Dawson et al., (2015) being the first to apply a validated model of health behaviour other than the TTM to understanding and predicting motivation to recover from AN. Their findings established that the TPB was an appropriate framework for the data, leading to

the development a theoretically informed measure (the PIRAN) for assessing motivation to recover in AN.

1.7.2. Why Focus on Bulimia Nervosa?

Individuals with BN may hold more negative attitudes and show more distress over their ED than those with AN (Serpell & Treasure, 2002), and may have lower perceived control over ED behaviours, such as bingeing, than those with AN (Bardone-Cone et al., 2006). Furthermore, this introductory chapter has also highlighted the role of motivation in affecting adherence to treatment for BN (Fernández-Aranda et al., 2021; Schnicker et al., 2013; Swan-Kremeier et al., 2005). This suggests that the TPB could provide a useful framework for understanding motivation to recover from BN, as Dawson et al., (2015) found with AN. They recommended that future studies expand their findings to explore motivational processes for other ED behaviours such as reducing bingeing and purging, key diagnostic criteria for BN that may be less understood in relation to motivation to change (Clausen et al., 2013). The TPB has been applied in abundance to understanding change in health behaviours, and there are significant risks for physical and psychological health associated with BN; electrolyte disturbances (Mehler & Rylander, 2015), dental complications (Romanos et al., 2012), gastrointestinal complications (Mehler & Rylander, 2015; Nitsch et al., 2021), cardiac health (Franko et al., 2013; Tith et al., 2020), and self-harm and suicide (Cucchi et al., 2016; Huas et al., 2013; McHugh et al., 2019). This spotlights the importance of understanding motivation to recover and disengage with behaviours such as bingeing and purging to prevent long-term and chronic complications physically as well as psychologically.

It is hoped that by extending the findings of Dawson et al., (2015), there can be clinical and research implications for understanding how attitudes, subjective norms, PBC, and intention differ in the experience of BN, and provide room for the development of or adaptions to interventions aimed at improving motivation to engage with the recovery process and behaviours that align with this.

1.8. Research Aims and Questions

This study aims to use the TPB:

- To explore whether there are different predictors of motivation to recover from BN, and motivation to stop bingeing and purging.
- To explore whether the TPB can be applied to understanding and predicting motivation to recover from BN.

2. METHODOLOGY:

2.3. Overview

This chapter considers epistemological positioning of this study, as well as the design, recruitment and participants, materials used, procedural information about the study, and approaches to statistical analyses. Ethical processes are also described.

2.4. Epistemological Considerations

Clarifying epistemological positioning in relation to research is important for understanding the intentions and assumptions that inform the knowledge and helps identify appropriate methodology (Harper, 2011).

Critical realism distinguishes between the world as ‘real’ and the world as ‘observable’, and presupposes that there are underlying factors which are not necessarily measurable or discoverable (Willig, 2012). Attempts to measure what is ‘real’ is mediated by cognitive subjectivity (Botha, 2021). Whilst there may be an absolute truth or reality, there are different social constructions of this (Bhaskar, 2008) due to the influence of socio-cultural meanings (Greenwood, 1994; Pilgrim & Bentall, 1999). Critical realism could be particularly helpful when exploring social concepts, such as the TPB variables, as the emphasis on theory-driven knowledge can position research as able to identify both the processes and social contexts for the observed reality being studied.

A critical realist stance for this study was taken as it fits with the difficulty in defining recovery, discussed in section 1.3.7. It was important to acknowledge the observable reality of recovery, such as the physical risks, changes, and behaviours, whilst appreciating that there are also cognitive and psychological aspects of recovery which are influenced by individual, societal, and cultural

processes. By taking a critical realist position, unobservable factors that influence motivation to recover from BN can be brought into research.

2.4.1. Aims of the Research

As the aims of this study were to understand more about the predictive factors for motivation to recover from BN, a positivist, quantitative approach would logically be taken. However, positivism would describe science as objective, with the goal of establishing universal causation (Barker, Pistrang, & Elliott, 2002). Conversely, as this research also hopes to make generalisations about whether the TPB and its 'unobservable' variables can be applied to understanding motivation to recover from BN, a purely positivist or social constructionist approach does not feel appropriate to apply. The intention of this study is to provide further insight into the motivational processes for recovery from BN, with hope that the findings can be clinically useful for practitioners and healthcare services in thinking about the types of interventions offered and ways in which motivation to recover or engage with services might be affected. Critical realism, therefore, occupies a middle-ground of positivism and constructivism which aligns with the research aims.

2.4.2. Rationale for Using Quantitative Methods

With the research questions and aims in mind, quantitative analyses were used to analyse the data. This is because the study design reflects that of Dawson et al. (2015), and because critical realism can pair well with quantitative findings concerned with the 'observable' reality of BN recovery, and the 'unobservable' variables influencing this, whilst being considerate of the relationship between empirical research methods and social factors (Pilgrim & Bentall, 1999).

2.5. Research Design

A cross-sectional, correlational research design was used for this study, which allows for the exploration of potential predictive relationships. Quantitative methods were selected to address the research aims and extend the findings of Dawson et al., (2015) who used quantitative methodology.

Questionnaire guidelines have been developed to support researchers in their applications of the TPB to different health behaviours (Ajzen, 2006; Francis et al., 2004). These suggest conducting elicitation interviews with representatives from the target research population to develop the questions and ascertain how well the TPB variables fit. However, due to the scope of this study being contained within a limited timeframe, it was not feasible to carry out a prior elicitation study which would have been useful for identifying salient beliefs that can be utilised to develop a TPB questionnaire. Instead of elicitation interviews, a consultation discussion was held at the recommendation of the University of East London clinical psychology research staff. This consultation was held with one person from my own personal network with lived experience of recovering from BN. As a researcher with lived and professional experience of the study topic, I endeavoured to maintain awareness of possible biases. However, I also acknowledge the valuable insight and knowledge that researchers with lived experience can bring to their research areas (Slof-Op ’t Landt et al., 2019), and recognise my multiple positions of knowledge as a strength for this study, given that elicitation interviews were not feasible. A manual for health services’ researchers constructing questionnaires based on the TPB was developed to assist psychologists conducting research (Francis et al., 2004), which was utilised throughout the development of the TPB questionnaire for this study.

This study’s aims are concerned with the application of the TPB to understanding and predicting motivation to recover from BN, rather than developing and rigorously testing a standardised and fully validated measure of motivation to recover. Therefore, it was important for the study design to include both the development a TPB questionnaire in line with the research guidelines (Ajzen, 2006; Francis et al., 2004), and the application of the questionnaire to explore whether the TPB provided a good fit for understanding and predicting motivation to recover from BN. This is reflective of the four studies discussed in the scoping review, whereby three developed a TPB questionnaire and used it to test the TPB against their populations of interest, rather than to develop a new measure of motivation. With the novelty of this research area, it felt important to contribute to the existing literature in exploring the relevance of the TPB for motivation to recover/change in EDs, with the hope that future research

can utilise the formative studies to develop a fully validated TPB questionnaire for motivation to recover from AN, BN, and other EDs.

Whilst TPB studies would typically explore the degree that intention and PBC account for variance in actual behaviour, this was also not possible within the scope of this study, as with some of the literature discussed in the scoping review. This is partly because this study's research aims centre on motivation rather than actual behaviour, partly due to behaviour change and recovery from EDs occurring over a long period of time (Eddy et al., 2017), and mainly because a prospective or follow-up study was not feasible with the timeframe available.

2.6. Participants

It was initially hoped that enough participants for meaningful data analyses could come directly from the initial EDS approached to support the study; however, due to the difficulties with recruitment, a second NHS EDS was approached for involvement as a research site. By December 2023, the study was open to two sites, with only two participants from one service, and zero from the other. After discussion with the local collaborators at these sites and Dr. James Walsh, the study supervisor, it was agreed that additional NHS EDSs would be approached to see if they could support with a limited time frame from January 2024 – March 2024. Furthermore, a second recruitment strategy was implemented via social media.

2.6.1. Inclusion Criteria

The inclusion criteria detailed integrates criteria for recruitment via the NHS and via social media.

Any adults aged 18 or older could participate if they were currently receiving treatment for BN in the UK, e.g., individual therapy, group therapy, dietetic input, psychiatric input, either through a community EDS, accessing this privately, or via charities such as Beating Eating Disorders (BEAT). Due to the larger number of participants hoping to be recruited at the time, providing

individual debriefs would not be possible; therefore, opportunities for discussing the emotional impact of the study could be supported by their care team.

The age range was chosen to represent adults from a variety of stages of life, and to maximise the chances of achieving a higher number of participants. The lower age limit is the age from which individuals are considered adults within NHS services, and who will most likely have transitioned out of children's services into adult mental health services. Additionally, it was hoped that younger participants may be more active on social media, and therefore more likely to see promotions of this study, take part, and share it with others.

Having a diagnosis of BN was a requirement of the study, due to the explicit focus on motivation to recover from BN. Participants could have alternative or additional mental health diagnoses; however, they needed to have a diagnosis of BN and be receiving treatment for BN from an NHS EDS, charity, or privately, to participate.

Due to the scope of this study, funding for translations of the study materials was not feasible, and so it was essential that participants were able to read in English to provide informed consent and complete the questionnaires.

2.6.2. Exclusion Criteria

Adults who were receiving treatment for a different ED diagnosis were excluded from this study. This was to ensure that the difficulties fit with the diagnosis of BN as determined by the DSM-V. Adults who were currently under section of the Mental Health Act, or who were expected to be sectioned imminently, were also excluded from participation. The study's focus was on motivation to recover from BN in the community, and it would not have been appropriate to ask adults who may be open to an EDS or a private community provider but are currently on an inpatient admission to participate. There might be different motivational processes where an adult has been potentially sectioned against their will, compared to voluntary engagement with community services. For social media recruitment, the same exclusion criteria applied.

2.6.3. Recruitment

2.6.3.1. *Via the NHS:* This study was set up as a single-site study with one EDS, as the local collaborator at this service initially felt recruiting the desired number of participants was feasible. Approvals were received from the Health Research Authority (HRA) and the trust's Research and Development team in September 2023, and recruitment commenced. However, due to the anticipation that recruiting the ideal number of participants was going to be difficult with the time constraints for completion of this study, the HRA amendment processes were followed to add additional research sites to improve uptake of participants. In total, five additional EDSs were approached via email, with two EDSs confirming that they had capacity to support the study if the relevant approvals were sought and provided. The first I was able to start recruitment in November 2023, and the second in January 2024.

The study was presented at two of the EDSs' weekly MDT meetings, highlighting the rationale, aims, method, inclusion, and exclusion criteria. I also met with the clinical lead/local collaborator and assistant psychologist monthly to discuss recruitment progress and/or issues. The third EDS did not have the capacity within their MDT meeting for a presentation, and instead I met with the clinical lead/local collaborator both online and in person to discuss the set up and provided fortnightly email updates on recruitment progress.

The EDSs were provided with participation packs which included the information sheet, consent form, and the debrief sheet, as well as an electronic link for participants who would prefer to participate online (see appendices A to D).

Individual clinicians could identify potential participants that they work with and invite them to participate. However, to avoid possible bias in only inviting potential participants that clinicians may have a good therapeutic relationship with and be presumed as more likely to participate, the clinical leads/local collaborators and the assistant psychologists would provide more focussed recruitment support by going through the service databases and identifying potential participants to invite by telephone or by speaking to them before clinic appointments.

The recruitment posters (see appendix E) were shared in the EDSs clinics waiting rooms and therapy rooms, where potential participants could self-identify their eligibility and either request participation documents if they preferred to participate on paper or use the hyperlink or barcode to participate online. Additional posters were provided that could be distributed directly by EDS staff seeing clients whom they identified as potential participants.

2.6.3.2. *Via social media:* Due to the anticipated delays in gaining NHS ethical approval, the initial ethics application included a second recruitment strategy via social media. With the difficulties in recruiting enough participants from the EDSs, social media recruitment commenced from December 2023 after discussion with the local collaborators and Dr. James Walsh, the study supervisor. The information sheet, consent form, and debrief sheet can be seen in appendices F to H.

The research poster (see appendix I) was shared on social media platforms from research accounts made specifically for recruitment: Facebook, Instagram, Twitter, LinkedIn and Reddit. Colleagues, friends, and family shared these on their own social media accounts, and charities such as BEAT (the leading UK charity for eating disorders) were also approached to request promotion of this study. However, BEAT stated that they would not be able to support with promotion of research studies at the time and were hoping to resume this in April 2024, which did not align with the timescales for this study.

2.6.4. Sample Size

Software tool G*Power 3.1. was used for analysis (see appendix J) to determine a minimum sample size of 41 needed for detection of a moderate effect size (f^2=0.3) with three predictor variables, and for strong statistical power (β=0.8). Three predictor variables were selected because of the three TPB variables.

2.6.5. Final Sample

2.6.5.1. *NHS Sample:* Across three NHS EDSs, eight participants with BN took part in the study: five female (62.5%), one male (12.5%), and two people who identified as non-binary (25.0%). Most participants identified themselves as white. The mean age was 28.5 years (SD = 8.5).

2.6.5.2. *Social media sample:* Fifteen participants with BN participated in the study: 13 female (86.7%) and two male (13.3%). All participants identified themselves as white. The mean age was 26.3 years (SD = 6.1). See Table 1 below for further demographic information concerning each sample.

Table 1: Demographics across samples.

				Mean	Standard Deviation	N	%
Recruitment	NHS	Age (years)		28.5	8.5		
		Gender	Female			5	62.5%
			Male			1	12.5%
			Non-binary			2	25.0%
		Ethnicity	Black African			0	0.0%
			Black British			0	0.0%
			Black Caribbean			0	0.0%
			Other Black Background			0	0.0%
			White British			5	62.5%
			White Irish			1	12.5%
			Other White Background			0	0.0%
			Indian			1	12.5%
			Pakistani			1	12.5%
			Bangladeshi			0	0.0%
			Chinese			0	0.0%
			Other Asian Background			1	0.0%
			Mixed Ethnic Background			0	0.0%
			Other Ethnic Background			0	0.0%
	Social media	Age (years)		26.3	6.1		
		Gender	Female			13	86.7%
			Male			2	13.3%
			Non-binary			0	0.0%
		Ethnicity	Black African			0	0.0%
			Black British			0	0.0%
			Black Caribbean			0	0.0%
			Other Black Background			0	0.0%
			White British			9	60.0%
			White Irish			1	6.7%
			Other White Background			4	26.7%

	Indian	0	0.0%
	Pakistani	0	0.0%
	Bangladeshi	0	0.0%
	Chinese	0	0.0%
	Other Asian Background	1	6.7%
	Mixed Ethnic Background	0	0.0%
	Other Ethnic Background	0	0.0%

2.6.5.3. *Total sample:* The overall sample size was 23: 18 female (78.3%), three male (13.0%), and two non-binary participants (8.7%). The mean age was 27 (SD = 6.9). Most participants were white. Further demographic information can be seen in Table 2.

Table 2: Demographics across total sample of participants.

		Mean	Range	Standard Deviation	N	%
Age (years)		27	18-42	6.9		
Gender	Female				18	78.3%
	Male				3	13.0%
	Non-binary				2	8.7%
Ethnicity	Black African				0	0.0%
	Black British				0	0.0%
	Black Caribbean				0	0.0%
	Other Black Background				0	0.0%
	White British				14	60.9%
	White Irish				2	8.7%
	Other White Background				4	17.4%
	Indian				1	4.3%
	Pakistani				1	4.3%
	Bangladeshi				0	0.0%
	Chinese				0	0.0%
	Other Asian Background				1	4.3%
	Mixed Ethnic Background				0	0.0%
	Other Ethnic Background				0	0.0%

2.7. Materials

Basic demographic questions were presented first, asking for information regarding gender, ethnicity, and age (see appendix K). The study questionnaires subsequently followed.

2.7.1. Bulimia Nervosa Stage of Change Questionnaire

The BNSOC-Q (Martinez et al., 2007) is a 20-item standardised questionnaire designed to measure stages of change in recovery from BN, informed by the TTM (Prochaska & DiClemente, 1982), both for clinical and research purposes (see appendix L). It was the first self-administered questionnaire developed specifically for measuring motivation in BN, and includes items relating to weight and body shape, eating behaviour, bingeing, and sense of loss of control, methods of weight control, and items relating to emotional and relational difficulties.

Each item has a choice of five statements which refer to each stage of change: pre-contemplation, contemplation, preparation, action, and maintenance. Item scores range from 1 (pre-contemplation) to 5 (maintenance), and a total score and stage of change is calculated, with a high total indicating greater readiness to change and recover. An example of one item is as followed: “The following statements refer to a fear of fatness, a) My fear of becoming fat is not excessive. b) I occasionally think that my fear of becoming fat is excessive. c) I have decided that I need to do something about the fear I have of becoming fat because it is controlling me. d) I know that my fear of becoming fat has caused problems and I am now trying to correct this. e) I have succeeded in reducing my fear of becoming fat and I want it to stay this way”.

There are few instruments for evaluating motivation or readiness for change in EDs generally; the Readiness and Motivation Interview (Geller et al., 2001) was also developed from the TTM (Prochaska & DiClemente, 1982); however, this was not selected for this study as the intention was to reflect the methodology of Dawson et al., (2015), where it was used as a measure of motivation to change for AN. Other instruments specifically address AN, such as the ANSOCQ

(Rieger et al., 2000). Martinez et al., (2007) reported that the BNSOC-Q has very good internal consistency (α=.93).

2.7.2. Eating Disorder Examination Questionnaire

The self-report EDE-Q 6.0 (Fairburn & Beglin, 1994) is a 28-item standardised questionnaire (Fairburn & Beglin, 2008) measuring current ED psychopathology, and is routinely used within NHS EDSs, including the services this study recruited from (see appendix M). Studies of its validity have demonstrated high levels of agreement between the EDE-Q and the Eating Disorder Examination (an interview) for assessing ED pathology in the general population (Fairburn & Beglin, 1994) and in clinical populations for those with BN and BED (Carter et al., 2001). Research has also provided support for the EDE-Q in its assessment of the attitudinal aspects of ED pathology (Mond et al., 2004), which is important in the context of this study where one of the variables of the TPB is attitudes. It has also been found to be highly accurate in discriminating between individuals with and without an ED (Aardoom et al., 2012; Mond et al., 2004).

The EDE-Q generates two types of data. Most items correspond to one of four individual subscales (restraint, eating concern, shape concern, and weight concern) and contribute to a global score, with higher scores of the individual subscales and global score reflecting a higher severity of ED psychopathology. A clinical cut-off for a global score of 2.8 or higher for women (Mond et al., 2008) and 1.68 or higher for men (Schaefer et al., 2018) has been recommended to screen for EDs. A recent large-scale study exploring the cut-off scores for the EDE-Q identified that optimal thresholds for discriminating between persons with BN and age- and sex-matched controls was a global score of 2.3, and that 9% of patients diagnosed with an ED scored less than 1.57, and would therefore be misclassified as not having an ED according to the EDE-Q (Meule et al., 2024). This provided rationale for not excluding participants based on their global EDE-Q score.

The response scale for these items is 0-6, for example, “Over the past 28 days, have you had a definite fear of losing control overeating? No days (0), 1-5 days (1), 6-12 days (2), 13-15 days (3), 16-22 days (4), 23-27 days (5), everyday (6)”.

Other items provide frequency data on key behavioural features of EDs relating to episodes of a behaviour. These assist with clinical diagnosis and identifying appropriate treatment options, and therefore will not be used as part of this study’s analyses, particularly as the study aims are concerned with *motivation* to recover from BN.

Alternative self-report measures for ED psychopathology were considered, such as the Eating Attitudes Test (EAT; Garner & Garfinkel, 1979), a 40-item self-report questionnaire of which also has a 26-item version (Garner et al., 1982), although this was originally developed to assess behaviours and attitudes specific to AN rather than EDs more broadly. The Eating Disorders Inventory (EDI; Garner et al., 1983) is arguably the most comprehensive self-report measure of ED pathology; however, it consists of 90 items of which is arguably lengthy for a screening tool and for use in research.

The EDE-Q 6.0 (Fairburn & Beglin, 2008) was selected due to its use within NHS EDSs, as recommended by NICE (2020), and therefore its applicability to NHS settings, its use in the AN study by Dawson et al., (2015) which this study hopes to extend the findings of, and its appropriateness for this study due to its validity and length. Mond et al., (2004) demonstrated that the EDE-Q global score shows very good reliability (α=.93).

2.7.3. Depression, Anxiety and Stress Scale (21)

The Depression, Anxiety and Stress Scale (DASS-21, Lovibond & Lovibond, 1995) is a 21-item standardised questionnaire measuring current symptoms of depression, anxiety, and stress, and is routinely used within NHS mental health services (see appendix N). A measure of emotional well-being was included to capture aspects of the psychological recovery that individuals with BN experience alongside physical and behavioural recovery, as discussed in section 1.3.7.

Each item is presented as a statement about the past week, for example, “I found it difficult to relax”, and responses are on a short Likert scale, indicating the level of agreement with the statement; 0 (never), 1 (sometimes), 2 (often), and 3 (almost always). The items correspond to subscale scores: a depression score, anxiety score, and stress score. A non-diagnostic clinical cut-off index (see in appendix N) can be used to gauge whether each score indicates a mild, moderate, or severe presentation.

Alternative measures for emotional well-being and mental health that could have been used include the Beck Depression Inventory (BDI; Beck, 1961) the Positive and Negative Affect Scale (PANAS; Watson et al., 1988) the Patient Health Questionnaire (PHQ-9; Spitzer, 1999) and the Generalised Anxiety Disorder assessment (GAD-7; Spitzer et al., 2006). However, it felt important to include a measure that would allow for participants to express a range of psychological experiences given that psychological recovery does not necessarily refer to mood or anxiety alone; the DASS-21 (Lovibond & Lovibond, 1995) was therefore deemed the most appropriate measure to use. The DASS-21 has good reliability for the depression (α=.88) and anxiety (α=.82) subscales, and very good reliability for the stress (α=.90) subscale (Henry & Crawford, 2005).

2.7.4. Measuring Intention to Recover from Bulimia Nervosa

For this study, a non-standardised questionnaire was developed that drew upon the TPB and aimed to measure intention to recover from BN. This was informed by consultation discussions with an individual from my personal network which focussed on understanding stories of recovery, through my own knowledge both personally and professionally acquired, and through guidance for researchers developing TPB questionnaires (Francis et al., 2004). The researchers who had previously applied the TPB to recovery from AN (Dawson et al., 2015) were contacted by email to request potentially viewing their questionnaire and scoring system to assist with the development of the questionnaire for this study. They responded with a copy of their questionnaire, the PIRAN, and scoring system; these are not included in the appendices to protect the researchers’ work.

From the information elicited from the consultation discussions, the PIRAN, and through discussions with the study supervisor, a 24-item questionnaire was constructed; Measuring Intention to Recover from Bulimia Nervosa (MIRBN, see appendix O). The questions were oriented towards 'recovery from bulimia', and to more specific eating behaviours 'eating normally and not bingeing and purging'. Whilst using a negative ('not' bingeing and purging) in questionnaires would usually be avoided, the binge-purge cycle is a behaviour highly specific to the experience of BN and is paired with 'eating normally'. Questions framed towards this were tested on peers, with no indication of confusion about what the questions were asking.

The decisions for orienting questions towards these two areas were centred on trying to reflect the methodology of Dawson et al., (2015). Additionally, individuals with EDs often report having motivation to try and recover; however, have little or no intention of engaging in the behaviours needed for recovery (Schmidt & Treasure, 2006). This had also arisen in the initial consultation discussions, and through my own reflections of my lived experience where there is conflict in recovery; there can be a desire to recover, yet no intention to stop trying to lose weight through purging. As recommended by Ajzen (2006), six items per TPB variable were originally developed; three items were related to recovery, and three related to eating normally and not bingeing and purging. Responses for each item used bipolar adjectives on a seven-point Likert scale (Ajzen, 2002), e.g., (1) strongly disagree to (7) strongly agree.

2.7.4.1. *Reliability:* The MIRBN was developed for the purpose of this study, meaning that a pilot study of the questionnaire would not have been feasible with the time constraints for the study's completion. Reliability was assessed using Cronbach's alpha, α, to examine the internal consistency of the measurement scales in the questionnaire (attitudes, subjective norms, PBC and intention). This was calculated using the whole sample of participants, as it was not feasible to conduct a separate analysis of internal consistency for male, female, and non-binary participants due to the overall sample size being 23. With smaller sample sizes and shorter scales, such as less than ten items, it is common to find lower Cronbach values, for example α=.50. There are debates about acceptable values; alpha values of .50 to .70 can indicate questionable to

acceptable reliability, between α=.70 and α=.90 suggesting good to very good reliability, and above .90 demonstrating excellent reliability (Hajjar, 2018; Hinton et al., 2004). These values will be used to ascertain reliability of the scales in the present study, as Pickett et al., (2012) identified the values of .59 and .61 for subjective norms and PBC respectively as 'moderately low', fitting with the above that values between .50 to .70 cover questionable to acceptable values. The publications by Dawson et al., (2015) and Green et al., (2008) did not provide details on reliability testing for their TPB questionnaire scales, and Özaydın et al., (2022) provided a range of .67 to .93 but did not indicate what threshold of reliability this met for their study. Whilst not directly related to EDs, a study by the same researchers in Dawson et al., (2015) exploring the TPB in relation to adherence to gluten-free diet identified values of .68 to .81 as 'acceptable', and a value of .43 as 'inconsistent' (Sainsbury et al., 2011), which supports the use of the values detailed previously to indicate the reliability of the present study's scales. It is also important to acknowledge that obtaining an accurate measure of Cronbach's alpha is difficult with a small sample size such as in this study, resulting in the possibility of understating or overstating a scale's reliability. Lower alpha values are also not necessarily grounds for removal of a scale (Hajjar, 2018), which aligns with the exploratory nature of the present study and the aims focusing on applying the TPB to recovery from BN, rather than to develop and rigorously test a new measure of motivation. As well as alpha coefficients, inter-item correlations were examined to look for values roughly between r=.20 and r=.40, which would indicate representation of the same construct (Briggs & Cheek, 1986; Piedmont, 2014). Item statistics were also explored to consider what Cronbach's alpha would be if each item was deleted.

This analysis suggested that the scales used in this study are good for measuring the constructs subjective norms, PBC and intention, and acceptable for measuring attitudes.

2.7.4.2. Direct Measures:

Attitudes

An attitude represents an evaluation of performing a behaviour. Direct measurements of attitudes were used. Instrumental items, concerned with outcomes of the behaviour, and experiential items, concerned with feelings about performing the behaviour, were included.

Eating normally and not bingeing or purging

Three items were originally developed, such as "Eating normally and not bingeing/purging is…", measured on a seven-point scale from (1) very bad for me to (7) very good for me. Initial analysis provided a questionable to acceptable alpha value (α=.520). Exploring the inter-item correlations and Cronbach's alpha if each item were deleted, the item "Eating normally and not bingeing/purging is…" measured from (1) not important at all to (7) very important, was removed. This item demonstrated poor correlations with the other two items (r=.15). Once removed, alpha increased to a more acceptable level (α=.55).

Recovery

Three items were developed, such as "It is worthwhile trying to recover from bulimia", measured on a seven-point scale from (1) strongly disagree to (7) strongly agree. Cronbach's alpha for three items suggested very good reliability (α=.870).

Subjective Norms

Subjective norms reflect perceived social pressures to perform behaviours. Direct measurements of subjective norms were used, with statement items referring to the opinions or beliefs of people that may be important.

Eating normally and not bingeing or purging

Three items were originally developed, measured on a seven-point scale from (1) strongly disagree to (7) strongly agree. Initial analysis identified negative covariance amongst the items (α=-.613), which violated reliability model assumptions. Item coding was checked and there were no errors, nor items requiring reverse coding. This suggested that the negative covariance may be

linked to the inclusion of both injunctive norms (what others believe about a behaviour) and descriptive norms (what others do). Both were trying to be captured by different areas of subjective norms; societal norms (e.g., “Society places an importance on eating normally and not bingeing and purging”), personal norms (e.g., “People who are important to me think I should eat normally and not binge or purge”), and population norms (e.g., “Most people who have bulimia try to eat normally and not binge or purge”).

Reducing the scale based on inter-item correlations and Cronbach’s alpha if items were deleted, combined with existing ED literature focussing on the role of personal norms, led to the overall reduction of the subjective norms scale to include three items. For eating normally and not bingeing or purging, this resulted in a single item measure: “People who are important to me think I should eat normally and not binge or purge”. Issues of construct reliability for development of questionnaires were also found in Pickett., et al (2008), who reduced their behaviour scale to a single item because of poor inter-item correlations, and in Özaydın et al., (2022), who used single item measures for PBC and intention scales, and removed their subjective norms scale entirely due to lack of effect on their outcome variable. Other TPB research focusing on dietary behaviours such as fat consumption has also used single item measures for PBC and intention (White et al., 2010). For a single item, to get evidence on test-retest reliability, administering the same single item to the same sample at a second time point would be needed, and not feasible for this study. However, the item demonstrated good convergent validity with the average scores of the two items selected for the recovery scale (r=.605 and .675), described below, suggesting that the item chosen does reflect the construct of subjective norms. It was also deemed to have good face validity; it was meaningful to the population and was not considered ambiguous.

Continuing with a single-item measure for eating normally was important to the research aims; subjective norms are a key variable within the TPB, and disregarding one of the variables due to a single-item measure which demonstrated good convergent validity with the recovery scale items below did not feel useful or necessary for the exploratory nature of this study, as with Pickett et al., (2008) and Özaydın et al., (2022). This does not negate that multi-

item scales are preferential within questionnaire-based studies, only that research can still be meaningful and contribute towards the wider research area despite single-item measures being used. The inclusion of the single-item measure in this study can highlight the challenges to future researchers in developing TPB questionnaires, and encourage them to adapt their research designs accordingly, such as initially developing a larger number of items for each scale.

Recovery

Three items were originally developed, measured on a seven-point scale from (1) strongly disagree to (7) strongly agree. Initial analysis detected an acceptable alpha value (α=.591); however, based on inter-item correlations, Cronbach's alpha if items were deleted, and in collaboration with adjusting the subjective norms items for eating normally and not bingeing or purging, one item was removed ("Most people who have bulimia think recovery is possible"), and two items were selected: "People I care about want me to recover from bulimia", "People who are important to me believe I can recover from bulimia". These two items demonstrated very good reliability (α=.929).

Perceived Behavioural Control

Measures of PBC should reflect confidence and beliefs in the ability to perform a particular behaviour (Francis et al., 2004), which for the TPB is achieved through assessing self-efficacy and beliefs about the controllability of the behaviour. Self-efficacy was assessed through items asking about the difficulty and confidence in recovering and eating normally and not bingeing and purging. Controllability was assessed through items asking about whether the behaviours are within the responder's control.

Eating normally and not bingeing or purging

Three items were developed, for example, "I am confident that I can eat normally and not binge/purge", measured on a seven-point scale from (1) strongly disagree to (7) strongly agree. Cronbach's alpha indicated good reliability (α=.806).

Recovery

Three items were developed, such as “Recovery from bulimia is…”, measured on a seven-point scale from (1) totally out my control to (7) totally in my control. Cronbach’s alpha indicated very good reliability (α = .932).

Intention

Direct, generalised measurements of intention were used to ask about intention to recover, and to eat normally and not binge/purge.

Eating normally and not bingeing or purging

Three items were developed, for example, “I am confident that I can eat normally and not binge/purge”, measured on a seven-point scale from (1) strongly disagree to (7) strongly agree. Cronbach’s alpha indicated good reliability (α=.795).

Recovery

Three items were developed, such as, “I intend to recover from bulimia”, measured on a seven-point scale from (1) strongly disagree (7) strongly agree. Cronbach’s alpha indicated good reliability (α=.767).

2.7.4.3. *Scoring:* Developing a scoring system for the MIRBN was informed by the scoring system kindly provided to me by Dawson et al., (2015) from the development of their own TPB questionnaire, and from the guidance for TPB researchers by Francis et al., (2004), where the use of direct measurements of each TPB variable indicated that mean scores would be most appropriate. Each item was given a score based on the Likert scale response: (1) strongly disagree, (2) moderately disagree, (3) slightly disagree, (4) neither agree nor disagree, (5) slightly agree, (6) moderately agree, (7) strongly agree. Two mean scores were calculated for each TPB variable according to recovery from BN, and eating normally and not bingeing or purging. No reverse scoring was needed. Higher mean scores indicated more positive intentions, attitudes, subjective norms, and PBC.

2.8. Procedure

2.8.1. NHS participants

Clinicians at each participating EDS would direct potential participants to the research poster, which had a QR code that could be scanned, and a Qualtrics hyperlink to take part in the study, where the information sheet detailing the study and contact information was provided. Participants could alternatively self-identify their own eligibility to participate via the research posters in the waiting rooms and therapy rooms. Participants could also request to participate on paper if they wished, as research packs had been created and stored on site for EDS clinicians to distribute when requested.

The entire study was questionnaire-based, and after the information sheet, the consent form was provided. Each participant was given a unique identification number to pseudonymise their data and was asked to keep a note of this in case they wished to withdraw their data from the study within three weeks of taking part. Qualtrics automatically generated this, and this was pre-generated and written on the paper copies of all materials.

Demographic questions were asked first, followed by the first questionnaire, the BNSOC-Q (Martinez, 2007). The second questionnaire was the MIRBN, the third the DASS-21 (Lovibond & Lovibond, 1995), and the final questionnaire was the EDE-Q 6.0 (Fairburn & Beglin, 2008). The debrief sheet appeared after completion of the final questionnaire, containing contact information for myself, information about where to access appropriate support if participants felt in any way negatively affected by the study, and the means of making a complaint. Here there was a link to follow to enter a prize draw for one of two £50 amazon vouchers, and for participants to indicate if they would like to receive a summary of the research findings once the study and write up had been completed. Participants had three weeks from the date they took part to withdraw if they wish.

2.8.2. Social Media Participants

The research poster, which had a QR code that could be scanned, and a Qualtrics hyperlink to take part in the study, were distributed on various social media platforms, such as Instagram, Facebook, LinkedIn and Reddit, where potential participants could self-identify their eligibility to take part. The hyperlink took participants to the information sheet detailing the study, inclusion criteria, and contact information. Entirely via the Qualtrics hyperlink, on agreement to participate after reading the information sheet, the consent form was provided. Qualtrics generated a unique identification number for each participant to pseudonymise their data, and participants were asked to keep a note of this in case they wish to withdraw their data from the study within three weeks of taking part. This number was also required to verify their participation if they entered and won one of the prize draws.

The study's measures were then presented in the same order as described throughout section 2.7, followed by the debrief sheet and instructions for entering the prize draw and requesting a summary of the research findings.

2.9. Data Analysis

For analysis, IBM SPSS Statistics Version 29.0.1.0 (171) software was used. Correlations were used to examine whether there were associations between the two outcome variables of intention to eat normally and not binge or purge and intention to recover from BN and the predictor variables: stage of change (BNSOC-Q), the TPB variables; attitudes, subjective norms, and PBC (MIRBN), depression, anxiety, and stress (DASS-21), and ED psychopathology (EDE-Q). Further inferential analysis included hierarchical multiple regressions to identify whether the TPB variables had predictive utility for the intention to eat normally and not binge or purge, and intention to recover from bulimia above and beyond the other predictor variables. Using hierarchical multiple regressions are a particular strength of this methodology, as this analysis allows for exploration of whether the variance explained by the TPB variables in intention to recover and intention to eat normally is above and beyond that of the TTM, the current dominant framework for understanding motivation to change in EDs.

2.10. Ethical Considerations

2.10.1. Ethical Approval

Ethical approval was granted from the University of East London's Research and Ethics committee, as well as the HRA for NHS ethical approval. Amendment requests were made to the HRA on two occasions; to add research sites due to difficulties with recruitment, and to UEL on two occasions; to use an adapted research poster for social media, to add information regarding risk of harm to the information sheet (see section 2.10.4), to change the length of time needed to complete the study, and to add the recruitment strategy of approaching charities such as BEAT for support in promotion and distribution of the research poster and link to participate. Details of the ethics processes, approvals, and amendments are documented from appendices P through to Z.

2.10.2. Informed Consent

The information sheet made it clear that participation was voluntary, and that participation could be stopped at any point without any impact on the care they were receiving by services they were open to. The information sheet also detailed how data would be stored, the withdrawal processes should they wish to withdraw their data, and the potential for publication of anonymous data. It also provided contact information for me and Dr. James Walsh in case of any questions related to participation. For online participation, participants were asked to confirm that they met each of the inclusion criteria before proceeding to the consent form, with participation via the NHS requiring an initial next to each statement as requested by the HRA (refer to appendix U), and to write 'Yes' to confirm consent. It was important that participants recruited via social media indicated they met the inclusion criteria, such as currently receiving treatment either privately, via a charity, or via the NHS, to ensure that they had the opportunity to let their care provider or clinician know if they felt they needed emotional support after taking part in the study, due to individual debriefs with myself not being possible. Following the study, the debrief sheet also provided further information about where to access support should participants have felt negatively affected at all by the study.

2.10.3. Confidentiality and Anonymity

Participants' names were not collected at any point during the study, and instead they were given unique identification numbers to pseudonymise their identity. They were asked to retain this code in case they wished to withdraw their data up to 3 weeks after participating. These codes would not be used in the write up of the study, nor the analysis. Participants who wanted to enter a prize draw for one of two £50 amazon vouchers were informed in the information sheet that they would need to provide an email address for this, but that this would not be linked to their questionnaire responses. At the end of the study, all the unique identification codes, consent forms, and email addresses were deleted.

2.10.4. Management of Potential Distress

The risk assessment for this study noted the length of potential time participants might spend reading information on a screen, and so the information sheet explained that participants could pause at any point and resume when they were ready. This was particularly important for the introduction of the social media recruitment strategy, as participants might have been more likely to be participating away from their home or care provider than participants recruited via the NHS. Regarding any negative impacts on participants' emotional well-being, participants were informed via the information sheet and debrief sheet of relevant services for accessing support, to discuss with their care provider or clinician, and the processes of making a complaint if they wished. Contact information for me and Dr. James Walsh was also provided in case of any questions.

Whilst the questionnaires and information within them were not deemed to be highly emotive beyond what participants would typically be being asked as part of ongoing treatment or support for BN, an amendment was made to the information sheet to inform participants that there were two questions that would ask about current weight and ideal weight, one in the BNSOC-Q (Martinez, 2007), and one in the EDE-Q 6.0 (Fairburn & Beglin, 2008). These questions were made optional, as for some individuals recovering from EDs, knowing, or thinking about specific weights could be detrimental to their psychological

recovery. This came about from reflections within my own research diary as a researcher with lived experience of this research topic and when exploring the option of requesting promotion of the study by BEAT.

3. RESULTS

3.3. Descriptive Statistics

Prior to inferential data analyses, the data distributions were explored to identify appropriate statistical tests. For small sample sizes (n< 50), skewness or kurtosis of ±1.96 is sufficient for establishing normal distribution of data (Field, 2018), alongside visual examination of histograms. The Kolmogorov-Smirnov and Shapiro-Wilk tests were used to check if deviations from normality were significant. It is important to note that non-normal distributions in data is common in smaller samples and when working with psychological variables and measures (Bono et al., 2017); a study of 693 distributions with sample sizes ranging from 10-30 found that only 5.5% of distributions emerged as normal (Blanca et al., 2013).

3.3.1. Participant Demographics

Participant demographics were not key to the research aims, and instead their purpose was to contextualise the findings for study. Therefore, further analyses on data distributions were not necessary to address these, nor possible with the final sample size. Information regarding the sample of participants was discussed in sections 2.6.4 and 2.6.5.

Participants were recruited from three NHS EDSs, and via social media. An independent samples t-test identified that there were no significant differences between each group in the outcome variables' scores (intention to eat normally and not binge or purge, and intention to recover from BN), nor the predictor variables' scores (MIRBN, BNSOC-Q, DASS-21, EDE-Q). This indicated that grouping the samples together for analysis was acceptable, as there were no significant differences in presentation between participants recruited directly from EDSs or social media (see appendix AA for the output table).

3.3.2. Dependent/Outcome Variables

3.3.2.1. *Intention to eat normally and not binge or purge:* The average score for intention to eat normally and not binge or purge was 6.03. Skewness, kurtosis, and normality tests suggested non-normal distribution (see Table 3).

3.3.2.2. *Intention to recover from bulimia nervosa:* The score for intention to recover was 6.46. Examination of the kurtosis, normality tests, and visual exploration of the distribution, suggested non-normal distribution. Table 3 contains further details regarding the distributions. Histograms for both outcome variables can be seen in Figures 2a-2b.

Table 3: Distribution properties and normality statistics for intention to eat normally and not binge or purge, and intention to recover from bulimia (MIRBN).

					Kolmogorov-Smirnov		**Shapiro-Wilk**	
	Mean	**SD**	**Skew**	**Kurtosis**	**Statistic**	**Sig.**	**Statistic**	**Sig.**
Intention: Eat normally	6.03	.99	-2.01	5.29	.23	<.003	.805	<.001
Intention: Recovery	6.46	.81	-1.73	2.63	.30	<.001	.72	<.001

3.3.3. Independent/Predictor Variables

3.3.3.1. *Theory of Planned Behaviour Scores (MIRBN):* For eating normally and not bingeing or purging, on average, attitudes resulted in the highest score (M = 6.10), followed by subjective norms (M = 5.41), and PBC (M = 3.32). For recovery from BN, on average, attitudes scored highest (M = 6.40), then subjective norms (M = 5.41), and PBC (M = 4.70). Both attitude scales and subjective norms scales demonstrated acceptable absolute values for skewness and kurtosis; however, examination of the histograms (see Figures 3a-3f) and the Kolmogorov-Smirnov or Shapiro-Wilk tests of normality confirmed that the distributions should be considered non-normal. See Table 4 for full details of the distributions. Both PBC scales were within acceptable values for skewness and kurtosis and were normally distributed according to both the Kolmogorov-Smirnov and Shapiro-Wilk tests. Visual examination of the histograms supported this.

3.3.3.2. *Stage of Change Scores (BNSOC-Q):* Regarding stage of change, 52.2% of participants were in the 'contemplation' stage of change, and 47.8% of participants were in the 'preparation' stage of change (score M = 2.53). Skewness, kurtosis, and normality were explored visually (see Figure 4a) and statistically; BNSOC-Q scores were normally distributed according to Kolmogorov-Smirnov and Shapiro-Wilk tests. See Table 4 for full details of the distributions.

The mean score indicates that approximately half the sample were contemplating whether to recover from BN, and approximately half were not yet seriously considering recovery.

3.3.3.3. *Depression Scores (DASS-21):* Regarding psychological aspects of recovery, the mean score for depression was 24.17, for anxiety was 16.45, and for stress was 23.57. Frequency analysis helped to visualise what this meant in terms of severity of symptoms reported (see Table 5) using the DASS-21 scoring index (Lovibond & Lovibond, 1995). Most participants were categorised as having severe (26.1%) or extremely severe (34.8%) depressive symptoms, normal (26.1%), moderate (21.7%) and extremely severe anxiety symptoms (43.5%), and moderate (26.1%) or severe (34.8%) symptoms of stress. Exploration of skewness, kurtosis, normality, and the histograms, indicated that the DASS-21 scores were all normally distributed (see Table 4 and Figures 4b-4d).

The mean scores suggest severe symptoms of depression and anxiety, together with moderately severe symptoms of stress (Lovibond & Lovibond, 1995).

3.3.3.4. *Eating disorder global score (EDE-Q):* The mean global score was 4.28. Skewness, kurtosis, and normality tests indicate that the EDE-Q global score data was normally distributed (see Table 4 and Figure 4e). As explained in section 2.7.2, the EDE-Q also collects frequency data which can assist in the screening of EDs. This data has not been included for analysis, as the research aims for this study do not include the development of a screening tool for EDs. Regarding the clinical cut-off of 2.8 for the EDE-Q (Fairburn & Beglin, 2006),

91.3% of participants would be classified as having an ED (see Table 5). However, as outlined in section 2.7.2, this is consistent with recent research that indicated 9% of patients diagnosed with an ED scored below the cut-off for classification of an ED based on the EDE-Q (Meule et al., 2024).

Table 4: Distribution properties and normality statistics for predictor variables.

					Kolmogorov-Smirnov		Shapiro-Wilk	
	Mean	**SD**	**Skew**	**Kurtosis**	**Statistic**	**Sig.**	**Statistic**	**Sig.**
Stage of change (BNSOC-Q)	2.53	.43	.29	-.72	.12	.20*	.95	.25
Attitudes: Eat normally (MIRBN)	6.10	1.18	-1.13	-.10	.22	<.001	.77	<.001
Attitudes: Recovery (MIRBN)	6.40	.96	-1.63	1.70	.31	<.001	.70	<.001
Subjective Norms: Eat normally (MIRBN)	6.04	1.19	-.81	-.94	.31	<.001	.75	<.001
Subjective Norms: Recovery (MIRBN)	5.41	1.43	-.15	-1.71	.23	.003	.84	.002
PBC: Eat normally (MIRBN)	3.32	1.35	-.03	-.73	.11	.20*	.97	.72
PBC: Recovery (MIRBN)	4.70	1.63	-.68	-.52	.18	.06	.92	.06
Depression (DASS-21)	24.17	12.27	-.16	-.92	.17	.07	.94	.21
Anxiety (DASS-21)	17.22	10.98	.56	-.44	.12	.20*	.95	.24
Stress (DASS-21)	23.57	7.80	.21	.39	.12	.20*	.98	.94
ED psychopathology (EDE-Q)	4.33	1.01	-.46	-1.13	.15	.20*	.91	.04

*. This is a lower bound of the true significance.

Table 5: Frequency analysis of categorical data.

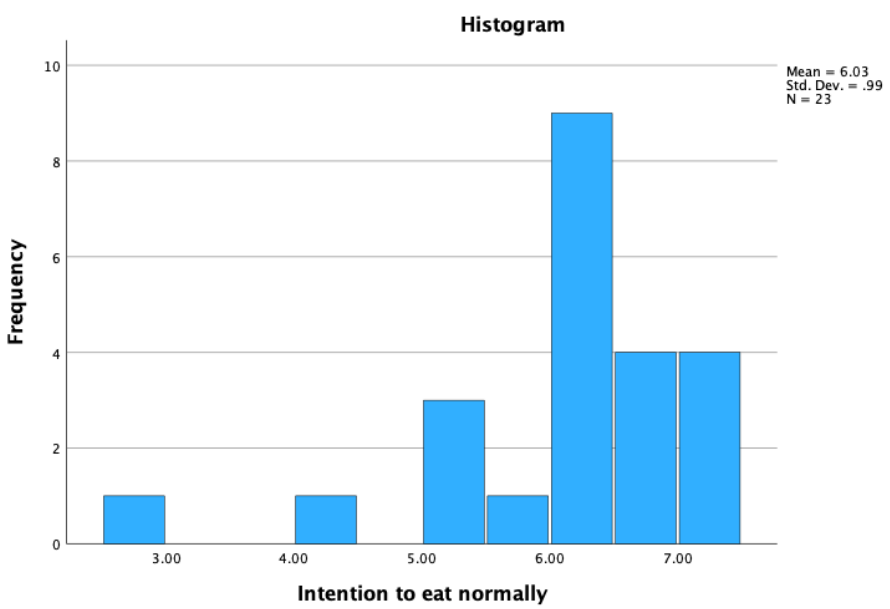
		N	N %
Stage of Change (BNSOC-Q)	Precontemplation	0	0.0%
	Contemplation	12	52.2%
	Preparation	11	47.8%
	Action	0	0.0%
	Maintenance	0	0.0%
Depression Severity (DASS-21)	Normal	3	13.0%
	Mild	2	8.7%
	Moderate	4	17.4%
	Severe	6	26.1%
	Extremely Severe	8	34.8%
Anxiety Severity (DASS-21)	Normal	6	26.1%
	Mild	0	0.0%
	Moderate	5	21.7%
	Severe	2	8.7%
	Extremely Severe	10	43.5%
Stress Severity (DASS-21)	Normal	3	13.0%
	Mild	4	17.4%
	Moderate	6	26.1%
	Severe	8	34.8%
	Extremely Severe	2	8.7%
Eating Disorder Threshold (EDE-Q)	Meets threshold for an eating disorder	21	91.3%
	Does not meet threshold for an eating disorder	2	8.7%

Interpretation of BNSOC-Q scores: <1.5 = Pre-contemplation, 1.5-2.4 = Contemplation, 2.5-3.4 = Action, >_ 4.5 = Maintenance

Interpretation of DASS-21 scores: Depression; 0-9 = normal, 10-13 = mild, 14-20 = moderate, 21-27 = severe, >28 = extremely severe. Anxiety; 0-7 = normal, 8-9 = mild, 10-14 = moderate, 15-19 = severe, >20 = extremely severe. Stress; 0-14 = normal, 15-18 = mild, 19-25 = moderate, 26-33 = severe, >34 = extremely severe

Interpretation of EDE-Q Global score: 1.68+ for men and 2.8+ for women = classified as having an eating disorder

2a.



2b.

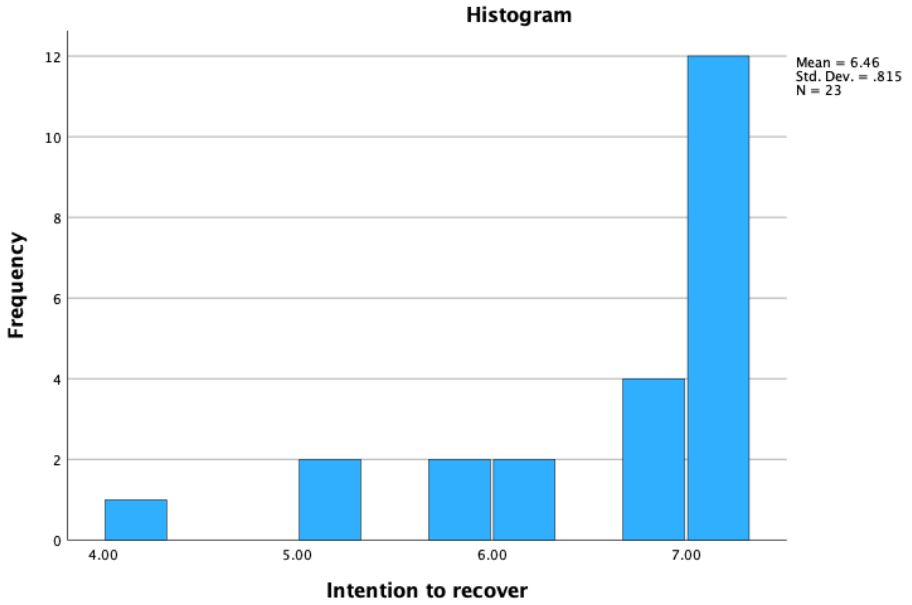
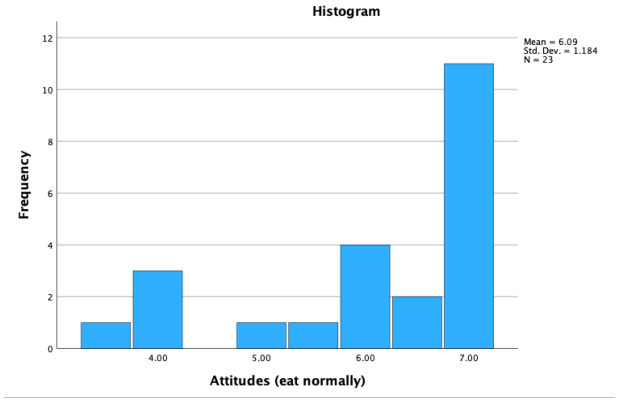


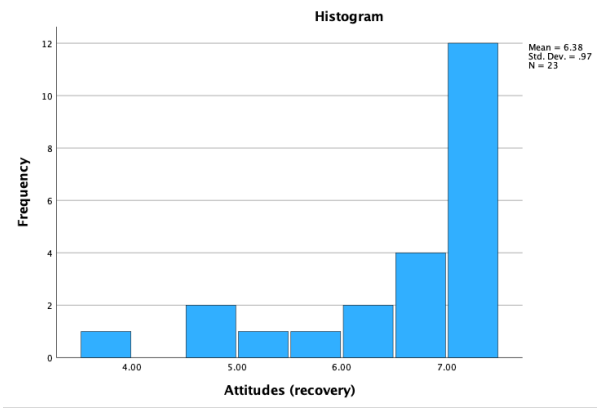
Figure 2

Histograms for the Distributions of the Outcome Variables.

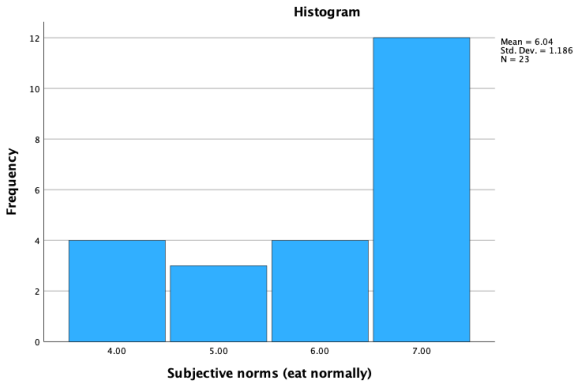
3a.



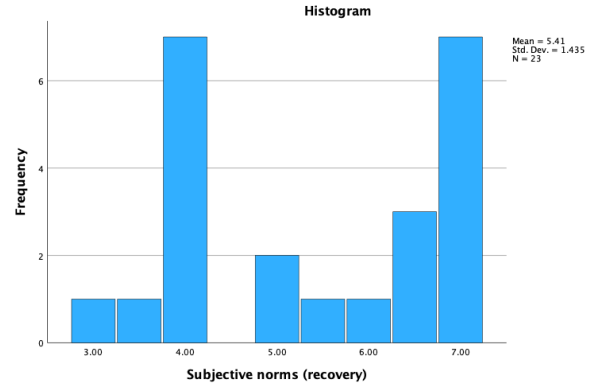
3b.



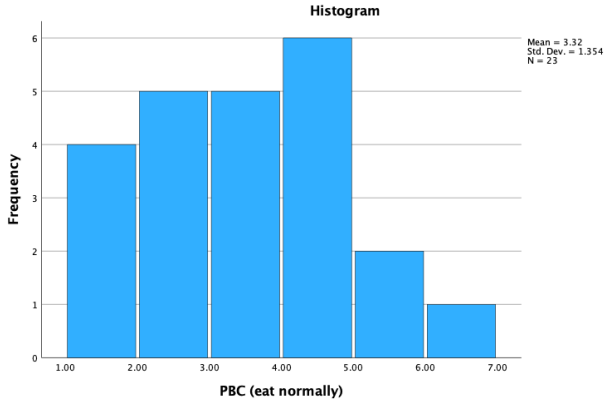
3c.



3d



3e.



3f.

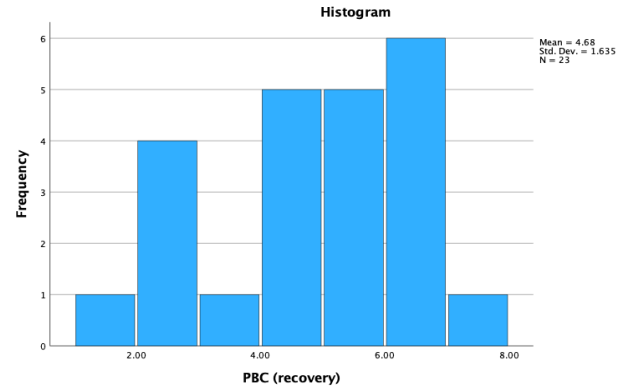
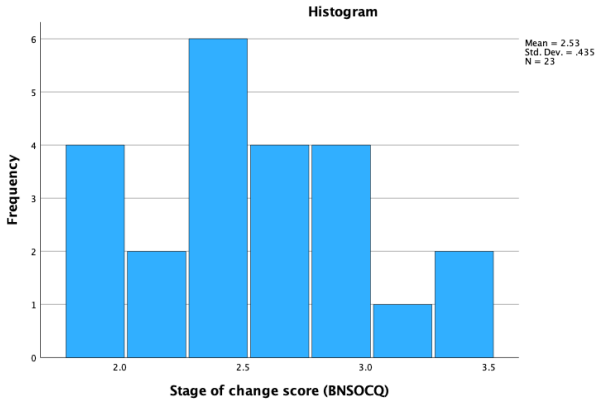


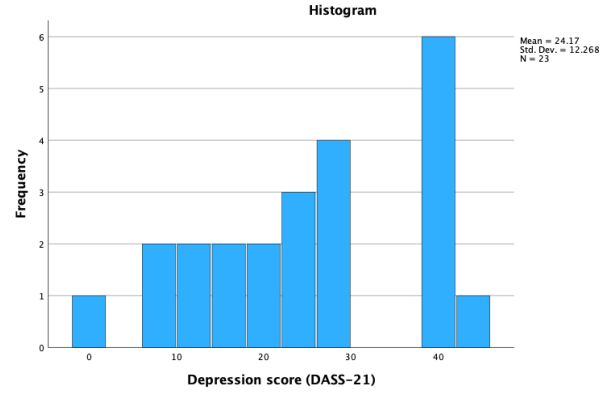
Figure 3

Histograms for the Distributions of the TPB Variables.

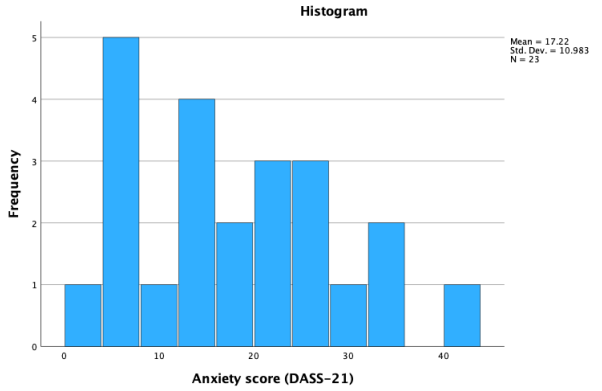
4a.



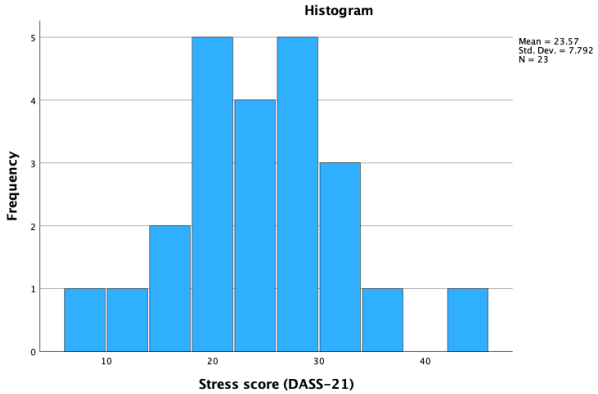
4b.



4c.



4d.



4e.

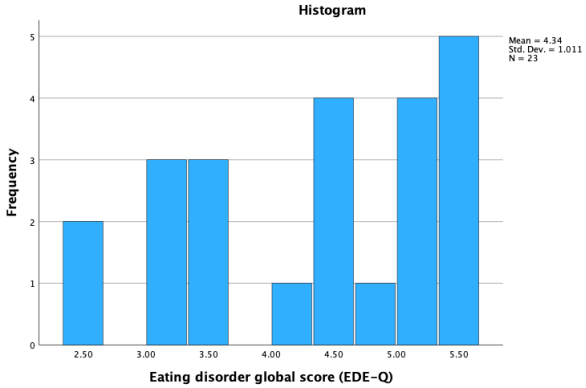


Figure 4.

Histograms of the Non-TPB Predictor Variables

3.3.4. Managing Deviations from Normality

Deviations from normal distribution are common and expected with small samples. Transformations, such as log and square root, were explored for the variables representing distributional issues (Field, 2018, 2024). However, transformations would affect the hypotheses being tested; conversions of raw scores to logarithmic or square root scores means that comparisons would be made between geometric and arithmetic means (Field, 2024). This results in the research addressing a different construct than intended, which has implications for the usefulness of any interpretations of the findings (Grayson, 2004). Concerning the inferential statistics, alternatives to data transformations are discussed in section 3.4.1 and 3.4.2.

3.4. Inferential Statistics

3.4.1. Correlations

The descriptive statistics identified that non-parametric correlational analysis was most appropriate due to the data distributions. Kendall's Tau b, τ, was selected for non-parametric analyses instead of Spearman's rank as it is more appropriate for use in the case of smaller sample sizes (Field, 2018), and for when there are many tied ranks (which occur when multiple participants have the same score for a variable). Kendall's Tau b correlation does not change under transformations (Van Den Heuvel & Zhan, 2022), and presumes there are non-normal distributions in the variables.

In a Kendall's Tau b correlation analysis regarding the TPB variables, intention to eat normally and not binge or purge (see Table 6) demonstrated a strong, positive relationship with attitudes, $\tau\_b = .485$, $p = .002$, a moderate, positive relationship with PBC, $\tau\_b = .438$, $p = .003$, and showed no relationship at all with subjective norms, $\tau\_b = -.010$, $p = .477$. For the remaining predictor variables, there was a strong, positive relationship between stage of change (BNSOC-Q), $\tau\_b = .489$, $p < .001$, and a moderate, negative relationship with depression (DASS-21), $\tau\_b = -.290$, $p = .035$. Participants who reported greater intention to eat normally and not binge or purge had more positive attitudes towards this,

higher perceptions of control over doing so, greater readiness for change, and had lower severity of symptoms of depression.

Intercorrelations between the TPB variables and other predictor variables revealed that subjective norms demonstrated moderate, positive relationships with anxiety, $\tau\_b = .341$, $p = .023$, and stress, $\tau\_b = .311$, $p = .034$. The more supportive subjective norms were of eating normally and not bingeing or purging, the higher the severity of anxiety and stress symptoms. Perceived behavioural control had a moderate, positive, and significant relationship with stage of change (BNSOC-Q), $\tau\_b = .438$, $p < 0.002$, a moderate, negative relationship with depression (DASS-21), $\tau\_b = -.317$, $p < .021$, and a moderate, negative relationship with ED psychopathology (EDE-Q), $\tau\_b = -.313$, $p < .020$. The more perceived control participants had over their ability to eat normally and not binge or purge, the further along the stages of change they were, the lower the severity of depressive symptoms, and the less severe their ED psychopathology.

For recovery from BN (see Table 7) regarding the TPB variables, intention to recover had a significant and strong relationship with attitudes, $\tau\_b = .506$, $p = .002$, a moderate relationship with PBC, $\tau\_b = .368$, $p = .015$, and a moderately positive but non-significant relationship to subjective norms, $\tau\_b = .212$, $p = .112$. For the remaining predictor variables, stage of change showed a moderately positive relationship with intention, $\tau\_b = .329$, $p = .023$. Participants who reported greater intention to recover demonstrated more positive attitudes towards recovery, had higher perceptions of control over their recovery, and showed greater readiness for change.

Intercorrelations between the TPB variables and other predictor variables revealed that PBC had moderate, negative, and significant relationships with depression, $\tau\_b = -.340$, $p = .016$, anxiety, $\tau\_b = -.307$, $p = .027$, and stress, $\tau\_b = -.387$, $p = .007$, (DASS-21). Participants with greater perceived control over recovery from BN showed lower severity of symptoms for depression, anxiety, and stress. Subjective norms were not significantly related to any of the TPB

variables, stage of change score, ED psychopathology, or depression, anxiety, and stress.

Intercorrelations amongst the non-TPB predictor variables found that stage of change had a moderate, negative, and significant relationship with ED psychopathology as measured by the EDE-Q, τ_b= -.374, *p*=.007. The lower the stage of change, the more severe the ED psychopathology, and vice versa. Depression showed strong, positive, and significant associations with anxiety, τ_b= .548, *p*<.001, and stress, τ_b= .451, *p*=.002, and anxiety reflecting this with stress, τ_b= .683, *p*<.001. The greater the severity of depressive symptoms, the greater the severity of anxiety and stress symptoms.

Table 6: Kendall's Tau b correlations for intention to eat normally and not binge or purge with TPB variables, motivation, and psychological symptoms.

			1.	2.	3.	4.	5.	6.	7.	8.	9.
Kendall's Tau b	(1) Intention: Eat normally	Correlation Coefficient	--								
		Sig. (1-tailed)	.								
	(2) Attitudes: Eat normally	Correlation Coefficient	**.485****	--							
		Sig. (1-tailed)	**.002**	.							
	(3) Subjective Norms: Eat normally	Correlation Coefficient	-.010	-.184	--						
		Sig. (1-tailed)	.477	.155	.						
	(4) Perceived Behavioural Control: Eat normally	Correlation Coefficient	**.438****	.175	.044	--					
		Sig. (1-tailed)	**.003**	.147	.397	.					
	(5) Stage of Change (BNSOC-Q)	Correlation Coefficient	**.489****	.070	.097	**.450****	--				
		Sig. (1-tailed)	**.001**	.336	.281	**.002**	.				
	(6) Depression (DASS-21)	Correlation Coefficient	**-.290***	-.184	.261	**-.317***	-.214	--			
		Sig. (1-tailed)	**.035**	.134	.062	**.021**	.083	.			
	(7) Anxiety (DASS-21)	Correlation Coefficient	-.226	-.265	**.341***	-.059	.025	**.548****	--		
		Sig. (1-tailed)	.080	.056	**.023**	.354	.436	**<.001**	.		
	(8) Stress (DASS-21)	Correlation Coefficient	-.230	-.245	**.311***	-.130	.095	**.451****	**.683****	--	
		Sig. (1-tailed)	.076	.070	**.034**	.204	.270	**.002**	**<.001**	.	
	(9) ED psychopathology (EDE-Q)	Correlation Coefficient	-.236	-.073	.144	**-.313***	**-.374****	.195	.147	.045	--
		Sig. (1-tailed)	.066	.326	.193	**.020**	**.007**	.101	.169	.385	.

**. Correlation is significant at the 0.01 level (1-tailed).

*. Correlation is significant at the 0.05 level (1-tailed).

Significant correlations are emboldened.

Table 7: Kendall's Tau b correlations for intention to recover from bulimia with TPB variables, motivation, and psychological symptoms.

			1.	2.	3.	4.	5.	6.	7.	8.	9.
Kendall's Tau b	(1) Intention: Recover	Correlation Coefficient	--								
		Sig. (1-tailed)	.								
	(2) Attitudes: Recover	Correlation Coefficient	**.506****	--							
		Sig. (1-tailed)	**.002**	.							
	(3) Subjective Norms: Recover	Correlation Coefficient	.212	.062	--						
		Sig. (1-tailed)	.112	.361	.						
	(4) Perceived Behavioural Control: Recovery	Correlation Coefficient	**.368***	.196	.256	--					
		Sig. (1-tailed)	**.015**	.123	.061	.					
	(5) Stage of Change (BNSOC-Q)	Correlation Coefficient	**.329***	.181	.093	.244	--				
		Sig. (1-tailed)	**.023**	.137	.283	.060	.				
	(6) Depression (DASS-21)	Correlation Coefficient	-.048	-.221	-.081	**-.340***	-.214	--			
		Sig. (1-tailed)	.386	.092	.311	**.016**	.083	.			
	(7) Anxiety (DASS-21)	Correlation Coefficient	.130	-.058	.059	**-.307***	.025	**.548****	--		
		Sig. (1-tailed)	.218	.364	.361	**.027**	.436	**<.001**	.		
	(8) Stress (DASS-21)	Correlation Coefficient	-.072	-.092	.067	**-.387****	.095	**.451****	**.683****	--	
		Sig. (1-tailed)	.332	.292	.340	**.007**	.270	**.002**	**<.001**	.	
	(9) ED psychopathology (EDE-Q)	Correlation Coefficient	-.112	.000	.101	-.194	**-.374***	.195	.147	.045	--
		Sig. (1-tailed)	.245	.500	.265	.105	**.007**	.101	.169	.385	.

**. Correlation is significant at the 0.01 level (1-tailed).

*. Correlation is significant at the 0.05 level (1-tailed).

Significant correlations are emboldened.

3.4.2. Regressions

Hierarchical multiple regressions were used for further inferential analyses to explore the influence of multiple predictor variables on the two outcome variables of interest: intention to eat normally and not binge or purge, and intention to recover from BN. Two hierarchical multiple regressions were carried out. In the first, the outcome variable was intention to eat normally and not binge or purge, and in the second the outcome variable was intention to recover from BN. The selection of predictor variables was informed by the Kendall's Tau b correlations described in section 3.4.1, which identified three predictor variables that significantly correlated with both outcome variables: stage of change score (BNSOC-Q), and two of the three TPB variables; attitudes (MIRBN), and PBC (MIRBN). Depression (DASS-21) was an additional predictor variable that significantly correlated only with intention to eat normally and not binge or purge.

Each regression was carried out in two steps. In the first step, the stage of change variable (BNSOC-Q) was added, with the addition of the depression variable (DASS-21) for intention to eat normally. In the second step, attitudes and PBC were added (MIRBN). Deciding on the order in which variables are entered into a hierarchical regression model should be rooted in empirical or theoretical rationale (Field, 2024). The order of entry for the predictor variables was informed by existing literature that suggests the TTM, which the BNSOC-Q is based on, may be limited in its utility to predict recovery from EDs (Dawson et al., 2015). It was also important to control for stage of change and depression to explore the TPB variables' contribution to the variance explained within the regression models. By adding predictors into the model in steps, it was possible to assess any improvement to the model.

3.4.2.1. *Assumptions:* Each predictor variable entered significantly correlated with each dependent variable, as discussed in section 3.4.1. Multicollinearity assumptions for regression were met, with tolerance greater than .1 and variance inflation less than 10 for each predictor variable. Initial normality assumptions for the residuals were also met, with minimum and maximum values for standardised residuals between -3 and 3 (see appendices AB and

AC). Whilst the histograms indicated relatively normal distributions, the P-P probability plots showed some deviation, and the scatterplots suggested heteroscedasticity (see Tables AD1 to AE3). Bootstrapping is a resampling technique that can be used to re-estimate the variability of a statistical estimator, such as the coefficients of a multiple linear regression model. As bootstrapping does not rely on assumptions of normality, it can be useful when dealing with heteroscedastic residuals fit to smaller sample sizes and can provide an accurate model parameter re-estimate (Field, 2024). Therefore, bootstrapped confidence intervals (95%) were also derived to re-estimate the model parameters. One thousand bootstrap samples were entered.

3.4.2.2. *Intention to eat normally and not binge or purge:* The first step found that stage of change and depression explained 38.8% of the variance in intention to eat normally and not binge or purge, which was significant (R^2= .388, $R^2_{Adjusted}$= .326, $F(2,20)$= 6.330, p=.007). Stage of change was a significant, positive predictor of intention (β=.451, t=2.502, p=.021). The bootstrap confidence intervals supported this (B=1.025 [.36, 1.90], p=.021). Depression was not a significant predictor (β=-.333, t=-1.845, p=.08), with bootstrap confidence intervals reflecting this (B=-.027 [.36, 1.90], p=.143). In the second step, the inclusion of the two TPB variables, attitudes and PBC, added significantly to the amount of variance explained, rising from 38.8% to 57.7%, with the increase of 18.9% being significant ($F_{change}(2, 18)$= 4.031, p=.036). In the final model, stage of change was no longer a significant predictor (β=.338, t=1.68, p=.110), depression remained a non-significant predictor, (β=-.206, t=-1.23, p=.236), attitudes was a significant, positive predictor (β= .436, t=2.73, p<.014), and PBC was not a significant predictor (β=.116, t=-.55, p=.589). The final model (stage of change, depression, attitudes, and PBC) was significant, $F(4,18)$=6.140, p=.003. Tables 8 to 10 illustrate these findings.

Table 8: Hierarchical multiple regression of intention to eat normally and not binge or purge onto stage of change (Step 1), and stage of change, depression, attitudes, and perceived behavioural control (Step 2).

	R	R^2	$R^2_{Adjusted}$	R^2_{Change}	F_{Change}	p
Step 1	.623	.388	.326	.388	6.330	.007
Step 2	.760	.577	.483	.189	4.031	.036

Table 9: Coefficients describing the relationship between intention to eat normally and not binge or purge and the predictor variables across Model 1 and Model 2

Model		β	t	Sig.	95.0% Confidence Interval for β Lower bound	Upper bound	Semi-partial Correlations
1	Stage of change (BNSOC-Q)	.451	2.502	.021	.171	1.882	.438
	Depression (DASS-21)	-.333	-1.845	.080	-.057	.004	-.323
2	Stage of (BNSOC-Q)	.338	1.681	.110	-.192	1.730	.258
	Depression (DASS-21)	-.206	-1.227	.236	-.045	.012	-.188
	Attitudes (MIRBN)	.436	2.727	.014	.084	.646	.418
	PBC (MIRBN)	.116	.550	.589	-.238	.407	.084

The unique contribution to intention of each independent predictor was calculated using squared semi-partial correlations. This showed unique variance of 6.65% for stage of change, 3.53% for depression, 17.05% for attitudes, and 0.07% for PBC. From this, attitudes are the most important predictor of intention to eat normally and not binge or purge. The remaining variance is shared variance, which amounts to 30.4%.

As seen in Table 10 below, bootstrap confidence intervals reflected the findings that the inclusion of attitudes (B=.384 [.07, .79], *p*=.089) and PBC (B=.085 [-.25, .44], *p*=.674) reduces the impact of stage of change on the relationship to intention to eat normally (B=.769 [-.31, 1.66], *p*=.187), and has little effect on the role of depression (B=-.017 [-.05, .007], *p*=.278). As the confidence intervals overlapped zero, the relationship between intention and the predictor variables - stage of change, depression, and PBC - is uncertain; there could be a positive or negative relationship, or no relationship at all. The bootstrap analysis also suggests that attitudes may not be a significant predictor in a re-estimate of the model parameters.

Table 10: Bootstrap coefficients describing the relationship between intention to eat normally and not binge or purge and the predictor variables across Model 1 and Model 2.

		Bootstrap[a]					
						BCa 95% Confidence Interval	
Model		B	Bias	Std. Error	Sig. (2-tailed)	Lower	Upper
1	Stage of change (BNSOC-Q)	1.025	.001	.391	.021	.361	1.896
	Depression (DASS-21)	-.027	.000	.016	.143	-.061	.001
2	Stage of change (BNSOC-Q)	.789	-.075	.508	.187	-.305	1.659
	Depression (DASS-21)	-.017	.000	.014	.278	-.046	.007
	Attitudes (MIRBN)	.365	.020	.176	.089	.065	.779
	PBC (MIRBN)	.085	.018	.178	.178	-.254	.439

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Overall, the final regression model suggested that a more positive attitude towards eating normally and not bingeing or purging, lower depressive symptoms, greater readiness to change, and greater perceived control of eating normally and not bingeing or purging, collectively predicted intention to eat normally and not binge or purge. The results highlight that, after controlling for stage of change and depression, the additional inclusion of TPB variables, attitudes and PBC, significantly enhanced the prediction of intention to eat normally and not binge or purge. Attitudes were the dominant predictor in the final model, emphasizing the importance of their role in explaining variation in intention to eat normally and not binge or purge. However, the bootstrap analysis encourages this finding to be treated with caution due to the model parameter re-estimate finding that attitudes were not a fully significant predictor (p=.089).

3.4.2.3. *Intention to recover from bulimia nervosa:* The first step found that sole predictor - stage of change - explained 20.4% of the variance in intention to recover, which was significant (R^2 = .204, $R^2_{Adjusted}$= .167, $F(1,21)$= 5.397, p=.03). Stage of change was identified as a significant, positive predictor (β=.452, t=2.32, p<.03). The bootstrapped confidence intervals, however,

reported the re-estimate as not quite significant (B=.847 [.16, 1.69], p<.057). The second step, involving the inclusion of the two TPB variables - attitudes and PBC - added significantly to the amount of variance explained, increasing from 20.4% to 74.7%, with the increase of 54.3% being significant ($F_{change}(2,19)$= 20.371, p<.001). In the final model, attitudes were a significant predictor of intention to recover from BN (β=.750, t=6.06, p<.001), stage of change was no longer a significant predictor (β=.162, t=1.27, p=.221), and PBC was not identified as a predictor (β=.125, t=1.004, p=.328). The final model (stage of change, attitudes, and PBC) was significant, $F(3,19)$=18.699, p<.001. Therefore, the more positive participants' attitudes towards recovery were, the stronger their intention to recover. Tables 11 to 13 illustrate these findings.

Table 11: Hierarchical multiple regression of intention to recover from bulimia onto stage of change (Step 1), and attitudes and perceived behavioural control (Step 2).

	R	R^2	$R^2_{Adjusted}$	R^2_{Change}	F_{change}	P
Step 1	.452	.204	.167	.204	5.397	.030
Step 2	.864	.747	.707	.543	20.371	<.001

Table 12: Coefficients describing the relationship between intention to recover and the predictor variables across Model 1 and Model 2.

	Model	β	t	Sig.	95.0% Confidence Interval for β Lower bound	Upper bound	Semi-Partial Correlations
1	Stage of change (BNSOC-Q)	.452	2.323	.03	.089	1.604	.
2	Stage of change (BNSOC-Q)	.162	1.265	.221	-.198	.803	.146
	Attitudes (MIRBN)	.750	6.058	<.001	.413	.848	.699
	PBC (MIRBN)	.125	1.004	.328	-.068	.193	.116

The unique contribution to intention of each independent predictor was calculated using squared semi-partial correlations. This showed unique variance of 2.13% for stage of change, 48.86% for attitudes, and 1.34% for PBC. Therefore, attitudes are the most important predictor of intention to

recover from BN. The remaining variance is shared variance, which amounts to 22.37%, suggesting that within the final model, more than half the overall variance (74.7%) in intention to recover can be attributed to the inclusion of attitudes. The bootstrap confidence intervals (see Table 13 below) supported the findings that when attitudes are included, stage of change is no longer a significant predictor (B=-0.75 [-.23, .04], *p*=.39), and PBC remains non-significant (B=-0.02 [-.048, .017], *p*=.33). Where the confidence intervals overlap zero, this insinuates that the direction or existence of a relationship between stage of change and PBC to intention to recover in this sample is unclear.

Table 13: Bootstrap coefficients describing the relationship between intention to recover, and the predictor variables across Model 1 and Model 2

			Bootstrap[a]				
						BCa 95% Confidence Interval	
Model		B	Bias	Std. Error	Sig. (2-tailed)	Lower	Upper
1	Stage of change (BNSOC-Q)	.847	.012	.392	.054	.158	1.689
2	Stage of change (BNSOC-Q)	.302	.024	.297	.360	-.219	.926
	Attitudes (MIRBN)	.630	-.018	.136	.002	.356	.860
	PBC (MIRBN)	.062	-.003	.076	.076	-.104	.203

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

In summary, the model indicates that collectively, more positive attitudes towards recovery, greater readiness for change, and greater perceived control of eating normally and not bingeing or purging can predict intention to recover. The results emphasise that after controlling for stage of change, the inclusion of TPB variables, attitudes and PBC, significantly enhanced the prediction of intention to recover. Attitudes was the only independent significant predictor in the final model, suggesting it has a more prominent role in predicting intention to recover from BN, compared to stage of change or PBC. The bootstrap model parameter re-estimates supported the accuracy of these findings.

4. DISCUSSION

This chapter explores the results of the analysis in relation to the research questions, contextualising the findings with existing literature. The strengths and limitations of this study will be considered in addition to researcher reflexivity. Future research directions and clinical implications will be highlighted. The interpretation of the findings and their relationship with previous research must be treated tentatively due to the small sample size.

4.1. Research Aim 1: To explore whether there are different predictors of motivation to recover from BN and motivation to stop bingeing and purging.

4.1.2. Summary

This is the first study to explore the application of the TPB to recovery from BN. Correlational analysis identified that stronger intention to eat normally and not binge or purge was associated with more positive attitudes towards this, greater PBC, greater readiness for change, and lower severity of depressive symptoms. Greater PBC was related to greater readiness for change, lower severity of depressive symptoms, and less severe ED psychopathology. More supportive subjective norms for eating normally were related to higher symptom severity for anxiety and stress.

Stage of change and depression predicted 38.8% of the variance in intention to eat normally and not binge or purge; however, whilst stage of change was a significant predictor, depression was not. Bootstrapped model parameter re-estimates reflected these findings (stage of change; B=1.025, *p*=.021, depression; B=-.027, *p*=.143). When attitudes and PBC were included, the amount of variance explained significantly increased to 57.7%, and stage of change was no longer a significant predictor of intention to eat normally. Attitude was the only significant, positive predictor. Conversely, the bootstrapped model parameter re-estimate reported that attitudes should not be

considered significantly predictive of intention to eat normally and not binge or purge (B=.384, *p*=.089).

4.1.3. Stage of Change

The present study identified stage of change as having a predictive role in both intentions to recover from BN (β=.452), and intention to eat normally and not binge or purge (β=.451). Across both intention scales, stage of change was found to be non-significant when the TPB variables, attitudes and PBC, were included (recovery; β=.162, eat normally; β=.338). Regarding bingeing, existing literature has found that stage of change pre-treatment for 225 individuals with EDNOS or BN predicted reduction in bingeing over time (Katzman et al., 2010), and individuals in the 'action' stage of change have shown greater reduction in bingeing over the course of treatment compared to those in the 'contemplation' stage of change (Treasure et al., 1999). However, a systematic review including 13 studies related to motivation to change in EDs, eight of which utilised stage of change as their measure of motivation, found that whilst motivation to change has been associated with change in recovery behaviours such as reduction in bingeing, none of the studies found that motivation to change was significantly associated with reduction of purging (Clausen et al., 2013). Importantly, none of the studies in the review utilised a TPB framework for understanding motivation to reduce bingeing and purging. The present findings suggested that the direction of the predictive relationship between intention to eat normally and not binge or purge and stage of change is unclear, which has reflected the findings from previous research that there may be different operations of motivation to stop bingeing, and motivation to stop purging.

4.1.4. Depression

Depression was found to be significantly and negatively associated with intention to eat normally (τ_b= -.290), unlike intention to recover (τ_b= -.048). This suggests that for BN, depressive symptoms are linked to specific recovery behaviours such as refraining from bingeing and purging, rather than recovery more broadly. Across ED diagnoses, research has established correlations with mental health conditions such as mood disorders and anxiety (Altman & Shankman, 2009; Udo & Grilo, 2019). A network analysis study of 196 adults

with BN found that symptoms relating to sensitivity towards physical sensations, such as changes in appetite, were bridge symptoms between BN and both anxiety and depressive symptoms. However, the study concluded that fear of weight gain had more of a central role in maintenance of BN than the binge-purge cycle (Levinson et al., 2018). The present study found that depressive symptoms might have more of a relationship to bingeing and purging, as in Levinson et al., (2018), than recovery. Conversely, lower severity of depressive symptoms was not significantly predictive of greater intention to eat normally and stop bingeing in the first step of the regression, despite a moderate effect size (β= -.333, p=.08). Whilst the effect size remained consistent when attitudes and PBC were added in the second step, the addition of the TPB variables reduced the significance value (β= -.338, p=.110), suggesting that the TPB variables' contribution to predicting intention to eat normally and not binge or purge was stronger than depressive symptoms. On the other hand, it is also possible that more severe depressive symptoms reflect greater distress due to bingeing rather than purging, as research has indicated that it is the bingeing behaviour opposed to the purging that causes more distress due to the fear of weight gain (Roberto et al., 2010). This could align with the bootstrapped model parameter re-estimates suggesting that in both steps of the regression, lower severity of depressive symptoms had little effect on intention to eat normally and not binge or purge (B= -.017, p=.143; B= -.206, p=.236); therefore, the predictive relationship between depression and intention to eat normally and not binge or purge is unclear.

4.1.5. Subjective Norms

Whilst subjective norms for recovery from BN were found to be unrelated to intention to recover, more supportive subjective norms for eating normally and not bingeing or purging were associated with greater symptom severity for anxiety (τ_b= .341) and stress (τ_b= .311). Additional tentativeness should be taken with this finding, as a single-item measure, "People who are important to me think I should eat normally and not binge or purge", was used due to difficulties obtaining an acceptable reliability value (discussed in section 2.7.4.2). Sweetingham & Waller (2008) found that in 92 women with disordered eating, there was a specific relationship between teasing by peers and family

about their appearance, and body dissatisfaction, mediated by shame. This makes sense in the context of the present finding that increased severity of anxiety and stress symptoms were related to the perceived view that people important to individuals with BN think that eating normally and not bingeing or purging is desirable. Where individuals with BN may feel highly distressed and ashamed of their ED behaviours (Ali et al., 2020; Serpell & Treasure, 2002), it is understandable that perceived familial or peer pressure to stop bingeing and purging may result in lower mood. However, due to issues of construct reliability, this study was not able to include both injunctive and descriptive subjective norms (see section 2.7.4.2) which form the subjective norms construct in the TPB (Ajzen, 2006), and could have contributed towards a better understanding subjective norms' relationship with intention to recover. The role of sociocultural subjective norms were additionally left unaccounted for, such as the desire for thinness, which has been shown in literature to contribute towards body dissatisfaction (Suisman et al., 2012) and exploration of methods to control weight loss (Boone et al., 2011), as well as the role of perceived population norms from others with BN.

4.1.6. Perceived Behavioural Control

The finding that stronger PBC for eating normally and not bingeing or purging was significantly related to lower severity of depression (τ_b= -.340) aligns with the suggestion in section 4.1.4 that in BN, more severe depressive symptoms could be indicative of distress in relation to bingeing rather than purging (Roberto et al., 2010). Those who feel more in control of their bingeing may experience less severe depressive symptoms. However, where the present study did not separate bingeing and purging, it is not possible to ascertain whether this relationship would be observed if the behavioural intentions were measured separately.

As with intention to recover, PBC was significantly related to, but not significantly predictive of, intention to eat normally (β= .116, p=.589). This is consistent with the correlational findings of Dawson et al., (2015) where PBC was significantly related to intention to eat normally and gain weight (r=.403); however, it contrasts with their identification of PBC as a significant predictor

(β=.321). Due to differences in AN and BN presentations, this may not be surprising; individuals with AN can exhibit greater control over their restrictive eating behaviours than those with BN (Ricca et al., 2012). Therefore, PBC could have more of a role in predicting changes to eating behaviours in AN compared to BN. Nonetheless, the present findings also contrast with the results of a longitudinal study of women with BN (n=406), whereby low self-efficacy predicted more episodes of bingeing (Bardone-Cone et al., 2006). However, the study found that compensatory behaviours, such as SIV, were not predicted by low self-efficacy. This further supports the discussion in section 4.1.3; it is possible that for BN, there are different predictors of motivation to stop bingeing and motivation to stop purging.

4.1.7. Attitudes

As with intention to recover (β= .750), attitudes were identified as the strongest predictor of intention to eat normally and not binge or purge (β= .436), although the model parameter re-estimate using bootstrapping indicates that this may not be significant (B= .365, *p*=.089), limiting the confidence in conclusions drawn about the role of attitudes for behaviour change relating to bingeing and purging. This conflicts with previous research that has addressed specific ED behaviours and used regression models for analyses. Pickett et al., (2008) explored the TPB's ability to detect EDs (n=404), and found that in a model inclusive of PBC, subjective norms, and attitudes, attitudes remained a significant predictor of intention to engage with ED behaviours such as dieting (β= .46). Dawson et al., (2015) found attitudes significantly predictive of intention to eat normally and gain weight in individuals with AN (n=67), and Özaydın et al., (2022) found attitudes to be significantly and negatively predictive of orthorexia nervosa (ON) symptoms (n=418, β= -.18), although the latter indicates a very small effect size for the predictive relationship with ED behaviours.

One theoretical hypothesis to explain this extends the earlier discussion that there may be different motivational processes to stop bingeing and motivation to stop purging; negative eating attitudes could be more related to bingeing than purging behaviours (e.g., SIV, laxative use) because of associations of the

former with weight gain. Haslam et al., (2011) conducted a study of 41 patients with BN and found that eating attitudes were significantly better at predicting changes in bingeing (r=.32) compared to purging (SIV; r=.21, laxative use; r=.04). Therefore, in the present study, pairing bingeing and purging together to capture the binge-purge cycle might be limiting the ability of the findings to understand the predictive contribution of attitudes towards motivation to eat normally and not binge or purge, and overall, the TPB.

A potential methodological explanation for differences with the present findings is sample size, which understandably lowers the statistical power to detect moderate or strong effect sizes. Additionally, due to issues of internal consistency, the attitudes scale for eating normally and not bingeing or purging was reduced to two items, which demonstrated questionable to acceptable reliability (α=.55). This could also reflect issues in pairing bingeing and purging together, as participants could not express if there were differences in their attitudes towards each of these behaviours.

Overall, the final regression model of stage of change, depression, attitudes, and PBC was able to account for 57.7% of the variance in intention to eat normally and not binge or purge in a sample of 23 adults with BN. Attitudes proved to be the most influential predictor (β= .436), although model parameter re-estimates invite caution in interpreting the strength and significance of this predictive relationship (B= .365, p=.089). In addressing the research aim of whether these predictors differ to that of intention to recover, the findings suggest similarities for the roles of stage of change, attitudes and PBC; however, depression might have small predictive input over specific ED recovery behaviours such as bingeing and purging.

4.2. Research Aim 2: To explore whether the TPB can be applied to understanding and predicting motivation to recover from BN.

4.2.1. Summary

Stronger intention to recover was associated with more positive attitudes towards recovery, greater perceptions of control over recovery, and greater readiness for change. Subjective norms were found unrelated to intention to recover. Greater PBC over recovery was also related to lower symptom severity for depression, anxiety, and stress.

Stage of change alone was able to predict 20.4% of the variance in intention to recover from BN, although the use of bootstrapping for re-estimating the model parameters indicated that this might not be significant (p=.054). When attitudes and PBC were included, the amount of variance explained significantly increased to 74.7%, and stage of change was no longer a significant predictor. Attitudes towards recovery emerged as the only significant predictor of intention to recover, and this was supported by the bootstrapped model parameter re-estimate (p<.002).

4.2.2. Stage of Change

The TTM (Prochaska & DiClemente, 1982) is currently the most common theoretical framework for understanding motivation for change within EDs. Therefore, it was expected that stage of change would be related to and predictive of variance in intention to recover prior to the introduction of the TPB variables. Whilst drop-out from treatment has well-established links to low motivation to recover from EDs (Bandini et al., 2006; DeJong, Broadbent, et al., 2012; Mahon, 2000; Mansour et al., 2012), existing literature has found stage of change unrelated to drop-out from treatment for BN (Treasure et al., 1999; Wolk & Devlin, 2001), questioning the TTM's utility for understanding motivation to change in EDs. From the present findings that stage of change was initially a significant predictor of intention to recover (β= .452), the TTM could be useful for identifying stages in which we are more likely to see stronger intention for recovery, but may not offer predictive explanations beyond this. This may have been reflected in the bootstrapped re-estimate of the model parameters, which

suggested that stage of change was marginally non-significant even on its own (p=.054). Furthermore, when the TPB variables were introduced, stage of change reduced in predictive value for intention to recover (β= .162) and was no longer significant. These findings are consistent with empirical reviews drawing mixed conclusions for the TTMs applicability to recovery in EDs (Dray & Wade, 2012; Vall & Wade, 2015; Wilson & Schlam, 2004), and emphasise the need for research to continue to develop and investigate reliable tools for measuring motivation to change in EDs (Dawson et al., 2015; T. D. Wade et al., 2009).

4.2.3. Subjective norms

The reliability of the subjective norms scale in the present study was very good (α=.929), suggesting that the absence of a significant relationship between subjective norms and intention to recover might be theoretical rather than methodological. To my knowledge, Dawson et al., (2015) conducted the only other study applying the TPB to recovery from an ED (AN). As in the present study, they carried out correlational and regression analyses, and found that intention to recover was associated with attitudes, subjective norms, PBC and stage of change. In contrast with this study's finding, they found a moderate, significant relationship between intention to recover and subjective norms (r=.337); however, subjective norms were not predictive of intention (β= -.105, p>.05).

This is not unexpected, as in other eating-related research concerning the TPB, such as adhering to a gluten-free diet (Sainsbury et al., 2013), breakfast consumption (Wong & Mullan, 2009) and fat consumption (Mullan & Xavier, 2013), subjective norms have not arisen as a significant predictor of intention. Özaydın et al., (2022) explored the TPB's predictive abilities for detecting ON behaviour in adult women, and subjective norms was removed from their inferential analyses due to lack of effect on intention. However, their study presented with construct validity issues which might have explained this. Nevertheless, the consistency of findings across studies of similar behaviours suggest that normative influence may not be important for influencing personal behaviours such as eating. This finding is also consistent with research

indicating that supportive relationships and expectations from these are not sufficient to encourage recovery-oriented change (Dawson et al., 2014; Linville et al., 2012).

In contrast, Pickett et al., (2012) found that subjective norms were a significant predictor of intention to perform ED behaviours (β= .06, p<.01), although the effect size was very weak and arguably represents no relationship with intention. Green et al., (2008) reported that subjective norms and cognitive attitudes together explained 86% of variance in intention of GPs to refer a patient onto an EDS. The differences with the present findings indicate that normative influences might have more of a predictive role for motivation to engage with ED behaviours rather than recovery, and professionals' behavioural intentions for supporting individuals presenting with ED symptoms. Alternatively, it is possible that the construct reliability issues discussed in section 2.7.4.2, resulting in the decision not to include both injunctive and descriptive norms, present a methodological reason for not detecting anything of significance in terms of subjective norms' contribution to predicting intention to recover.

4.2.4. Perceived Behavioural Control

The findings describe a relationship between greater PBC over recovery and lower severity of depression, anxiety, and stress (τ_b= -.340, -.307, and -.387 respectively). This complements previous research which has found associations between patients who perceived their ED as chronic with serious consequences and elevated levels of anxiety, depression, and general psychological distress (DeJong, Hillcoat, et al., 2012; Marcos et al., 2007). This implies that targeting perceptions of the ED and changes to emotional states are important to consider in treatment of BN.

The finding that PBC was significantly related to intention to recover (τ_b= .368) yet was not a significant predictor (β= .125) was surprising, given the diagnostic emphasis for BN on lack of control during binge episodes. Sample size is a plausible explanation for this; however, a large scale (n=200) study found a similar relationship (r=.33) between confidence in one's ability to change and

intention to seek treatment for an ED (McLean et al., 2019). This suggests that even with the small sample size, the present findings have detected effect sizes reflective of larger studies. Contrasting research has found PBC to be both significantly related to (r=.77) and strongly predictive (β= .702) of intention to recover from AN (Dawson et al., 2015), and significantly predictive of intention to perform ED behaviours (β= .18; Pickett et al., 2008). Dawson et al.'s (2015) sample of 67 participants ranged in stages of change from pre-contemplation to action, which might invite more variation in experiences of recovery and PBC. The present findings could indicate that PBC does not have as much of an impact on motivation to recover in the earlier stages of change for recovery from EDs (range in the present study: contemplation-preparation). This is supported by an ED inpatient study (n=159 pre-treatment, n=59 posttreatment) which found that for individuals who were not ready to make change (pre-action stages), confidence in their ability to change was less important in predicting reduction in symptom severity at post-treatment (Iyar et al., 2019).

4.2.5. Attitudes

Attitudes emerged as the only significant predictor (β= .750) of intention to recover from BN in the final regression model and accounted for 48.86% of unique variance. This is consistent with TPB literature, where attitude is generally the strongest predictor of intention, with PBC and subjective norms following (Armitage & Conner, 2001; McEachan et al., 2011). In all four studies included in the scoping review (section 1.5), attitudes were consistently found to have significant, predictive relationships for intention to recover from AN (β= .357; Dawson et al., 2015), self-reported ED behaviours (β=.46; Pickett et al., 2012, β= .15; Özaydın et al., 2022), and intention to refer patients to an EDS alongside subjective norms (R^2= .86; Green et al., 2008).

The present study suggests that more positive attitudes towards recovery from BN predicted higher levels of variance in intention to recover (β=.750) compared to attitudes towards recovery from AN as found by Dawson et al., (2015). Previous research has found that individuals with BN could hold more negative attitudes and show greater distress and shame over their ED compared to AN (Serpell & Treasure, 2002), and reviews of empirical research

found that negative attitudes towards help-seeking and low motivation to change contributes towards difficulties in recovering from EDs (Ali et al., 2017; Regan et al., 2017). Furthermore, a longitudinal study (n=151) of ED patients receiving treatment found that patients with BN showed higher mean scores for 'action', 'decision' and 'relapse' stages of a study-designed measure of attitudes towards change compared to patients with AN (p<.01; Rodríguez-Cano et al., 2012). Along with holding potentially more negative attitudes and shame about their ED, individuals with BN may also present with characteristics such as impulsivity and anxiety (43.5% of participants in the present study were categorised as having extremely severe anxiety) which can influence eating patterns and attitudes. However, in AN there is greater emphasis on control, inflexibility of thoughts, and perfectionism, which has been reflected in eating attitudes (Alvarenga et al., 2014; Rawal et al., 2010). Lastly, studies have emphasised the importance of core beliefs in the psychopathology of EDs (Leung et al., 1999; Waller et al., 2002; Waller & Ohanian, 2000), and more pathological core beliefs prior to treatment have been associated with less change in bulimic attitudes and behaviours after CBT (Leung et al., 2000). Within the TPB, attitudes are comprised of behavioural beliefs (feelings about a behaviour) and evaluation outcomes (how beneficial is the behaviour), and the present finding has found that more positive beliefs about recovery and the perceived benefits of recovery significantly predicted intention to recover. This provides implications for integrating attitudinal change towards recovery with CBT treatment for BN.

Overall, the literature aligns with the present findings. Attitudes may have a stronger role in motivation to recover from BN compared to AN due to personal feelings of shame about the ED and possible co-morbid difficulties with anxiety, whereas PBC has demonstrated a greater influence on motivation to recover for AN due to the importance of control within the ED.

To summarise, this study aimed to determine whether the TPB can be applied to understanding and predicting intention to recover from BN. The findings imply that attitudes towards recovery, including the perceived benefits of recovery and one's feelings towards recovery, and how in control one feels over their ability to recover, can help in understanding motivation to recover from BN. Attitudes and

PBC together significantly contributed towards explaining variance in intention to recover from BN above that which was explained by stage of change, the current dominant framework (TTM; Prochaska & DiClemente, 1982) for understanding recovery and change in EDs. Therefore, one can tentatively conclude that the TPB has good predictive utility for motivation to recover from BN.

4.3. Additional Relationships between Predictor Variables

The magnitude of the correlations between the TPB variables and ED psychopathology were generally higher for eating normally and not bingeing or purging. For recovery, none of the TPB variables were significantly associated with ED psychopathology, and the only significant correlate was PBC for eating normally (τ_b= -.314); participants with lower confidence in their ability to eat normally and not binge or purge had more severe ED symptoms. This was a pattern similarly observed in the study by Dawson et al., (2015), and provides further rationale for the need for future research to distinguish between motivation for recovery from BN more generally, and explicit measures of behaviours associated with this. It was interesting to find that neither attitude scale demonstrated a significant relationship with ED psychopathology, despite appearing as the most important predictor of motivation to recover and motivation to eat normally. This suggests that attitudes might have a specific role in motivation for change in BN, which does not concern ED psychopathology, meaning that potential integration of attitudinal change with treatment for EDs could be clinically helpful regardless of ED symptom severity.

Regarding stage of change (BNSOC-Q), stronger correlations were observed with the behaviour-specific TPB scales, with significant associations between intention (τ_b= .489) and PBC (τ_b= .450) compared to the generalised recovery measures, where the only significant association was with intention (τ_b= .329). Examining the items within the BNSOC-Q and the MIRBN, this was likely the result of more behaviour-specific items in the BNSOC-Q, such as weight control methods and fear of fatness, and the MIRBN's eat normally and not bingeing or purging scales, compared to the broader MIRBN recovery

scales. This also emphasises the importance of distinguishing between recovery and specific recovery behaviours both in research and in clinical practice.

4.4. Summary of the TPB's Predictive Value

The present findings support the application of the TPB in predicting intention to recover from BN. The TPB variables contributed towards 74.7% variance explained in intention to recover from BN, compared to 57.7% in intention to eat normally and not binge or purge. This reflects previous research findings that individuals with EDs can report strong intention to change, but they can be simultaneously ambivalent about performing the behaviours (such as adhering to a meal plan, refraining from purging) needed to achieve change (Schmidt & Treasure, 2006). Additionally, this study replicates the findings of Dawson et al., (2015) that the TPB provides greater accounted for variance in intention for recovery (71.8%), rather than to perform specific, recovery-oriented behaviours associated with more normal eating (50.4%). When individuals with BN show intention to recover, this should be distinguished from specific behaviours, such as refraining from purging, as it is possible for motivation to recover to exist alongside ambivalence about letting go of behaviours that allow for continued (perceived) weight control.

4.5. Strengths

To my knowledge, this study was the first to directly apply the TPB to motivation to recover from BN, addressing a key literature gap. It is also the first to attempt to use the TPB to address whether there are different predictors of motivation to recover from BN, and motivation to stop bingeing and purging. Furthermore, the study has extended the findings of Dawson et al., (2015) in their application of the TPB to recovery from AN and demonstrated alternative methods of analysis (use of hierarchical regression) for identifying the TPB's predictive utility above the current, dominant framework for understanding motivation to change in EDs, namely the TTM (Prochaska & DiClemente, 1982). Dawson et al., (2015) did not include stage of change within their regression analyses despite stage of

change significantly correlating with intention to recover and to eat normally and gain weight. Therefore, it was unclear how much additional variance the TPB variables would have accounted for in their study.

Despite the small sample size, the consistency of the findings with key literature, and the use of robust bootstrapping analysis, suggests that the results were unlikely to be due to Type II error. Reviews exploring the applicability of the TPB to different health behaviours generally find that the proportion of variance explained by the TPB variables is between 39-44% (Armitage & Conner, 2001; McEachan et al., 2011), which the present findings exceeds for variance in intention to recover from BN (50%). This strengthens the fit of the TPB for understanding and predicting recovery in EDs.

4.6. Limitations

Some limitations of this research have been highlighted throughout the discussion so far; however, the main limitations are explored below in further detail.

4.6.1. Homogeneity of the Sample

This study is limited in its ability to generalise its findings beyond white, adult women with BN in the UK. In an already small sample, 78.3% were from white backgrounds, and 78.3% identified as female. Contrary to the stereotype that EDs mostly affect affluent white females, many studies have found no significant differences in ethnic differences in the prevalence of BN (Striegel-Moore et al., 2003; Udo & Grilo, 2018), AN (Marques et al., 2011), or BED (Udo & Grilo, 2018) among female adolescents and women, and no ethnic differences in the prevalence of ED diagnoses as according to the DSM-V (Solmi et al., 2016). Research in the UK has suggested that racially minoritized individuals have lower referral rates into EDSs (Abbas et al., 2010) than their white counterparts. This is a vital limitation for future researchers to consider, especially due to the key cultural differences across ethnicities in the way that food, mental health, and body image are regarded. This study has not been able to explore any ethnic differences in motivation to recover from BN, which

might have had important implications for how treatment is accessed, offered, and optimised for non-white individuals. Additionally, gender-diverse individuals and men are underrepresented in ED literature (Heiden-Rootes et al., 2023; Murray et al., 2017), despite research indicating that they make up 25% of the UK's prevalence of EDs (Sweeting et al., 2015). The demographic data collection was kept as brief as possible to encourage completion of the study; however, this meant potentially useful demographic differences, such as sexuality, spirituality, and employment, could not be explored or controlled for.

4.6.2. Recruitment

There were difficulties in recruiting the desired number of participants for inferential analyses to draw more confident conclusions. The study initially aimed to be a single-site study after discussion with the first EDS involved; nevertheless, I responded to the recruitment challenges by reaching out to six additional EDSs for involvement and drew on a second recruitment strategy via social media. An additional strategy was explored via ED charities such BEAT; however, they were not able to support with research during the recruitment period for this study. Reasons for the difficulties in uptake via the EDSs included possible research participation fatigue, whereby patients in the EDSs had been repeatedly asked to take part in questionnaires for services to gain feedback on service delivery during the pandemic. With similar recruitment rates via social media, this could reflect the very nature of this study: motivation. Motivation to engage with research that focuses on recovery, at times where participants might not be ready for change (range: pre-contemplation-contemplation for stage of change), might have been low.

The limitations in section 4.6.1 also apply to the social media recruitment, and future research should consider whether online spaces in which research is advertised are accessible and safe for non-white and non-female participants to engage with. Internet-based recruitment presents some ethical issues, such as informed consent and underrepresentation of particular age, ethnic, and socio-cultural groups. Furthermore, due to the field-nature of this study, I had little control over the participants' engagement with the research; absence of an experimenter can increase the chance of misunderstandings which could result

in discontinuation or incorrect completion of the study (Nosek et al., 2002). Participants may also be less likely to ask for clarification via email (Naglieri et al., 2004).

4.6.3. Method

4.6.3.1. Formative research: An advantage of the use of the TPB is the emphasis on conduction of an elicitation study, such as interviews with members of the target population, to demonstrate that the theory is appropriate for that population and the behaviours being studied (Ajzen, 2006; Francis et al., 2004). Whilst an elicitation study was beyond the scope and resources of the present study, the extensive background research and existing literature (discussed throughout chapter 1), particularly Dawson et al., (2015), indicated that the TPB was an appropriate framework for studying recovery from BN. This was supported by knowledge acquired through my own lived experience and professional experience working in ED settings, and consultation with a member of my personal network with lived experience of recovery from BN. Without the time constraints imposed on the present study, formative interviews would have improved the quality of this study's TPB questionnaire (MIRBN) by identifying specific, salient beliefs associated with recovery from BN in e.g., a thematic analysis.

4.6.3.2. Assessing actual behaviour: Typically, TPB studies would assess the degree to which intention and PBC account for variance in actual behaviour (Francis et al., 2004). This study was limited in its ability to explore this. Firstly, the research aims were concerned with the applicability of the TPB to understanding motivation for recovery from BN and motivation to stop bingeing and purging, rather than the actual behaviours. Secondly, recovery from EDs involves engaging with multiple behavioural changes, such as adhering to meal plans, eating fear foods, reducing restrictive eating, and adherence to treatment plans if accessing professional support, all of which occur over a longer period than what this study would have been capable of assessing. Furthermore, the EDE-Q measures ED psychopathology rather than actual behaviour; therefore, it was decided that the EDE-Q would not provide an accurate measure of behavioural change.

4.6.3.3. Causality: A common critique of TPB research is the widely used correlational and cross-sectional research designs, which is acknowledged as a limitation in this study for drawing conclusions about what causes stronger intention to recover. It is possible that causal influence could flow in a reverse-causal direction (Sussman & Gifford, 2019), from intention to recover back to the TPB variables; causation is not straightforward to interpret.

4.6.3.4. Floor and ceiling effects: Floor and ceiling effects are often observed in TPB studies, accompanied by low variance in at least one of the variables (Yzer & Van Den Putte, 2014), as seen in the present study with subjective norms and PBC, which can be attributed to the use of Likert-scale data with small sample sizes and few items to assess each construct. Ideally, for assessing the contribution of PBC, the measures of attitudes, subjective norms, and PBC should cover as much of the range of responses as possible and present with a normal distribution (La Barbera & Ajzen, 2020). In the case of Dawson et al., (2015), their methodology utilised a 100-point sliding scale for participant responses, increasing the range of responses that could be given as opposed to the present study's 7-point Likert-scale response choices, which may have reduced the impact of floor and ceiling effects. With a larger sample size, it is possible that the present findings would have observed more normal data distributions, and consequently better understanding of the role of PBC and subjective norms for motivation to recover.

4.7. Researcher Reflexivity

My experience of conducting this research with different positions in relation to the research topic (researcher, lived experience, and professional experience) has been difficult to navigate at times, particularly when experiencing difficulties with recruitment. In addition, conducting the research from a critical-realist perspective whilst utilising methodology that typically takes a positivist stance was challenging, and if I were to repeat this study, I would have integrated a mixed methodology by using formative interviews to inform the subsequent predictive study. This perhaps would have aligned more with my epistemological stance; although, I acknowledge the limitations of my time and

resources to have achieved this. It is possible that there was an element of self-protection in conducting research so close to my own lived experience through solely quantitative methodology, as well as reduction in bias by removing myself largely from having control over the recruitment. This also speaks to the type of knowledge I hope to bring forth in future research, as I found myself wanting to deepen the richness of knowledge the findings were presenting by hearing directly from the participants, which could have provided more nuanced interpretations of the results and the implications that follow.

4.8. Research Implications and Recommendations

This was an exploratory study, and additional research is needed to replicate and extend the present findings using formative elicitation interviews (Francis et al., 2004) and a larger sample size to address the limitations discussed in section 4.6.1. More detailed demographic information should be collected to explore whether there are differences in motivation according to different identity markers, with greater efforts to obtain data from non-white and non-female individuals with BN, particularly given the paucity of ED research data on male and gender-diverse individuals (Heiden-Rootes et al., 2023; Sweeting et al., 2015).

Researchers interested in applying the TPB to recovery from EDs should also consider the different ways in which people with BN recover. For example, the present study focussed on recovery from BN where participants were currently receiving treatment, whereas research could explore whether there are differences in the findings of applying the TPB to recovery from BN dependent on the type of support. As discussed in section 4.6.1, racially minoritized individuals are less likely to be referred into EDSs in the UK (Abbas et al., 2010), resulting in a lack of understanding about motivation to recover in individuals who do not access EDSs for treatment for BN. Research that includes alternative methods of support, such as through peers, family, and faith, might offer different findings in the application of the TPB for recovery from BN; perhaps subjective norms and PBC would be identified as having more

prominent roles. Further research is also needed to clarify the extent of different normative influences on recovery-oriented behaviour change and motivation. The TTM has been critiqued for its utility in understanding and predicting motivation to recover from EDs (Wade et al., 2009; Wilson & Schlam, 2004), and researchers should continue to explore the suitability of measures derived from the TTM, such as the ANSOC-Q and BNSOC-Q, by investigating and developing alternative, valid, and reliable tools for assessing motivation to change in EDs (Dawson et al., 2015; Wade et al., 2009). The TPB questionnaire (MIRBN) developed for this study was shown to be reliable and useful in its application of the TPB for predicting variance in intention to recover from BN and intention to eat normally and not binge or purge. Future studies should extend these findings by developing a fully validated TPB questionnaire for predicting recovery from BN and examine its subsequent utility with longitudinal research designs. Generating a larger number of items initially would be useful in the event of any construct reliability issues; the present study had to utilise a single-item measure for the subjective norms (eat normally) scale. Considering the issue of causality, researchers could subject the TPB to experimentation by integrating the findings of the present study and previous literature with existing ED interventions, such as attitudinal change towards recovery, explore whether this leads to changes in intention to recover over time, and subsequently whether this translates into actual recovery.

Furthermore, as suggested by Dawson et al., (2015), future studies should develop specific behavioural scales to measure the individual component behaviours involved in recovery from BN, such as reducing bingeing and reducing purging, and the performance rates for each. This could contribute towards understanding whether there are different motivational processes concerning the TPB for different target behaviours. It would also be useful to understand if there are differences in the types of purging behaviours engaged with e.g., SIV, excessive exercise, or use of laxatives. This could have implications for interventions focussing on enhancing motivation for specific behaviour change in BN.

4.9. Clinical Implications

Various findings and their implications for clinical practice were detailed throughout the main discussion of the findings. This section will focus on the findings derived from the TPB variables, subjective norms, PBC, and attitudes, as this was the focus of the research.

The finding that subjective norms did not appear to contribute significantly towards motivation to recover or stop bingeing and purging has implications for psychological treatment, particularly if family members, partners or peers are involved as part of therapy or treatment reviews. It may be difficult to understand why their support is not sufficient to encourage change in their loved one, and the application of these findings in practice could reduce the amount of self-blame and guilt that carers can internalise (Treasure et al., 2008), subsequently improving communication, and encouraging ongoing commitment to recovery.

Early behaviour change has been identified as a key predictor of treatment outcomes for individuals with BN (Eddy et al., 2017; Wilson et al., 2002). This study's findings suggested that PBC might not have as much influence over motivation to recover in the earlier stages of recovery, which invites consideration about how clinicians could engage individuals presenting with ambivalence about recovering. Where self-efficacy may be less important in predicting behaviour change at earlier stages of recovery (Iyar et al., 2019), this could be helpful in normalising initial feelings of ambivalence and low confidence in one's ability to change and allow individuals to feel able to continue with treatment and observe improvements in this over time. Where the findings noted significant correlations between greater PBC (both recovery and eating normally) and lower severity of depression, and between greater PBC (recovery) and lower severity of anxiety and stress, it might be useful to explore how individuals with BN experience their ED and perceived control over any changes in relation to other psychological symptoms.

This could indicate a clinical need to address both EDs and broader psychological distress in treatment, particularly as this study found that the only

significant correlate with lower ED psychopathology was greater PBC for eating normally and not bingeing or purging. Combining evidence-based treatment approaches, such as individual therapy, family therapy, and group therapy in an outpatient treatment centre for 77 women diagnosed with EDs found significant reductions in ED, depressive and anxiety symptoms after approximately 13 weeks of treatment (Schaffner & Buchanan, 2008). For pharmacological treatment, the few randomised control trials that have combined this with psychological treatment for EDs have elicited mostly non-significant findings (Reas & Grilo, 2021); therefore, it is unclear how this combination of treatments might impact on reductions of ED psychopathology and other symptoms of psychological distress. Eating disorder services in the UK should explore the breadth of what their services are able to offer in terms of combined treatment options, within the remits of what they are commissioned to provide.

Attitudes were the most important predictor of intention to recover and to eat normally, which provides useful implications for how current treatments within EDSs could integrate attitudinal change across treatment, particularly for individuals who are showing ambivalence about recovery. A qualitative study of 14 adults with EDs, five of which had BN, found that different attitudinal stages had implications for motivation to seek help. For example, gradual reappraisal of symptoms as problematic for one's health was linked to seeking support after life events, responses from family and friends that explicitly expressed concern about their eating, and co-morbid psychological symptoms (Potterton et al., 2020). Therefore, the present findings could be used to inform, develop, and evaluate the integration of attitudes towards recovery from BN and associated behaviours at each stage of treatment: assessment, formulation, intervention, and evaluation. To ground this implication in the current context for the treatment of EDs in the UK, NICE (2020) recommends CBT-ED for the treatment of BN. Within CBT-ED, the emphasis is on challenging core beliefs and disrupting cognitive and behavioural patterns that could be maintaining BN (Fairburn, 2008), and so including attitudinal change towards recovery as part of a CBT-ED intervention fits well. This may be especially useful for individuals who might show more positive attitudes and motivation towards recovery from BN more generally, whilst struggling with their attitudes and motivation towards different associated behaviours needed to achieve this. The concept of recovery

might be more motivating because of the desire to stop bingeing, but not purging, as this would allow for continued use of weight-control methods.

4.10. Conclusion

This research provides a novel application of the TPB to an area of need within ED research. Bulimia nervosa has significant implications for physical and psychological health, and as conveyed in the existing literature, motivation to change has been identified as a key barrier to recovery. So far, the most common framework for understanding motivation to change in EDs has been stages of change (TTM); however, consistent with previous research, the present findings have demonstrated that the TPB, an alternative model of health behaviour change, has been able to predict motivation to recover from BN and motivation to eat normally and not binge or purge, above and beyond the TTM. The findings highlighted attitudes as the most important predictor of change, and the application of the TPB accounted for variance that was above the typical variance found in TPB studies. The research also identified that the TPB variables, attitudes, subjective norms, and PBC, might have different levels of contribution for different behaviours associated with recovery, which is essential for future researchers to consider in their research designs. Overall, the findings provide a useful rationale for the TPB to be applied further in ED research and in clinical practice, in the hope of improving the experience and longevity of recovery for individuals with BN.

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6. APPENDICES

6.1. Appendix A: Participant Information Sheet for Participation via NHS Eating Disorder Services

Samantha van Huyssteen – Researcher, University of East London

PARTICIPANT INFORMATION SHEET

Motivation to Recover from Bulimia Nervosa: An Application of the Theory of Planned Behaviour

Contact person: Samantha van Huyssteen
Email: u2195640@uel.ac.uk

You are being invited to participate in a research study. Before you decide whether to take part or not, please carefully read through the following information which outlines what your participation would involve. Feel free to talk with others about the study (e.g., friends, family, etc.) before making your decision. If anything is unclear or you have any questions, please do not hesitate to contact me on the above email.

Who am I?

My name is Samantha van Huyssteen, a postgraduate student from the University of East London (UEL). I am studying for a Professional Doctorate in Clinical Psychology. As part of my studies, I am conducting the research that you are being invited to participate in.

What is the purpose of the research?

The aim of this study is to look at what motivates adults to work towards recovering from Bulimia Nervosa, and more specifically whether a particular theory called the Theory of Planned Behaviour can be used to help understand motivation to recover.

Given the physical and mental health impact of struggling with Bulimia Nervosa, it is so important for research to identify what might help somebody to recover. Knowing

more about this could have an impact on the current treatment offered for Bulimia Nervosa, such as individual therapy and therapy groups. It could also help Eating Disorder Services to think more about what barriers there might be to someone's motivation to recover, and what they could do to try and move these barriers out of the way.

What are the aims?
This research aims to understand:

- What motivates adults to recover from Bulimia Nervosa?
- Can the Theory of Planned Behaviour be useful for helping to understand motivation to recover from Bulimia Nervosa?

Why have I been invited to take part?
To address the study aims, I am inviting adults who are **currently receiving** treatment in the community (not inpatient) for Bulimia Nervosa, such as therapy, to take part in my research.

Who is eligible to take part?

If you are aged 18+, of any gender, ethnicity, and background, and you are currently accessing treatment for Bulimia Nervosa via the NHS, and you can read English, you are eligible to take part in the study. As this study is looking at community treatment, if you are currently subject to detention under the Mental Health Act, I ask that you do not participate in this study.

It is entirely up to you whether you take part or not, participation is voluntary.

What will I be asked to do if I agree to take part?
If you agree to take part, you will be asked to provide your age, gender, and ethnicity. You will then be asked to complete 4 questionnaires about recovery from Bulimia Nervosa, readiness for change, current eating disorder behaviours and thoughts, and your mood and anxiety. The questionnaires are quantitative, meaning that they will be scored by me for analyses as part of the study. Your participation should take approximately 20 minutes altogether.

Participation can be done either online via a link to Qualtrics, an online survey tool, so you can take part wherever you are, or on paper if you would prefer to participate using hard copies of the questionnaires. If participating on paper, you can return your paper copies to reception for Dr. XXX (clinical lead of the XXX Adult Eating Disorder Service) or XXX (Assistant Psychologist in the XXX Adult Eating Disorder Service) who will store securely for me to collect.

What will I get for taking part?
If you want to participate, there is a chance to win one of two £50 amazon vouchers as a thank you for your time. To enter for a draw of the vouchers, you will have the option to provide your email address when you follow the link to the study. If you provide your email, the survey has been set up so that your email address will not be linked to your answers, so there would be no way for me to link your responses to your email address.

If you are participating on paper, you can ask that your email address is provided to me by XXX or XXX so that your email address is not linked to your paper copies. I will only use your email address to notify you if you have won one of the vouchers and/or if you have ticked to indicate you would like to receive a summary of the research findings once completed. I will not contact you for any other purpose.

Can I change my mind?
YES, you can change your mind at any time during and withdraw without explanation, disadvantage or consequence. If you would like to withdraw from completing the questionnaires, you can do so by simply closing the survey. If you withdraw, your data will not be used as part of the research.

Separately, you can also request to withdraw your data from being used even after you have taken part in the study, **provided that this request is made within 3 weeks of the data being collected** (after which point the data analyses will begin, and withdrawal will not be possible). For this reason, please make a note of your unique participant ID number so that if you decide to withdraw, I can find your responses and delete these easily and accurately.

Are there any disadvantages to taking part?
If you are prone to headaches from reading/focussing on reading, you can still participate and take breaks in-between completing the questionnaires.

The questionnaires are not intended or expected to cause emotional distress, however as they are centred around recovering from Bulimia Nervosa, this may impact you emotionally. For this reason, part of the inclusion criteria is that you are currently receiving community treatment e.g., therapy, group therapy, guided self-help, so that you can discuss any emotional impact of participating in the study.

After you complete the last questionnaire on Qualtrics, a debrief page will appear which will provide you with further details of supporting agencies where you can seek additional support if you feel emotionally impacted by taking part in this study. These are also provided below, in case you decide to withdraw before you reach the debrief page. If you participate on paper, you will receive a paper copy of the debrief page.

- **The NHS** provides a list of useful helplines if you find yourself negatively affected in any way by this study. https://www.nhs.uk/mental-health/nhs-voluntary-charity-services/charity-and-voluntary-services/get-help-from-mental-health-helplines/
- **Mind** – Taking care of yourself. This page includes information on how to support yourself and
  considerations for how to adapt your workplace to make it a more mentally healthy place. https://www.mind.org.uk/workplace/mental-health-at-work/taking-care-of-yourself/ Email: info@mind.org.uk, Infoline: 0300 123 3393, Post: Mind Infoline, PO Box 75225, London, E15 9FS. Our Infoline provides an information and signposting service. We're open 9am to 6pm, Monday to Friday (except for bank holidays).
  You can ask them about:
  - mental health problems
  - where to get help near you
  - treatment options
  - advocacy services.
- **BEAT**, the leading UK Charity for eating disorders, provide useful information and support on their webpage. https://www.beateatingdisorders.org.uk/get-information-and-support/get-help-for-myself/i-need-support-now/helplines/. They offer Helplines, which are open 365 days a year from 9am – midnight during the week, and 4pm–midnight on weekends and bank holidays. For England: 08088010677. Email: help@beateatingdisorders.org.uk
- **If you are in need of urgent help** for yourself, **please contact 999 or the Samaritans on 116 123** if you are in immediate danger/risk to yourself.

How will the information I provide be used and kept secure and confidential?

1. You will not be identified by the data collected, on any material resulting from the data collected, or in any write-up of the research. If you take part, you will be given a unique participant ID number to protect your identity. It is important that **you keep a record of this number** so that if you wish to withdraw your data up to 3 weeks after taking part, you can provide the researcher with the ID number so they can easily and accurately find your data and delete it.
2. If you wish to be entered into the prize draw for participating, you will need to provide an email address for the researcher to contact you if you win. You will also need to provide an email address if you wish to be provided with a summary of the research findings once the write-up is complete. If so, your email address will be stored on a password-protected file on the researcher's secure UEL OneDrive account, which is only accessible to the researcher via a multi-factor authentication. Once the researcher has completed the prize draw and/or passed on a summary of the research findings, your email address and the file where it will

be stored will be deleted. **Only the researcher will have access to your email should you choose to share it.**

3. Research data will be stored securely on the researcher's UEL OneDrive account, which is only accessible to the researcher via a multi-factor authentication.
4. Your anonymised data will be transferred via secure UEL emails to the researcher's supervisor, Dr. James Walsh, to support accuracy of data scoring and analysis.
5. **Your name will not be collected** as part of this research: you will only be identified by a unique participant ID number.
6. The researcher's supervisor, Dr. James Walsh, and examiners of the written thesis will see the anonymised data.
7. Once the study has ended, data of long-term value (demographic information such as age, gender and ethnicity, questionnaire scores, statistical analyses carried out on the data) will be retained for a period of up to 3 years, stored securely by the researcher's supervisor, Dr. James Walsh, on their secure UEL OneDrive account. The anonymised data may be made available for use in future research by other researchers if they contact to request this within the 3-year retention period. After the 3 years, all data will be deleted and other researchers would no longer be able to request the anonymised data for future research.
8. Data that does not have long-term value e.g., consent forms will be deleted. If you have chosen to provide your email address as part of the prize draw and/or receiving a summary of the research findings, this will also be deleted and **will not** be retained/used to invite you to take part in future studies.
9. The online version of the consent form and questionnaires have been constructed as an anonymous survey, meaning no emails, IP addresses and/or geolocation data will be identified in the responses. HTTPS survey links (also known as secure survey links) have been used, giving Secure Sockets Layer (SSL) Encryption while a questionnaire is being completed. During the study data collected online will be stored on an EU-based server and will be subject to EU Data Protection acts.
10. The hard/paper versions of the consent form and questionnaires will be anonymous, and when completed if you provide them to your mental health worker/clinician/therapist, they will be stored in a secure locked cabinet until the researcher can collect them at the earliest opportunity. The researcher will then scan them to create digital versions, and then destroy the hard/paper copies. The digital versions will then be stored in the same way described from points 1-7 listed above.

For the purposes of data protection, the University of East London is the Data Controller for the personal information processed as part of this research project. The University processes this information under the 'public task' condition contained in the General Data Protection Regulation (GDPR). Where the University processes particularly sensitive data (known as 'special category data' in the GDPR), it does so because the processing is necessary for archiving purposes in the public interest, or scientific and historical research purposes or statistical purposes. The University will

ensure that the personal data it processes is held securely and processed in accordance with the GDPR and the Data Protection Act 2018. For more information about how the University processes personal data please see www.uel.ac.uk/about/about-uel/governance/information-assurance/data-protection

What are my choices about how my information is used?

- You can stop being part of the study at any time during, without giving a reason, but if you want to withdraw more than 3 weeks after taking part, your data will have already been analysed and removing it from the study will not be possible.
- We need to manage your data in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you at the time you take part. You can email the researcher with your unique ID number if you would like your questionnaires to be shared with your mental health worker/clinician at the Eating Disorder Service for discussion in your sessions, however this will not be sent to you until data collection for the study has completed.

Where can I find out more about how my information is used?

You can find out more about how we use your information

- at www.hra.nhs.uk/information-about-patients/
- by asking one of the research team (details below)
- by sending an email to u2195640@uel.ac.uk

What will happen to the results of the research?

The research will be written up as a thesis and submitted for assessment. The thesis will be publicly available on UEL's online Repository website, ROAR. Findings will also be disseminated to a range of audiences (e.g., academics, clinicians, public, etc.) through journal articles, conference presentations, and talks. In all material produced, your identity will remain anonymous, in that, it will not be possible to identify you personally; all personally identifying information will be removed.

You will be given the option to receive a summary of the research findings once the study has been completed for which relevant contact details will need to be provided, such as your email address.

Anonymised research data will be securely stored by Dr. James Walsh for a maximum of 3 years, following which all data will be deleted.

Who has reviewed the research?

My research has been approved by the School of Psychology Ethics Committee. This means that the Committee's evaluation of this ethics application has been guided by

the standards of research ethics set by the British Psychological Society. My research has also been subject to an ethical review by the London-Chelsea Research Ethics Committee.

Who can I contact if I have any questions/concerns?

If you would like further information about my research or have any questions or concerns, please do not hesitate to contact me, Samantha van Huyssteen at: u2195640@uel.ac.uk

If you have any questions or concerns about how the research has been conducted, please contact my research supervisor, Dr. James Walsh: School of Psychology, University of East London, Water Lane, London E15 4LZ,
Email: j.j.walsh@uel.ac.uk

or

Chair of School Ethics Committee: Dr Trishna Patel, School of Psychology, University of East London, Water Lane, London E15 4LZ.
Email: t.patel@uel.ac.uk

or for information on how to raise a complaint:

The Patient Advice and Liaison Service (PALS)
https://www.nhs.uk/using-the-nhs/about-the-nhs/how-to-complain-to-the-nhs/

Thank you for taking the time to read this information sheet!

6.2. Appendix B: Consent form for Online Participation via NHS Eating Disorder Services

CONSENT TO PARTICIPATE IN AN ONLINE RESEARCH STUDY

Motivation to Recover from Bulimia Nervosa: An Application of the Theory of Planned Behaviour

Contact person: Samantha van Huyssteen
Email: u2195640@uel.ac.uk

If you have self-identified your own eligibility to participate in this study (not been directly invited by a clinician, your mental health worker, or a professional from the Eating Disorder Service), please tick below that you confirm you meet each of this study's inclusion criteria:

	Please Tick
I confirm that I am 18 years old or older	
I confirm that I have received a diagnosis of Bulimia Nervosa and am currently receiving support from the Eating Disorder Service for this diagnosis	
I confirm that I can read and write in English	
I confirm that I am not currently under section of the Mental Health Act	

	Please Initial
I confirm that I have read the participant information sheet dated 31/07/2023 (version 3) for the above study and that I have been given/downloaded a copy to keep.	
I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	

I understand that my participation in the study is voluntary and that I may withdraw at any time, without explanation or disadvantage.	
I understand that if I withdraw during the study, my data will not be used.	
I understand that I have 3 weeks from the date of completing the questionnaires to withdraw my data from the study.	
I understand that the questionnaires will be completed on Qualtrics, and that only the researcher will have access to my responses via their Qualtrics account.	
I understand that my personal information and data from the research will be securely stored and remain confidential. Only the research team will have access to this information, to which I give my permission.	
It has been explained to me what will happen to the data once the research has been completed.	
I understand that my data from the questionnaires will be analysed to look at the results of the study, and may be used in material such as conference presentations, reports, articles in academic journals resulting from the study and that these will not personally identify me.	
I would like to receive a summary of the research findings once the study has been completed and am willing to provide contact details for this to be sent to.	
I agree to take part in the above study.	

Participant's Indication of Consent (please write YES)

……

Researcher's Name
SAMANTHA VAN HUYSSTEEN

Researcher's Signature

… [redacted]……

Date

……

(Optional) Email address for entry into prize draw of x2 £50 Amazon Vouchers

……

6.3. Appendix C: Consent form for Paper Participation via NHS Eating Disorder Services

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Motivation to Recover from Bulimia Nervosa: An Application of the Theory of Planned Behaviour

Contact person: Samantha van Huyssteen
Email: u2195640@uel.ac.uk

	Please Initial
I confirm that I have read the participant information sheet dated 21/07/2023 (version 2) for the above study and that I have been given/downloaded a copy to keep.	
I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
I understand that my participation in the study is voluntary and that I may withdraw at any time, without explanation or disadvantage.	
I understand that if I withdraw during the study, my data will not be used.	
I understand that I have 3 weeks from the date of completing the questionnaires to withdraw my data from the study.	
I understand that the questionnaires will be completed on paper, and that they will be stored securely in a locked cabinet and the researcher will collect it at the earliest opportunity, scan them and then shred the hard/paper copies.	
I understand that my personal information and data from the research will be securely stored and remain confidential. Only the research team will have access to this information, to which I give my permission.	
It has been explained to me what will happen to the data once the research has been completed.	

I understand that my data from the questionnaires will be analysed to look at the results of the study, and may be used in material such as conference presentations, reports, articles in academic journals resulting from the study and that these will not personally identify me.	
I would like to receive a summary of the research findings once the study has been completed and am willing to provide contact details for this to be sent to.	
I agree to take part in the above study.	
I will return the paper consent form and questionnaires to XXX (Clinical Lead of the Adult Eating Disorder Service), or XXX (assistant psychologist) so that they can store them securely.	

Participant's Indication of Consent (please write YES)

……
……

Researcher's Name (BLOCK CAPITALS)
SAMANTHA VAN HUYSSTEEN
……
……

Researcher's Signature
[redacted]……
……

Date
……

(Optional) Email address for entry into prize draw of x2 £50 Amazon Vouchers.

……

Below is your unique participant identification code. Please keep a record of this code safe, as if you wish to withdraw your participation from this study within 3 weeks of the date you took part, you must email u2195640@uel.ac.uk with this code so that your data can be identified correctly and removed securely.

YOUR UNIQUE PARTICIPANT IDENTIFICATION CODE :

6.4. Appendix D: Participant Debrief Sheet for Participation via NHS Eating Disorder Services

PARTICIPANT DEBRIEF SHEET

Motivation to Recover from Bulimia Nervosa: An Application of the Theory of Planned Behaviour

Thank you for participating in my research study on motivation to recover from Bulimia Nervosa. Given the severity of the physical and mental health consequences of suffering from Bulimia Nervosa, it is so important for research to identify what might help somebody to recover. Knowing more about this could have an impact on the current treatment offered for Bulimia Nervosa, such as individual therapy and therapy groups, and help Eating Disorder Services to think more about what barriers there might be to someone's motivation to recover, and what they could do to try and move these barriers out of the way. This document offers information that may be relevant in light of you having now taken part.

How will my data be managed?
The University of East London is the Data Controller for the personal information processed as part of this research project. The University will ensure that the personal data it processes is held securely and processed in accordance with the GDPR and the Data Protection Act 2018. More detailed information is available in the Participant Information Sheet, which you received when you agreed to take part in the research.

You can request directly via email (u2195640@uel.ac.uk) if you would like your questionnaire responses to be provided to the Eating Disorder Service for you to discuss as part of your treatment. This will only be possible once data collection for the whole has been completed. In your email, you will need to include your unique ID number from when you took part so that your data can be accurately identified.

What will happen to the results of the research?
The research will be written up as a thesis and submitted for assessment. The thesis will be publicly available on UEL's online Repository, ROAR. Findings will also be disseminated to a range of audiences (e.g., academics, clinicians, public, etc.) through journal articles, conference presentations and talks. In all material produced, your identity will remain anonymous, in that, it will not be possible to identify you personally.

You will be given the option to receive a summary of the research findings once the study has been completed for which relevant contact details will need to be provided, such as your email address.

Anonymised research data will be securely stored by Dr. James Walsh for a maximum of 3 years, following which all data will be deleted.

What if I been adversely affected by taking part?
It is not anticipated that you will have been adversely affected by taking part in the research, and all reasonable steps have been taken to minimise distress or harm of any kind. Nevertheless, it is possible that your participation – or its after-effects – may have been challenging, distressing or uncomfortable in some way. As this study was focussing on people who are currently receiving treatment for Bulimia Nervosa, I would really encourage you to discuss any difficult feelings that have come up with your mental health worker/clinician/therapist/psychology/team/service. Additionally, if you have been affected in any of those ways, you may find the following resources/services helpful in relation to obtaining information and support:

- **The NHS** provides a list of useful helplines if you find yourself negatively affected in any way by this study. https://www.nhs.uk/mental-health/nhs-voluntary-charity-services/charity-and-voluntary-services/get-help-from-mental-health-helplines/
- **Mind** – Taking care of yourself. This page includes information on how to support yourself and
  considerations for how to adapt your workplace to make it a more mentally healthy place. https://www.mind.org.uk/workplace/mental-health-at-work/taking-care-of-yourself/ Email: info@mind.org.uk, Infoline: 0300 123 3393, Post: Mind Infoline, PO Box 75225, London, E15 9FS. Our Infoline provides an information and signposting service. We're open 9am to 6pm, Monday to Friday (except for bank holidays).
  You can ask them about:
  - mental health problems
  - where to get help near you

- treatment options
- advocacy services.

- **BEAT**, the leading UK Charity for eating disorders, provide useful information and support on their webpage. https://www.beateatingdisorders.org.uk/get-information-and-support/get-help-for-myself/i-need-support-now/helplines/. They offer Helplines, which are open 365 days a year from 9am – midnight during the week, and 4pm–midnight on weekends and bank holidays. For England: 08088010677. Email: help@beateatingdisorders.org.uk
- **If you are in need of urgent help** for yourself, **please contact 999 or the Samaritans on 116 123** if you are in immediate danger/risk to yourself.

Who can I contact if I have any questions/concerns?

If you would like further information about my research or have any questions or concerns, please do not hesitate to contact me, Samantha van Huyssteen, at u2195640@uel.ac.uk

If you have any questions or concerns about how the research has been conducted, please contact my research supervisor, Dr. James Walsh. School of Psychology, University of East London, Water Lane, London E15 4LZ,
Email: j.j.walsh@uel.ac.uk

Or

Chair of School Ethics Committee: Dr Trishna Patel, School of Psychology, University of East London, Water Lane, London E15 4LZ.
Email: t.patel@uel.ac.uk

Or

[Insert name of clinical lead/local collaborator/clinical psychologist and contact details]

or for information on how to raise a complaint:

The Patient Advice and Liaison Service (PALS)
https://www.nhs.uk/using-the-nhs/about-the-nhs/how-to-complain-to-the-nhs/

Thank you for taking part in my study!

6.5. Appendix E: Research Poster for Participating NHS Eating Disorder Services

A Study of:

Version 1.

Motivation to Recover from Bulimia Nervosa

Research

I am researching what motivates adults to go through the recovery process for Bulimia, and I am interested in hearing directly from people experiencing this.

What is involved?

Completing 4 questionnaires.

Eligibility - Looking for NHS participants!

Are you 18+ and currently receiving treatment for Bulimia Nervosa?

Benefits of taking part

- Being entered into a prize draw to win 1 of 2 £50 Amazon vouchers!

- Contributing to research on eating disorders.

Scan below to take part

Or follow the link!

www.placeholder.com

If you would prefer paper copies please request them from your mental health worker

Who am I?

My name is Samantha van Huyssteen and I am a trainee clinical psychologist. I am training at the university of East London.

University of East London

Sam V.H - u2195640@uel.ac.uk
Dr. James Walsh - j.j.walsh@uel.ac.uk

Local collaborator is [insert name and contact details]

Ethical approval received from UEL's Research Ethics Committee and the Health Research Authority.

6.6. Appendix F: Participant Information Sheet for Participation via Social Media

Samantha van Huyssteen – Researcher, University of East London

PARTICIPANT INFORMATION SHEET

Motivation to Recover from Bulimia Nervosa: An Application of the Theory of Planned Behaviour

Contact person: Samantha van Huyssteen
Email: u2195640@uel.ac.uk

You are being invited to participate in a research study. Before you decide whether to take part or not, please carefully read through the following information which outlines what your participation would involve. Feel free to talk with others about the study (e.g., friends, family, etc.) before making your decision. If anything is unclear or you have any questions, please do not hesitate to contact me on the above email.

Who am I?

My name is Samantha van Huyssteen. I am a postgraduate student in the School of Psychology at the University of East London (UEL) and am studying for a Professional Doctorate in Clinical Psychology. As part of my studies, I am conducting the research that you are being invited to participate in.

What is the purpose of the research?

I am conducting research into what motivates adults to work towards recovering from Bulimia Nervosa, and more specifically whether a particular theory called the Theory of Planned Behaviour can be used to help understand motivation to recover. Given the severity of the physical and mental health consequences of suffering from Bulimia Nervosa, it is so important for research to identify what might help somebody to recover. Knowing more about this could have an impact on the current treatment offered for Bulimia Nervosa, such as individual therapy and therapy groups. It could also help Eating Disorder Services to think more about what barriers there might be to

someone's motivation to recover, and what they could do to try and move these barriers out of the way.

Why have I been invited to take part?

To address the study aims, I am inviting adults who are **currently receiving** treatment in the community (not inpatient) for Bulimia Nervosa, such as therapy, to take part in my research. **You must be based in the UK, please do not participate otherwise; the debrief information at the end contains information about support services in the UK only.** If you are aged 18+, of any gender, ethnicity and background, and you are currently accessing treatment for Bulimia Nervosa either privately or via the NHS, and you are able to read English, you are eligible to take part in the study. As this study is looking at community treatment, if you are currently subject to detention under the Mental Health Act I ask that you do not participate in this study.

It is entirely up to you whether you take part or not, participation is voluntary.

What will I be asked to do if I agree to take part?

If you agree to take part, you will be asked to provide your age, gender, and ethnicity. You will then be asked to complete x4 questionnaires about recovery from Bulimia Nervosa, readiness for change, current eating disorder behaviours and thoughts, and your mood and anxiety. The questionnaires are quantitative, meaning that they will be scored by me for analyses as part of the study. Your participation should take no longer than 20 minutes altogether.

Participation is online via a link to Qualtrics, an online survey tool, so you can take part wherever you are.

What will I get for taking part?

If you want to participate, there is a chance to **win one of two £50 amazon vouchers** as a thank you for your time. To enter for a draw of the vouchers, you will have the option to provide your email address when you have completed the study. If you provide your email, the survey has been set up so that your email address will not be linked to your answers, so there would be no way for me to link your responses to your email address. I will only use your email address to notify you if you have won one of the vouchers and/or if you have ticked to indicate you would like to receive a summary of the research findings once completed. I will not contact you for any other purpose.

Can I change my mind?

Yes, you can change your mind at any time and withdraw without explanation, disadvantage or consequence. If you would like to withdraw from completing the questionnaires, you can do so by simply closing the survey. If you withdraw, your data will not be used as part of the research.

Separately, you can also request to withdraw your data from being used even after you have taken part in the study, provided that this request is made **within 3 weeks** of the data being collected (after which point the data analyses will begin, and withdrawal will not be possible). For this reason, please make a note of your unique participant ID number so that if you decide to withdraw, I can find your responses and delete these easily and accurately.

Are there any disadvantages to taking part?

If you are prone to headaches from reading/focussing on reading, you can still participate and take breaks in-between completing the questionnaires.

The questionnaires are not intended or expected to cause emotional distress, however as they are centred around recovering from Bulimia Nervosa, this may impact you emotionally. For this reason, part of the inclusion criteria is that you are currently receiving community treatment e.g., therapy, group therapy, guided self-help, so that you can discuss any emotional impact of participating in the study. There are a couple of questions that ask about an estimate of current weight or an ideal weight, however these questions can be ignored if you do not feel it would be helpful for you to provide this. Some people in recovery find that information about their weight is not conducive to their recovery.

After you complete the last questionnaire on Qualtrics, a debrief page will appear which will provide you with further details of supporting agencies where you can seek additional support if you feel emotionally impacted by taking part in this study. These are also provided below, in case you decide to withdraw before you reach the debrief page:

- **The NHS** provides a list of useful helplines if you find yourself negatively affected in any way by this study. https://www.nhs.uk/mental-health/nhs-voluntary-charity-services/charity-and-voluntary-services/get-help-from-mental-health-helplines/
- **Mind** – Taking care of yourself. This page includes information on how to support yourself and
  considerations for how to adapt your workplace to make it a more mentally healthy place. https://www.mind.org.uk/workplace/mental-health-at-work/taking-care-of-yourself/ Email: info@mind.org.uk, Infoline: 0300 123 3393, Post: Mind Infoline, PO Box 75225, London, E15 9FS. Our Infoline provides an information and signposting service. We're open 9am to 6pm, Monday to Friday (except for bank holidays).
  You can ask them about:
  - mental health problems

- where to get help near you
- treatment options
- advocacy services.

- **BEAT**, the leading UK Charity for eating disorders, provide useful information and support on their webpage. https://www.beateatingdisorders.org.uk/get-information-and-support/get-help-for-myself/i-need-support-now/helplines/. They offer Helplines, which are open 365 days a year from 9am – midnight during the week, and 4pm–midnight on weekends and bank holidays. For England: 08088010677. Email: help@beateatingdisorders.org.uk
- **If you are in need of urgent help** for yourself, **please contact 999 or the Samaritans on 116 123** if you are in immediate danger/risk to yourself.

How will the information I provide be kept secure and confidential?

11. You will not be identified by the data collected, on any material resulting from the data collected, or in any write-up of the research. If you take part, you will be given a unique participant ID number to protect your identity. It is important that you keep a record of this number so that if you wish to withdraw your data up to 3 weeks after taking part, you can provide the researcher with the ID number so they can easily and accurately find your data and delete it.
12. If you wish to be entered into the prize draw for participating, you will need to provide an email address for the researcher to contact you if you win. You will also need to provide an email address if you wish to be provided with a summary of the research findings once the write-up is complete. If so, your email address will be stored on a password-protected file on the researcher's secure UEL OneDrive account, which is only accessible to the researcher via a multi-factor authentication. Once the researcher has completed the prize draw and/or passed on a summary of the research findings, your email address and the file where it will be stored will be deleted. **Only the researcher will have access to your email should you choose to share it.**
13. Research data will be stored securely on the researcher's UEL OneDrive account, which is only accessible to the researcher via a multi-factor authentication.
14. Your anonymised data will be transferred via secure UEL emails to the researcher's supervisor, Dr. James Walsh, to support accuracy of data scoring and analysis.
15. **Your name will not be collected** as part of this research: you will only be identified by a unique participant ID number.
16. The researcher's supervisor, Dr. James Walsh, and examiners of the written thesis will see the anonymised data.
17. Once the study has ended, data of long-term value (demographic information such as age, gender and ethnicity, questionnaire scores, statistical analyses carried out on the data) will be retained for a period of up to 3 years, stored securely by the researcher's supervisor, Dr. James Walsh, on their secure UEL OneDrive account. The anonymised data may be made available for use in future research by other

researchers if they contact to request this within the 3-year retention period. After the 3 years, all data will be deleted and other researchers would no longer be able to request the anonymised data for future research.

18. Data that does not have long-term value e.g., consent forms will be deleted. If you have chosen to provide your email address as part of the prize draw and/or receiving a summary of the research findings, this will also be deleted and **will not** be retained/used to invite you to take part in future studies.
19. The consent form and questionnaires have been constructed as an anonymous survey, meaning no emails, IP addresses and/or geolocation data will be identified in the responses. HTTPS survey links (also known as secure survey links) have been used, giving Secure Sockets Layer (SSL) Encryption while a questionnaire is being completed. During the study data collected online will be stored on an EU-based server and will be subject to EU Data Protection acts.

For the purposes of data protection, the University of East London is the Data Controller for the personal information processed as part of this research project. The University processes this information under the 'public task' condition contained in the General Data Protection Regulation (GDPR). Where the University processes particularly sensitive data (known as 'special category data' in the GDPR), it does so because the processing is necessary for archiving purposes in the public interest, or scientific and historical research purposes or statistical purposes. The University will ensure that the personal data it processes is held securely and processed in accordance with the GDPR and the Data Protection Act 2018. For more information about how the University processes personal data please see www.uel.ac.uk/about/about-uel/governance/information-assurance/data-protection

What will happen to the results of the research?

The research will be written up as a thesis and submitted for assessment. The thesis will be publicly available on UEL's online Repository website, ROAR. Findings will also be disseminated to a range of audiences (e.g., academics, clinicians, public, etc.) through journal articles, conference presentations, and talks. In all material produced, your identity will remain anonymous, in that, it will not be possible to identify you personally; all personally identifying information will be removed.

You will be given the option to receive a summary of the research findings once the study has been completed for which relevant contact details will need to be provided, such as your email address.

Anonymised research data will be securely stored by Dr. James Walsh for a maximum of 3 years, following which all data will be deleted.

Who has reviewed the research?

My research has been approved by the School of Psychology Ethics Committee. This means that the Committee's evaluation of this ethics application has been guided by the standards of research ethics set by the British Psychological Society.

Who can I contact if I have any questions/concerns?

If you would like further information about my research or have any questions or concerns, please do not hesitate to contact me, Samantha van Huyssteen at: u2195640@uel.ac.uk

If you have any questions or concerns about how the research has been conducted, please contact my research supervisor, Dr. James Walsh: School of Psychology, University of East London, Water Lane, London E15 4LZ,
Email: j.j.walsh@uel.ac.uk

or

Chair of School Ethics Committee: Dr Trishna Patel, School of Psychology, University of East London, Water Lane, London E15 4LZ.
(Email: t.patel@uel.ac.uk)

Thank you for taking the time to read this information sheet

6.7. Appendix G: Consent form for Participation via Social Media

CONSENT TO PARTICIPATE IN AN ONLINE RESEARCH STUDY

Motivation to Recover from Bulimia Nervosa: An Application of the Theory of Planned Behaviour

Contact person: Samantha van Huyssteen
Email: u2195640@uel.ac.uk

Please tick below that you confirm you meet each of this study's inclusion criteria:

	Please Tick
I confirm that I am 18 years old or older	
I confirm that I have received a diagnosis of Bulimia Nervosa and am currently receiving support for this in the UK either via an NHS eating disorder service, a charity, or privately.	
I confirm that I can read and write in English	
I confirm that I am not currently under section of the Mental Health Act	

	Please Initial
I confirm that I have read the participant information sheet dated 31/07/2023 (version 3) for the above study and that I have been given/downloaded a copy to keep.	
I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
I understand that my participation in the study is voluntary and that I may withdraw at any time, without explanation or disadvantage.	

I understand that if I withdraw during the study, my data will not be used.	
I understand that I have 3 weeks from the date of completing the questionnaires to withdraw my data from the study.	
I understand that the questionnaires will be completed on Qualtrics, and that only the researcher will have access to my responses via their Qualtrics account.	
I understand that my personal information and data from the research will be securely stored and remain confidential. Only the research team will have access to this information, to which I give my permission.	
It has been explained to me what will happen to the data once the research has been completed.	
I understand that my data from the questionnaires will be analysed to look at the results of the study, and may be used in material such as conference presentations, reports, articles in academic journals resulting from the study and that these will not personally identify me.	
I would like to receive a summary of the research findings once the study has been completed and am willing to provide contact details for this to be sent to.	
I agree to take part in the above study.	

Participant's Indication of Consent (please write YES)

……

Researcher's Name
SAMANTHA VAN HUYSSTEEN

Researcher's Signature

… [redacted]……

Date

……

(Optional) Email address for entry into prize draw of x2 £50 Amazon Vouchers

……

6.8. Appendix H: Participant Debrief Sheet for Participation via Social Media

PARTICIPANT DEBRIEF SHEET

Motivation to Recover from Bulimia Nervosa: An Application of the Theory of Planned Behaviour

Thank you for participating in my research study on motivation to recover from Bulimia Nervosa. Given the severity of the physical and mental health consequences of suffering from Bulimia Nervosa, it is so important for research to identify what might help somebody to recover. Knowing more about this could have an impact on the current treatment offered for Bulimia Nervosa, such as individual therapy and therapy groups, and help Eating Disorder Services to think more about what barriers there might be to someone's motivation to recover, and what they could do to try and move these barriers out of the way. This document offers information that may be relevant in light of you having now taken part.

How will my data be managed?
The University of East London is the Data Controller for the personal information processed as part of this research project. The University will ensure that the personal data it processes is held securely and processed in accordance with the GDPR and the Data Protection Act 2018. More detailed information is available in the Participant Information Sheet, which you received when you agreed to take part in the research.

You can request directly via email (u2195640@uel.ac.uk) if you would like your questionnaire responses to be provided to the Eating Disorder Service for you to discuss as part of your treatment. This will only be possible once data collection for the

whole has been completed. In your email, you will need to include your unique ID number from when you took part so that your data can be accurately identified.

What will happen to the results of the research?
The research will be written up as a thesis and submitted for assessment. The thesis will be publicly available on UEL's online Repository, ROAR. Findings will also be disseminated to a range of audiences (e.g., academics, clinicians, public, etc.) through journal articles, conference presentations and talks. In all material produced, your identity will remain anonymous, in that, it will not be possible to identify you personally.

You will be given the option to receive a summary of the research findings once the study has been completed for which relevant contact details will need to be provided, such as your email address.

Anonymised research data will be securely stored by Dr. James Walsh for a maximum of 3 years, following which all data will be deleted.

What if I been adversely affected by taking part?
It is not anticipated that you will have been adversely affected by taking part in the research, and all reasonable steps have been taken to minimise distress or harm of any kind. Nevertheless, it is possible that your participation – or its after-effects – may have been challenging, distressing or uncomfortable in some way. As this study was focussing on people who are currently receiving treatment for Bulimia Nervosa, I would really encourage you to discuss any difficult feelings that have come up with your mental health worker/clinician/therapist/psychology/team/service. Additionally, if you have been affected in any of those ways, you may find the following resources/services helpful in relation to obtaining information and support:

- **The NHS** provides a list of useful helplines if you find yourself negatively affected in any way by this study. https://www.nhs.uk/mental-health/nhs-voluntary-charity-services/charity-and-voluntary-services/get-help-from-mental-health-helplines/
- **Mind** – Taking care of yourself. This page includes information on how to support yourself and
  considerations for how to adapt your workplace to make it a more mentally healthy place. https://www.mind.org.uk/workplace/mental-health-at-work/taking-care-of-yourself/ Email: info@mind.org.uk, Infoline: 0300 123 3393, Post: Mind Infoline, PO Box 75225, London, E15 9FS. Our Infoline provides an information and signposting service. We're open 9am to 6pm, Monday to Friday (except for bank holidays).
  You can ask them about:

- mental health problems
- where to get help near you
- treatment options
- advocacy services.

- **BEAT**, the leading UK Charity for eating disorders, provide useful information and support on their webpage. https://www.beateatingdisorders.org.uk/get-information-and-support/get-help-for-myself/i-need-support-now/helplines/. They offer Helplines, which are open 365 days a year from 9am – midnight during the week, and 4pm–midnight on weekends and bank holidays. For England: 08088010677. Email: help@beateatingdisorders.org.uk
- **If you are in need of urgent help** for yourself, **please contact 999 or the Samaritans on 116 123** if you are in immediate danger/risk to yourself.

Who can I contact if I have any questions/concerns?

If you would like further information about my research or have any questions or concerns, please do not hesitate to contact me, Samantha van Huyssteen, at u2195640@uel.ac.uk

If you have any questions or concerns about how the research has been conducted, please contact my research supervisor, Dr. James Walsh. School of Psychology, University of East London, Water Lane, London E15 4LZ,
Email: j.j.walsh@uel.ac.uk

Or

Chair of School Ethics Committee: Dr Trishna Patel, School of Psychology, University of East London, Water Lane, London E15 4LZ.
Email: t.patel@uel.ac.uk

Or

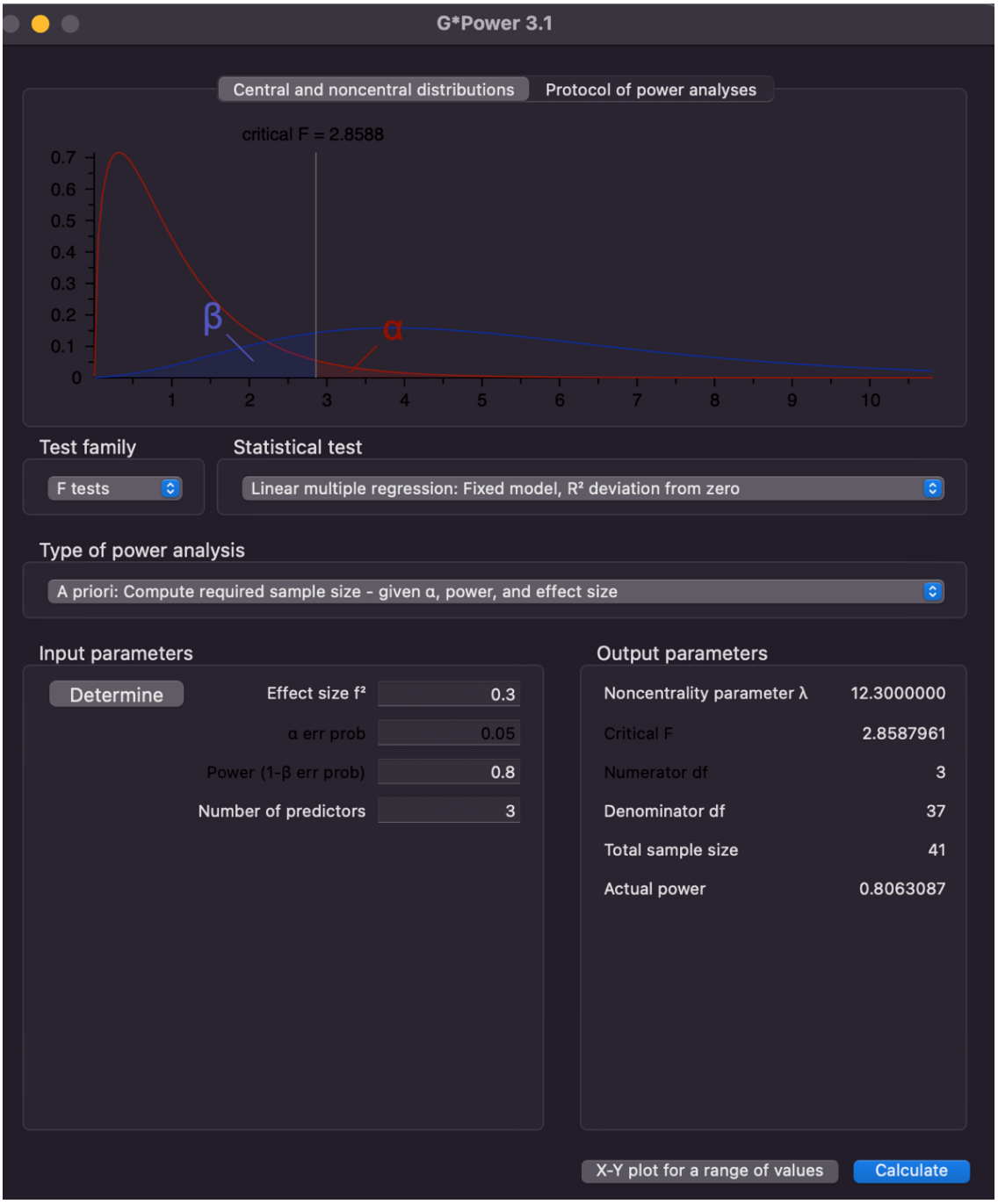
or for information on how to raise a complaint:

The Patient Advice and Liaison Service (PALS)
https://www.nhs.uk/using-the-nhs/about-the-nhs/how-to-complain-to-the-nhs/

Thank you for taking part in my study!

6.9. Appendix I: Social Media Recruitment Poster

6.10. Appendix J: A G*Power Analysis for Power Estimation



6.11. Appendix K: Demographic Questions

Demographic Information

Please tick/circle/underline or write in the space available to indicate your response:

1. **Gender**

Male

Female

Non-binary

Other ……..

Prefer not to say

2. **Ethnicity**

Black African

Black British

Black Caribbean

Other black background not listed ……..

White British

White Irish

Other white background not listed …….

Indian

Pakistani

Bangladeshi

Chinese

Other Asian background not listed …….

Mixed ethnic background …….

3. **Age in Years** (Do **NOT** provide your birthday)

……..

6.12. Appendix L: Bulimia Nervosa Stage of Change Questionnaire

Name: **Date:**

The following questionnaire relates to your motivation to change behaviours and attitudes related to your eating disorder. It is not unusual for individuals with eating disorders to present with low levels of motivation to change or to experience ambivalent feelings about change. It is important that you respond to these questions as honestly as possible, since your answers may contribute to your individual treatment within this service. In addition, honest responses will help contribute to more accurate (and therefore useful) research.

Bulimia Nervosa Stages of Change Questionnaire

DIRECTIONS: Each of the items below is made up of five statements. For each item, please read the five statements carefully and select the one which best describes your *current* attitude or behaviour (not how you have been in the past or how you would like to be). Please choose one answer only for every question. If you have any problems, please ask for assistance.

1. The following statements refer to body weight:

a) As far as I am concerned, I do not need to weight at least _____kg (insert your minimal normal weight).
b) In some ways I think that I might be better off if I weighed at least _____kg.
c) I have decided that I will attempt to reach at least _____kg.
d) At the moment I am putting in a lot of effort to reach at least _____kg.
e) I am working to maintain a weight of at least _____kg.

2. The following statements refer to parts of your body which may particularly concern you in terms of weight gain (such as hips, thighs, stomach or buttocks):

a) There is no way I would be prepared to gain weight on these body parts.
b) Sometimes I think I would be prepared to gain weight on these body parts.
c) I have decided that I am prepared to gain weight on these body parts.
d) I am presently trying to gain weight on these body parts.
e) I am working to maintain the weight I gained on these body parts.

3. The following statements refer to the importance of body shape and weight:

a) I do not exaggerate the importance of my body shape or weight in determining my happiness and success.
b) Sometimes I think that I exaggerate the importance of my body shape or weight in determining my happiness and success.
c) I have decided that I need to reduce the importance that I place on my body shape or weight in determining my happiness and success.
d) I often try to challenge the importance that I place on my body shape or weight in determining my happiness and success.
e) I have succeeded in reducing my tendency to place too much importance on my body shape or weight in determining my happiness and success and want to stay this way.

4. The following statements refer to a fear of fatness:

a) My fear of becoming fat is not excessive.
b) I occasionally think that my fear of becoming fat is excessive.
c) I have decided that I need to do something about the fear I have of becoming fat because it is controlling me.
d) I know that my fear of becoming fat has caused problems and I am now trying to correct this.
e) I have succeeded in reducing my fear of becoming fat and I want it to stay this way.

5. The following statements refer to weight loss:

a) I would prefer to lose more weight.
b) Sometimes I think that it might be time to stop losing weight.
c) I have decided that it is time to stop losing weight.
d) I am trying to stop losing weight.
e) I have managed to stop losing weight and hope to stay this way.

6. The following statements refer to body fat versus muscle:

a) I might think about gaining muscle on purpose, but I would never think of gaining fat on purpose.
b) Sometimes I think that I may need to gain some fat even though I would prefer to have only muscle.
c) I have decided that to be healthy I need to have some fat on my body.
d) I realise that I need to have some fat on my body and I am working to achieve this.
e) I have managed to increase the level of fat on my body which I am trying to maintain.

7. The following statements refer to certain shape and weight standards, which you may have for evaluating your body (such as only being satisfied with your body when your thighs are not touching, when specific bones can be seen, when your stomach is flat, when you are below a certain weight or when you fit into certain clothes):

a) The standards I use to evaluate my body are not too strict.
b) Sometimes I think that the standards I use to evaluate my body are too strict.
c) I have decided that the standards I use to evaluate my body are too strict and need to be changed.
d) I am putting in a lot of effort to change the strict standards which I use to evaluate my body.
e) I have managed to let go of the strict standards which I used in the past to evaluate my body and I am hoping to keep it this way.

8. The following statements refer to certain foods which you may avoid eating (such as food high in calories or fat, red meat, dairy products or food where the caloric content is unknown):

a) There are certain foods which I strictly avoid and would not even consider eating.
b) There are certain foods which I try to avoid, although sometimes I think that it might be okay to eat them occasionally.
c) I think that I am too strict in the foods which I allow myself to eat and have decided that I will attempt to eat foods which I usually avoid.
d) I am putting in a lot of effort to regularly eat foods which I usually avoid.
e) I used to avoid eating certain foods which I now eat regularly.

9. The following statements refer to daily food consumption:

a) There is no need for me to eat 3 standard-size meals and a snack each day.
b) Sometimes I think that I should eat 3 standard-size meals and a snack each day.
c) I have decided that I need to eat 3 standard-size meals and a snack each day.
d) I am putting in a lot of effort to eat 3 standard-size meals and a snack each day.
e) I am working to maintain a current eating pattern which includes 3 standard-size meals and a snack each day.

10. The following statements refer to time spent thinking about your weight (such as thoughts about becoming fat, counting the calories or fat content of food, or calculating the amount of energy used when exercising):

a) There is nothing wrong with the amount of time I spend thinking about food and my weight.
b) The amount of time I spend thinking about food and my weight is a problem sometimes.
c) I have decided that I need to use strategies the help me reduce the amount of time I spend thinking about food and my weight.
d) I am using strategies to help me reduce the amount of time I spend thinking about food and my weight.
e) I used to spend too much time thinking about food and my weight which I have managed to reduce and I am working to keep it this way.

11. The following statements refer to certain eating behaviours (such as needing to eat food at a specific rate or time, being unable to eat from a full plate, moving food around on the plate, taking longer than others to eat meals, having difficulty eating with others, needing to chew food a certain number of times, not allowing food to touch your lips, needing to eat food in a specific order or needing to stick to the same food plan each day):

a) There is nothing that I need to change about the way I eat my meals.
b) I sometimes think that I need to change aspects of the way I eat my meals.
c) I have decided that I will try to change aspects of the way I eat my meals.
d) I am putting in a lot of effort to change aspects of the way I eat my meals.
e) I have succeeded in changing aspects of the way I eat my meals and want it to stay this way.

12. The following statements refer to binge eating episodes (the consumption of large amounts of food and with a feeling of loss of control) that you have:

a) It is impossible to stop my binge eating because I'm not going to control it.
b) I am not sure whether I am going to stop my binge eating.
c) I am becoming increasingly confident that I am going to stop my binge eating.
d) I am confident that I am going to stop my binge eating.
e) I am confident that I can use strategies to stop my binge eating if it appears again.

13. The following statements refer to the fear of not being able to stop eating when you have started meals like breakfast, lunch, snacks or dinner:

a) It is impossible to stop eating once I have started.
b) I am not sure whether I am going to stop eating once I have started.
c) I am becoming increasingly confident that I am going to stop eating once the meal is finished.
d) I am confident that I am going to stop eating once the meal is finished.
e) I have managed to stop eating once the meal is finished.

14. The following statements refer to feelings associated with eating (such as feeling guilty, anxious or bloated) and not eating (such as feeling successful, in control, or spiritually stronger):

a) There is no need for me to change the feelings I associate with eating and not eating.
b) I sometimes think that I need for me to change the feelings I associate with eating and not eating.
c) I have decided that I will try to change the feelings I associate with eating and not eating.
d) I am putting in a lot of effort to change the feelings I associate with eating and not eating.
e) I have succeeded in changing the feelings I associate with eating and not eating and want it to stay this way.

15. The following statements refer to food restriction during meals to control your weight:

a) There is nothing seriously wrong in food restriction to control my weight.
b) I have been thinking that there may be problems associated with food restriction to control my weight.
c) I have decided that I will attempt to stop using food restriction to control my weight.
d) I am putting in a lot of effort to stop using food restriction to control my weight.
e) I have managed to stop using food restriction to control my weight and hope to stay this way.

16. The following statements refer to methods which you may use to control your weight (such as exercising, vomiting, taking laxatives or other pills). You may select more than one statement for the different methods you use to control your weight. Please indicate which weight control method/s you are referring to in the blank space/s provided.

a) There is nothing seriously wrong with the methods (_____) I use to control my weight.
b) I have been thinking that there may be problems associated with the methods (_____) use to control my weight.
c) I have decided that I will attempt to stop using certain methods (_____) to control my weight.
d) I am putting in a lot of effort to stop using certain methods (_____) to control my weight.
e) I have managed to stop using certain methods (_____) to control my weight and would like to keep it this way.

17. The following statements refer to certain emotional problems (such as feeling depressed, anxious or irritable):

a) I do not have any emotional problems which I need to work on.
b) I sometimes think that I may have certain emotional problems which I need to work on.
c) I have certain emotional problems which I have decided to work on.
d) I am actively working on my emotional problems.
e) My emotional problems have improved and I am trying to keep it this way.

18. The following statements refer to certain characteristics (such as perfectionism or feeling a sense of lack of control over your life):

a) I do not have any problems in the way I approach life which I need to work on.
b) I sometimes think that I may have certain problems in the way I approach life which I need to work on.
c) I have certain problems in the way I approach life which I have decided to work on.
d) I am actively working on problems in the way I approach life.
e) The problems in the way I approach life have improved and I am trying to keep it this way.

19. The following statements refer to relationship problems (such as relationships with family or friends):

a) I do not have any problems in my relationships with others which I need to work on.
b) I sometimes think that I may have certain problems in my relationships with others which I need to work on.
c) I have certain problems in my relationships with others which I have decided to work on.
d) I am actively working on problems in my relationships with others.
e) The problems in my relationships with others have improved and I am trying to keep it this way.

20. The following statements refer to taking part in treatment:

a) It is impossible that I follow the treatment programme.
b) I am not sure whether I am going to follow the treatment programme.
c) I am becoming increasingly confident that I am going to follow the treatment programme.
d) I am confident that I am going to follow the treatment programme.
e) I am confident that I'm going to use the strategies I gained from the treatment programme if my problem recurred.

Martinez *et al.* (2007). Assessing Motivation to Change in Bulimia Nervosa: The Bulimia Nervosa Stages of Change Questionnaire. *European Eating Disorders Review 15, 13–23*

BNSOCQ Scoring

Score of 1-5 for each question:

1. **Precontemplation**
2. **Contemplation**
3. **Preparation**
4. **Action**
5. **Maintenance**

Unlike the ANSOCQ, only one item may be endorsed on the BNSOCQ.

Add all the scores up to get a total between 20 and 100. Divide by 20 to get the overall *Stage of Change*.

Q1_____ Q2_____ Q3_____ Q4_____ Q5_____

Q6_____ Q7_____ Q8_____ Q9_____ Q10_____

Q11_____ Q12_____ Q13_____ Q14_____ Q15_____

Q16_____ Q17_____ Q18_____ Q19_____ Q20_____

Total Score _____

Divided by 20 _____

< 1.5 = precontemplation

1.5 – 2.4 = contemplation

2.5 – 3.4 = preparation

3.5 – 4.4 = action

≥ 4.5 = maintenance

Overall Stage Classification _____

6.13. Appendix M: Eating Disorder Examination Questionnaire

Eating Disorder examination questionnaire (EDE-Q 6.0)

Instructions: The following questions are concerned with the past four weeks (28 days) only.

Please read each question carefully. Please answer all the questions. Thank you.

Questions 1 to 12: Please circle the appropriate number on the right. Remember that the questions only refer to the past four weeks (28 days) only.

	ON HOW MANY OF THE PAST 28 DAYS ...	NO DAYS	1-5 DAYS	6-12 DAYS	13-15 DAYS	16-22 DAYS	23-27 DAYS	EVERY DAY
1	Have you been deliberately **trying** to limit the amount of food you eat to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6
2	Have you gone for long periods of time (8 waking hours or more) without eating anything at all in order to influence your shape or weight?	0	1	2	3	4	5	6
3	Have you **tried** to exclude from your diet any foods that you like in order to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6
4	Have you **tried** to follow definite rules regarding your eating (for example, a calorie limit) in order to influence your shape or weight (whether or not you have succeeded)?	0	1	2	3	4	5	6
5	Have you had a definite desire to have an **empty** stomach with the aim of influencing your shape or weight?	0	1	2	3	4	5	6
6	Have you had a definite desire to have a **totally flat** stomach?	0	1	2	3	4	5	6
7	Has thinking about **food, eating or calories**,made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?	0	1	2	3	4	5	6
8	Has thinking about **shape or weight** made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?	0	1	2	3	4	5	6
9	Have you had a definite fear of losing control over eating?	0	1	2	3	4	5	6
10	Have you had a definite fear that you might gain weight?	0	1	2	3	4	5	6
11	Have you felt fat?	0	1	2	3	4	5	6
12	Have you had a strong desire to lose weight?	0	1	2	3	4	5	6

PAGE 1/3 PLEASE GO TO THE NEXT PAGE

EDE-Q 6.0

Eating Disorder examination questionnaire (EDE-Q 6.0)

Questions 13-18: Please fill in the appropriate number in the boxes on the right. Remember that the questions only refer to th past four weeks (28 days).

Over the past four weeks (28 days)….

13	Over the past 28 days, how many **times** have you eaten what other people would regards as an **unusually large amount of food** (given the circumstances)?	
14	… On how many of these times did you have a sense of having lost control over your eating (at the time you were eating)?	
15	Over the past 28 days, on how many **DAYS** have such episodes of overeating occurred (i.e. you have eaten an unusually large amount of food **and** have had a sense of loss of control at the time)?	
16	Over the past 28 days, how many **times** have you made yourself sick (vomit) as a means of controlling your shape or weight?	
17	Over the past 28 days, how many **times** have you taken laxatives as a means of controlling your shape or weight?	
18	Over the past 28 days, how many **times** have you exercised in a "driven" or "compulsive" way as a means of controlling your weight, shape or amount of fat, or to burn off calories?	

Questions 19 to 21: Please circle the appropriate number. <u>Please note that for these questions the term "binge eating" means</u> eating what others would regard as an unusually large amount of food for the circumstances, accompanied by a sense of having lost control over eating.

		NO DAYS	1-5 DAYS	6-12 DAYS	13-15 DAYS	16-22 DAYS	23-27 DAYS	EVERY DAY
19	Over the past 28 days, on how many days have you eaten in secret (ie, furtively)? … Do not count episodes of binge eating.	0	1	2	3	4	5	6
		None of the times	A few of the times	Less than half	Half of the times	More than half	Most of the time	Every time
20	On what proportion of the times that you have eaten have you felt guilty (felt that you've done wrong) because of its effect on your shape or weight? … Do not count episodes of binge eating.	0	1	2	3	4	5	6
			Not at all	Slightly	Moderately		Markedly	
21	Over the past 28 days, how concerned have you been about other people seeing you eat? … Do not count episodes of binge eating.	0	1	2	3	4	5	6

Eating Disorder examination questionnaire (EDE-Q 6.0)

Questions 22 to 28: Please circle the appropriate number on the right. Remember that the questions only refer to the past four weeks (28 days).

	ON HOW MANY OVER THE PAST 28 DAYS …	NOT AT ALL	SLIGHTLY		MODERATELY		MARKEDLY	
22	Has your **weight** influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
23	Has your **shape** influenced how you think about (judge) yourself as a person?	0	1	2	3	4	5	6
24	How much would it have upset you if you had been asked to weigh yourself once a week (no more, or less, often) for the next four weeks?	0	1	2	3	4	5	6
25	How dissatisfied have you been with your **weight**?	0	1	2	3	4	5	6
26	How dissatisfied have you been with your **shape**?	0	1	2	3	4	5	6
27	How uncomfortable have you felt seeing your body (for example, seeing your shape in the mirror, in a shop window reflection, while undressing or taking a bath or shower)?	0	1	2	3	4	5	6
28	How uncomfortable have you felt about **others** seeing your shape or figure (for example, in communal changing rooms, when swimming, or wearing tight clothes)?	0	1	2	3	4	5	6

What is your weight at present? (Please give your best estimate.): _____

What is your height? (Please give your best estimate.): _____

If female: Over the past three to four months have you missed any menstrual periods?: YES ○ NO ○

If so, how many?: ○

Have you been taking the "pill"?: YES ○ NO ○

THANK YOU

EDE-Q 6.0

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6.14. Appendix N: Depression, Anxiety and Stress Scale

DASS 21 NAME _____ DATE _____

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.
The rating scale is as follows:

0 Did not apply to me at all - NEVER

1 Applied to me to some degree, or some of the time - SOMETIMES

2 Applied to me to a considerable degree, or a good part of time - OFTEN

3 Applied to me very much, or most of the time - ALMOST ALWAYS

		N	S	O	AA	FOR OFFICE USE D	A	S
1	I found it hard to wind down	0	1	2	3			
2	I was aware of dryness of my mouth	0	1	2	3			
3	I couldn't seem to experience any positive feeling at all	0	1	2	3			
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3			
5	I found it difficult to work up the initiative to do things	0	1	2	3			
6	I tended to over-react to situations	0	1	2	3			
7	I experienced trembling (eg, in the hands)	0	1	2	3			
8	I felt that I was using a lot of nervous energy	0	1	2	3			
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3			
10	I felt that I had nothing to look forward to	0	1	2	3			
11	I found myself getting agitated	0	1	2	3			
12	I found it difficult to relax	0	1	2	3			
13	I felt down-hearted and blue	0	1	2	3			
14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3			
15	I felt I was close to panic	0	1	2	3			
16	I was unable to become enthusiastic about anything	0	1	2	3			
17	I felt I wasn't worth much as a person	0	1	2	3			
18	I felt that I was rather touchy	0	1	2	3			
19	I was aware of the action of my heart in the absence of physicalexertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3			
20	I felt scared without any good reason	0	1	2	3			
21	I felt that life was meaningless	0	1	2	3			
					TOTALS			

DASS Severity Ratings

The DASS is a **quantitative** measure of distress along the 3 axes of depression, anxiety[1] and stress[2]. It is not a categorical measure of clinical diagnoses.

Emotional syndromes like depression and anxiety are intrinsically dimensional - they vary along a continuum of severity (independent of the specific diagnosis). Hence the selection of a single cut-off score to represent clinical severity is necessarily arbitrary. A scale such as the DASS can lead to a useful assessment of **disturbance**, for example individuals who may fall short of a clinical cut-off for a specific diagnosis can be correctly recognised as experiencing considerable symptoms and as being at high risk of further problems.

However for clinical purposes it can be helpful to have 'labels' to characterise degree of severity relative to the population. Thus the following cut-off scores have been developed for defining mild/moderate/severe/ extremely severe scores for each DASS scale.

Note: the severity labels are used to describe the full range of scores in the population, so 'mild' for example means that the person is above the population mean but probably still way below the typical severity of someone seeking help (ie it does not mean a mild level of disorder.

The individual DASS scores do not define appropriate interventions. They should be used in conjunction with all clinical information available to you in determining appropriate treatment for any individual.

[1]Symptoms of psychological arousal
[2]The more cognitive, subjective symptoms of anxiety

DASS 21 SCORE

DEPRESSION SCORE	ANXIETY SCORE	STRESS SCORE

	Depression	Anxiety	Stress
Normal	0 - 4	0 - 3	0 - 7
Mild	5 - 6	4 - 5	8 - 9
Moderate	7 - 10	6 - 7	10 - 12
Severe	11 - 13	8 - 9	13 - 16
Extremely Severe	14 +	10 +	17 +

6.15. Appendix O: Measuring Intention to Recover from Bulimia Nervosa

NAME:

Measuring Intention to Recover from Bulimia Nervosa (MIRBN)

Please circle or underline the response which best represents your current experience of Bulimia in relation to each statement. There are 24 statements. Please answer every question, and we would appreciate your honest response. Thank you.

1. **It is worthwhile trying to recover from bulimia**

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

2. **I aim to eat normally and not binge/purge for the rest of my life**

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

3. **I plan to recover from bulimia**

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

4. **Society places importance on eating normally and not binging/purging**

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

5. **People who are important to me think I should eat normally and not binge/purge**

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

6. **For me, to eat normally and not binge/purge is...**

VERY DIFFICULT	MODERATELY DIFFICULT	SLIGHTLY DIFFICULT	NEITHER EASY NOR DIFFICULT	SLIGHTLY EASY	MODERATELY EASY	VERY EASY

7. **Challenging my bulimia by eating normally and not binging/purging is...**

TOTALLY IMPOSSIBLE	MODERATELY IMPOSSIBLE	SLIGHTLY IMPOSSIBLE	NEITHER POSSIBLE NOR IMPOSSIBLE	SLIGHTLY POSSIBLE	MODERATELY POSSIBLE	TOTALLY POSSIBLE

8. Recovery from bulimia is...

TOTALLY OUT MY CONTROL	MODERATELY OUT MY CONTROL	SLIGHTLY OUT MY CONTROL	NEITHER IN OR OUT OF MY CONTROL	SLIGHTLY IN MY CONTROL	MODERATELY IN MY CONTROL	TOTALLY IN MY CONTROL

9. I am confident that I can eat normally and not binge/purge

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

10. People I care about want me to recover from bulimia

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

11. Most people who have bulimia think recovery is possible

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

12. I aim to recover from bulimia

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

13. I intend to eat normally and not binge/purge

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

14. Recovery from bulimia would change my life for the better

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

15. Eating normally and not binging/purging is...

VERY BAD FOR ME	MODERATELY BAD FOR ME	SLIGHTLY BAD FOR ME	NEITHER GOOD NOR BAD FOR ME	SLIGHTLY GOOD FOR ME	MODERATELY GOOD FOR ME	VERY GOOD FOR ME

16. I believe that I can recover from bulimia

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

17. Most people who have bulimia try to eat normally and not binge/purge

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

18. People who are important to me believe I can recover from bulimia

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

19. Recovery from bulimia is a goal worth pursuing

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

20. Eating normally and not binging/purging is...

NOT IMPORTANT AT ALL	MODERATELY UNIMPORTANT	SLIGHTLY UNIMPORTANT	NEITHER IMPORTANT NOR UNIMPORTANT	SLIGHTLY IMPORTANT	MODERATELY IMPORTANT	VERY IMPORTANT

21. I have the ability to recover from bulimia

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

22. I plan to eat normally and not binge/purge

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

23. I intend to recover from bulimia

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

24. Eating normally and not binging/purging matters to me

STRONGLY DISAGREE	MODERATELY DISAGREE	SLIGHTLY DISAGREE	NEITHER AGREE NOR DISAGREE	SLIGHTLY AGREE	MODERATELY AGREE	STRONGLY AGREE

6.16. Appendix P: Ethics Application to the University of East London's School of Psychology Ethics Committee

University of East London

UNIVERSITY OF EAST LONDON
School of Psychology

APPLICATION FOR RESEARCH ETHICS APPROVAL
FOR RESEARCH INVOLVING HUMAN PARTICIPANTS
(Updated October 2021)

FOR BSc RESEARCH;
MSc/MA RESEARCH;
PROFESSIONAL DOCTORATE RESEARCH IN CLINICAL, COUNSELLING & EDUCATIONAL PSYCHOLOGY

Section 1 – Guidance on Completing the Application Form (please read carefully)	
1.1	Before completing this application, please familiarise yourself with: ▪ British Psychological Society's Code of Ethics and Conduct ▪ UEL's Code of Practice for Research Ethics ▪ UEL's Research Data Management Policy ▪ UEL's Data Backup Policy
1.2	Email your supervisor the completed application and all attachments as ONE WORD DOCUMENT. Your supervisor will look over your application and provide feedback.
1.3	When your application demonstrates a sound ethical protocol, your supervisor will submit it for review.
1.4	Your supervisor will let you know the outcome of your application. Recruitment and data collection must **NOT** commence until your ethics application has been approved, along with other approvals that may be necessary (see section 7).
1.5	Research in the NHS: ▪ If your research involves patients or service users of the NHS, their relatives or carers, as well as those in receipt of services provided under contract to the NHS, you will need to apply for HRA approval/NHS permission (through

	IRAS). You DO NOT need to apply to the School of Psychology for ethical clearance. ▪ Useful websites: https://www.myresearchproject.org.uk/Signin.aspx https://www.hra.nhs.uk/approvals-amendments/what-approvals-do-i-need/hra-approval/ ▪ If recruitment involves NHS staff via the NHS, an application will need to be submitted to the HRA in order to obtain R&D approval. This is in addition to separate approval via the R&D department of the NHS Trust involved in the research. UEL ethical approval will also be required. ▪ HRA/R&D approval is not required for research when NHS employees are not recruited directly through NHS lines of communication (UEL ethical approval is required). This means that NHS staff can participate in research without HRA approval when a student recruits via their own social/professional networks or through a professional body such as the BPS, for example. ▪ The School strongly discourages BSc and MSc/MA students from designing research that requires HRA approval for research involving the NHS, as this can be a very demanding and lengthy process.
1.6	If you require Disclosure Barring Service (DBS) clearance (see section 6), please request a DBS clearance form from the Hub, complete it fully, and return it to applicantchecks@uel.ac.uk. Once the form has been approved, you will be registered with GBG Online Disclosures and a registration email will be sent to you. Guidance for completing the online form is provided on the GBG website: https://fadv.onlinedisclosures.co.uk/Authentication/Login You may also find the following website to be a useful resource: https://www.gov.uk/government/organisations/disclosure-and-barring-service
1.7	Checklist, the following attachments should be included if appropriate: ▪ Study advertisement ▪ Participant Information Sheet (PIS) ▪ Participant Consent Form ▪ Participant Debrief Sheet ▪ Risk Assessment Form/Country-Specific Risk Assessment Form (see section 5) ▪ Permission from an external organisation (see section 7) ▪ Original and/or pre-existing questionnaire(s) and test(s) you intend to use ▪ Interview guide for qualitative studies ▪ Visual material(s) you intend showing participants

Section 2 – Your Details		
2.1	**Your name:**	**Samantha van Huyssteen**
2.2	**Your supervisor's name:**	**Dr. James Walsh**

2.3	**Name(s) of additional UEL supervisors:**	**Dr. Trishna Patel**
		3rd supervisor (if applicable)
2.4	**Title of your programme:**	**Professional Doctorate in Clinical Psychology**
2.5	**UEL assignment submission date:**	**20/05/2024**
		Re-sit date (if applicable)

Section 3 – Project Details		
Please give as much detail as necessary for a reviewer to be able to fully understand the nature and purpose of your research.		
3.1	**Study title:** Please note - If your study requires registration, the title inserted here must be the same as that on PhD Manager	**Motivation to Recover from Bulimia Nervosa: An Application of the Theory of Planned Behaviour**
3.2	**Summary of study background and aims (using lay language):**	This research is a thesis as part of the Professional Doctorate in Clinical Psychology programme at UEL. Bulimia Nervosa is an eating disorder involving recurrent cycles of binging and purging. The physical health consequences are significant, as is the risk of sudden cardiac death. Bulimia Nervosa is typically associated with feelings of ambivalence about recovery and low motivation to change. Research concerning eating disorders tends to focus on the experiences of Anorexia Nervosa, and despite mixed conclusions about the applicability of the Transtheoretical Model of Change, it remains the predominant model for understanding motivation to recover from eating disorders. To my knowledge, this research would be the first study to apply the Theory of Planned Behaviour to recovery in Bulimia Nervosa. Motivation to change remains an important topic within eating disorder research and adult eating disorder services. The proposed research will employ quantitative research methods, using a cross-sectional, correlational research design. It would involve

		recruiting approximately 60 adults, minimum 41, aged 18+, from a community NHS Eating Disorder service of which the Clinical Lead has agreed to recruitment from. An alternative plan will be to recruit via social media, to adults aged 18+ who are currently receiving community treatment for Bulimia Nervosa. Understanding more about motivation to recover from Bulimia Nervosa may have important implications for improving adherence to treatment and the recovery process.
3.3	**Research question(s):**	This study aims to explore: 1) Whether the Theory of Planned Behaviour has application for understanding and predicting motivation to recover from Bulimia Nervosa, as was suggested for Anorexia Nervosa (Dawson et al., 2015) 2) What are the motivations for working towards recovery from Bulimia Nervosa?
3.4	**Research design:**	Cross-sectional, correlational research design using survey methods. Non-experimental. Quantitative analyses using SPSS. Predictor variables: Intention, behavioural beliefs, subjective norms and perceived behavioural control Primary Outcome variable: Intention to recover from Bulimia Nervosa Secondary outcome variables: Depression, Anxiety and Stress (as measured by the DASS-21), stage of change (as measured by the BNSOC-Q) and current eating disorder pathology (as measured by the EDE-Q).
3.5	**Participants:** Include all relevant information including inclusion and exclusion criteria	Inclusion criteria: Any adults aged 18+ with a diagnosis of Bulimia Nervosa who are currently receiving treatment, e.g., therapy in the community for this. Based in the UK. If NHS ethical approval is granted and recruitment can take place via the NHS Eating Disorder Service, inclusion criteria will more specifically be that adults are currently receiving treatment from this service.

		Exclusion criteria: Adults who are on a section under the Mental Health Act or who are currently inpatient either for their diagnosis of Bulimia Nervosa or other mental health difficulties. Adults who are not proficient in English.
3.6	**Recruitment strategy:** Provide as much detail as possible and include a backup plan if relevant	If NHS ethical approval is granted, recruitment can take place via the XXX Eating Disorder Service, covering XXX and XXX, XXX and XXX. A research poster with the researcher's contact details will be provided to the clinic for advertisement in the waiting room and in therapy rooms. The Eating Disorders Team will be informed of the research, and asked to identify possible participants from their caseloads and share the research poster with them. Patients complete a consent form when referred to the service, and indicate whether they agree to be contacted for research purposes. Potential participants can also self-identify eligibility from seeing the research poster in the clinic. The proposed sample size is 60, similar to the study by Dawson et al., (2015). However, a GPower analysis was carried out, and indicated that a total sample size of 41 would be sufficient to achieve good statistical power (0.8), therefore this will be the minimum aim for sample size. An alternative plan will be to recruit via social media. The research poster will be advertised on social media platforms such as Instagram, twitter and Facebook. I will ask friends and family to share the research poster too. The research poster will include the link to taking part in the study via Qualtrics, an online survey tool.
		Charities such as BEAT will also be contacted via email and/or service-specific request forms if relevant to ask for support in sharing/distributing the Qualtrics link and study poster on social media.
3.7	**Measures, materials or equipment:** Provide detailed information, e.g., for measures, include scoring instructions, psychometric	X4 Questionnaires: - Depression, Anxiety and Stress scores as measured by the Depression, Anxiety and Stress Scale (21) (DASS-21, Lovibond & Lovibond, 1995) - Stage of Change as measured by the Bulimia Nervosa Stage of Change Questionnaire (BNSOC-Q,

	properties, if freely available, permissions required, etc.	Martinez et al., 2007), which has been designed to use clinically and for research purposes. - Current eating disorder pathology as measured by the Eating Disorder Examination Questionnaire (EDE-Q, Fairburn & Beglin, 1994) - Theory of Planned Behaviour Questionnaire (Measuring Intention to Recover from Bulimia Nervosa) developed by the researcher for the purpose of this study (see Appendix J).
3.8	**Data collection:** Provide information on how data will be collected from the point of consent to debrief	Please detail how data will be collected Data will be collected via an online survey/questionnaire on Qualtrics. The information sheet will be presented on the first page of the online survey. On the second page, participants will need to fill the consent form and provide demographic information (age, gender and ethnicity). Participants will be able to fill the questionnaires only if they give consent. They will then answer the questionnaire on the following pages. On the last page of the survey, participants will be reminded that by clicking 'submit', they are confirming their consent. If participants do not provide consent, they will be taken automatically to the final page. The debrief form will be presented on the last page of the online survey. The debrief form will provide contact details for myself if participants have any further questions regarding the research. However, due to the larger numbers of participants hoping to be recruited, offering individual debriefs will not be possible. It is not anticipated that the questionnaires will be particularly emotionally distressing, and with the invitation for individuals to participate who are currently receiving treatment, participants will be encouraged to discuss any feelings that have arisen as a result of completing the questionnaires with their mental health worker/team/service. If NHS ethical approval is granted and recruitment can be carried out via the NHS Eating Disorder Service, participants will be given the option of participating on hard/paper copies, generating the

		same data described above. Participants will still be allocated ID numbers for anonymity purposes. The Information Sheet will be available on paper, and the consent forms, personal data, and questionnaire data, can therefore also be collected on paper. A debrief sheet can also be provided on paper. This option is for equality purposes (not all participants may have access to an electronic device to participate).	
3.9	**Will you be engaging in deception?**	**YES** ☐	**NO** ☒
	If yes, what will participants be told about the nature of the research, and how/when will you inform them about its real nature?	If you selected yes, please provide more information here	
3.10	**Will participants be reimbursed?**	**YES** ☒	**NO** ☐
	If yes, please detail why it is necessary.	Participants will not be paid individually for their involvement, however they will have the opportunity to win one of two Amazon vouchers.	
	How much will you offer? Please note - This must be in the form of vouchers, not cash.	£50 per voucher	
3.11	**Data analysis:**	Using SPSS software, statistical analyses will be conducted. This will mostly be correlational and multiple regression.	

Section 4 – Confidentiality, Security and Data Retention			
It is vital that data are handled carefully, particularly the details about participants. For information in this area, please see the UEL guidance on data protection, and also the UK government guide to data protection regulations. If a Research Data Management Plan (RDMP) has been completed and reviewed, information from this document can be inserted here.			
4.1	**Will the participants be anonymised at source?**	**YES** ☐	**NO** ☒
	If yes, please provide details of how the data will be anonymised.	Yes for participants taking part via Qualtrics: Participants will not be asked to provide their name or other identifying details when completing the survey. They	

		will be given a participant ID, which will be automatically generated on Qualtrics, which will allow them to withdraw their data from the study if they wish to do so. Participants will be informed in the consent form to make a note of their participant ID, so that if they wish to withdraw their data from the study the participant ID will enable the researcher to identify their data and delete it easily. No for participants taking part on hard/paper copies: Participants' paper copies of their consent form and questionnaires would be collected by XXX (clinical lead) or XXX (assistant psychologist to XXX), who will deposit these into a locked cabinet behind a coded door at the eating disorder clinic.	
4.2	**Are participants' responses anonymised or are an anonymised sample?**	**YES** ☐X	**NO** ☐
	If yes, please provide details of how data will be anonymised (e.g., all identifying information will be removed during transcription, pseudonyms used, etc.).	Participants will not be asked to provide their name or other identifying details when completing the survey. Participants will only be asked for basic demographic information: age, gender and ethnicity.	
4.3	**How will you ensure participant details will be kept confidential?**	Any personal data that is collected will be held securely and processed in accordance with the UKGDPR and the Data Protection Act 2018. Participants will not be identified by the data collected, or any material resulting from the data collected, or in any write-up of the research.	
4.4	**How will data be securely stored and backed up during the research?** Please include details of how you will manage access, sharing and security	The data will be stored on my UEL's password protected OneDrive account in a folder that is not synchronised on any devices. Only data that has been anonymised through unique participant ID numbers will be sent to my supervisor, Dr. James Walsh, via OneDrive secure links as a backup during the study and stored on the supervisor's OneDrive account.	

		Only myself will have access to the Qualtrics Survey account from which the questionnaires will be accessible. The questionnaires will be exported and saved on my UEL OneDrive account in a password-protected folder. Raw data from the questionnaires will be entered into an Excel File for scoring, which will be password-protected and saved on UEL OneDrive, after which scored data will be transferred to statistics software SPSS for analyses. Once all data has been analysed and re-checked for errors, all questionnaires completed will be deleted from both the UEL OneDrive and from Qualtrics. Consent forms will be exported from Qualtrics and will not be linked to participants' questionnaire responses to maintain anonymity to the researcher. The consent forms will be stored in a separate password-protected file from all other study material on my UEL OneDrive account. If NHS ethical approval is granted and recruitment can take place via an NHS Eating Disorder Service, the additional option of taking part on hard/paper copies will be provided. If so, participants will return their completed consent form, demographic information and questionnaires to their mental health worker/clinician, who will store them in a secure locker in a storage room requiring a code for entry, for the researcher to collect at the earliest opportunity. The researcher will then scan the data creating digital copies, and shred the hard copies. These will then be stored in the same process as described above for electronic participation. Participants who would like to be entered

		into the prize draw of one of two £50 amazon vouchers can provide their email address, and will be informed on the information sheet that any contact from the researcher would only be for informing on whether the participant has won one of the vouchers. It will be made clear that participants' email addresses will not be linked to their questionnaire responses when their data is collected, so the researcher will not be able to identify their responses from their email address. It will be made clear that participants do not have to enter if they do not wish, and this does not affect their participation in the study. Email addresses of participants who wish to be included in the prize draw will be kept on a password-protected document in a separate file from all other study material, of which will also be password-protected, on my UEL OneDrive.	
4.5	**Who will have access to the data and in what form?** (e.g., raw data, anonymised data)	My supervisor and I will have access to the data which has been anonymised via allocation of unique participant ID numbers. Examiners may also have access to the data if requested.	
4.6	**Which data are of long-term value and will be retained?** (e.g., anonymised interview transcripts, anonymised databases)	The anonymised data set is of long-term value.	
4.7	**What is the long-term retention plan for this data?**	Anonymised research data will be securely stored on my supervisor's UEL's password-protected OneDrive account for a maximum of 3 years, following which all data will be deleted.	
4.8	**Will anonymised data be made available for use in future research by other researchers?**	**YES** ☒	**NO** ☐
	If yes, have participants been informed of this?	**YES** ☒	**NO** ☐

4.9	**Will personal contact details be retained to contact participants in the future for other research studies?**	**YES** ☐	**NO** ☒
	If yes, have participants been informed of this?	**YES** ☐	**NO** ☐

Section 5 – Risk Assessment			
If you have serious concerns about the safety of a participant, or others, during the course of your research please speak with your supervisor as soon as possible. If there is any unexpected occurrence while you are collecting your data (e.g., a participant or the researcher injures themselves), please report this to your supervisor as soon as possible.			
5.1	**Are there any potential physical or psychological risks to participants related to taking part?** (e.g., potential adverse effects, pain, discomfort, emotional distress, intrusion, etc.)	**YES** ☒	**NO** ☐
	If yes, what are these, and how will they be minimised?	Headache due to reading x4 questionnaires- Participants will be encouraged on the information sheet to take a break in between questionnaires if they need to. Headache due to staring at screen to complete x4 questionnaires if done so electronically - Participants will be encouraged on the information sheet to take a break in between questionnaires if they need to. Emotional distress as a result of the questionnaires bringing up difficult feelings about recovery from bulimia nervosa- Participants will be encouraged on the information sheet to discuss the experience of completing the questionnaires with their mental health worker if they need to, and that if there are any outstanding questions or feedback about the experience of	

		participating then myself as the researcher can be contacted.	
5.2	**Are there any potential physical or psychological risks to you as a researcher?**	**YES** ☒	**NO** ☐
	If yes, what are these, and how will they be minimised?	Emotional distress/feelings as a result of reading questionnaires related to recovery from Bulimia Nervosa - Researcher will discuss any emotional impact of reading the questionnaire responses with thesis supervisor, and can reach out to the UEL well-being team if needed for further support.	
5.3	**If you answered yes to either 5.1 and/or 5.2, you will need to complete and include a General Risk Assessment (GRA) form (signed by your supervisor). Please confirm that you have attached a GRA form as an appendix: see appendix E**	**YES** ☒	
5.4	**If necessary, have appropriate support services been identified in material provided to participants?**	**YES** ☒	**NO** ☐ **N/A** ☐
5.5	**Does the research take place outside the UEL campus?**	**YES** ☒	**NO** ☐
	If yes, where?	**NHS Site, and/or Online/electronic**	
5.6	**Does the research take place outside the UK?**	**YES** ☐	**NO** ☒
	If yes, where?	Please state the country and other relevant details	
	If yes, in addition to the General Risk Assessment form, a Country-Specific Risk Assessment form must also be completed and included (available in the Ethics folder in the Psychology Noticeboard). Please confirm a Country-Specific Risk Assessment form has been attached as an appendix.	**YES** ☐	

	Please note - A Country-Specific Risk Assessment form is not needed if the research is online only (e.g., Qualtrics survey), regardless of the location of the researcher or the participants.	
5.7	**Additional guidance:** ▪ For assistance in completing the risk assessment, please use the AIG Travel Guard website to ascertain risk levels. Click on 'sign in' and then 'register here' using policy # 0015865161. Please also consult the Foreign Office travel advice website for further guidance. ▪ For on campus students, once the ethics application has been approved by a reviewer, all risk assessments for research abroad must then be signed by the Director of Impact and Innovation, Professor Ian Tucker (who may escalate it up to the Vice Chancellor). ▪ For distance learning students conducting research abroad in the country where they currently reside, a risk assessment must also be carried out. To minimise risk, it is recommended that such students only conduct data collection online. If the project is deemed low risk, then it is not necessary for the risk assessment to be signed by the Director of Impact and Innovation. However, if not deemed low risk, it must be signed by the Director of Impact and Innovation (or potentially the Vice Chancellor). ▪ Undergraduate and M-level students are not explicitly prohibited from conducting research abroad. However, it is discouraged because of the inexperience of the students and the time constraints they have to complete their degree.	

Section 6 – Disclosure and Barring Service (DBS) Clearance			
6.1	**Does your research involve working with children (aged 16 or under) or vulnerable adults (*see below for definition)?** If yes, you will require Disclosure Barring Service (DBS) or equivalent (for those residing in countries outside of the UK) clearance to conduct the research project	**YES** ☒	**NO** ☐
	* You are required to have DBS or equivalent clearance if your participant group involves: (1) Children and young people who are 16 years of age or under, or (2) 'Vulnerable' people aged 16 and over with particular psychiatric diagnoses, cognitive difficulties, receiving domestic care, in nursing homes, in palliative care, living in institutions or sheltered accommodation, or involved in the criminal justice system, for example. Vulnerable people are understood to be persons who		

	are not necessarily able to freely consent to participating in your research, or who may find it difficult to withhold consent. If in doubt about the extent of the vulnerability of your intended participant group, speak with your supervisor. Methods that maximise the understanding and ability of vulnerable people to give consent should be used whenever possible.		
6.2	**Do you have DBS or equivalent (for those residing in countries outside of the UK) clearance to conduct the research project?**	**YES** ☐X	**NO** ☐
6.3	**Is your DBS or equivalent (for those residing in countries outside of the UK) clearance valid for the duration of the research project?**	**YES** ☐	**NO** ☐
6.4	**If you have current DBS clearance, please provide your DBS certificate number:**	[redacted]	
	If residing outside of the UK, please detail the type of clearance and/or provide certificate number.	Please provide details of the type of clearance, including any identification information such as a certificate number	
6.5	**Additional guidance:** ▪ If participants are aged 16 or under, you will need two separate information sheets, consent forms, and debrief forms (one for the participant, and one for their parent/guardian). ▪ For younger participants, their information sheets, consent form, and debrief form need to be written in age-appropriate language.		

Section 7 – Other Permissions			
7.1	**Does the research involve other organisations (e.g., a school, charity, workplace, local authority, care home, etc.)?**	**YES** ☒	**NO** ☐
	If yes, please provide their details.	**XXX Eating Disorder Service (Adult). See Appendix F.**	
	If yes, written permission is needed from such organisations (i.e., if they are helping you with recruitment and/or data collection, if you are collecting data on their premises, or if you are using any material owned by the institution/organisation). Please confirm that you have attached written permission as an appendix.	**YES** ☒	
7.2	**Additional guidance:** ▪ Before the research commences, once your ethics application has been approved, please ensure that you provide the organisation with a copy of		

	the final, approved ethics application or approval letter. Please then prepare a version of the consent form for the organisation themselves to sign. You can adapt it by replacing words such as 'my' or 'I' with 'our organisation' or with the title of the organisation. This organisational consent form must be signed before the research can commence. ▪ If the organisation has their own ethics committee and review process, a SREC application and approval is still required. Ethics approval from SREC can be gained before approval from another research ethics committee is obtained. However, recruitment and data collection are NOT to commence until your research has been approved by the School and other ethics committee/s.

Section 8 – Declarations		
8.1	**Declaration by student. I confirm that I have discussed the ethics and feasibility of this research proposal with my supervisor:**	**YES** ☒
8.2	**Student's name:** (Typed name acts as a signature)	**Samantha Joan van Huyssteen**
8.3	**Student's number:**	**U2195640**
8.4	**Date:**	**22/05/2023**
Supervisor's declaration of support is given upon their electronic submission of the application		

Student checklist for appendices – *for student use only*

Documents attached to ethics application	**YES**	**N/A**
Study advertisement	☒	☐
Participant Information Sheet (PIS)	☒	☐
Consent Form	☒	☐
Participant Debrief Sheet	☒	☐
Risk Assessment Form	☒	☐
Country-Specific Risk Assessment Form	☐	☒
Permission(s) from an external organisation(s)	☒	☐
Pre-existing questionnaires that will be administered	☒	☐
Researcher developed questionnaires/questions that will be administered	☒	☐
Pre-existing tests that will be administered	☐	☒
Researcher developed tests that will be administered	☐	☒
Interview guide for qualitative studies	☐	☒

Any other visual material(s) that will be administered	☐	☒
All suggested text in RED has been removed from the appendices	☒	☐
All guidance boxes have been removed from the appendices	☒	☐

6.17. Appendix Q: Risk Assessment for the University of East London's Ethics Application

University of East London Pioneering Futures Since 1898	**UEL Risk Assessment Form**		
Name of Assessor:	**Samantha van Huyssteen**	**Date of Assessment:**	**08/02/2023**
Activity title:	**Doctoral Thesis** **Motivation to Recover from Bulimia Nervosa: An Application of the Theory of Planned Behaviour**	**Location of activity:**	**Recruiting via NHS Eating Disorder Service – participation can take place online/electronically, on the NHS site if wanting to participate on hard/paper copies, or at home if wanting to take hard/paper copies home and then return to NHS Eating Disorder Service.** **Alternative method of recruitment if NHS ethical approval not granted is social media, so location would be online/electronic.**
Signed off by Manager: (Print Name)	[redacted]	**Date and time: (if applicable)**	**13th April 2023**
Please describe the activity/event in as much detail as possible (include nature of activity, estimated number of participants, etc.). If the activity to be assessed is part of a fieldtrip or event please add an overview of this below:			

- This research is a thesis as part of the Professional Doctorate in Clinical Psychology programme at UEL.
- The research aims to study what motivates recovery from Bulimia Nervosa (an eating disorder) and whether the Theory of Planned Behaviour can be applied to understanding motivation to recover from Bulimia Nervosa in adults.
- The research is intended to recruit from an NHS Eating Disorder Service if NHS ethical approval is granted, however a back-up of recruiting participants via social media is in place in case approval is not granted or the length of time to gain approval is not conducive to completing the thesis within the time provided by UEL. The research will involve recruiting approximately 60 adults, a minimum of 41.
- An incentive to participate includes the opportunity to win one of two £50 amazon vouchers.
- Inclusion criteria: any adult aged 18+ with a current diagnosis of Bulimia Nervosa, able to read English, and currently receiving community treatment for this diagnosis e.g., therapy.
- Exclusion criteria: current detention under the Mental Health Act, currently inpatient for Mental Health related difficulties, non-proficient in reading English.
- Participants will be recruited from an NHS Eating Disorder Service if NHS ethical approval is granted. Alternatively, participants will be sought via social media platforms e.g., Instagram, Twitter, LinkedIn by sharing of a research poster containing a hyperlink to the study.
- People who are interested in participating can follow the link in the research poster, which will take them to Qualtrics, where the first page will be an information sheet detailing the research, rights to withdraw, and the data management. If NHS ethical approval is granted and recruitment can take place at the NHS Eating Disorder Service, an additional option of taking part on hard/paper copies for equality purposes will also be provided (some individuals may not have access to an electronic device to participate).
- The version of Qualtrics used is licensed to the UEL School of Psychology. It is readily available through UEL, and adheres to EU Data Protection acts. In this research, the option of 'anonymize responses' will be used on Qualtrics so that the participants' IP addresses and location data are not collected. Qualtrics will be set up so that participants are given autogenerated ID numbers.
- If participants wish to continue, the following page will be a consent form. Participants will be asked to provide their age, gender and ethnicity, and to make note of the auto-generated ID number so that if they would like to withdraw their data up to 3 weeks after completing, they can provide the researcher with their ID number so that their data can easily be identified and destroyed.
- If consented, the following page will be x4 questionnaires to complete; x3 of which are standard questionnaires used in NHS Eating Disorder Services and Mental Health services, and x1 developed by myself, the researcher, to explore the Theory of Planned Behaviour in relation to recovery from Bulimia Nervosa.
- On the last page, participants will be reminded that by clicking 'submit', this confirms their consent to participate. Once clicking 'submit', a debrief page will appear with information about suggestions of what to do if feeling affected by the completion of these questionnaires. The participants will also be encouraged to let their mental health worker/team/service know about their participation in this research so that they can discuss any emotional distress that has arisen. The researcher's contact details (email address) will be provided for any outstanding questions about the research or for registration of complaints as a result of participating.
- Participants can withdraw at any point by exiting Qualtrics, and none of the previous data provided will be saved.

The same process as above follows if NHS ethical approval is granted and recruitment can take place via an NHS Eating Disorder Service and participants choose to participate on hard/paper copies; they will be provided with an information sheet, consent form, questionnaires and debrief form by their mental health worker/clinician and complete in that order.
Overview of FIELD TRIP or EVENT:
The study involves participants completing x4 questionnaires online via Qualtrics. It is expected to take approximately 20 minutes.

Guide to risk ratings:

a) Likelihood of Risk	b) Hazard Severity	c) Risk Rating (a x b = c)
1 = Low (Unlikely)	1 = Slight (Minor / less than 3 days off work)	1-2 = Minor (No further action required)
2 = Moderate (Quite likely)	2= Serious (Over 3 days off work)	3-4 = Medium (May require further control measures)
3 = High (Very likely or certain)	3 = Major (Over 7 days off work, specified injury or death)	6/9 = High (Further control measures essential)

Hazards attached to the activity							
Hazards identified	**Who is at risk?**	**Existing Controls**	**Likelihood**	**Severity**	**Residual Risk Rating (Likelihood x Severity)**	**Additional control measures required (if any)**	**Final risk rating**
Headache due to reading x4 questionnaires	Participant	Participants will be encouraged on the information sheet to take a break in between questionnaires if they need to.	1	1		N/A	1
Headache due to staring at screen to complete x4 questionnaires if done so electronically	Participant	Participants will be encouraged on the information sheet to take a break in between questionnaires if they need to.	1	1		N/A	1
Emotional distress as a result of the questionnaires bringing up difficult feelings about recovery from bulimia nervosa	Participant	Participants will be encouraged on the information sheet to discuss the experience of completing the questionnaires with their mental health worker if they need to, and that if there are any outstanding questions or feedback about the experience of participating then myself as the researcher can be contacted.	1	1		N/A	1

Emotional distress/feelings as a result of reading questionnaires related to recovery from Bulimia Nervosa	Researcher/myself	Researcher will discuss any emotional impact of reading the questionnaire responses with thesis supervisor, and can reach out to the UEL well-being team if needed for further support.	1	1		N/A	1
Emotional triggers as a result of questions about weight	Participant	There are a couple of questions that ask for 'best estimate' of current weight, and a 'minimal normal weight'. Knowing information about weight is not helpful to everyone's recovery. These questions will be made 'non-compulsary' in Qualtrics so participants do not have to answer in order to move onto the next part of the questionnaire.	2	1		N/A	2

Review Date

6.18. Appendix R: University of East London School of Psychology Ethics Committee Approval Letter

University of East London

School of Psychology Ethics Committee

NOTICE OF ETHICS REVIEW DECISION LETTER

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

Reviewer: Please complete sections in **blue** | **Student:** Please complete/read sections in **orange**

Details	
Reviewer:	**Mark Harwood**
Supervisor:	**James Walsh**
Student:	**Samantha van Huyssteen**
Course:	**Professional Doctorate in Clinical Psychology**
Title of proposed study:	**Motivation to Recover from Bulimia Nervosa: An Application of the Theory of Planned Behaviour**

Checklist (Optional)			
	YES	**NO**	**N/A**
Concerns regarding study aims (e.g., ethically/morally questionable, unsuitable topic area for level of study, etc.)	☐	☐	☐
Detailed account of participants, including inclusion and exclusion criteria	☐	☐	☐
Concerns regarding participants/target sample	☐	☐	☐
Detailed account of recruitment strategy	☐	☐	☐
Concerns regarding recruitment strategy	☐	☐	☐
All relevant study materials attached (e.g., freely available questionnaires, interview schedules, tests, etc.)	☐	☐	☐

Study materials (e.g., questionnaires, tests, etc.) are appropriate for target sample	☐	☐	☐
Clear and detailed outline of data collection	☐	☐	☐
Data collection appropriate for target sample	☐	☐	☐
If deception being used, rationale provided, and appropriate steps followed to communicate study aims at a later point	☐	☐	☐
If data collection is not anonymous, appropriate steps taken at later stages to ensure participant anonymity (e.g., data analysis, dissemination, etc.) – anonymisation, pseudonymisation	☐	☐	☐
Concerns regarding data storage (e.g., location, type of data, etc.)	☐	☐	☐
Concerns regarding data sharing (e.g., who will have access and how)	☐	☐	☐
Concerns regarding data retention (e.g., unspecified length of time, unclear why data will be retained/who will have access/where stored)	☐	☐	☐
If required, General Risk Assessment form attached	☐	☐	☐
Any physical/psychological risks/burdens to participants have been sufficiently considered and appropriate attempts will be made to minimise	☐	☐	☐
Any physical/psychological risks to the researcher have been sufficiently considered and appropriate attempts will be made to minimise	☐	☐	☐
If required, Country-Specific Risk Assessment form attached	☐	☐	☐
If required, a DBS or equivalent certificate number/information provided	☐	☐	☐
If required, permissions from recruiting organisations attached (e.g., school, charity organisation, etc.)	☐	☐	☐
All relevant information included in the participant information sheet (PIS)	☐	☐	☐
Information in the PIS is study specific	☐	☐	☐
Language used in the PIS is appropriate for the target audience	☐	☐	☐
All issues specific to the study are covered in the consent form	☐	☐	☐
Language used in the consent form is appropriate for the target audience	☐	☐	☐
All necessary information included in the participant debrief sheet	☐	☐	☐
Language used in the debrief sheet is appropriate for the target audience	☐	☐	☐
Study advertisement included	☐	☐	☐
Content of study advertisement is appropriate (e.g., researcher's personal contact details are not shared, appropriate language/visual material used, etc.)	☐	☐	☐

Decision options	
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.
APPROVED - BUT MINOR AMENDMENTS ARE REQUIRED BEFORE THE RESEARCH COMMENCES	In this circumstance, 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 at the end of this form once all amendments have been attended to and emailing a copy of this decision notice

	to the supervisor. The supervisor will then forward the student's confirmation to the School for its records. **Minor amendments guidance:** typically involve clarifying/amending information presented to participants (e.g., in the PIS, instructions), further detailing of how data will be securely handled/stored, and/or ensuring consistency in information presented across materials.
NOT APPROVED - MAJOR AMENDMENTS AND RE-SUBMISSION REQUIRED	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. **Major amendments guidance:** typically insufficient information has been provided, insufficient consideration given to several key aspects, there are serious concerns regarding any aspect of the project, and/or serious concerns in the candidate's ability to ethically, safely and sensitively execute the study.

Decision on the above-named proposed research study	
Please indicate the decision:	**APPROVED**

Minor amendments
Please clearly detail the amendments the student is required to make
3.4- Intention mistakenly appears in Predictor variable instead of just the outcome variable, since the design appears to only be looking at the predictive potential of Attitdues/ Subjective Norms/ perceived behavioural control on intention rather than also measuring behavioural outcome (i.e. with past behaviour measured only as a control variable). **This is an example of how the explicit design could be slightly improved for the review process, and to ensure the student's clarity on the design also. But because this has no significant ethical implications, this is just a comment rather than a required amendment.** **Note also, that Question 11 on the student-designed key questionnaire (App. J) is not completely transparent to a reviewer not practised in TPB usage. Is it a subjective norm, or just possibly an attitude? Although the other questions' categories are obvious, it would have been more helpful to group each of the key variables in this part into their separate categories.** **The rest of the application is very thoroughly completed.**

Major amendments
Please clearly detail the amendments the student is required to make

Assessment of risk to researcher		
Has an adequate risk assessment been offered in the application form?	**YES** ☒	**NO** ☐
	If no, please request resubmission with an **adequate risk assessment.**	
If the proposed research could expose the researcher to any kind of emotional, physical or health and safety hazard, please rate the degree of risk:		
HIGH	Please **do not approve a high-risk** application. Travel to countries/provinces/areas deemed to be high risk should not be permitted and an application not be approved on this basis. If unsure, please refer to the Chair of Ethics.	☐
MEDIUM	Approve but include appropriate recommendations in the below box.	☐
LOW	Approve and if necessary, include any recommendations in the below box.	☒
Reviewer recommendations in relation to risk (if any):	Please insert any recommendations	

Reviewer's signature	
Reviewer: (Typed name to act as signature)	**Mark Harwood**

Date:	**28/06/2023**

This reviewer has assessed the ethics application for the named research study on behalf of the School of Psychology Ethics Committee

RESEARCHER PLEASE NOTE

For the researcher and participants involved in the above-named study to be covered by UEL's Insurance, prior ethics approval from the School of Psychology (acting on behalf of the UEL Ethics Committee), and confirmation from students where minor amendments were required, must be obtained before any research takes place.

For a copy of UEL's Personal Accident & Travel Insurance Policy, please see the Ethics Folder in the Psychology Noticeboard.

Confirmation of minor amendments (Student to complete)

I have noted and made all the required minor amendments, as stated above, before starting my research and collecting data

Student name: (Typed name to act as signature)	**Samantha van Huyssteen**
Student number:	**U2195640**
Date:	**01/07/2023**

Please submit a copy of this decision letter to your supervisor with this box completed if minor amendments to your ethics application are required

6.19. Appendix S: Amendment Request to the School of Psychology Ethics Committee

School of Psychology Ethics Committee

REQUEST FOR AMENDMENT TO AN ETHICS APPLICATION

For BSc, MSc/MA and 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 impact on ethical protocol. If you are not sure as to whether your proposed amendment warrants approval, consult your supervisor or contact Dr Trishna Patel (Chair of School Ethics Committee).

How to complete and submit the request	
1	Complete the request form electronically.
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 Trishna Patel: t.patel@uel.ac.uk
5	Your request form will be returned to you via your UEL email address with the reviewer's decision box completed. Keep a copy of the approval to submit with your dissertation.
6	Recruitment and data collection are **not** to commence until your proposed amendment has been approved.

Required documents	
A copy of your previously approved ethics application with proposed amendment(s) added with track changes.	**YES** ☒
Copies of updated documents that may relate to your proposed amendment(s). For example, an updated recruitment notice, updated participant information sheet, updated consent form, etc.	**YES** ☒
A copy of the approval of your initial ethics application.	**YES** ☒

Details	
Name of applicant:	**Samantha van Huyssteen**
Programme of study:	**Doctorate in Clinical Psychology**
Title of research:	**Motivation to recover from Bulimia Nervosa: An application of the Theory of Planned Behaviour**
Name of supervisor:	**Dr. James Walsh**

Proposed amendment(s)	
Briefly outline the nature of your proposed amendment(s) and associated rationale(s) in the boxes below	
Proposed amendment	**Rationale**
Updated recruitment/research poster	Strong likelihood of needing to recruit via social media (as was stipulated as a back-up plan for recruitment in original ethics application). Recruitment/research poster therefore has been updated to stand out and be more suitable on social media platforms.
Proposed amendment	Rationale for proposed amendment
Proposed amendment	Rationale for proposed amendment
Proposed amendment	Rationale for proposed amendment

Confirmation		
Is your supervisor aware of your proposed amendment(s) and have they agreed to these changes?	**YES** ☒	**NO** ☐

Student's signature	
Student: (Typed name to act as signature)	**Samantha van Huyssteen**
Date:	**11/12/2023**

Reviewer's decision		
Amendment(s) approved:	**YES** ☒	**NO** ☐
Comments:	**Your surname (Huyssteen) should start with a capital under 'who am I'. Could add questionnaires will be online under 'what is involved'.**	
Reviewer: (Typed name to act as signature)	**Trishna Patel**	
Date:	**11/12/2023**	

6.20. Appendix T: Amendment Request to the University of East London's School of Psychology Ethics Committee

School of Psychology Ethics Committee

REQUEST FOR AMENDMENT TO AN ETHICS APPLICATION

For BSc, MSc/MA and 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 impact on ethical protocol. If you are not sure as to whether your proposed amendment warrants approval, consult your supervisor or contact Dr Trishna Patel (Chair of School Ethics Committee).

How to complete and submit the request	
1	Complete the request form electronically.
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 Trishna Patel: t.patel@uel.ac.uk
5	Your request form will be returned to you via your UEL email address with the reviewer's decision box completed. Keep a copy of the approval to submit with your dissertation.
6	Recruitment and data collection are **not** to commence until your proposed amendment has been approved.

Required documents	
A copy of your previously approved ethics application with proposed amendment(s) added with track changes.	**YES** ☒
Copies of updated documents that may relate to your proposed amendment(s). For example, an updated recruitment notice, updated participant information sheet, updated consent form, etc.	**YES** ☒
A copy of the approval of your initial ethics application.	**YES** ☒

Details	
Name of applicant:	**Samantha van Huyssteen**
Programme of study:	**Doctorate in Clinical Psychology**
Title of research:	**Motivation to recover from Bulimia Nervosa: An application of the Theory of Planned Behaviour**
Name of supervisor:	**Dr. James Walsh**

Proposed amendment(s)	
Briefly outline the nature of your proposed amendment(s) and associated rationale(s) in the boxes below	
Proposed amendment	**Rationale**
Additional recruitment strategy of contacting charities such as BEAT to ask for assistance in promoting study due to recruitment moving to social media.	Improving reach of potential participants.
Specifying participants need to be based in the UK in information sheet for social media recruitment.	Relevance of study to UK healthcare system and mitigation of risk; debrief information contains information about how to access support in the UK, and would not be relevant for those in other countries.
Updated risk assessment and addition to information sheet about possible triggers in questions e.g., asking for weight.	Risk of harm reduction.
Updating time taken to complete study as 20 minutes.	Improve chances of potential participants taking part (less time).

Confirmation		
Is your supervisor aware of your proposed amendment(s) and have they agreed to these changes?	**YES** ☒	**NO** ☐

Student's signature	
Student: (Typed name to act as signature)	**Samantha van Huyssteen**
Date:	**18/12/2023**

Reviewer's decision		
Amendment(s) approved:	**YES** ☒	**NO** ☐
Comments:	**You will need to provide written confirmation from charities that agree to support recruitment.**	
Reviewer: (Typed name to act as signature)	**Trishna Patel**	
Date:	**18/12/2023**	

6.21. Appendix U: Initial Response from the Health Research Authority after Research Ethics Committee Review meeting for NHS Ethics Application via IRAS

17.07.2023

Dear Miss van Huyssteen,

I am pleased to provide the following update regarding the status of your application.

Please provide a response to the requested information through IRAS by referring to the instructions on how to submit a response to provisional opinion electronically. Please provide your answers in the table(s) below and then submit this, with revised documentation where appropriate, underlining, tracking or otherwise highlighting the changes which have been made and giving revised version numbers and dates. You do not have to make any changes to the IRAS application form unless you have been specifically requested to do so.

Ethical Review – Further information required

The Research Ethics Committee reviewed the application on 10 July 2023 and issued a **Provisional Opinion**. Please provide the following information in order for a final ethical opinion to be issued:

	Ethical Review - Further Information required	Response from the applicant
1	The Committee request that the questionnaire form is adapted to include a series of screening questions to confirm the eligibility of participants before they complete the questionnaires, in order to uphold the integrity of the study.	
2	The Committee request for the following changes to be made to the Consent form: a) in the consent form after each clause, ask the participant to initial each box rather than tick it.	
3	The Committee request for the following changes to be made to the PIS: a) Please add a sentence explaining that the study has been subject to an ethical review by the London-Chelsea research ethics committee. b) Please remove the letter 'x' from the description of X4 Questionnaires.	

The Committee delegated authority to confirm its final opinion on the application to the Vice-Chair Roger XXX and XXX.

Assessment - Further information required

In addition, please provide the following information in order to clarify points raised in the assessment of the application

Assessment - Further Information Required	Response from the applicant
Please add a version number and date to the Research Poster.	
Please add text to the protocol defining what will be classified as the end of the study.	
A27-2 on the IRAS forms says no identifiable personal information will be screened in order to identify potential participants. Please clarify the use of databases as a tool to identify potential participants and explain how you will know that someone meets the inclusion/exclusion criteria without reviewing any personal information. If identifiable personal information will be screened, please advise what measures will be taken to ensure there is no breach of any duty of confidentiality owed to patients, service users or any other person in the process of identifying potential participants.	
Please confirm no one outside the direct care team will have access to identifiable patient data prior to consent.	

A response should be submitted by no later than 16 August 2023.

Membership of the Committee
London - Chelsea Research Ethics Committee
Attendance at Committee meeting on 10 July 2023

Committee Members:

Name	*Profession*	*Present*	*Notes*
XXX	Medical Statistician	Yes	
XXX	Study Start Up Associate	No	
XXX	Patient Recruitment Manager	No	
XXX	Research Associate	No	
XXX	Hairdresser, beauty and holistic therapist	Yes	

XXX	Medical Consultant in Clinical Pharmacology	No	
XXX	Director, Clinical Operations	Yes	
XXX	Student	No	
XXX	Research Directorate Head of Research Delivery Workforce and Clinical Research Facility Lead Nurse	Yes	
XXX	Senior Project Manager / Head Nurse	Yes	
XXX	CT Scanning Superintendent	Yes	
XXX	Clinical Trial Manager	No	
XXX	IT Consultant	No	
XXX	Quality Assurance Consultant (Contract)	Yes	
XXX	Retired Teacher	No	

Also in attendance:

Name	*Position (or reason for attending)*
XXX	Approvals Administrator
XXX	Approvals Officer
XXX	Approvals Specialist
XXX	Observer

If you have any queries, please do not hesitate to contact me.

Kind regards,

XXX

6.22. Appendix V: Research Ethics Committee Ethical Review Responses

Ethical review – Further Information required

	Ethical Review - Further Information required	Response from the applicant
1	The Committee request that the questionnaire form is adapted to include a series of screening questions to confirm the eligibility of participants before they complete the questionnaires, in order to uphold the integrity of the study.	Screening questions added to the Qualtrics questionnaire for participants who self-identify their eligibility via the research poster advertising the study in the waiting room and/or clinical rooms. Changes are highlighted in green.
2	The Committee request for the following changes to be made to the Consent form: a) in the consent form after each clause, ask the participant to initial each box rather than tick it.	Consent form amended. Changes are highlighted in green.
3	The Committee request for the following changes to be made to the PIS: a) Please add a sentence explaining that the study has been subject to an ethical review by the London-Chelsea research ethics committee. b) Please remove the letter 'x' from the description of X4 Questionnaires.	Participant Information Form amended. Changes are highlighted in green.

Assessment – Further Information required

Assessment - Further Information Required	Response from the applicant
Please add a version number and date to the Research Poster.	Added version number and date.
Please add text to the protocol defining what will be classified as the end of the study.	Added to the protocol, section 4. 'Proposed Execution'. Highlighted in green.
A27-2 on the IRAS forms says no identifiable personal information will be screened in order to identify potential participants. Please clarify the use of databases as a tool to identify potential participants and explain how you will know that someone meets the inclusion/exclusion criteria without reviewing any personal information. If identifiable	To clarify, on IRAS A27-2 when I answered 'no', I was referring to myself as the researcher not having access to nor screening potential participants by identifiable personal information.

Assessment - Further Information Required	Response from the applicant
personal information will be screened, please advise what measures will be taken to ensure there is no breach of any duty of confidentiality owed to patients, service users or any other person in the process of identifying potential participants.	The databases referred to are the Eating Disorder Service's own service-specific databases/spreadsheets for managing e.g., caseloads, waiting lists, patients currently receiving treatment. Myself as the researcher will not at any point prior, during or after the study have access to these. Dr. XXX, clinical lead and clinical psychologist, and assistant psychologist XXX, can use these to see if there are potential participants that would be eligible to participate and invite them to do so. This is important to ensure fair opportunities to participate; without doing this, clinicians might only be inviting potential participants that they see regularly/they think would participate. Information accessed for screening will be information that has already been collected as part of their referral and treatment with the service, and no extra information is being collected/looked at to screen for eligibility e.g., GP records. To ensure there is no breach of any duty of confidentiality owed to patients, service users or any other person in the process of identifying potential participants, myself as the researcher will not be informed of any personal identifiable information of any potential participants used to screen for eligibility. There is no additional access to personal identifiable information that has not been provided directly to the Eating Disorder Service by the patient/potential participant, and Dr. XXX and the assistant psychologist will not be accessing information for screening that is not already part of their usual clinical work. Myself as the researcher will not be undertaking this task nor have access. Dr. XXX and the assistant psychologist will understand the study criteria and will identify potential participants as they carry out their day-to-day clinical work, to help ensure equal opportunities for patients to participate if they are eligible.
Please confirm no one outside the direct care team will have access to identifiable patient data prior to consent.	No one outside the Eating Disorder Service will have access to identifiable patient data prior to consent, including myself as the researcher.

6.23. Appendix W: Issue of Conditional Favourable Opinion by Health Research Authority and Researcher's Response

28.07.2023

Dear Miss van Huyssteen,

I am pleased to provide the following update regarding the status of your application.

Please submit the requested information electronically through IRAS. Please provide your answers in the table(s) below and then submit this, with revised documentation where appropriate, underlining or otherwise highlighting the changes which have been made and giving revised version numbers and dates. A response should be submitted by no later than **27 August 2023**. To enable the application to progress without delay we encourage you to provide these documents as soon as possible within the timeframes specified.

Ethical Review

The Research Ethics Committee has issued a **Favourable Opinion with Additional Conditions.**

Ethical Review - Conditions of Favourable Opinion	**Response from the applicant**
The Committee request that the additional questions on the Qualtrics document are positioned before the participants indication of consent	
The Committee note that the first sentence on page 2 of the online consent form should read 'or a **professional** from the eating ….'	

The letter confirming this opinion is attached. You should notify the REC once all conditions have been met and provide copies of any revised documentation with updated version numbers. Please note, the standard conditions referenced in your REC favourable opinion letter as being attached ("After ethical review – guidance for researchers") can now be accessed through the HRA website. If you have any queries, please do not hesitate to contact me.

Kind regards,

XXX

NHS
Health Research Authority

London - Chelsea Research Ethics Committee
Research Ethics Committee (REC) London Centre
2 Redman Place
Stratford
London
E20 1JQ

Please note: This is the favourable opinion of the REC only and does not allow you to start your study at NHS sites in England until you receive HRA Approval

27 July 2023

Miss Samantha van Huyssteen
[redacted]

Dear Miss van Huyssteen

Study title:	**Motivation to Recover from Bulimia Nervosa: An Application of the Theory of Planned Behaviour**
REC reference:	**23/LO/0576**
Protocol number:	**N/A**
IRAS project ID:	[redacted]

Thank you for your letter of 21 July 2023, responding to the Research Ethics Committee's (REC) request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Vice-Chair Roger A'Hern and Cate Savidge.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Good practice principles and responsibilities

The UK Policy Framework for Health and Social Care Research sets out principles of good practice in the management and conduct of health and social care research. It also outlines the responsibilities of individuals and organisations, including those related to the four elements of research transparency:

1. registering research studies
2. reporting results
3. informing participants
4. sharing study data and tissue

Conditions of the favourable opinion

The REC favourable opinion is subject to the following conditions being met prior to the start of the study.

Number	Condition
1	The Committee advise that the additional questions on the Qualtrics document are positioned before the participant's indication of consent.
2	The Committee note that the first sentence should read 'or a professional from the eating'.

Confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or NHS management permission (in Scotland) should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements. Each NHS organisation must confirm through the signing of agreements and/or other documents that it has given permission for the research to proceed (except where explicitly specified otherwise).

Guidance on applying for HRA and HCRW Approval (England and Wales)/ NHS permission for research is available in the Integrated Research Application System.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of management permissions from host organisations

Registration of Clinical Trials

All research should be registered in a publicly accessible database and we expect all researchers, research sponsors and others to meet this fundamental best practice standard.

It is a condition of the REC favourable opinion that **all clinical trials are registered** on a publicly accessible database within six weeks of recruiting the first research participant. For this purpose, 'clinical trials' are defined as:

- clinical trial of an investigational medicinal product
- clinical investigation or other study of a medical device
- combined trial of an investigational medicinal product and an investigational medical device
- other clinical trial to study a novel intervention or randomised clinical trial to compare interventions in clinical practice.

Failure to register a clinical trial is a breach of these approval conditions, unless a deferral has been agreed by the HRA (for more information on registration and requesting a deferral see: Research registration and research project identifiers).

If you have not already included registration details in your IRAS application form you should notify the REC of the registration details as soon as possible.

Publication of Your Research Summary

We will publish your research summary for the above study on the research summaries section of our website, together with your contact details, no earlier than three months from the date of this favourable opinion letter.

Should you wish to provide a substitute contact point, make a request to defer, or require further information, please visit:
https://www.hra.nhs.uk/planning-and-improving-research/application-summaries/research-summaries/

N.B. If your study is related to COVID-19 we will aim to publish your research summary within 3 days rather than three months.

During this public health emergency, it is vital that everyone can promptly identify all relevant research related to COVID-19 that is taking place globally. If you haven't already done so, please register your study on a public registry as soon as possible and provide the REC with the registration detail, which will be posted alongside other information relating to your project. We are also asking sponsors not to request deferral of publication of research summary for any projects relating to COVID-19. In addition, to facilitate finding and extracting studies related to COVID-19 from public databases, please enter the WHO official acronym for the coronavirus disease (COVID-19) in the full title of your study. Approved COVID-19 studies can be found at:
https://www.hra.nhs.uk/covid-19-research/approved-covid-19-research/

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

After ethical review: Reporting requirements

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study, including early termination of the study
- Final report
- Reporting results

The latest guidance on these topics can be found at https://www.hra.nhs.uk/approvals-amendments/managing-your-approval/.

Ethical review of research sites

NHS/HSC sites

The favourable opinion applies to all NHS/HSC sites taking part in the study, subject to confirmation of Capacity and Capability (in England, Northern Ireland and Wales) or management permission (in Scotland) being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Copies of materials calling attention of potential participants to the research [Research Poster]	1	09 May 2023
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Indemnity Letter]	1	22 May 2023
IRAS Application Form [IRAS_Form_09062023]		09 June 2023
Non-validated questionnaire [Measuring Intention to Recover from Bulimia Nervosa (MIRBN)]	1	22 May 2023
Other [Debrief Sheet]	1	09 May 2023
Other [REC REVIEW RESPONSE]	1	21 July 2023
Participant consent form [Consent Form - Online]	2	21 July 2023
Participant consent form [Consent Form - Paper]	2	21 July 2023
Participant information sheet (PIS) [GDPR Document]	1	02 June 2023
Participant information sheet (PIS) [Participant Information Sheet]	2	21 July 2023
Referee's report or other scientific critique report [Peer Review Feedback of Research Proposal]	1	09 December 2022
Research protocol or project proposal [Research Proposal]	2	21 July 2023
Summary CV for Chief Investigator (CI) [CV for Samantha van Huyssteen]	1	05 May 2023
Summary CV for student [CV for Samantha van Huyssteen, Doctoral Student]	2	05 May 2023
Summary CV for supervisor (student research) [CV for Dr. James Walsh, Supervisor]	1	04 April 2023
Validated questionnaire [Depression, Anxiety and Stress Scale (21)]	1	05 May 2023

Validated questionnaire [Eating Disorder Examination Questionnaire]	1	05 May 2023
Validated questionnaire [Bulimia Nervosa Stage of Change Questionnaire]	1	05 May 2023

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website:
http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/

HRA Learning

We are pleased to welcome researchers and research staff to our HRA Learning Events and online learning opportunities– see details at:
https://www.hra.nhs.uk/planning-and-improving-research/learning/

IRAS project ID: [redacted] **Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project.

Yours sincerely

[redacted]

Chair

Email: [redacted]

Enclosures: "After ethical review – guidance for researchers"

After ethical review guidance for sponsors and investigators – Non CTIMP Standard Conditions of Approval]

Copy to: [redacted]

Response:

Ethical Review - Conditions of Favourable Opinion	Response from the applicant
The Committee request that the additional questions on the Qualtrics document are positioned before the participants indication of consent	Amended in document. Changes highlighted in green.
The Committee note that the first sentence on page 2 of the online consent form should read 'or a **professional** from the eating ….'	Amended in document. Changes highlighted in green.

6.24. Appendix X: Health Research Authority Approval Letter of NHS Ethics Application

Miss Samantha van Huyssteen

[redacted]

Email: approvals@hra.nhs.uk

01 August 2023

Dear Miss van Huyssteen

HRA and Health and Care Research Wales (HCRW) Approval Letter

Study title:	**Motivation to Recover from Bulimia Nervosa: An Application of the Theory of Planned Behaviour**
IRAS project ID:	[redacted]
Protocol number:	**N/A**
REC reference:	**23/LO/0576**
Sponsor	**University of East London**

I am pleased to confirm that **HRA and Health and Care Research Wales (HCRW) Approval** has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

Please now work with participating NHS organisations to confirm capacity and capability, in line with the instructions provided in the "Information to support study set up" section towards the end of this letter.

How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?
HRA and HCRW Approval does not apply to NHS/HSC organisations within Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report (including this letter) have been sent to the coordinating centre of each participating nation. The relevant national coordinating function/s will contact you as appropriate.

Please see IRAS Help for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

How should I work with participating non-NHS organisations?
HRA and HCRW Approval does not apply to non-NHS organisations. You should work with your non-NHS organisations to obtain local agreement in accordance with their procedures.

What are my notification responsibilities during the study?

The standard conditions document "*After Ethical Review – guidance for sponsors and investigators*", issued with your REC favourable opinion, gives detailed guidance on reporting expectations for studies, including:

- Registration of research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics and is updated in the light of changes in reporting expectations or procedures.

Who should I contact for further information?
Please do not hesitate to contact me for assistance with this application. My contact details are below.

Your IRAS project ID is [redacted] Please quote this on all correspondence.

Yours sincerely,

[redacted]

Approvals Specialist

Email: approvals@hra.nhs.uk

Copy to: [redacted]

List of Documents

The final document set assessed and approved by HRA and HCRW Approval is listed below.

Document	*Version*	*Date*
Copies of materials calling attention of potential participants to the research [Research Poster]	1	09 May 2023
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Indemnity Letter]	1	22 May 2023
IRAS Application Form [IRAS_Form_09062023]		09 June 2023
Non-validated questionnaire [Measuring Intention to Recover from Bulimia Nervosa (MIRBN)]	1	22 May 2023
Organisation Information Document	2	15 March 2023
Other [REC REVIEW RESPONSE]	1	21 July 2023
Other [SECOND REC REVIEW RESPONSE]	1	31 July 2023
Other [Debrief Sheet]	1	09 May 2023
Participant consent form [Consent Form - Paper]	2	21 July 2023
Participant consent form [Consent Form - Online]	3	31 July 2023
Participant information sheet (PIS) [GDPR Document]	1	02 June 2023
Participant information sheet (PIS) [Participant Information Sheet]	2	21 July 2023
Referee's report or other scientific critique report [Peer Review Feedback of Research Proposal]	1	09 December 2022
Research protocol or project proposal [Research Proposal]	2	21 July 2023
Schedule of Events or SoECAT [Schedule of Events Spreadsheet]	1	28 April 2023
Summary CV for Chief Investigator (CI) [CV for Samantha van Huyssteen]	1	05 May 2023
Summary CV for student [CV for Samantha van Huyssteen, Doctoral Student]	2	05 May 2023
Summary CV for supervisor (student research) [CV for Dr. James Walsh, Supervisor]	1	04 April 2023

IRAS project ID	325024

Information to support study set up

The below provides all parties with information to support the arranging and confirming of capacity and capability with participating NHS organisations in England and Wales. This is intended to be an accurate reflection of the study at the time of issue of this letter.

Types of participating NHS organisation	Expectations related to confirmation of capacity and capability	Agreement to be used	Funding arrangements	Oversight expectations	HR Good Practice Resource Pack expectations
Research activities and procedures as per the protocol and other study documents will take place at participating NHS organisations.	Research activities should not commence at participating NHS organisations in England or Wales prior to their formal confirmation of capacity and capability to deliver the study in accordance with the contracting expectations detailed.	An Organisation Information Document has been submitted and the sponsor is not requesting and does not expect any other agreement to be used with participating NHS organisations of this type.	Study funding arrangements are detailed in the Organisation Information Document.	A Local Collaborator should be appointed at participating NHS organisations.	Where an external individual will be conducting any of the research activities that will be undertaken at this site type then they would be expected to hold a Letter of Access. This should be issued be on the basis of a Research Passport (if university employed) or an NHS to NHS confirmation of pre-engagement checks letter (if NHS employed). These should confirm Occupational Health Clearance. These should confirm standard DBS checks.

Other information to aid study set-up and delivery

This details any other information that may be helpful to sponsors and participating NHS organisations in England and Wales in study set-up.
The applicant has indicated that they do not intend to apply for inclusion on the NIHR CRN Portfolio.

6.25. Appendix Y: Health Research Authority Amendment Request Approval

03.10.2023

Dear Miss van Huyssteen,

IRAS Project ID:	[redacted]
Short Study Title:	Motivation to Recover from Bulimia: Application of the ToPB V1
Amendment No./Sponsor Ref:	[redacted]
Amendment Date:	26 September 2023
Amendment Type:	Non Substantial Non-CTIMP

I am pleased to confirm **HRA and HCRW Approval** for the above referenced amendment.

You should implement this amendment at NHS organisations in England and Wales, in line with the guidance in the amendment tool.

Kind regards

XXX

6.26. Appendix Z: Health Research Authority Amendment Request Approval

09.01.2024

IRAS Project ID: [redacted]
Sponsor amendment reference: [redacted]

Thank you for submitting your study amendment. In accordance with the outcome of your completed amendment tool, this amendment requires no further regulatory review. Please now share this amendment with your UK research sites, in accordance with the instructions in your completed amendment tool.

For studies with more than one UK research site, your amendment will now be automatically shared with the R&D offices of any NHS/HSC research sites in Scotland and Northern Ireland, but you should share the amendment by email directly with those Research team/s.

For all NHS research sites in England and Wales, please now share this amendment by email directly with those sites, including both the R&D offices and research teams.

Do not reply to this email as this is an unmonitored address and replies to this email cannot be responded to or read.

6.27. Appendix AA: Independent Samples T-Tests comparing all Variables' Scores between Participants Recruited via NHS Eating Disorder Services and Social Media

		Levene's Test for Equality of Variances								
					Significance				95% Confidence Interval of the Difference	
		F	Sig.	t	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Stage of Change (BNSOC-Q)	Equal variances assumed	1.072	.312	.171	**.433**	**.866**	.033	.19493	-.372	.438
	Equal variances not assumed			.158	**.439**	**.878**	.033	.21159	-.430	.496
Attitudes: Eat Normally (MIRBN)	Equal variances assumed	13.359	.001	-.806	**.215**	**.430**	-.421	.52241	-1.507	.665
	Equal variances not assumed			-.673	**.259**	**.517**	-.421	.62513	-1.830	.990
Attitudes: Recovery (MIRBN)	Equal variances assumed	1.242	.278	.888	**.192**	**.384**	.380	.42668	-.508	1.266
	Equal variances not assumed			.993	**.167**	**.333**	.380	.38175	-.420	1.177
Subjective Norms: Eat normally (MIRBN)	Equal variances assumed	.830	.373	-.489	**.315**	**.630**	-.258	.52855	-1.357	.841
	Equal variances not assumed			-.461	**.327**	**.653**	-.258	.56067	-1.477	.960

Subjective Norms: Recovery (MIRBN)	Equal variances assumed	5.747	.026	-.390	**.350**	**.700**	-.250	.64087	-1.582	1.082
	Equal variances not assumed			-.353	**.365**	**.731**	-.250	.70879	-1.810	1.310
PBC: Eat normally (MIRBN)	Equal variances assumed	2.598	.122	-.492	**.314**	**.628**	-.297	.60329	-1.551	.957
	Equal variances not assumed			-.553	**.293**	**.587**	-.297	.53735	-1.420	.826
PBC: Recovery (MIRBN)	Equal variances assumed	.124	.728	-1.015	**.161**	**.322**	-.725	.71525	-2.213	.761
	Equal variances not assumed			-1.024	**.161**	**.322**	-.725	.70867	-2.240	.786
Intention: Eat normally (MIRBN)	Equal variances assumed	.958	.339	.330	**.373**	**.745**	.145	.44231	-.774	1.065
	Equal variances not assumed			.390	**.350**	**.701**	.145	.37395	-.632	.923
Intention: Recovery (MIRBN)	Equal variances assumed	2.680	.116	.682	**.251**	**.503**	.246	.36121	-.505	.997
	Equal variances not assumed			.785	**.221**	**.442**	.246	.31400	-.410	.901
Depression (DASS-21)	Equal variances assumed	1.089	.309	-.612	**.274**	**.547**	-3.333	5.449	-14.665	7.999
	Equal variances not assumed			-.627	**.270**	**.540**	-3.333	5.317	-14.640	7.972

Anxiety (DASS-21)	Equal variances assumed	.934	.345	.966	**.173**	**.345**	4.650	4.816	-5.365	14.665
	Equal variances not assumed			.911	**.190**	**.380**	4.650	5.107	-6.450	15.750
Stress (DASS-21)	Equal variances assumed	1.789	.195	.524	**.303**	**.606**	1.817	3.469	-5.397	9.031
	Equal variances not assumed			.613	**.273**	**.547**	1.817	2.964	-4.353	7.986
ED psychopathology (EDE-Q)	Equal variances assumed	.458	.506	.869	**.197**	**.395**	.386	.44526	-.539	1.313
	Equal variances not assumed			.907	**.189**	**.377**	.386	.42634	-.516	1.290

*Significance values are emboldened

6.28. Appendix AB: Tolerance, Variance Inflation, and Minimum and Maximum Values for Standardised Residuals for Intention to Eat Normally and not Binge or Purge.

		Collinearity Statistics			
	Model	**Tolerance**	**VIF**	**Minimum**	**Maximum**
1	Stage of change (BNSOC-Q)	.941	1.063		
	Depression (DASS-21)	.941	1.063		
2	Stage of change (BNSOC-Q)	.580	1.723		
	Depression (DASS-21)	.834	1.199		
	Attitudes (MIRBN)	.916	1.091		
	PBC (MIRBN)	.532	1.881		
Std. Residual				-2.492	1.535

6.29. Appendix AC: Tolerance, Variance Inflation, and Minimum and Maximum Values for Standardised Residuals for Intention to Recover.

		Collinearity Statistics			
	Model	**Tolerance**	**VIF**	**Minimum**	**Maximum**
1	Stage of change (BNSOC-Q)	1.000	1.000		
2	Stage of change (BNSOC-Q)	.817	1.224		
	Attitudes (MIRBN)	.868	1.152		
	PBC (MIRBN)	.855	1.170		
Std. Residual				-2.454	1.388

6.30. Appendix AD: Visual Distributions of Residuals for Intention to Eat Normally and not Binge or Purge

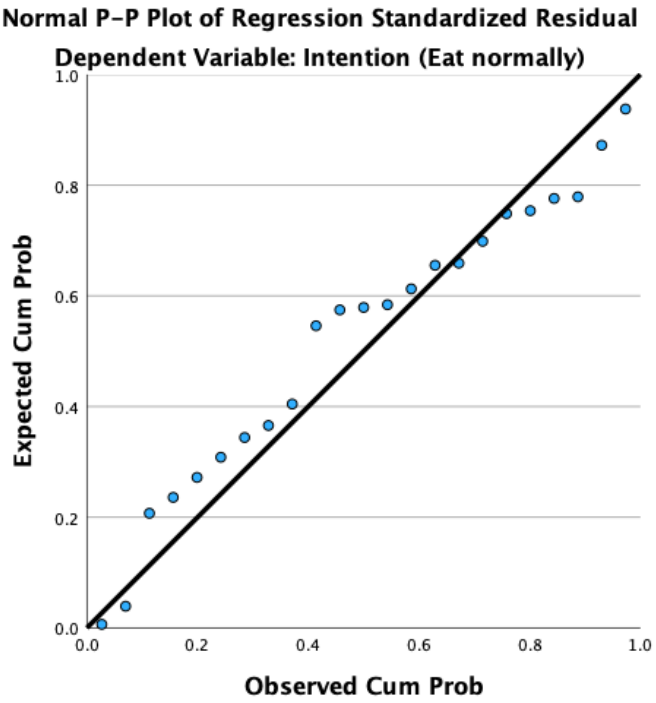

Figure AD1.

P-P Plot of residuals for intention to eat normally and not binge or purge.

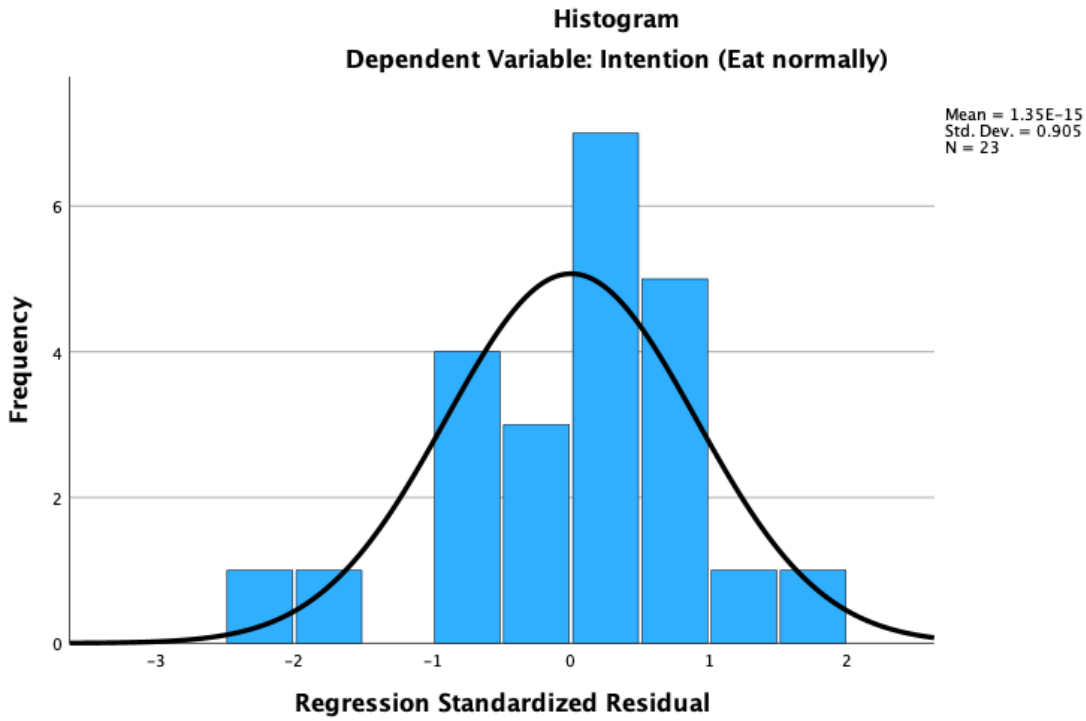

Figure AD2.

Histogram plot of residuals for intention to eat normally and not binge or purge.

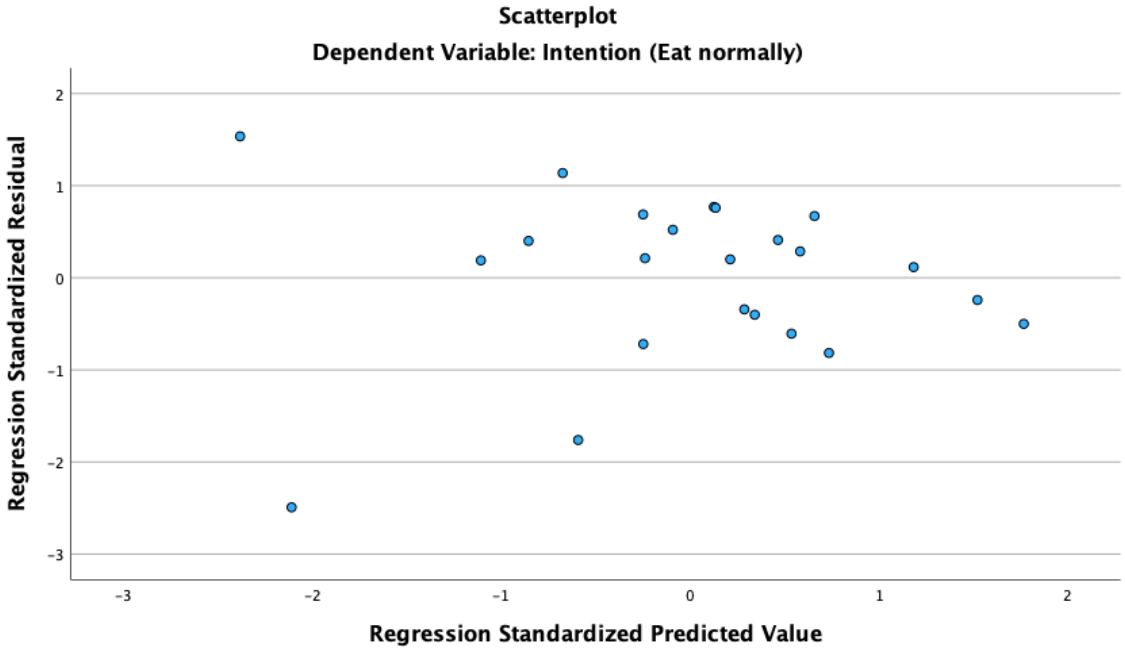

Figure AD3.

Scatterplot of residuals for intention to eat normally and not binge or purge.

6.31. Appendix AE: Visual Distributions of Residuals for Intention to Recover

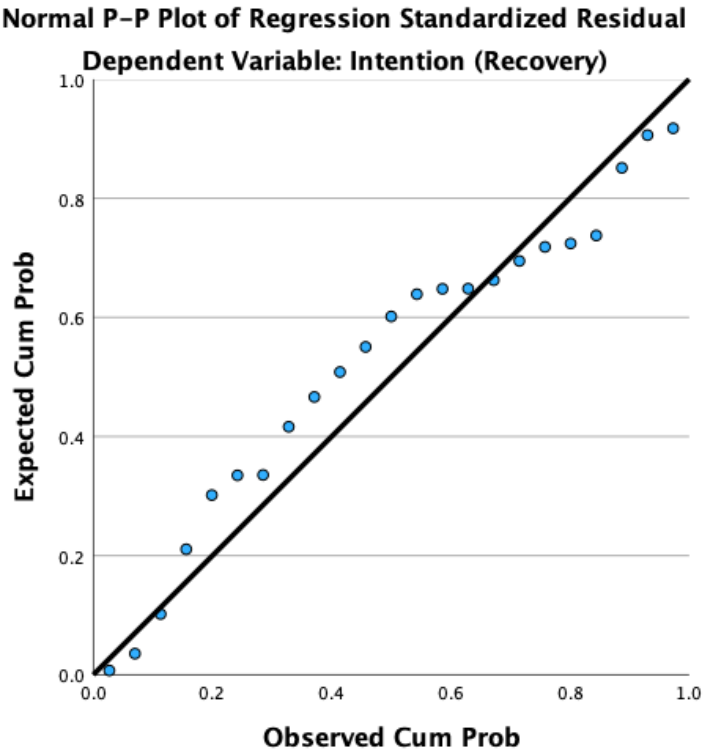

Figure AE1.

P-P Plot of residuals for intention to recover.

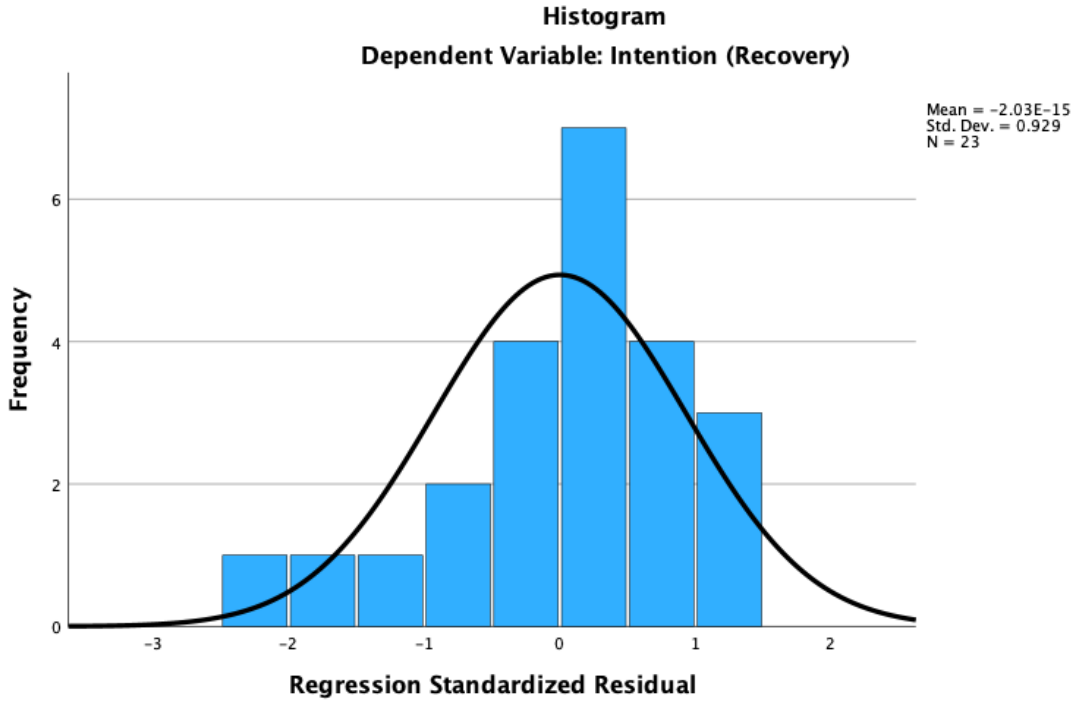

Figure AE2.

Histogram plot of residuals for intention to recover.

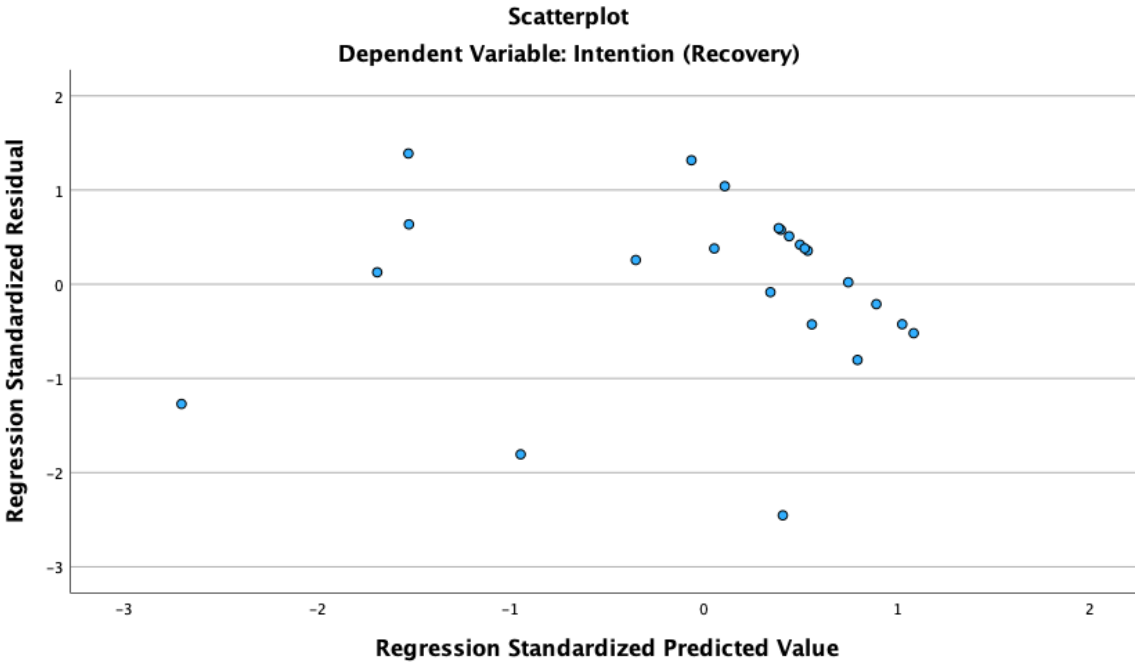

Figure AE3.

Scatterplot of residuals for intention to recover.