



Unveiling Gender Differences in Psychological Well-being and Rational Beliefs Among Eating Disorder Patients

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Accepted: 28 January 2025
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Introduction

Eating disorders (EDs) are complex and difficult-to-treat psychiatric conditions. They are commonly characterized by high comorbidity rates with other psychiatric disorders, adverse outcomes including high treatment drop-out and relapse rates, as well as low rates of full remission (Wildes et al., 2011; Keski-Rahkonen & Mustelin, 2016; Cooper & Dalle Grave, 2017; Udo & Grilo, 2019; Tomba et al., 2019). The promotion of psychological well-being and adaptive thinking is a crucial aspect in the treatment of psychiatric illnesses and EDs in particular (de Vos et al., 2018; Tomba et al., 2014, 2017; Tecuta et al., 2023). Recovery is indeed achieved not only through alleviation of the negative aspects of the illness but also through an enhancement of the positive functional ones (Ryff & Singer, 2000), in line with the dual continua model according to which distress and positive mental well-being operate on distinct yet related continua (Keyes, 2002).

Lack of self-acceptance in particular is defined as holding a positive regard towards oneself (Ryff & Singer, 2008), a characteristic that is also associated with self-actualization (Maslow, 1968), optimal functioning (Rogers, 1961), and maturity (Allport, 1961). It is considered across the theoretical psychological literature as a fundamental nucleus of mental health (Jahoda, 1958) and has been hypothesized to play a central role in ED symptomatology. Empirically, the clinical relevance of self-acceptance is supported in the ED literature as an impaired aspect of the disorder (Tomba et al., 2014, 2017; Tecuta et al., 2023) and as a fundamental criterion

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for recovery from EDs (de Vos et al., 2018). Self-acceptance has indeed been considered a fundamental target for effective treatments for quite some time (Wilson, 1996), with Fairburn's transdiagnostic ED model and enhanced cognitive-behavioral therapy (CBT-E; Fairburn et al., 2003; Fairburn, 2008) considering as central to the development and maintenance of EDs a core negative self view in the form of low self-esteem. Individuals with EDs indeed attempt to obtain a detrimental sense of self-worth through their ability to control their eating habits, shape and weight, thus activating a cycle of alternating dietary restriction and disinhibition. However, the associations between self-acceptance and the ED symptomatology so far have been examined only in female ED samples (Cooper & Proudfoot, 2013; Tomba et al., 2014; Atwood & Friedman, 2020), while gender differences remain unknown.

The available studies on ED gender differences have indeed followed the negatively-skewed historical trend of the medical and psychiatric model in focusing on dysfunctional aspects, such as ED-specific psychopathological differences. The available evidence supports a primarily lower illness severity in ED male patients compared to females (Dahlgren et al., 2017; Jennings & Phillips, 2017; Nevonen & Broberg, 2006; Stanford & Lemberg, 2012; Smith et al., 2017) and different associations with over-evaluation of weight and shape where females exhibit an internalization of the thin ideal while males pursue muscularity (Pope et al., 2000; Gorrell & Murray, 2019; Nagata et al., 2019). However, differences in self-acceptance understood as both a domain of positive functioning within Ryff's (1989) model of psychological well-being and as an adaptive belief concerning the self (David et al., 2013), remain unknown.

Given the rising number of males affected by EDs (Mitchison et al., 2014; Mitchison & Mond, 2015; Gorrell & Murray, 2019) and the paucity of research on positive and adaptive psychological components in ED male patients, the current study's aims are to compare male ED patients and healthy male controls and male and female ED patients in self-acceptance understood as both a domain of psychological well-being (PWB) in Ryff's model (1989) and as a rational belief (Ellis, 1958; David et al., 2013). As PWB dimensions significantly correlate with each other (Ryff, 1989), and since adaptive rational beliefs also commonly overlap and correlate (DiGiuseppe et al., 2018), the groups will also be compared in PWB dimensions of positive relations with others, personal-growth, environmental mastery, purpose in life, and autonomy and in adaptive rational beliefs of frustration tolerance and realistic thinking (Ellis, 1958). Moreover, correlational analyses between rational beliefs and PWB dimensions will be conducted separately for male and female ED patients.

Method

The present study was approved by the appropriate University Bioethics Committee and Department of Psychology Ethics Committee with protocol number 68,444 on May 10th 2018 of University of Bologna. All individual participants gave their informed consent to participate in the study.

Participants

Consecutively screened outpatients, both females ($n=132$) and males ($n=16$), who met Diagnostic and Statistical Manual of Mental Disorders-5 criteria for EDs (DSM-5; APA, 2013) anorexia nervosa (AN), bulimia nervosa (BN), binge-eating disorder (BED) and other specified feeding or eating disorder (OSFED) were recruited from a specialized outpatient ED treatment center in Northern Italy. Inclusion criteria were: (a) 18 to 65 years of age, (b) a diagnosis of AN, BN, BED or OSFED, (c) within one month of beginning treatment. The exclusion criteria were: (a) lack of capacity to consent for research, (b) ED diagnosis secondary to a physical health or metabolic condition, (c) comorbid drug/alcohol abuse, psychotic or neurocognitive disorders, acute suicidality, and pregnancy for female patients. The socio-demographic and clinical data of the ED sample are presented in Table 1.

Control male participants ($n=27$) for comparison with male ED patients were matched for age and were recruited online from the adult general population and from university campuses in Northern Italy with the following inclusion criteria: (a) 18 to 65 years of age, (b) no prior diagnosis of any ED according to DSM-5 diagnostic criteria. Exclusion criteria were (a) lack of capacity to consent for research, (b) lifetime history of EDs according to DSM-5 diagnostic criteria, either as primary diagnosis or in comorbidity to other mental health and physical conditions. As previous studies already explored the differences between female ED patients and healthy female controls in both PWB and rational and irrational beliefs (Tomba et al., 2014; Tecuta et al., 2021), in the present study we only included male control participants for comparison with male ED patients.

Table 1 Comparison of male and female ED patients on socio-demographic characteristics and eating symptomatology

Variables	Female ED patients ($N=132$) M \pm SD	Male ED patients ($N=16$) M \pm SD	<i>p</i>
Age (years)	31.88 \pm 12.35	37.19 \pm 12.38	0.11 ^o
Education (%)	5.13%	20%	0.32 [#]
<i>Middle school</i>	54.70%	26.67%	
<i>High school</i>	40.17%	53.33%	
<i>College degree/PhD</i>			
Occupation (%)	42.42%	25%	0.34 [#]
<i>Student</i>	39.39%	56.25%	
<i>Employee/free lancer</i>	3.03%	6.25%	
<i>Unemployee/other</i>			
Marital status (%)	71.22%	56.25%	0.35 [#]
<i>Single</i>	17.42%	31.25%	
<i>Married</i>	11.36%	12.50%	
<i>Divorced/bereaved</i>			
ED psychopathology	52.64 \pm 20.31	36.56 \pm 20.05	0.003 ⁺
<i>EDI-3 ED risk</i>	98.06 \pm 38.55	73.31 \pm 35.32	0.016 ⁺
<i>EDI-3 General psychopathology</i>			

Notes: ^ot-test for independent sample. [#] Fisher's exact test. ⁺ Fisher's F

Procedures

ED outpatients were evaluated during the first intake visits before commencing treatment. ED diagnoses were established at intake by the consensus of a psychiatrist and a clinical psychologist independently using the Structured Clinical Interview for DSM-5 (First et al., 2017). Diagnostic interviews were first conducted by a clinical psychologist expert in assessment. Diagnoses were then reviewed and confirmed by a consulting psychiatrist specialized in ED symptomatology.

Measures and Clinical Variables

Socio-demographic characteristics were collected for all the participants, and body mass index (BMI) levels were collected for patients only. Both patients and controls were assessed through the following psychometric self-rating questionnaires:

Psychological Well-being Scales (PWB; Ryff & Singer, 1996). PWB is a self-report questionnaire comprising 84 items on a 6-point Likert scale to assess six dimensions of PWB according to Ryff's model: autonomy, environmental mastery, personal growth, positive relationships with others, purpose in life, and self-acceptance. The PWB yields six subscale scores ranging from 14 to 84, which showed Cronbach's alpha coefficients ranging between 0.85 and 0.91 in a sample of 321 individuals from the general population. Test – retest reliability varied between 0.81 and 0.88, whereas validity correlations extended between 0.25 and 0.73. In the present study, we used the Italian translation (Ruini et al., 2003) with the following Cronbach alphas: autonomy – 0.86, environmental mastery – 0.78, personal growth – 0.75, positive relations – 0.84, purpose in life – 0.73, and self-acceptance – 0.71 (Gremigni & Stuart-Brown, 2011).

Attitudes and Beliefs Scale-2 (ABS-2; DiGiuseppe et al., 2018, 2020). The ABS-2 assesses dysfunctional and functional cognitions respectively in terms of irrational beliefs (IBs) and rational beliefs (RBs) (Ellis, 1994). It comprises 72 items on a 5-point Likert scale measuring the four irrational and four rational belief processes respectively identified by Ellis (1958): demandingness versus non-demanding preferences, awfulizing versus realistic expectations, low frustration tolerance versus high frustration tolerance, and negative global evaluation versus self-acceptance. The ABS-2 subscale scores range from 0 to 72. Concerning its psychometric properties, the four IBs and the four RBs of the ABS-2 have demonstrated excellent construct validity (DiGiuseppe et al., 2018, 2020), as well as good internal consistency and both divergent and convergent validity in numerous studies (Macavei, 2002; Terjesen et al., 2009; DiGiuseppe et al., 2018, 2020). In the present study, we used the Italian version of the ABS-2 (Tecuta et al., 2019), which showed excellent internal consistency in the general Italian college-age population ($\alpha=0.926$) (Tecuta et al., 2019) and in eating disorder samples ($\alpha=0.971$) (Tecuta et al., 2021), coherent with validation studies (DiGiuseppe et al., 2018, 2020). For the purpose of this study, we only focused on RBs.

Only patients were also administered the following self-report measure to assess ED-related symptoms:

Eating Disorder Inventory-3 (EDI-3; Garner, 2008). The EDI-3 is a self-rating 91-item questionnaire on a 6-point Likert scale assessing clinically relevant psychological traits and constructs in EDs. It comprises 12 primary scales (three of which are ED-risk scales and nine of which are ED-related psychological scales) and six following composite scales, including eating disorder risk/severity, ineffectiveness, interpersonal problems, affective problems, overcontrol and general psychological maladjustment. For the purpose of this study, we only used the ED-risk scale and the EDI-3 general psychological maladjustment. The ED-risk scale comprises drive for thinness, bulimia, and body dissatisfaction. The EDI-3 general psychological maladjustment comprises low self-esteem, personal alienation, interpersonal insecurity, interpersonal alienation, interoceptive deficits, emotion dysregulation, perfectionism, asceticism, and maturity fears, with a total of 64 items. This composite score represents a total global psychological functioning index and levels of ED-related psychopathology. The EDI-3 risk scale and the EDI-3 general psychological maladjustment scales yield scores ranging from 0 to 100 and 0 to 256 respectively. In the current study the Italian version of the EDI-3 was used (Giannini et al., 2008), which has demonstrated good internal consistency in ED patients, with Cronbach's alpha ranging from 0.70 to 0.94 for subscales and validity. The EDI-3 general psychological maladjustment scale showed an optimal Cronbach alpha of 0.94 (Giannini et al., 2008).

Statistical Analyses

Descriptive statistics were run for socio-demographic (age, education, occupation and marital status) and clinical (BMI and ED diagnoses) characteristics. Independent T-tests and chi-square tests were run to compare male ED patients and control male participants, and male and female ED patients in socio-demographic and clinical characteristics (BMI, ED diagnoses and EDI-3 scores).

To analyze group differences between male ED patients and male control participants in ABS-2 RBs and PWB dimensions, two separate multivariate analyses of variance (MANOVA) were run. To compare male and female ED patients in ABS-2 RBs and PWB dimensions, two additional separate MANOVA were conducted and were subsequently repeated using EDI-3 general psychological maladjustment as a covariate to adjust for levels of ED-related psychopathology. Bivariate correlational analyses between ABS-2 RBs and PWB dimensions were conducted separately for male and female ED patients. For PWB score comparisons, 15 out of the total 16 ED male patient sample and 21 out of the total 26 male control participant sample completed all questionnaires and were included in the analyses. No statistically significant differences were found between completers and non-completers.

In all analyses, the level of significance was set at $p < 0.05$. The Statistical Package for Social Science (SPSS; IBM Corp., Armonk, NY) was used for all analyses.

Results

Patients Sample Characteristics

Of the total ED patient sample included in the study ($n = 148$, 89%), 132 were females and 16 (11%) were males, with a mean age of 32.45 ± 12.42 years. Most of the sample was single (69.6%), whereas the rest was married (18.9%) and separated or bereaved (11.5%). The majority of the patient sample obtained their high-school diploma as the highest degree (45.9%) and most of them were employees or freelancers (41.2%). Regarding ED diagnoses, the majority of the sample had a BED diagnosis (26.4%), followed by AN (25.7%), BN (25%) and OSFED (20.9%).

Concerning female ED patients, mean BMI at baseline by diagnoses was 16.35 ± 2.12 kg/m² for AN ($N = 35$, 27.56%), 22.79 ± 6.84 kg/m² for BN ($N = 33$, 25.98%), 35.91 ± 8.68 kg/m² for BED ($N = 29$, 22.83%), and 20.86 ± 4.51 kg/m² for OSFED ($N = 30$, 23.62%). For males, mean BMI at baseline by diagnoses was 27.16 ± 6.56 kg/m² for BN ($N = 3$, 21.43%), 38.65 ± 3.70 kg/m² for BED ($N = 8$, 57.14%), and 19.47 ± 2.78 kg/m² for OSFED ($N = 3$, 21.43%).

Male and female ED patients did not differ significantly in age ($p = 0.11$), education ($p = 0.32$), occupation ($p = 0.34$), and marital status ($p = 0.35$). However, female ED patients showed significantly higher scores than males in both EDI-3 ED risk ($F = 8.94$, $p = 0.003$) and EDI-3 general psychological maladjustment ($F = 5.97$, $p = 0.016$). See Table 1 for more details.

Control Sample Characteristics

Twenty-seven male participants from the general population matched for age constituted the control sample for male ED patients, with a mean age of 30.15 ± 11.11 years, which did not differ significantly from the male patient sample ($t(41) = 1.92$, $p = 0.06$). Most of the control participants were single (74.1%), had a degree (77.8%) and were currently students (55.6%). Control participants did not differ significantly in education ($p = 0.06$), occupation ($p = 0.12$) and marital status ($p = 0.4$) compared to the male patient sample.

Comparisons between Male ED Patients and Male Controls in Rational Beliefs and Psychological Well-being Dimensions

MANOVA comparing male ED patients ($n = 16$) and male controls ($n = 27$) in ABS-2 RBs did not reveal significant differences. MANOVA comparing male ED patients ($n = 15$) and controls ($n = 21$) in PWB dimensions instead revealed significant differences in three PWB dimensions ($F = 3.82$, $p = 0.006$). Specifically, male ED patients showed lower scores in PWB-environmental mastery ($F = 4.81$, $p = 0.035$), in PWB-personal growth ($F = 4.60$, $p = 0.039$) and in PWB-positive relations ($F = 8.96$, $p = 0.005$) compared to controls. See Table 2 for more details.

Table 2 Comparison of male ED patients and controls in ABS-2 RBs and PWB dimensions

MULTIVARIATE TESTS						
	l	df	F	η^2	p	
ABS-2 Rational Beliefs scales	0.956	3	0.597	0.044	0.621	
PWB scales	0.558	6	3.822	0.442	0.006	
UNIVARIATE TESTS						
	Male Patients (n=16)	Male Controls (n=27)	F	η^2	p	
	Mean (SE)	Mean (SE)				
ABS-2 Realistic expectations	22.438 (1.308)	24.630 (1.007)	1.764	0.041	0.191	
ABS-2 Self-acceptance	26.313 (1.515)	27.963 (1.167)	0.745	0.018	0.393	
ABS-2 Frustration tolerance	23.188 (1.287)	25.185 (0.991)	1.513	0.036	0.226	
	Male Patients (n=15)	Male Controls (n=21)	F	η^2	p	
	Mean (SE)	Mean (SE)				
PWB-Autonomy	56.800 (2.692)	55.000 (2.275)	0.261	0.008	0.613	
PWB-Environmental mastery	48.067 (3.292)	57.524 (2.782)	4.815	0.124	0.035	
PWB-Personal growth	56.400 (2.960)	64.714 (2.502)	4.603	0.119	0.039	
PWB-Positive relations	49.667 (3.329)	62.714 (2.813)	8.961	0.209	0.005	
PWB-Purpose in life	54.333 (2.925)	58.714 (2.472)	1.309	0.037	0.261	
PWB-Self-acceptance	51.000 (3.984)	55.857 (3.367)	0.867	0.025	0.358	

Comparisons between Male and Female ED Patients in PWB Dimensions

The overall MANOVA comparing male and female ED patients in PWB dimensions showed significant differences in PWB dimensions ($F=5.14, p<0.001$). Specifically, female ED patients showed lower levels in PWB-autonomy ($F=4.07, p=0.045$) and in PWB-self-acceptance ($F=5.05, p=0.03$) compared to male ED patients, whereas male ED patients showed lower scores in PWB-personal growth ($F=1.17, p=0.05$) and in PWB-positive relations ($F=3.98, p=0.05$). When adding EDI-3 general psychological maladjustment as a covariate, the overall MANOVA remained significant ($F=4.51, p<0.001$), with men showing significant lower scores in PWB-personal growth ($F=4.61, p=0.03$) and in PWB-positive relations ($F=1.17, p=0.002$). See Table 3 for more details.

Comparisons between male and Female ED Patients in Rational Beliefs

The overall MANOVA comparing male ($n=16$) and female ($n=132$) ED patients in ABS-2 RBs showed significant differences for two RBs subscales ($F=3.51, p=0.02$). Specifically, female ED patients showed lower scores in ABS-2-self-acceptance ($F=8.41, p=0.004$) and in ABS-2- frustration tolerance ($F=4.48, p=0.04$) compared to male ED patients. However, when adding EDI-3 general psychological maladjustment as a covariate, the differences did not remain significant. See Table 3 for more details.

Table 3 Comparison of male and female ED patients in ABS-2 RBs and PWB dimensions with and without EDI-3 general psychological maladjustment as covariate

	Female ED patients (n=132) Mean (SE)		Male ED patients (n=16) Mean (SE)		Group differences (no covariate) F p		Females (n=132) Mean (SE)		Males (n=16) Mean (SE)		Group differences (EDI-3as covariate) F p	
	Mean (SE)		Mean (SE)		Group differences (no covariate)	F p	Mean (SE)		Mean (SE)		Group differences (EDI-3 as covariate)	F p
ABS-2 Rational Beliefs scales												
ABS-2 Realistic expectations	19.886 (0.606)		20.473 (1.567)		1.915	0.168	20.189 (0.543)		20.473 (1.567)		0.29	0.865
ABS-2 Self-acceptance	19.848 (0.733)		23.329 (1.686)		8.414	0.004	20.432 (0.584)		23.329 (1.686)		2.615	0.108
ABS-2 Frustration tolerance	18.924 (0.663)		20.739 (1.623)		4.472	0.036	19.335 (0.563)		20.739 (1.623)		0.663	0.417
	Female ED patients (N=130); Mean (SE)		Male ED patients (N=15) Mean (SE)		Group differences (no covariate)	F p	Females (n=130) Mean (SE)		Males (n=15) Mean (SE)		Group differences (EDI-3 as covariate)	F p
PWB scales												
PWB-Autonomy	49.585 (1.150)		56.800 (3.384)		4.075	0.045	49.892 (1.057)		54.113 (3.107)		1.646	0.202
PWB-Environmental mastery	46.108 (1.174)		48.067 (3.456)		0.288	0.592	46.998 (0.893)		43.954 (2.626)		1.198	0.276
PWB-Personal growth	59.754 (0.997)		56.400 (2.935)		1.171	0.048	60.215 (0.913)		54.112 (2.684)		4.612	0.033
PWB-Positive relations	56.900 (1.167)		49.667 (3.435)		3.975	0.048	57.395 (1.066)		46.788 (3.136)		10.205	0.002
PWB-Purpose in life	52.162 (1.181)		54.333 (3.477)		0.350	0.555	52.977 (0.945)		50.459 (2.780)		0.732	0.394
PWB-Self-acceptance	41.854 (1.308)		51.000 (3.852)		0.5055	0.026	42.741 (0.908)		45.792 (2.669)		1.166	0.282

Correlations between Rational Beliefs and PWB Dimensions in Male and Female ED Patients

Correlational analyses between ABS-2 RBs and PWB-dimensions were conducted separately for male and female ED patients. In female patients, ABS-2 realistic expectations, self-acceptance and frustration tolerance significantly correlated with all PWB dimensions, except for positive relations with others which significantly correlated only with ABS-2 self-acceptance. In male patients, significant correlations emerged between ABS-2 self-acceptance and PWB-environmental mastery, purpose in life and self-acceptance and between ABS-2 frustration tolerance and PWB-environmental mastery and self-acceptance, whereas ABS-2 realistic expectations was not significantly correlated with PWB dimensions. See Table 4 for more details.

Discussion

Interest in the role of positive psychological functioning in the ED field is growing (Tomba et al., 2014, 2017; de Vos et al., 2018), together with the interest in understanding gender differences in the ED population to improve inclusiveness in their treatment (Smith et al., 2017; Gorrell & Murray, 2019; Nagata et al., 2019). Previous works underscored how a paucity of optimal and positive functioning is correlated with ED symptomatology independently of the severity of the disorder (Tomba et al., 2014). To the best of our knowledge, this is the first study investigating the differences between ED male patients and controls and between male and female ED patients in self-acceptance and correlated domains of positive functioning and adaptive beliefs. It is also the first study investigating the correlations between positive functioning in terms of adaptive beliefs and psychological well-being separately for male and female ED patients.

Coming to our hypotheses concerning self-acceptance specifically, when comparing male ED patients to male general population controls, the patient group showed lower levels of self-acceptance, even though this difference was not significant neither in terms of self-acceptance as a dimension of psychological well-being conceptualized by Ryff (1989) nor as a form of adaptive and rational thinking according to Ellis (1958).

Regarding overall psychological well-being, while data in the literature on male ED patients well-being is lacking, the current study's results pertaining to controlled comparisons are in line with previous findings on other mixed-gender psychiatric populations in which impaired levels of psychological well-being dimensions compared to healthy controls emerged (Rafanelli et al., 2000; Fava et al., 2001). Indeed, significant impairments have been detected in the domains of PWB environmental mastery, personal growth, purpose in life, and self-acceptance in remitted patients with panic disorders (Fava et al., 2001) and in all PWB dimensions in patients with affective disorders (Rafanelli et al., 2000) compared to healthy controls.

Regarding the controlled comparisons in Ellis's rational beliefs between male ED patients and male general population controls, previous studies in female samples had uncovered significant differences between ED patients and controls in positive

Table 4 Correlations between ABS-2 rational beliefs and PWB dimensions

	PWB-Autonomy		PWB-Environmental mastery		PWB-Personal growth		PWB-Positive relations with others		PWB-Purpose in life		PWB-Self-acceptance	
	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males
ABS-2 Realistic expectations	0.43 (<0.001)**	-0.33 (0.42)	0.45 (<0.001)**	0.33 (0.24)	0.22 (0.01)**	0.22 (0.45)	0.12 (0.17)	0.38 (0.18)	0.34 (<0.001)**	0.2 (0.49)	0.49 (<0.001)**	0.47 (0.08)
ABS-2 Self-acceptance	0.51 (<0.001)**	0.46 (0.09)	0.48 (<0.001)**	0.75 (0.001)**	0.34 (<0.001)**	0.48 (0.07)	0.21 (0.01)**	-0.23 (0.39)	0.47 (<0.001)**	0.55 (0.03)*	0.56 (<0.001)**	0.75 (0.001)**
ABS-2 Frustration tolerance	0.48 (<0.001)**	0.04 (0.88)	0.44 (<0.001)**	0.55 (0.03)*	0.23 (0.008)**	0.42 (0.12)	0.14 (0.1)	-0.45 (0.09)	0.31 (<0.001)**	0.41 (0.12)	0.49 (<0.001)**	0.58 (0.02)*

** p is significant at the 0.01 level

*p is significant at the 0.05 level

core beliefs and self-schemas (Stein & Corte, 2007; Cooper & Proudfoot, 2013). Our study however, did not find significant differences in males. Nonetheless, mean scores of rational adaptive beliefs were lower in male ED patients, but the difference did not reach statistical significance, possibly due to the lack of statistical power as sample sizes for males were relatively small. Another possible reason for a lack of significant findings in males pertains to the use of the ABS-2 in which all measured cognitive constructs are confounded and highly correlated, with items that include wording about both the cognitive process and content reflecting IBs and RBs about achievement versus failure, approval versus rejection, and comfort versus discomfort. A measure of IBs and RBs specifically focused on self-accepting one's body and eating patterns might have yielded more meaningful results.

In fact, considering correlational analyses, results in male patients showed that self-acceptance, understood as a rational belief of the ABS-2, was strongly and significantly associated with environmental mastery, a dimension which in ED male patients compared to controls was compromised, along with personal growth and positive relations dimensions. This result is particularly important, as a lack of environmental mastery, together with a sense of subjective incompetence, plays a central role in the ED symptomatology and treatment response (albeit in female patients) (Tecuta & Tomba, 2018). In other words, male ED patients in the current study reported greater difficulties in managing everyday affairs and in changing or improving the surrounding environment, as well as in developing new attitudes or behaviors in response to life challenges and in creating trusting relationships with others (Ryff & Singer, 1996) aspects that in turn correlated with self-acceptance in ED male patients.

Concerning gender differences in the patient sample, greater impairment in self-acceptance, dependent on symptomatology, was observed in female patients, in line with previous studies (Tomba et al., 2014, 2017). Self-acceptance as a rational belief was also significantly associated with all PWB-dimensions in female ED patients, in line with a previous study in which both PWB-self-acceptance and cognitive balance given by greater endorsement of rational beliefs, represented a central node in the network symptomatology of ED female patients (Tecuta et al., 2023). Significant gender differences within the ED group emerged also in terms of other psychological well-being domains. In particular, male and female ED patients showed differentially compromised PWB dimensions, with males exhibiting more compromised levels of self-growth and positive relations with others and with females exhibiting more compromised levels of autonomy and self-acceptance, coherent with previous studies conducted in the general population (Ruini et al., 2003). However, when controlling for EDI-3 general psychological maladjustment, only the gender differences on self-growth and positive relations with others remained significant for males. Individuals with low levels of self-growth have a feeling of "personal stagnation" and generally feel bored and uninterested with life. Despite the lack of previous studies in ED clinical populations, this finding is in line with studies in the general population in which males scored lower than females in this PWB dimension (Ryff & Keyes, 1995; Matud et al., 2019), as well as with studies in which healthy men showed worse self-actualization, a psychological construct that has been assimilated to the one of personal growth (Ryff & Singer, 2008; Okech & Chambers, 2012). Individuals with

lower scores in positive relations with others have few close ones and find it difficult to be warm and open, therefore finding themselves isolated and frustrated in interpersonal relationships (Ryff & Keyes, 1995). Our finding that male ED patients score lower than females in positive relations with others is in line with previous studies in the general population (Ryff & Singer, 1995; Ahrens & Ryff, 2006; Karasawa et al., 2011; Matud et al., 2019). The impairment showed by ED male patients in positive relations with others is also in line with findings from qualitative studies showing that psychological problems in male ED patients often manifest as self-isolation and that the enjoyment of social life is a relevant element in the recovery process (Räisänen & Hunt, 2014; Björk et al., 2012). Due to social and cultural expectations, male patients indeed exhibit greater difficulties in disclosing negative emotions and distress, leading to a lack of social support as found in other clinical populations dealing with anxiety, depression and psychosis, in which male patients also showed a greater impairment in social functioning compared to their female counterparts (Grossman et al., 2006; Køster et al., 2008; Scott & Collings, 2010; Derdikman-Eiron et al., 2011). Furthermore, the lower scores found in male ED patients in positive relations with others might be accentuated by the double stigma they experience deriving from having a psychiatric disorder which is additionally recognized as a female-specific disorder (Weltzin et al., 2005; Dearden & Mulgrew, 2013; Muise et al., 2003; Murray et al., 2016).

In terms of rational beliefs, male ED patients exhibited greater levels of self-acceptance and frustration tolerance, albeit dependent on ED-related psychopathology, as the findings lost significance once EDI-3 general psychological maladjustment was accounted for. Indeed, female ED patients exhibited more severe psychopathology compared to male ED patients, confirming previous findings on eating symptomatology in healthy individuals (Smith et al., 2017) and in patients (Dahlgren et al., 2017; Jennings & Phillips, 2017; Nevenon & Broberg, 2006; Stanford & Lemberg, 2012; Smith et al., 2017). Greater ED psychopathology is significantly associated with worse self-acceptance, as found in female ED patients (Tomba et al., 2014). Moreover, greater ED severity is generally associated with more severe emotion regulation difficulties (Anestis et al., 2007; Lavender et al., 2015; Monell et al., 2018), an aspect that might overlap conceptually with frustration intolerance, which is also defined as a difficulty in accepting and tolerating difficult emotions (Harrington, 2007).

Clinical Implications

The preliminary findings of the present study bring new knowledge both to the literature on males with EDs and on ED gender differences in positive psychological functioning. On the one hand, the data support existing evidence on the lower severity of ED symptomatology in male ED patients compared to females (Dahlgren et al., 2017; Jennings & Phillips, 2017; Nevenon & Broberg, 2006; Stanford & Lemberg, 2012; Smith et al., 2017), highlighting the need to develop new assessment measures able to detect characteristic features of ED symptomatology in male patients (Darcy & Lin, 2012).

On the other hand, our study expands the literature on positive functioning and adaptive rational beliefs in ED male patients, coherent with previous studies on

female ED patients (Tomba et al., 2014; de Vos et al., 2018). Specifically, the impairment on PWB-environmental mastery, positive relations with others and self-growth, as compared to healthy individuals, underscores the need to consider these features as clinically relevant treatment outcomes in male ED patients, going beyond the typical focus on the lack of self-acceptance that, despite being central in female patients, does not seem to have the same role in male patients. The gender differences found in PWB dimensions indeed highlight the need to consider different focuses on male and female ED patients when addressing PWB during treatment.

Specifically, when treating male ED patients a major focus should be placed on building positive and supportive social networks as well as on improving self-growth. A possible strategy might include testing new forms of treatments that target issues that are not fully addressed in CBT-E, such as maladaptive interpersonal schemas that might be due to underlying personality pathology. One such treatment is the adaptation of Metacognitive Interpersonal Therapy (Dimaggio et al., 2015), a psychological intervention supported by evidence for treating personality disorders, to eating disorders, that is currently being tested (Fioravanti et al., 2023).

Limitations

The results of the present study should be considered in light of its limitations. First of all, sample size for ED male patients was small compared to their female counterpart, which is in line with the lower proportion of ED cases in male populations compared to females. Nevertheless, male and female ED patients were matched for socio-demographic characteristics and, therefore were comparable. Due to the low statistical power of the present study, we did not explore diagnostic differences in our samples. Larger sample sizes are warranted in future studies to appropriately re-examine differences between ED male patients and controls, and between ED male and female patients, as well as to explore diagnostic differences in positive functioning in terms of rational beliefs and psychological well-being.

Funding Open access funding provided by Alma Mater Studiorum - Università di Bologna within the CRUI-CARE Agreement.

No funds, grants, or other support was received.

Data availability The data that support the findings of this study are openly available in AMS Acta, Alma Mater Studiorum - Università di Bologna, V. 03, at <https://amsacta.unibo.it/id/eprint/7655>, reference number 7655.

Statements and declarations The authors have no relevant financial or non-financial interests to disclose.

Competing interests The co-author, Raymond DiGiuseppe, is Co-Editor-in-Chief of the Journal. The first author, Lucia Tecuta, is an associate editor of the Journal.

The corresponding author, Elena Tomba, is a member of the editorial board of the Journal.

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References

- Ahrens, C. J. C., & Ryff, C. D. (2006). Multiple roles and well-being: Sociodemographic and psychological moderators. *Sex Roles, 55*, 801–815.
- Allport, G. W. (1961). *Pattern and growth in personality*. Holt, Rinehart, and Winston.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Publishing.
- Anestis, M. D., Selby, E. A., Fink, E. L., & Joiner, T. E. (2007). The multifaceted role of distress tolerance in dysregulated eating behaviors. *The International Journal of Eating Disorders, 40*(8), 718–726. <https://doi.org/10.1002/eat.20471>
- Atwood, M. E., & Friedman, A. (2020). A systematic review of enhanced cognitive behavioral therapy (CBT-E) for eating disorders. *The International Journal of Eating Disorders, 53*(3), 311–330. <https://doi.org/10.1002/eat.23206>
- Björk, T., Wallin, K., & Pettersen, G. (2012). Male experiences of life after recovery from an eating disorder. *Eating Disorders, 20*(5), 460–468. <https://doi.org/10.1080/10640266.2012.715529>
- Cooper, Z., & Dalle Grave, R. (2017). *Eating disorders: Transdiagnostic theory and treatment*. In *The science of cognitive behavioral therapy* (pp. 337–357). Academic Press. <https://doi.org/10.1016/B978-0-12-803457-6.00014-3>
- Cooper, M. J., & Proudfoot, J. (2013). Positive core beliefs and their relationship to eating disorder symptoms in women. *European Eating Disorders Review: The Journal of the Eating Disorders Association, 21*(2), 155–159. <https://doi.org/10.1002/erv.2222>
- Dahlgren, C. L., Stedal, K., & Rø, Ø. (2017). Eating disorder examination Questionnaire (EDE-Q) and clinical impairment Assessment (CIA): Clinical norms and functional impairment in male and female adults with eating disorders. *Nordic Journal of Psychiatry, 71*(4), 256–261. <https://doi.org/10.1080/08039488.2016.1271452>
- Darcy, A. M., & Lin, I. H. (2012). Are we asking the right questions? A review of assessment of males with eating disorders. *Eating Disorders, 20*(5), 416–426. <https://doi.org/10.1080/10640266.2012.715521>
- David, D., Cotet, C. D., Szentagotai, A., McMahon, J., & Diguseppe, R. (2013). Philosophical versus psychological unconditional acceptance: Implications for constructing the unconditional acceptance questionnaire. *Journal of Evidence-Based Psychotherapies, 13*(2A), 445.
- de Vos, J. A., Radstaak, M., Bohlmeijer, E. T., & Westerhof, G. J. (2018). Having an eating disorder and still being able to flourish? Examination of pathological symptoms and well-being as Two Continua of Mental Health in a clinical sample. *Frontiers in Psychology, 9*, 2145. <https://doi.org/10.3389/fpsyg.2018.02145>
- Dearden, A., & Mulgrew, K. E. (2013). Service provision for men with eating issues in Australia: An analysis of Organisations', practitioners', and men's experiences. *Australian Social Work, 66*(4), 590–606.
- Derdikman-Eiron, R., Indredavik, M. S., Bratberg, G. H., Taraldsen, G., Bakken, I. J., & Colton, M. (2011). Gender differences in subjective well-being, self-esteem and psychosocial functioning in adolescents with symptoms of anxiety and depression: Findings from the Nord-Trøndelag Health Study. *Scandinavian Journal of Psychology, 52*(3), 261–267. <https://doi.org/10.1111/j.1467-9450.2010.00859.x>
- DiGiuseppe, R., Leaf, R., Gorman, B., & Robin, R. (2018). The development of a measure of Irrational/Rational beliefs. *Journal of Rational-Emotive and Cognitive-Behavior Therapy, 36*(1), 47–79. <https://doi.org/10.1007/s10942-017-0273-3>
- DiGiuseppe, R., Gorman, B., & Raptis, J. (2020). The factor structure of the attitudes and beliefs Scale 2: Implications for rational emotive behavior therapy. *Journal of Rational-Emotive and Cognitive-Behavior Therapy, 38*, 111–142. <https://doi.org/10.1007/s10942-020-00349-0>
- Dimaggio, G., Montano, A., Popolo, R., & Salvatore, G. (2015). *Metacognitive interpersonal therapy for personality disorders: A treatment manual*. Routledge Eds.
- Ellis, A. (1958). Rational psychotherapy. *Journal of General Psychology, 59*, 35–49. <https://doi.org/10.1080/00221309.1958.9710170>

- Ellis, A. (1994). *Reason and emotion in psychotherapy*. Birch Lane. Rev. ed.
- Fairburn, C. G. (2008). *Cognitive behavior therapy and eating disorders*. Guilford Press.
- Fairburn, C. G., Cooper, Z., & Shafran, R. (2003). Cognitive behaviour therapy for eating disorders: A transdiagnostic theory and treatment. *Behaviour Research and Therapy*, 41(5), 509–528. [https://doi.org/10.1016/s0005-7967\(02\)00088-8](https://doi.org/10.1016/s0005-7967(02)00088-8)
- Fava, G. A., Rafanelli, C., Ottolini, F., Ruini, C., Cazzaro, M., & Grandi, S. (2001). Psychological well-being and residual symptoms in remitted patients with panic disorder and agoraphobia. *Journal of Affective Disorders*, 65(2), 185–190. [https://doi.org/10.1016/s0165-0327\(00\)00267-6](https://doi.org/10.1016/s0165-0327(00)00267-6)
- Fioravanti, G., Nicolis, M., MacBeth, A., Dimaggio, G., & Popolo, R. (2023). Metacognitive interpersonal therapy-eating disorders versus cognitive behavioral therapy for eating disorders for non-underweight adults with eating disorders: Study protocol for a pilot pre-registered randomized controlled trial. *Research in Psychotherapy (Milano)*, 26(2), 690. <https://doi.org/10.4081/ripppo.2023.690>
- First, M. B., Williams, J. B. W., Karg, R. S., & Spitzer, R. L. (2017). *SCID-5-CV. Intervista Clinica Strutturata per i Disturbi Del DSM-5. Versione per Il Clinico*. Ed. Italiana a cura di Andrea Fossati e Serena Borroni. Raffaello Cortina Editore.
- Garner, D. M. (2008). EDI-3. *Eating disorder Inventory-3. Professional manual*. Psychological Assessment Resources.
- Giannini, M., Pannocchia, L., dalle Grave, R., Muratori, F., & Viglione, V. (2008). *Adattamento Italiano Dell'EDI-3. Eating disorder Inventory-3 trans*. Giunti Psychometrics.
- Gorrell, S., & Murray, S. B. (2019). Eating disorders in males. *Child and Adolescent Psychiatric Clinics of North America*, 28(4), 641–651. <https://doi.org/10.1016/j.chc.2019.05.012>
- Gremigni, P., & Stuart-Brown, S. (2011). Una misura del benessere mentale: Validazione italiana della Warwick-Edinburgh mental well-being scale (WEMWBS). *Giornale Italiano Di Psicologia*, January 2011(2), 543–563. <https://doi.org/10.13140/2.1.2425.9203>
- Grossman, L. S., Harrow, M., Rosen, C., & Faull, R. (2006). Sex differences in outcome and recovery for schizophrenia and other psychotic and nonpsychotic disorders. *Psychiatric Services (Washington D C)*, 57(6), 844–850. <https://doi.org/10.1176/ps.2006.57.6.844>
- Harrington, N. (2007). Frustration intolerance as a multidimensional concept. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, 25, 191–211.
- Jahoda, M. (1958). *Current concepts of positive mental health*. Basic Books.
- Jennings, K. M., & Phillips, K. E. (2017). Eating disorder examination-questionnaire (EDE-Q): Norms for a clinical sample of males. *Archives of Psychiatric Nursing*, 31(1), 73–76.
- Karasawa, M., Curhan, K. B., Markus, H. R., Kitayama, S. S., Love, G. D., Radler, B. T., & Ryff, C. D. (2011). Cultural perspectives on aging and well-being: A comparison of Japan and the United States. *The International Journal of Aging and Human Development*, 73(1), 73–98.
- Keski-Rahkonen, A., & Mustelin, L. (2016). Epidemiology of eating disorders in Europe: Prevalence, incidence, comorbidity, course, consequences, and risk factors. *Current Opinion in Psychiatry*, 29(6), 340–345. <https://doi.org/10.1097/YCO.0000000000000278>
- Keyes C. L. (2002). The mental health continuum: from languishing to flourishing in life. *Journal of health and social behavior*, 43(2), 207–222.
- Køster, A., Lajer, M., Lindhardt, A., & Rosenbaum, B. (2008). Gender differences in first episode psychosis. *Social Psychiatry and Psychiatric Epidemiology*, 43(12), 940–946. <https://doi.org/10.1007/s00127-008-0384-3>
- Lavender, J. M., Wonderlich, S. A., Engel, S. G., Gordon, K. H., Kaye, W. H., & Mitchell, J. E. (2015). Dimensions of emotion dysregulation in anorexia nervosa and bulimia nervosa: A conceptual review of the empirical literature. *Clinical Psychology Review*, 40, 111–122. <https://doi.org/10.1016/j.cpr.2015.05.010>
- Macavei, B. (2002). A Romanian adaptation of the attitudes and Belief Scale 2. *Romanian Journal of Cognitive and Behavioral Psychotherapies*, 2, 105–122. https://doi.org/10.1207/s15374424jccp2604_1
- Maslow, A. H. (1968). *Toward a psychology of being*. Simon and Schuster. Van Nostrand.
- Matud, M. P., López-Curbelo, M., & Fortes, D. (2019). Gender and Psychological Well-Being. *International Journal of Environmental Research and Public Health*, 16(19), 3531. <https://doi.org/10.3390/ijerph16193531>
- Mitchison, D., & Mond, J. (2015). Epidemiology of eating disorders, eating disordered behaviour, and body image disturbance in males: A narrative review. *Journal of Eating Disorders*, 3, 20. <https://doi.org/10.1186/s40337-015-0058-y>

- Mitchison, D., Hay, P., Slewa-Younan, S., & Mond, J. (2014). The changing demographic profile of eating disorder behaviors in the community. *BMC Public Health*, *14*, 943. <https://doi.org/10.1186/1471-2458-14-943>
- Monell, E., Clinton, D., & Birgegård, A. (2018). Emotion dysregulation and eating disorders-associations with diagnostic presentation and key symptoms. *The International Journal of Eating Disorders*, *51*(8), 921–930. <https://doi.org/10.1002/eat.22925>
- Muise, A. M., Stein, D. G., & Arbess, G. (2003). Eating disorders in adolescent boys: A review of the adolescent and young adult literature. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, *33*(6), 427–435. [https://doi.org/10.1016/s1054-139x\(03\)00060-0](https://doi.org/10.1016/s1054-139x(03)00060-0)
- Murray, S. B., Griffiths, S., & Mond, J. M. (2016). Evolving eating disorder psychopathology: Conceptualising muscularity-oriented disordered eating. *The British Journal of Psychiatry: The Journal of Mental Science*, *208*(5), 414–415. <https://doi.org/10.1192/bjp.bp.115.168427>
- Nagata, J. M., Brown, T. A., Lavender, J. M., & Murray, S. B. (2019). Emerging trends in eating disorders among adolescent boys: Muscles, macronutrients, and biohacking. *The Lancet Child & Adolescent Health*, *3*(7), 444–445. [https://doi.org/10.1016/S2352-4642\(19\)30147-6](https://doi.org/10.1016/S2352-4642(19)30147-6)
- Nevonen, L., & Broberg, A. G. (2006). A comparison of sequenced individual and group psychotherapy for patients with bulimia nervosa. *The International Journal of Eating Disorders*, *39*(2), 117–127. <https://doi.org/10.1002/eat.20206>
- Okech, A., & Chambers, C. R. (2012). Gender differences in self-actualization. In C. Renée Chambers & R. Vonshay Sharpe (Eds.), *Black female undergraduates on campus: Successes and challenges* (Vol. 12, pp. 59–74). Emerald Group Publishing Limited. [https://doi.org/10.1108/S1479-3644\(2012\)0000012006](https://doi.org/10.1108/S1479-3644(2012)0000012006)
- Pope, H., Phillips, K. A., & Olivardia, R. (2000). *The Adonis complex: The secret crisis of male body obsession*. Simon and Schuster.
- Rafanelli, C., Park, S. K., Ruini, C., Ottolini, F., Cazzaro, M., & Fava, G. A. (2000). Rating well-being and distress. *Stress Medicine*, *16*(1), 55–61.
- Räisänen, U., & Hunt, K. (2014). The role of gendered constructions of eating disorders in delayed help-seeking in men: A qualitative interview study. *BMJ open*, *4*(4), e004342. <https://doi.org/10.1136/bmjopen-2013-004342>
- Rogers, C. R. (1961). *On becoming a person* Houghton Mifflin Harcourt. Houghton Mifflin.
- Ruini, C., Ottolini, F., Rafanelli, C., Tossani, E., Ryff, C. D., & Fava, G. A. (2003). The relationship of psychological well-being to distress and personality. *Psychotherapy and Psychosomatics*, *72*, 268–275.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*(6), 1069.
- Ryff, C. D., & Keyes, C. L. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, *69*(4), 719–727. <https://doi.org/10.1037/0022-3514.69.4.719>
- Ryff, C., & Singer, B. (1996). Psychological well-being: Meaning, measurements and implications of psychotherapy research. *Psychotherapy and Psychosomatics*, *65*, 14–23.
- Ryff, C. D., & Singer, B. H. (2000). Biopsychosocial challenges of the new millennium. *Psychotherapy and Psychosomatics*, *69*(4), 170–177. <https://doi.org/10.1159/000012390>
- Ryff, C. D., & Singer, B. H. (2008). Know thyself and become what you are: A eudaimonic approach to psychological well-being. *Journal of Happiness Studies*, *9*, 13–39.
- Scott, K. M., & Collings, S. C. (2010). Gender and the association between mental disorders and disability. *Journal of Affective Disorders*, *125*(1–3), 207–212. <https://doi.org/10.1016/j.jad.2010.06.022>
- Smith, K. E., Mason, T. B., Murray, S. B., Griffiths, S., Leonard, R. C., Wetterneck, C. T., Smith, B. E. R., Farrell, N. R., Riemann, B. C., & Lavender, J. M. (2017). Male clinical norms and sex differences on the eating disorder inventory (EDI) and eating disorder examination Questionnaire (EDE-Q). *The International Journal of Eating Disorders*, *50*(7), 769–775. <https://doi.org/10.1002/eat.22716>
- Stanford, S. C., & Lemberg, R. (2012). A clinical comparison of men and women on the eating disorder inventory-3 (EDI-3) and the eating disorder assessment for men (EDAM). *Eating Disorders*, *20*(5), 379–394. <https://doi.org/10.1080/10640266.2012.715516>
- Stein, K. F., & Corte, C. (2007). Identity impairment and the eating disorders: Content and organization of the self-concept in women with anorexia nervosa and bulimia nervosa. *European Eating Disorders Review: The Journal of the Eating Disorders Association*, *15*(1), 58–69. <https://doi.org/10.1002/er.v.726>
- Tecuta, L., & Tomba, E. (2018). Subjective incompetence as a predictor of treatment outcomes in eating disorder outpatients. *Psychiatry Research*, *266*, 193–198. <https://doi.org/10.1016/j.psychres.2018.05.052>

- Tecuta, L., Tomba, E., Lupetti, A., & DiGiuseppe, R. (2019). Irrational beliefs, cognitive distortions, and depressive symptomatology in a College-Age Sample: A mediational analysis. *Journal of Cognitive Psychotherapy: An International Quarterly*, 33(2), 116–127. <https://doi.org/10.1891/0889-8391.33.2.116>
- Tecuta, L., Gardini, V., Schumann, R., Ballardini, D., & Tomba, E. (2021). Irrational beliefs and their role in specific and non-specific eating disorder symptomatology and cognitive reappraisal in eating disorders. *Journal of Clinical Medicine*, 10(16), 3525. <https://doi.org/10.3390/jcm10163525>
- Tecuta, L., Tomei, G., DiGiuseppe, R., Schumann, R., Ballardini, D., & Tomba, E. (2023). Mapping the path to cognitive balance: Applying the States of Mind Model and Network Analysis to eating disorder patients. *Journal of Clinical Medicine*, 12(18), 5790. <https://doi.org/10.3390/jcm12185790>
- Terjesen, M. D., Salhany, J., & Sciutto, M. J. (2009). A psychometric review of measures of irrational beliefs: Implications for psychotherapy. *Journal of Rational-Emotive and Cognitive-Behavior Therapy*, 27(2), 83–96. <https://doi.org/10.1007/s10942-009-0093-1>
- Tomba, E., Offidani, E., Tecuta, L., Schumann, R., & Ballardini, D. (2014). Psychological well-being in out-patients with eating disorders: A controlled study. *The International Journal of Eating Disorders*, 47(3), 252–258. <https://doi.org/10.1002/eat.22197>
- Tomba, E., Tecuta, L., Schumann, R., & Ballardini, D. (2017). Does psychological well-being change following treatment? An exploratory study on outpatients with eating disorders. *Comprehensive Psychiatry*, 74, 61–69. <https://doi.org/10.1016/j.comppsy.2017.01.001>
- Tomba, E., Tecuta, L., Crocetti, E., Squarcio, F., & Tomei, G. (2019). Residual eating disorder symptoms and clinical features in remitted and recovered eating disorder patients: A systematic review with meta-analysis. *The International Journal of Eating Disorders*, 52(7), 759–776. <https://doi.org/10.1002/eat.23095>
- Udo, T., & Grilo, C. M. (2019). Psychiatric and medical correlates of DSM-5 eating disorders in a nationally representative sample of adults in the United States. *The International Journal of Eating Disorders*, 52(1), 42–50. <https://doi.org/10.1002/eat.23004>
- Weltzin, T. E., Weisensel, N., Franczyk, D., Burnett, K., Klitz, C., & Bean, P. (2005). Eating disorders in men: Update. *Journal of Men's Health and Gender*, 2(2), 186–193.
- Wildes, J. E., Marcus, M. D., Crosby, R. D., Ringham, R. M., Dapelo, M. M., Gaskill, J. A., & Forbush, K. T. (2011). The clinical utility of personality subtypes in patients with anorexia nervosa. *Journal of Consulting and Clinical Psychology*, 79(5), 665–674. <https://doi.org/10.1037/a002459>
- Wilson, G. T. (1996). Acceptance and change in the treatment of eating disorders and obesity. *Behavior Therapy*, 27(3), 417–439.