

The relationship between disordered eating behaviour and the five factor model personality dimensions: A systematic review

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Abstract

The relationship between personality and eating disorders has received significant research attention. This review aimed to synthesize research regarding the Five Factor Model (FFM) and disordered eating behaviors, to gain an improved understanding of the relationship between normal-range personality and subclinical eating disorders. Electronic Databases were used to identify studies published in English that utilized self-report measures of disordered eating and the FFM. A qualitative synthesis of 45 papers was then conducted. High scores on Neuroticism were associated with increased disordered eating behavior. Different disordered eating behaviors were found to have unique relationships with personality dimensions. Facets within domains varied in direction of correlation with disordered eating behaviors, particularly in the Agreeableness, Conscientiousness, and Openness domains. The results indicate that, further research is needed before generalizing treatment approaches for eating disorders for females, males, and gender diverse populations.

KEYWORDS

binge eating, eating disorders, five factor model, personality, restrictive eating

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1 | INTRODUCTION

1.1 | Background

Eating disorders are psychiatric conditions associated with serious physical health consequences (Scoffier-Meriaux et al., 2015; Treasure et al., 2010). International estimates of the lifetime prevalence of eating disorders have ranged up to 15% (Hay et al., 2015; Stice et al., 2013). It has been suggested that disordered eating presents on a continuum ranging from normative eating behavior at one pole, and a diagnosed eating disorder at the other (Vainik et al., 2015). In the current paper, an eating disorder is defined as a condition that has been diagnosed by a trained professional. Behaviors such as restrictive eating, fasting, self-induced vomiting, laxative use, and binge eating, in the presence or absence of a diagnosed eating disorder, are considered to be disordered eating behaviors and have been found to be common among community samples worldwide (Ortega-Luyando et al., 2015). General eating pathology encompasses a range of cognitive eating disorder symptoms, such as body image dissatisfaction and desire to lose weight, in addition to disordered eating behaviors. However this varies considerably between measures (Fairburn & Beglin, 1994; Garner et al., 2009).

Research has indicated that individuals who have personality disorders are at an elevated risk for the onset of recurrent binge eating, purging, dietary restriction, and eating disorders (Johnson et al., 2006). The research literature has generally linked binge eating and purging type behavior with Cluster B personality pathology, and traits of impulsivity and emotional dysregulation (De Bolle et al., 2011; Farstad et al., 2016; Jordan et al., 2008). On the other hand, restrictive eating has been associated with traits of rigidity, compulsivity, constriction and Cluster C personality pathology (De Bolle et al., 2011; Farstad et al., 2016). It can be implied that different disordered eating behaviors may be associated with different personality traits. Researchers argue that understanding disordered eating behavior in the context of an individual's broader pattern of thinking, feeling, and regulation of emotions, may improve the identification and treatment of eating disorders and disordered eating (Anderluh et al., 2009).

Although several models of normative models exist, the Five Factor Model (FFM) is a leading theory of normative personality (Farstad et al., 2016). As the name suggests, the (FFM) posits that an individual's personality can be described by five broad domains: Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. Neuroticism is characterized by negative affect, pessimism and impulsivity. Extraversion refers to an individual's positive emotionality and Openness reflects interest in creativity, intellect and unconventionality. The domain of Agreeableness describes an individual's interactions with others, while Conscientiousness refers to an individual's control and regulation (Widiger & Costa, 2012). Each of the domains can be further differentiated into six facets to understand a broader, more robust conceptualization of an individual's personality (Saulsman & Page, 2004; Trull & Durrett, 2005). A list of the facets has been included as Supplement 1, and a full description of each of the facets has been well documented elsewhere (Widiger, 2011; Widiger & Costa, 2012).

The FFM was developed to describe normal personality variation (Widiger, 2007) and has attracted extensive research attention as a measure of personality and personality pathology in adults (Trull & Widiger, 2013) and adolescents (Newton-Howes et al., 2015). Previous research has linked increased Neuroticism and low Extraversion (De Bolle et al., 2011; Farstad et al., 2016) as well as Conscientiousness (Bollen & Wojciechowski, 2004), to the increased incidence of eating disorders and higher body image dissatisfaction (Allen & Robson, 2020; Allen & Walter, 2016). Low Openness (Bollen & Wojciechowski, 2004; De Bolle et al., 2011) and Agreeableness (Cassin & von Ranson, 2005; Scoffier-Meriaux et al., 2015) have also been associated with eating disorders but have been found to be unrelated to body image dissatisfaction (Allen & Robson, 2020; Allen & Walter, 2016).

1.2 | The present review

The aim of this review is to systematically explore the relationships between the FFM and disordered eating behavior at both a domain and facet level, to explore three broad research areas. Firstly, the focus on disordered

eating behavior will provide a unique contribution to the existing literature (described above) that has thus far focused on the relationship between FFM domains and diagnosed eating disorders (Cassin & von Ranson, 2005; Farstad et al., 2016) or body image dissatisfaction (Allen & Robson, 2020; Allen & Walter, 2016).

Second, cisgender males are poorly represented in eating disorder samples (Kinnaird et al., 2019). Research has indicated that rates of engagement in disordered eating behaviors may be comparable between females and males in nonclinical samples (Mitchison et al., 2014). The present study aims to understand the extent to which personality factors have been explored as related to disordered eating behaviors in males.

Thirdly, previous systematic reviews have not provided a synthesis of findings associated with the facets within the FFM domains (Allen & Robson, 2020; Allen & Walter, 2016; Cassin & von Ranson, 2005; Farstad et al., 2016). A synthesis of the findings in this area may increase the understanding of the relationship between personality dimensions and disordered eating behavior.

2 | METHOD

This review followed the guidelines for systematic reviews as presented in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement, 2020 update (Page et al., 2021). The protocol outlining aims, outcomes, and data selection and extraction processes, was registered on PROSPERO on July 14th, 2020 and can be accessed from https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=170200. A comprehensive literature search was conducted to identify studies that had reported on the relationship between disordered eating behavior and the FFM of personality. A full description of the inclusion criteria, search strategy, selection process, data extraction, and risk of bias calculations has been included as Supplement 2. PRISMA checklists have been included as Supplements 3 and 4. Supporting Information files contain any additional material that is not included in this paper and can be accessed here: https://osf.io/uf9zj/?view_only=d8779111a9e14211862f3c8b9ff8dc5c

3 | RESULTS

A total of 2523 records were identified through electronic database searches, and two further papers were identified by an expert in the field. After the removal of duplicate records and following the title and abstract screening, 147 full text records were obtained. Following the screening of full-text articles, a total of 45 records met inclusion criteria for the study. However, two records reported on the same sample (Fischer, Smith, Anderson & Flory, 2003; Fischer, Smith, Anderson, 2003), meaning that there were 44 results reported in this review. The search process and the reasons for article exclusion are demonstrated in Figure 1. See Supplement 5 for a summary of papers that appear to meet criteria but were excluded.

A summary of the study characteristics for the 45 papers included in the present review has been included as Supplement 6. A total of 23 samples (52.3%) had a sample size less than 250, 24 samples (54.5%) were female only, 1 (2.3%) utilized a male-only sample, and 19 (43.2%) used were mixed gender. College samples made up 19 (43.2%) of the included samples. Of the 39 samples where information was available on the mean age, 28 (71.8%) had a mean age that indicated a young adult sample (aged 18–30). A range of measures were used to assess disordered eating behavior, including standardized measures, surveys developed for the study, or single items. When considering the measure of the FFM, 24 studies (54.5%) utilized the NEO-PI, the NEO-PI-R or the NEO-FFI. The majority of the studies reported correlational data. Thirty-eight of the 45 (84.5%) studies achieved a score of 6 or above on the adapted Newcastle-Ottawa Scale, indicating low Risk of Bias (ROB). The results for each domain are reported independently below. A detailed summary of the relationship between disordered eating and FFM measures can be found in Supplement 7.

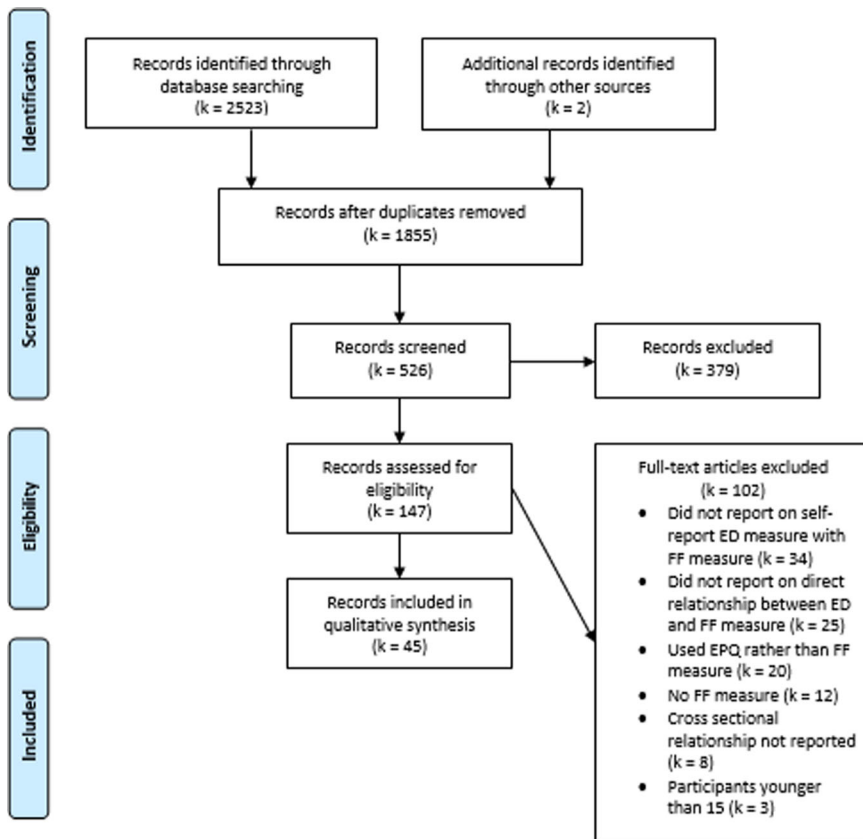


FIGURE 1 Flowchart of the inclusion of studies

3.1 | Neuroticism

Table 1 summarizes the associations between measures of the Neuroticism domain and facets with disordered eating behavior for the 39 samples for which information was available. Negative associations were found with DEBQ Restrained Eating (Elfhag & Morey, 2008; Keller & Siegrist, 2015), TEFQ Cognitive Restraint (Gade et al., 2014) EAT Oral Control (MacLaren & Best, 2009), and among males (Dubovi et al., 2016). Small to medium effect sizes were observed for both positive and negative associations (Cohen, 1988). Between eating disorder groups, individuals with Anorexia-Restrictive subtype (AN-R) scored higher than those with Bulimia Nervosa (BN; Forbush & Watson, 2006), AN-BP, or BN (Tasca et al., 2009). Individuals who engaged in chewing and spitting scored higher on Neuroticism than those who did not (Makhzoumi et al., 2015). Notable facet-level findings were that medium to large effect sizes were observed between disordered eating and N5 (Impulsiveness), and one study reported both positive and negative relationships with N5. Specifically, a positive association was found with EAT-26 Bulimia score, but a negative association with EAT-26 Oral Control and Dieting subscale scores (MacLaren & Best, 2009).

3.2 | Extraversion

Table 2 displays a summary of the 26 samples where the association between Extraversion domain and facet scores with disordered eating behavior was reported. Domain and facet scores were generally found to be negatively

TABLE 1 Summary of the studies reporting on the associations between the Neuroticism domain with disordered eating behavior

	Domain	N1	N2	N3	N4	N5	N6
Association	K = 34	K = 8	K = 7	K = 8	K = 7	K = 10	K = 7
Type	(77.3%)	(18.2%)	(15.9%)	(18.2%)	(15.9%)	(22.7%)	(15.9%)
Positive	27	7	6	7	7	8	6
Negative	1	0	0	0	0	0	0
Mixed	4	1	1	1	0	1	1
None	2	0	0	0	0	1	0

Note: N1 = Anxiety, N2 = Hostility, N3 = Depression, N4 = Self-Consciousness, N5 = Impulsiveness, N6 = Vulnerability.

TABLE 2 Summary of the studies reporting on the associations between the Extraversion domain with disordered eating behavior

	Domain	E1	E2	E3	E4	E5	E6
Association	K = 24	K = 5	K = 5	K = 5	K = 5	K = 6	K = 4
Type	(54.5%)	(11.4%)	(11.4%)	(11.4%)	(11.4%)	(13.6%)	(9.1%)
Positive	0	1	0	0	1	0	0
Negative	12	2	3	3	2	1	3
Mixed	1	1	0	2	0	0	1
None	11	1	2	0	2	5	0

Note: E1 = Warmth, E2 = Gregariousness, E3 = Assertiveness, E4 = Activity, E5 = Excitement Seeking, E6 = Positive Emotions.

associated with disordered eating behavior (small to medium effect size), with the exception of Brookings and Wilson (1994) and Elfhag and Morey (2008) who reported mixed relationships. Notably, a positive association was identified between E1 (Warmth) or E3 (Assertiveness) with total EAT-26 score (Brookings & Wilson, 1994), and between E1 (Warmth) or E6 (Positive Emotions) with Restrained Eating (Elfhag & Morey, 2008).

3.3 | Openness

Table 3 displays a summary of the studies reporting on the association between Openness domain and facet scores with disordered eating behavior. Of those that did report a relationship, small effect sizes were most frequently observed. The mean ROB score, for the studies that did not report a relationship, was 5.9. The mean score for those that did was 7.3. There were no other observable differences in study characteristics.

3.4 | Agreeableness

Studies reported on the association between the Agreeableness domain and facet scores and disordered eating behavior are summarized in Table 4. Small effect sizes were prevalent among studies that did report a relationship. The mean ROB score for studies that reported no relationship was 6.3, while the mean ROB score of those that did find a relationship was 6.6. There were no other observable differences in study characteristics. Between group

TABLE 3 Summary of the studies reporting on the associations between the Openness domain with disordered eating behavior

	Domain K = 19 (43.1%)	O1 K = 6 (13.6%)	O2 K = 5 (11.4%)	O3 K = 6 (13.6%)	O4 K = 5 (11.4%)	O5 K = 5 (11.4%)	O6 K = 5 (11.4%)
Positive	4	1	1	2	1	1	0
Negative	4	1	0	1	3	3	1
Mixed	0	0	0	1	0	0	0
None	11	4	4	2	1	1	4

Note: O1 = Fantasy, O2 = Aesthetics, O3 = Feelings, O4 = Actions, O5 = Ideas, O6 = Values.

TABLE 4 Summary of the studies reporting on the associations between the Agreeableness domain with disordered eating behavior

	Domain K = 18 (40.9%)	A1 K = 3 (6.8%)	A2 K = 3 (6.8%)	A3 K = 2 (4.5%)	A4 K = 3 (6.8%)	A5 K = 2 (4.5%)	A6 K = 2 (4.5%)
Positive	3	0	0	1	1	1	1
Negative	7	2	2	0	1	0	0
Mixed	0	0	0	0	0	0	0
None	8	1	1	1	1	1	1

Note: A1 = Trust, A2 = Straightforwardness, A3 = Altruism, A4 = Compliance, A5 = Modesty, A6 = Tender-Mindedness.

differences were not included in Table 4, where findings indicated that only individuals with AN who were not treatment seeking scored lower than controls on Agreeableness. Those with AN who were treatment seeking had no significant difference compared to people without an eating disorder (Bridges et al., 2016). Of note, although MacLaren and Best (2009) found no association in their correlational analysis for A6 (Tender-mindedness), when considering between-groups analysis, they found that individuals who engaged in disordered eating behavior scored higher than asymptomatic participants (MacLaren & Best, 2009).

3.5 | Conscientiousness

A summary of associations between the Conscientiousness domain and facets with disordered eating behavior has been included in Table 5. A small to medium effect size was observed among the studies that reported an association. When considering characteristics of the studies that did or did not report a relationship, the mean ROB score of the studies that reported no relationship was 6, and the mean of those that did was 6.8. For the studies that reported mixed relationships, Gade et al. (2014) reported a positive correlation between Conscientiousness and Cognitive restraint, and a negative correlation between Conscientiousness and TFEQ Emotional Eating or Uncontrolled Eating (Gade et al., 2014). Both Elfhag and Morey (2008) and Keller and Siegrist (2015) reported a positive correlation with DEBQ Restraint, and a negative correlation with DEBQ Emotional Eating and External eating subscales. Two studies reported only between groups differences (Bridges et al., 2016; Tasca et al., 2009) and were not included in the table as there was no direction of association. Bridges et al. (2016) found that only

TABLE 5 Summary of the studies reporting on the associations between the Conscientiousness domain with disordered eating behavior

	Domain	C1	C2	C3	C4	C5	C6
Association Type	K = 20 (46.3%)	K = 4 (9.8%)	K = 4 (9.8%)	K = 4 (9.8%)	K = 4 (9.8%)	K = 5 (12.2%)	K = 7 (17.1%)
Positive	1	0	1	0	2	1	0
Negative	7	1	1	1	1	2	4
Mixed	3	1	0	2	0	1	0
None	9	2	2	1	1	1	3

Note: C1 = Competence, C2 = Order, C3 = Dutifulness, C4 = Achievement Striving, C5 = Self-Discipline, C6 = Deliberation.

individuals with AN who were not treatment seeking scored lower than controls on Conscientiousness. Those with AN who were treatment seeking had no significant difference compared to those without an eating disorder (Bridges et al., 2016). Tasca et al. (2009) found that individuals without an eating disorder and those with AN scored higher than those with BN, and AN-R participants scored significantly higher than those with AN-BP.

4 | DISCUSSION

Personality has received extensive research attention in the eating disorders field as a factor that may influence the development, maintenance and treatment of disordered eating behavior (Wonderlich et al., 2005). The aim of this review was to synthesize studies that have examined disordered eating behaviors and the FFM at both a domain and facet level. Consistent with previous reviews on eating disorders and personality (Cassin & von Ranson, 2005; Farstad et al., 2016) or body image dissatisfaction and the FFM (Allen & Robson, 2020; Allen & Walter, 2016), Neuroticism was the most frequently explored domain with disordered eating behavior. The majority of studies reported a positive association with disordered eating behavior and effect sizes tended to be larger for this domain compared to other domains. A high proportion of studies reported no relationship between the Agreeableness, Conscientiousness and Openness domains with disordered eating behavior, and the gender composition of the sample or participant clinical status was not related to the absence of a relationship. There was a higher risk of bias among studies that reported no relationship, suggesting that these particular studies were potentially statistically underpowered by their smaller sample sizes or convenience samples. This may have contributed to their nonsignificant findings.

Given that facet-level relationships have been found to provide a more robust understanding of an individual's personality presentation (Saulsman & Page, 2004; Trull & Durrett, 2005) a key aim of the present review was to explore the relationship between FFM facets and eating behavior. Only a limited number of studies reported on facet-level results, and several studies elected to explore some facets and not others within a domain. One broad finding was that within domains that had mixed relationships with eating behavior, (such as Agreeableness and Openness) the direction of relationships differed between facets. This may mean that the positive and negative associations within a domain may serve to negate each other. To gain a more in-depth understanding of the relationship between personality and disordered eating behavior, the findings from each of the five factors have been explored separately.

4.1 | Neuroticism

High Neuroticism was associated with increased incidence of disordered eating, consistent with past research (Bollen & Wojciechowski, 2004; Farstad et al., 2016). Binge eating, emotional eating, compensatory behavior and dietary restraint

were all independently associated with increased Neuroticism. Impulsiveness was included in studies more frequently than any other facet, and was positively associated with general eating pathology, binge, emotional or uncontrolled eating, and compensatory behaviors. This is consistent with research linking higher Impulsiveness to eating disorders (Claes et al., 2004; Reas et al., 2016). The positive association between the facets of Anxiety, Hostility, Depression, Self-Consciousness, and Vulnerability, with general eating pathology, binge or emotional eating, compensatory behaviors, and desire to lose weight, is also consistent with other research (Levallius et al., 2015).

Although the majority of studies included in this review identified a positive association between dietary restraint and high Neuroticism, it is worthwhile noting that three studies found a statistically significant negative association (Dubovi et al., 2016; Gade et al., 2014; MacLaren & Best, 2009). In addition, between-group findings indicated that individuals with BN scored higher on Neuroticism than those with AN (Forbush & Watson, 2006; Tasca et al., 2009). This may suggest that emotional instability is a more important factor influencing binge eating and compensatory behavior, as opposed to dietary restraint. A negative correlation was identified between the facet of Impulsiveness and measures of dietary restraint (Gade et al., 2014; MacLaren & Best, 2009), supporting previous conclusions that Impulsiveness differentiates individuals with BN from those with AN-R (Claes et al., 2004). A possible conclusion is that studies reporting results inconsistent with the majority of the literature may reflect differences in Impulsiveness facet scores, or alternatively, may indicate increased dietary restriction in the measure or sample used. In general, the current synthesis of results suggests that eating pathology is associated with experiences of hopelessness and heightened uncomfortable emotions, in addition to difficulties containing impulses (Widiger & Costa, 2012). This relationship is stronger in the presence of binge or unrestrained eating. Our finding is consistent with the current understanding in the research and clinical literature, which links eating behavior and impulsiveness (Howard et al., 2020) and emotional dysregulation (Prefit et al., 2019).

4.2 | Extraversion

The negative association between Extraversion and general eating pathology, binge eating, emotional eating, compensatory behavior and weight preoccupation supports past research (De Bolle et al., 2011; Farstad et al., 2016). A synthesis of the facet-level associations revealed a consistent pattern. Low scores on all facets were associated with increased eating pathology, extending on research that indicated an association between disordered eating, and fewer experiences of joy, warmth and love, compared to controls (Claes et al., 2004; Levallius et al., 2015). It is important to note that one study in the current review found that general eating pathology and urges to lose weight were associated with increased Warmth, Assertiveness, and Activity (Brookings & Wilson, 1994), indicating a profile of intense relationships and a potential for dominant or frantic behavior (Widiger & Costa, 2012). This may reflect the relationship between disordered eating and compulsivity (Howard et al., 2020). However, given that this is inconsistent with the other studies, and that there are no notable factors about the study that could serve as explanations, it is difficult to draw conclusions, and further research is required.

4.3 | Openness and agreeableness

The current findings indicate a lack of association between Openness or Agreeableness, and disordered eating behavior. This parallels conclusions drawn by Allen and Walter (2016), and Allen and Robson (2020). Of the studies that did report an association, effect sizes tended to be small. Previous research, however, identified a relationship between low Openness or Agreeableness and disordered eating (Bollen & Wojciewowski, 2004; Cassin & von Ranson, 2005; De Bolle et al., 2011; Scoffier-Meriaux et al., 2015). This was reflected among studies that did report an association in the present review. When considering the facet-level findings for Openness, lower scores on Feelings, Actions and Ideas were associated with higher eating pathology, extending on past research (Levallius et al., 2015) and indicative of a

profile characterized by inflexibility and constriction (Widiger & Costa, 2012). The current results further identified a tendency towards being unrealistic and creative (Widiger & Costa, 2012) as being associated with restrained eating. Bridges et al. (2016) found that the association between low Agreeableness and AN only existed among individuals with AN who were not treatment-seeking. This supports research that has associated low Agreeableness with poorer treatment outcomes (Lammers et al., 2015). When considering the facet-level relationships for Agreeableness, lower scores on Trust, Straightforwardness and Tender-mindedness were associated with binge eating, purging and dietary restraint. A profile of cynicism, shrewdness and callousness (Widiger & Costa, 2012) is consistent with previous research among women with BN (Levallius et al., 2015). Some studies in the current synthesis identified conflicting findings, with small positive associations found between Agreeableness and dietary restraint and urges to eat without hunger. The current results indicated that cooperation and humility may be traits particularly relevant for restrictive eating behavior, extending on the findings of by Claes et al. (2004).

In general, the results of the current synthesis indicate that the overall Openness or Agreeableness domain score may not provide an accurate reflection of the relationship between the underlying facets and disordered eating behavior, with differing directions of relationships found with some facets, and no relationships found with others. However, as there were few studies that reported on these relationships, further research is needed.

4.4 | Conscientiousness

Findings generally indicated a lack of association between Conscientiousness and disordered eating behaviors. Of the few studies that did report a relationship, low conscientiousness was found to be associated with increased scores on measures of BN or emotional eating, consistent with previous research (Allen & Robson, 2020; Allen & Walter, 2016; Bollen & Wojciechowski, 2004). In addition, one study in this review found that individuals with AN who were not treatment seeking scored significantly lower on Conscientiousness than those who were treatment-seeking or those without an eating disorder (Bridges et al., 2016). This is consistent with previous research linking higher Conscientiousness to more positive treatment outcomes (Lammers et al., 2015). Facet-level relationships were comparable to domain scores. Lower scores on all facets except Order were associated with measures of BN, binge eating or emotional eating. Previous research has also identified a profile of rash, lax, careless, and irresponsible behavior traits as being associated with over eating and uncontrolled eating (Levallius et al., 2015; Widiger & Costa, 2012). Generally, the findings of the current review are consistent with the current understanding of individuals engaging in binge eating, emotional eating or purging behavior as experiencing heightened impulsivity, disinhibition and Cluster B personality traits (Howard et al., 2020).

In contrast, and in line with past research, Conscientiousness was found to be positively associated with measures of dietary restraint, and individuals with AN-R were found to score higher on Conscientiousness than those with BN (Farstad et al., 2016; Tasca et al., 2009). Higher scores on all facets except Competence and Order were found to be associated with measures of dietary restraint. The implication is that perfectionism, ruminative tendencies and rigidity (Widiger & Costa, 2012) may be particularly relevant to restrained eating behavior, and consistent with other research linking AN to rigidity and constriction in addition to Cluster C personality traits (De Bolle et al., 2011; Howard et al., 2020). It may be that Conscientiousness may differentiate binge eating and compensatory behavior from dietary restraint. Future research would therefore likely benefit from considering these behavior patterns separately, and investigate how this can be assessed and addressed in clinical settings.

4.5 | Disordered eating behavior in males

Only two studies reported results for male-only samples or subsamples, one of which found no relationship between eating behavior and personality (MacNeill et al., 2017). In the second study, lower Neuroticism was

associated with general eating pathology and dietary restriction, while higher scores on measures of Openness predicted an increase in vomiting behavior and laxative/diuretic use (Dubovi et al., 2016). In contrast, this review found that high Neuroticism was associated with disordered eating in females, but supported findings of a stronger relationship between Neuroticism and body dissatisfaction among females compared to males (Allen & Walter, 2016). It may be that disordered eating behavior in males is less associated with emotional instability compared to females. Alternatively, a tendency to be overly restrained and conflict avoidant as more maladaptive presentations of low Neuroticism, may be associated with disordered eating in males (Dubovi et al., 2016). It is important to note that women have tended to score higher on measures of Neuroticism compared to men (Murphy et al., 2021), which may act as a confounding factor for these findings. The findings regarding compensatory behavior and Openness are unique, and may indicate creativity and unconventionality, as associated with particular compensatory behavior in males. In sum, disordered eating behavior among males may be associated with different personality traits compared to females, however, further research is needed.

4.6 | Limitations

The strengths of this review include the systematic approach to study identification and focus on facet-level relationships. However, there are a number of potential limitations that require consideration in the interpretation of study findings. First, there was significant heterogeneity in measures of disordered eating behavior in the studies included in the review. This made a qualitative synthesis more challenging at times because the measures did not always clearly explore similar factors. Similarly, a number of studies only reported on global scale scores and included items measuring binge, compensatory and restrictive eating behaviors in addition to items measuring body image dissatisfaction and cognitive factors. This meant that reports of general eating pathology could vary between differing measures and might not represent relationships with specific eating behaviors. Relatedly, the heterogeneity of measures meant that a quantitative synthesis of the data was not possible. The study count strategy that was utilized was not able to take into account the representativeness of samples or generalizability of the findings. However, poor representativeness of the sample was associated with a lower ROB score, which has been considered in the interpretation of the results. Secondly, only a limited number of studies included in the present review explored the facet-level relationships with disordered eating behavior, which means that only tentative conclusions can be drawn. Likewise, although the focus on disordered eating behaviors, rather than diagnosed eating disorders, meant that there was an increased opportunity to understand these behaviors among males, only one study focused solely on males, and one other study reported on male subsamples specifically, limiting the ability to draw conclusions. Thirdly, a considerable portion of the included studies were coded as having a high risk of bias, and almost half of the included studies relied on college student samples. Whilst disordered eating behaviors are present among college students (Delinsky & Wilson, 2008), a significant limitation of the existing research literature is the tendency to rely on college samples, which limits generalizability to other community or clinical samples.

4.7 | Implications and recommendations for future research

The findings from the current review highlight several recommendations for future research. First, measures of global or generalized eating pathology may fail to adequately identify relationships with personality measures, thereby providing support to researchers who have argued for the necessity in understanding factors that influence particular disordered eating behaviors (Anderluh et al., 2009). Second, due to the limited number of studies, further research is required to understand facet-level relationships, and the relationship between personality and eating behaviors in males, and individuals from gender-diverse communities. In addition, it

would be beneficial for future work to synthesize the findings of the current review with findings based on other models of personality.

Clinically, the present results help to provide support for findings that, from a personality perspective, one size does not fit all eating disorders (De Bolle et al., 2011; Farstad et al., 2016). Past research has suggested that there may be more clinical utility in classifying disordered eating based on personality traits (Westen & Harnden-Fischer, 2001), with disordered eating behaviors existing to manage distress resulting from personality dysfunction (Ben-Porath et al., 2020; Linardon et al., 2017; Lynch et al., 2015). Enhanced Cognitive Behavioral Therapy is considered the "gold standard" treatment for EDs, however, other evidence-based treatments exist (Linardon et al., 2017). The present results suggest FFM domains and facets which may possibly be appropriate for selecting an alternate treatment for disordered eating. For example, disordered eating associated with high Neuroticism and impulsivity may be more appropriately targeted by a treatment with an established evidence-base in treating disorders of emotional dysregulation such as Dialectical Behavior Therapy (DBT; Ben-Porath et al., 2020). On the other hand, rigidity and limited emotionality may be possibly more appropriately targeted by emerging treatments with evidence for treating disorders of over-control, such as Radically-Open DBT (Lynch et al., 2015).

5 | CONCLUSIONS

The current review seeks to explore the relationship between personality and disordered eating behavior by synthesizing existing findings on the FFM with self-reported disordered eating behavior. It provides an important contribution to the existing literature, by exploring facet-level relationships. The direction of the relationship between facets within a domain and disordered eating behavior was found to differ, and this was particularly evident within the Agreeableness, Conscientiousness, and Openness domains. Therefore, ongoing research will likely benefit from measuring specific disordered behaviors separately, and from including facet-level analyses in the results, providing a more accurate picture of the relationships between personality and eating. Although samples of males were limited, there were found to be differences in the relationships between FFM domains and disordered eating behaviors in these samples compared to samples of females. Whilst this may be due to potential bias or sampling difficulties, it may also indicate that the factors that contribute to disordered eating behavior in males may potentially differ from those of females. Therefore, generalizing the existing research findings for females to males may not be appropriate. In general, it can be noted that although there is considerable existing research regarding personality and eating disorders generally, and the FFM and disordered eating behavior more specifically, significant gaps in the literature remain.

The Supporting Information files contain any additional material that is not included in this paper and can be accessed here: https://osf.io/uf9zj/?view_only=d8779111a9e14211862f3c8b9ff8dc5c.

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DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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PEER REVIEW

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