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**Does Emotion Dysregulation Predict Eating Pathology in a Greek Female University Sample?**

### Abstract

Emotion Dysregulation (EDR) is shown to be associated to Eating Pathology (EP) in several western studies. The first aim of the present study was to assess this topic in the Greek population as no study has been conducted within this population to date. It was hypothesised that EDR would predict EP after controlling for Body Mass Index (BMI) and Negative Affect (NA). The second aim was to compare females who engage in Binge Eating (BE) episodes to those who engage in both BE and Restrictive Eating (RE) in terms of the six Emotion Regulation (ER) dimensions by Gratz and Roemer (2004): (1) *Acceptance of Emotions*, (2) *Ability to Refrain from Impulsive Behaviour*, (3) *and Engage in Goal-Directed Behaviour when upset*, (4) *Emotional Awareness* and (5) *Clarity*, as well as (6) *Ability to Use Adaptive ER Strategies*. It was expected that overall both groups would display similar ER difficulties. The only difference was hypothesised to be found regarding “Access to ER strategies”, with those who engage in BE self-reporting slightly less difficulties than those who engage in both BE and RE. The study was conducted online. The Greek adaptations of the Difficulties in ER scale (DERS), the ED Examination Questionnaire (EDE-Q), and the 7 items assessing depression from the Depression, Anxiety and Stress Survey short form (DASS-21) were completed by 105 female university students. Contrary to our first hypothesis, EDR did not predict EP whereas both BMI and NA were found to be significant predictors. Contrary to our second hypothesis, no significant differences were found regarding the “Strategies” dimension between the BE and BE&RE groups. However, there was a trend towards significance for three dimensions. Namely, the BE&RE group was shown to have slightly more difficulties in “Accepting their emotions” as well as in “Refraining from Impulsive behaviour” when upset than the BE group, while the latter self-reported slightly greater “Lack of Emotional Clarity”. Further research is required to assess this topic within a Greek clinical population in order to ascertain whether components targeting ER deficits should be incorporated into treatments for EP.

## Introduction

Eating pathology (EP) can be very dangerous, in particular, for young women who comprise the majority of individuals with Eating Disorders (EDs) (Schmidt, Adan, Bohm et al., 2016). EDs mainly include Anorexia Nervosa (AN), Bulimia Nervosa (BN) and Binge Eating Disorder (BED). Recovery from EDs can be a prolonged, complicated journey disrupted by frequent relapses (Steinhausen and Weber, 2009). Their elevated mortality risk has been demonstrated consistently in high-quality research: for instance, individuals with AN have a six-fold increase in mortality compared with the general population (e.g., Papadopoulos, Ekblom, Brandt, and Ekselius, 2009). Without a doubt, the severity of EP cannot be overlooked. Extensive and thorough research is constantly needed.

This study focuses specifically on the case of Greece, a country where most research has focused on disordered eating attitudes (DEA), a potential precursor of EDs, in adolescent and university samples (e.g., Bacopoulou, Foskolos, Stefanaki, Tsitsami, and Voursoura, 2018). The prevalence of DEA in adolescent samples is reported to be around 17% (Bacopoulou et al., 2018; Bilani, Galanis, Velonakis, and Katostaras, 2010) while in female university students around 23% (Costarelli, Demerzi, Stamou, 2009). Psychological factors found to be associated to DEA in adolescents are elevated anxiety levels (Bacopoulou et al., 2018) as well as decreased self-reported physical appearance and romantic appeal (Costarelli, Antonopoulou, Mavrovounioti, 2011). In young adults, risk factors are identity exploration (Gonidakis, Lemonoudi, Charila, and Varsou, 2018) as well as lower levels of Emotional Intelligence, mainly in terms of empathy, interpersonal relationships, stress management, emotional self-awareness and happiness (Costarelli, Demerzi, Stamou, 2009).

A psychological factor that has not been assessed in Greece but western studies have consistently found to be associated to EP is Emotion Dysregulation (EDR) (e.g., Svaldi, Griepenstroh, Tuschen-Caffier, and Ehring, 2012). Restrictive eating (RE) in AN, and the binge/purging vicious cycle and binge behaviour in BN and BED, respectively, have been suggested to serve as maladaptive attempts to regulate unpleasant affective states (Haynos et al., 2016; Svaldi et al., 2012). For example, binge eating (BE) episodes, namely the consumption of abnormally large quantities of food accompanied by a loss of control (LOC) over the behaviour, are argued to serve as attempts to modulate or escape from negative

emotions by providing short-term distraction or comfort (Wild et al., 2007). According to the Emotion Regulation (ER) model by Gratz and Roemer (2004), ER involves six dimensions: (a) the *Acceptance of Emotions*, (b) the *Ability to Refrain from Impulsive Behaviour*, (c) and *Engage in Goal-Directed Behaviour* when upset, (d) *Emotional Awareness* and (e) *Clarity*, as well as (f) the *Ability to Use Adaptive ER Strategies* to modulate both emotional experiences and responses so as to pursue individual goals and respond appropriately to situational demands. All four dimensions have been assessed consistently on whether they predict EP severity (e.g., Cooper, O'Shea, Atkinson, and Wade, 2014; Haynon, Wang, and Fruzzetti, 2018). For instance, Cooper et al. (2014) assessed a community sample of young females and found that having difficulties controlling one's impulsive behaviour when upset is a robust predictor of greater levels of ED behaviours, such as BE. This effect was found independent of Body Mass Index (BMI) and Negative Affect (NA), two variables that are shown to predict EP severity (Cooper et al., 2014). The "Impulsivity" dimension was very recently shown to also be associated to subthreshold RE (Haynon, Wang, and Fruzzetti, 2018). Furthermore, being aware of and acknowledging one's feelings when upset (i.e. "Emotional Awareness") as well as having trouble engaging in Goal-directed behaviour (e.g., trouble concentrating and getting work done when upset) are also shown to be significant independent predictors of ED severity (Cooper et al., 2014). The "Goals" dimension is also found to be associated to subthreshold RE (Haynon, Wang, and Fruzzetti, 2018). This contradicts Racine and Wildes (2013) who assessed a clinical population with AN and found that the "Goals" dimension did not predict greater ED severity, and that a "Lack of Emotional Awareness" predicted an increase, rather than a decrease, in ED severity. These inconsistencies call for further research as it is, for instance, unclear how valid participants' assessment of emotional awareness is. Moreover, both "Limited Access to Adaptive ER strategies" and "Lack of Emotional Clarity" have been shown to predict frequency of BE episodes in an undergraduate sample of both sexes, beyond food restriction and over-evaluation of weight and shape (Whiteside, Chen, Neighbors et al, 2007). The "Strategies" dimension is also shown to predict subthreshold RE (Haynon, Wang, and Fruzzetti, 2018).

Regarding whether different ED types (AN, BN, BED) differ in terms of the six ER dimensions, Svaldi et al. (2012) found large similarities. The only differences were that females with BED self-reported higher levels of "Access to ER Strategies" than females with AN and BN as well

as higher levels of “Emotional Clarity” than those with BN. There are, thus, some indications that females with BED may display a slightly more adaptive ER compared to those with AN and BN. Moreover, greater difficulties in ER after EDs treatment are found to predict maintenance of EP over time (Racine and Wildes, 2015). All these findings indicate, without any doubt, that ED treatments must also directly target ER deficits along with training healthy ER behaviours.

The first aim of the study was to examine the relationship between EP and EDR in the Greek population as no study has been conducted within this population to date. Given previous findings indicating that greater ED symptoms are significantly correlated with greater EDR, it was hypothesised that EDR would predict EP severity after controlling for BMI and NA. The second aim was to assess whether different ED behaviours differ regarding the six ER dimensions in order to clarify whether interventions targeting ER can be applied to the whole EP spectrum. Females who engage in BE were compared to those who engage in both BE and RE in terms of the six ER dimensions. It was expected that overall both groups would display similar ER difficulties. The only difference was hypothesised to be found in terms of “Access to ER strategies” (given Svaldi et al.’s (2012) finding), with those who engage in BE self-reporting slightly less difficulties than those who engage in both BE and RE.

## **Methods**

### *Participants*

105 Greek undergraduate (N= 78) and post-graduate (N= 27) female students (Mean age: 22.21; SD: 2.7; BMI: 21.42, SD: 2.75) were recruited through social media. The majority of the participants study Health or Natural sciences, and Linguistics. Most of them live in Athens, and Patras which is the third most populated city in Greece. Greek students who study abroad (e.g., Netherlands, United Kingdom) were also recruited. All participants completed the test procedure. Males were not recruited as it is widely recognised that EDs are more common among females than men.

## Measures

**Difficulties in Emotion Regulation Scale (DERS)** (Gratz and Roemer, 2004) (see appendix A). The Greek version by Mitsopoulou, Kafetsios, Karademas et al. (2013) was used. It includes 30 items covering six dimensions: (1) *Non-acceptance of Emotional Responses* (e.g., “When I’m upset, I feel ashamed with myself for feeling that way” 4 items), (2) *Lack of Emotional Awareness* (e.g., “I don’t pay attention to how I feel” 4 items), (3) *Lack of Emotional Clarity* (“I have no idea about how I am feeling” 5 items), (4) *Difficulties Engaging in Goal-Directed Behaviour* (“When I’m upset, I have difficulty getting work done” 5 items), (5) *Limited Access to Emotion Regulation Strategies* (“When I’m upset, I believe that I will remain that way for a long time” 9 items), and (6) *Impulse Control Difficulties* (“When I’m upset, I lose control over my behaviours” 3 items). Participants were asked to specify how often each statement applied to them on a scale between 1 (never) and 5 (always). Six items have been excluded from the original DERS as they demonstrated poor fit to the sub-scale they were designed to measure. Mitsopoulou et al. (2013) found an adequate reliability in terms of both internal consistency ( $\alpha = 0.80$ ) and test-retest reliability ( $r_s = 0.72$ ) for the remaining 30 items. In this sample the internal consistency was acceptable ( $\alpha = 0.75$ ). Regarding each subscale, internal consistency indices for the *Acceptance* ( $= 0.83$ ), *Clarity* ( $= 0.88$ ) and *Strategies* ( $= 0.88$ ) subscales were high. For the *Impulse* ( $\alpha = 0.79$ ) and *Goals* ( $\alpha = 0.73$ ) subscales Cronbach’s  $\alpha$  were acceptable, while for the *Awareness* subscale internal consistency was low ( $\alpha = 0.66$ ).

**Eating Disorder Examination-Questionnaire (EDE-Q version 4)** (Fairburn and Beglin, 1994) (see appendix B). The Greek Version by Kotsopoulou (2007) was used. It consists of 36 items. It is a very potent measure as it is consistent with the ED examination interview (Fairburn and Cooper, 1993): the first recommended examination for EDs. The EDE-Q examines the occurrence and severity of EP over the past 28 days and comprises four sub-scales: (1) *Restraint* (“Have you tried to follow definite rules regarding eating (e.g., a caloric limit) in order to influence your shape or weight (whether or not you have succeeded)?”) (2) *Shape Concern* (“Have you had a definite desire to have a totally flat stomach?”), (3) *Weight Concern* (“Have you had a definite fear that you might gain weight?”) and (4) *Eating Concern* (“Have you had a definite fear of losing control over eating?”). Disordered eating behaviours, namely, *Subjective Binge Eating* (SBE) episodes with LOC (“On how many of the past 28 days did you have \*BE episodes? A \*BE episode is when one eats a large amount of food while experiencing

a LOC over the behaviour”), *Objective Binge Eating* (OBE) episodes with LOC (“Over the past 28 days, how many times have you eaten what other people would regard as an unusually large amount of food given the circumstances? And “On how many of those times did you have a sense of having lost control over your eating?”), misuse of *laxatives*, *excessive exercise* (“On how many of the past 28 days have you exercised in an excessive way as a means of controlling your weight and shape?”), self-induced *vomiting* and *fasting* (“On how many of the past 28 days 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?”), were also assessed.

Kostopoulou found a high internal consistency ( $\alpha = .90$ ). In the present study internal consistency for the 36 items was even higher ( $\alpha = 0.95$ ). Regarding each sub-scale, internal consistency indices were as follows: *Restraint* ( $\alpha = 0.87$ ), *Shape Concern* ( $\alpha = 0.85$ ), *Weight Concern* ( $\alpha = 0.94$ ), *Eating Concern* ( $\alpha = 0.82$ ).

**Negative affect.** This was assessed via the 7 statements assessing depression on the Depression And Stress Survey short form (DASS-21) (Lovibond & Lovibond, 1995) (see appendix C). These statements (e.g., “I could not seem to experience any positive feeling at all”) are rated on a Likert-type scale ranging from 0 (e.g., “did not apply to me at all over the past week”) to 3 (e.g., “applied to me very much or most of the time over the past week”). A consistent amount of studies has confirmed the survey’s high internal consistency, reliability and discriminant validity (e.g., Cooper et al., 2014). In the present study, a high internal consistency ( $\alpha = 0.89$ ) was found.

Online consent and debrief forms (see appendices D and E) were also employed. The consent form included short information about the worldwide severity of EP, the case of EP in Greece as well as the general purpose of the study. Both anonymity and withdrawal at any time if feeling discomfort were assured. The debrief form explained the aims and hypotheses of the study in easy to understand language, and indicated the email addresses of the researchers in case a participant needed to ask a question.

### *Design*

A cross-sectional design was implemented. Both the EDE-Q and DERS provide total scores and scores on the four and six dimensions, respectively. For the EDE-Q, scores range between 0 (no eating pathology) and 6 (severe eating pathology). Scores of 4, 5 or 6 are interpreted as

clinically severe. For the DERS, scores range between 30 and 150. Higher scores indicate greater EDR. There are no standardised clinical cut-offs. Nevertheless, Harrisson et al. (2010) suggested that scores over 80 are clinically important. Regarding the DASS-21, scores between 10-13, 14-20, 21-27, 28+ indicate mild, moderate, severe and extremely severe depression, respectively. For the second hypothesis, the first group comprised 41 participants who engaged in SBE episodes at least once over the past of 28 days while experiencing a LOC over the behaviour. SBE episodes were selected over OBE episodes. While similar levels of ED symptoms are shown for individuals who only engage in SBE and those who only engage in OBE, SBE-only individuals are shown to have greater personality difficulties, body image concerns and negative affect which makes them a more difficult group to treat (Brownstone et al., 2012). The second group comprised 19 participants who both engaged in SBE and RE over the past month. The cut-off point (3,37) for RE was created using a cut point of 1SD above the mean, as recommended by Sternheim, Fisher, Harrison, and Watling (2017). BMI was computed from self-reported height and weight.

### *Procedure*

The study took place online using a google form platform. The consent form was first displayed on the screen. If participants agreed to take part, they were then instructed to complete demographic information as well as self-report both their height and weight. They were next administered the three questionnaires. First the DERS, second the EDE-Q and third the 7 depression items. A debrief form was displayed in the end of the experiment.

### *Statistical analysis*

Statistical analysis was run using SPSSv25 software. Variables were examined for normality using the well-known Shapiro-Wilk test which is recommended by Thode (2002) as the best choice for assessing normality. Global EDE-Q, BMI and depression scores did not follow a normal distribution ( $p < 0.001$ ) while Global DERS scores did ( $p = 0.62$ ). According to Elliot and Woodward (2007), with large enough sample sizes ( $>40$ ) parametric tests can still be used even when data are not normally distributed. Therefore, parametric tests were performed in most instances. A  $p$  value of less than 0.05 was used as the cut-off value for significance.

For the first hypothesis, namely whether EDR predicts EP, a linear regression analysis was selected, assessing the impact of the global DERS scores (IV) on the global EDE-Q scores (DV)



In order to assess whether BMI and NA should be treated as covariates, spearman's correlations between BMI and EDE-Q scores as well as between NA and EDE-Q scores were run. Both variables were found to have a statistically significant weak positive correlation with EDE-Q scores ( $r_s = 0.32, p = 0.001$  ;  $r_s = 0.36, p < 0.001$ ). Hence, while assessing the predictive power of EDR on EP, both BMI and depression scores were controlled for. Furthermore, as 6 participants did not report their height, their BMI could not be computed. This data was treated as missing completely at random. Pairwise deletion was selected since it is usually preferred over listwise deletion (Peugh and Enders, 2004).

For the second hypothesis, namely whether the two groups (IVs) (SBE vs. SBE&RE) differ regarding the six ER dimensions (DVs), an Analysis of Covariance (ANCOVA) was first opted for as it can incorporate a covariate. Depression was included as a covariate since a moderate positive correlation was found between depression and global DERS scores ( $r_s = 0.5, p = 0.000$ ). Before ANCOVA was run, all its assumptions were examined. The assumption of homogeneity of regression slopes, namely that for each IV the lines expressing the linear relationship between each DV (DERS sub-scales) and the covariate (depression scores) are all parallel, was violated. In this case, as recommended by Miller and Chapman (2001), the covariate can be dropped and one-way Analysis of Variance (ANOVA) can be run instead. Hence, one-way ANOVA was run for each of the six DVs.

## Results

**Table 1.** EDE-Q descriptive data and percentile ranks for EDE-Q global and subscale scores for female university students (N= 105)

	Global Score	Restraint	Eating Concern	Shape Concern	Weight Concern
Mean (SD)	1.71 (1.3)	1.9 (1.48)	1.33 (1.33)	1.64 (1.3)	2 (1.62)
Percentile rank					
5	0.08	-	-	0.05	-
10	0.35	0.12	-	0.16	0.12
25	0.53	0.6	0.4	0.58	0.62
50	1.43	1.6	1	1.16	1.62
75	2.6	2.8	2	2.5	3.12
80	2.94	3.2	2.36	2.8	3.57
85	3.2	3.6	3.02	3.02	4.14
90	3.56	4.08	3.68	3.73	4.47
95	4.26	4.8	4.14	4.16	4.87
99	5.55	5.59	5.36	5.7	5.97

Note. SD: Standard Deviation

For the EDE-Q global scores, the cut-off point for EP was 3.01. As shown in **Table 1**, 19.04% of participants scored above this point. Furthermore, 20% scored above the cut-off (3.37) for *Restraint* while 33.33% scored above the cut-off point (2.66) for *Eating Concern*, Regarding *Shape Concern*, 15.24% scored above the cut-off point (2.94) and 20% scored above the cut-off (3.62) for *Weight Concern*.

**Table 2.** Descriptive data and percentile ranks for DERS global and subscales scores, and depression for female university students (N= 105)

	Global DERS	NonAccept	Goals	Impulse	Aware	Strategies	Clarity	Depression
M (SD)	76.14	9.26	14.1	8.83	7.62	25.23	11.1	4.5
Percentile rank	(15.1)	(3.53)	(3.34)	(2.3)	(2.47)	(6.6)	(3.63)	(4.57)
5	49.3	4	9	6	4	15.3	5	-
10	55.6	5	10	6	5	16.6	6	-
25	65.5	7	11	7	6	20.5	8.5	1
50	75	9	14	9	7	24	11	3
75	86.5	11	16	11	9	29.5	14	7
90	95.8	15.4	19	12	10.4	36	15.4	12
95	103.4	16.7	20	12	12.7	37	17	14
99	116.76	19.82	21.9	14.88	15	41	21	17.94

As shown in **Table 2**, 40% of participants scored above the cut-off point recommended by Harisson et al. (2010) (80) for clinical importance. Regarding depression, 9.52% of participants scored within the range for mild depression (10-13) while 6.6% scored within the range for moderate depression (14-20).

As shown in **Table 3**, there was a very high occurrence regarding fasting behaviour, SBE and OBE episodes. There was also great discrepancy in occurrence between SBE and OBE episodes.

**Table 3.** Occurrence of disordered eating and compensatory behaviour

Disordered behaviour	Occurrence
Fasting	46.66%
Subjective Binge Episode with LOC	57.14%
Objective Binge Episode with LOC	31.43%
Self-induced vomiting	2.86%
Laxative misuse	0.95%
Diuretic misuse	0%
Excessive Exercise	12.38%

*Note.* LOC: Loss of Control. For Excessive Exercise occurrence was defined as at least 4 times per week over the past month. For the rest, occurrence was defined as at least once over the past month.

*Does Emotion Dysregulation predict Eating Pathology?*

A linear regression analysis was conducted to examine whether EDR predicts EP while controlling for BMI and depression. As shown in **Table 4**, the covariates were significant predictors ( $p < 0.05$ ) as they explained 21.4% of the variance in global EDE-Q scores. In the contrary, global DERS scores were not significant independent predictors ( $p > 0.05$ ) as they explained only an additional 2.5% of the variance in global EDE-Q scores.

**Table 4.** Regression Analysis with global DERS scores, controlling for BMI and Depression, with global EDE-Q scores as the Dependent Variable

Step	Predictors	B	SE B	$\beta$	t	p
1	BMI	0.14	0.04	0.31	3.43	.001
	Depression	0.1	0.02	0.35	3.94	<.001
$R^2 = .214, F(2,96) = 14.32, p < .001$						
2	BMI	0.14	0.04	0.31	3.45	.001
	Depression	0.07	0.03	0.26	2.52	.013
	DERS	0.02	0.01	0.18	1.79	.077
$R^2 \text{ change} = .025, F(3,95) = 10.83, p < .001$						

SE: Standard Error.

*Do scores on DERS sub-scales differ between groups (SBE N=41 vs. SBE&RE N=19)?*

One-way ANOVA was conducted six times to compare effect of type of group (SBE vs. SBE&RE) on each of the six sub-scales. The difference between group means on the *Non-acceptance* sub-scale was close to be statistically significant ( $F(1, 58) = 3.7, p = 0.06$ ). For the *Goals* sub-scale, there was a clear non statistically significant difference ( $F(1, 58) = 1.36, p = 0.25$ ) between group means. For the *Impulsivity* sub-scale, the difference between group means was on the edge of statistical significance ( $F(1, 58) = 3.8, p = 0.056$ ). For the *Awareness* sub-scale, there was a remarkably non statistically significant difference ( $F(1, 58) = 0.7, p = 0.4$ ) between group means. For the *Clarity* sub-scale, the difference between groups means was on the boundaries of significance ( $F(1, 58) = 3.55, p = 0.06$ ). Finally, there was an obvious non statistically significant difference ( $F(1, 58) = 0.05, p = 0.83$ ) between group means for the *Strategies* subscale. See **Table 5** for exact means and standard deviations.

**Table 5.** Means and Standard Deviations for SBE and SBE&RE groups across DERS subscales

DERS Subscales	SBE (N= 41) M (SD)	SBE&RE (N= 19) M (SD)
Non-Acceptance	9.2 (3.31)	11.05 (3.84)
Goals	10.39 (2.63)	11.37 (3.74)
Impulsivity	8.6 (2.1)	9.7 (1.9)
Awareness	7.7 (2.5)	7.1 (2.35)
Clarity	11.54 (3.8)	9.68 (2.8)
Strategies	25.02 (6.7)	25.42 (5.9)

Note. SBE: Subjective Binge Eating; SBE&RE: Subjective Binge Eating and Restrictive Eating

### Discussion

The present study examined the relationship between EDR and EP in a female university sample. Contrary to our first hypothesis, EDR did not predict EP severity after controlling for BMI and depression. Instead, the latter were both found to be significant predictors of EP. In addition, females who self-reported SBE over the past month were compared to females who self-reported both SBE&RE in terms of the six ER dimensions by Gratz and Roemer (2004), which are: (1) *Acceptance of emotions*, (2) *Ability to refrain from Impulsive Behaviour*, and (3) *Engage in Goal-Directed Behaviour when upset*, (4) *Emotional Awareness* and (5) *Clarity*, as well as (6) *Access to Adaptive ER Strategies*. In line with our preliminary expectations, both groups displayed a similar ER profile. However, contrary to our specific hypothesis -namely that those who engage in SBE would self-report slightly less difficulties in terms of Access to Adaptive ER strategies than those who engage in both BE&RE-, no significant differences were found. Interestingly, there was a trend towards significance for the “Acceptance”, “Impulsivity” and “Clarity” dimensions. Namely, those who engage in both SBE&RE self-reported slightly higher difficulties in “Accepting their emotions” as well as in “Refraining from Impulsive behaviour” when upset than those who engage in SBE, while the latter self-reported slightly greater “Lack of Emotional Clarity”.

Our first finding contradicts a number of studies that found a positive correlation between EDR and EP in both clinical (e.g., Racine and Wildes, 2013; Svaldi et al., 2012) and non-clinical

samples (e.g., Haynos et al., 2018; Cooper et al., 2014; Whiteside et al., 2007). An explanation for this discrepancy might be the different versions of EDE-Q and DERS utilised in the present study. While all aforementioned studies used the EDE-Q version 6, apart from Whiteside et al. (2007) who utilised the EDs Diagnostic Scale (Stice, Telch, and Rizvi, 2000), we employed the EDE-Q version 4. The two versions have some disparities. For instance, the experience of feelings of guilt regarding the effect of eating on one's shape and weight, which is a common experience in individuals with EDs (Duffy and Henkel, 2016), is only assessed in version 6. Furthermore, the Greek adaptation of the DERS utilised in the present study contains only 30 items whereas the original one includes 36 items. Besides, in the Greek version some items are modified to optimise the naturalness of translations. For instance, the statement "When I am upset, I believe that I will end up feeling very depressed" is adjusted in the Greek version into: "When I am upset, I believe that I will end up feeling gloomy". The term "very depressed" may be referring to both a clinical disorder and higher severity than the term "feeling gloomy". Such discrepancies convey different meanings that might have had an effect on the results. Also, some items in the Greek version belong to different dimensions: for example, the items "I experience my emotions as overwhelming and out of control", "When I am upset, I have difficulty thinking about anything else" and "When I am upset, I have difficulty focusing on other things" are all under the "Strategies" dimension, while in the original English version the two latter belong to the "Goals" dimension and the first one to the "Impulsivity" dimension. Another example is the item "When I am upset, I become out of control" which in the original English version belongs to the "Impulsivity" dimension whereas in the Greek version it is under the "Goals" dimension. Consequently, dimensions' content differs to a large extent between the two versions, which might have influenced the results. Moreover, the five-point scale in the original version ranges between "almost never" and "almost always" while in the Greek version it ranges between "never" and "always". The reason behind this might be of cultural nature since Greece is a face-collectivistic and holistic culture and hence the function of "relatives" such as "almost" is very ambivalent in contrast to dignity-individualistic and analytic cultures such as the North American and the Dutch. However, an "almost never" response ranges between 0-10% while a "never" response is a total 0%. Similarly, an "almost always" response ranges between 91-100% whereas an "always" response refers to a total 100%. This might have had an influence on the results: for instance, a participant who opted for the "most of the time" instead of the "always" option in the Greek version might have

selected the “almost always” option in the original English version. Similarly, a participant who selected the “sometimes” over the “never” option in the Greek version, might have selected the “almost never” option in the original English version.

Another reason for the discrepancy between the present and aforementioned non-clinical studies (Cooper et al., 2014; Whiteside et al., 2007) might be the small sample size of 105 participants versus the larger samples of more or less 600 participants. Nevertheless, the fact that Haynos et al. (2018) recruited a sample of only 98 participants and still found significant findings suggests that sample size might not be the issue.

Both BMI and depression were found to be robust predictors of EP. Indeed, research shows a high comorbidity of EDs and mood disorders, in particular Major Depressive Disorder (MDD) (Blinder, Cumella, and Sanathara, 2006). A serotonin imbalance might be the case in EDs just like in MDD since ED patients are shown to benefit from antidepressants that target serotonin pathways (Steiger, 2004). Regarding BMI, its predictive power parallels those of previous studies that found elevated BMI to be a risk factor for pathological eating in girls (e.g., Dohnt and Tiggeman, 2006; Bearman et al., 2006). The effect of BMI on EP has been previously shown to be mediated by body image concerns and drive for thinness in adolescents (Spadafora, 2010). It should be noted that Haynos et al. (2018), Whiteside et al. (2007), and Svaldi et al. (2012) have a crucial limitation of not controlling for BMI and NA which might have biased their findings by overestimating the effect of EDR.

A factor that was not assessed but might be implicated in the occurrence of EP in the present sample and account for why EDR was not an important predictor is the sociocultural pressure to be thin. There is a huge focus on appearance within the Greek society just like in Western societies (Janinic and Bairaktari, 2013). Greek women are constantly exposed to ideal-body stereotypes on social media, television and magazines. It is, therefore, very possible that women internalise the message that in order to be considered successful one needs to obtain the almost unrealistic slim physique. Research shows the internalisation of the slim ideal to lead to body dissatisfaction which in turn results in shape and weight concerns (Midlarsky and Nitzburg, 2008). These might subsequently lead to disordered eating behaviours which might further result in the development of EP (Groesz et al., 2002).

The finding regarding slightly poorer Emotional Clarity within the SBE group goes along with Whiteside et al.'s study who found the "Clarity" dimension to uniquely predict more frequent BE episodes. If we match, on the one hand, the SBE&RE participants to patients with BN, by thinking of RE as a compensatory behaviour over BE, and, on the other hand, the SBE participants to patients with BED, then findings contradict Svaldi et al.'s (2012) study who found BED patients to have less difficulties regarding Emotional Clarity than BN patients. Furthermore, the finding regarding slightly higher difficulties controlling one's impulsive behaviour within the SBE&RE group goes along with Cooper et al. (20014) and Haynos, Wang, and Fruzzetti (2018) who found the "Impulsivity" dimension to predict BE and subthreshold RE, respectively. Moreover, in terms of "Non-acceptance of emotions", research shows this dimension to be related to RE in AN (Harrison et al., 2010), which could account for the slightly more difficulties reported within the BE&RE group. It should be noted that six participants within the SBE&RE group had a clinical global EDE-Q score while only one participant within the SBE group scored above the clinical range. This could account for why the SBE&RE group scored slightly higher on two dimensions. Moreover, even the group who engaged in SBE episodes also slightly engaged in RE, which could indicate that for both groups BE was the result of RE.

Interestingly, there was a very high occurrence of fasting (46.66%) and of both SBE and OBE episodes as well as a marked discrepancy between the two episodes (57,14% and 31.43% respectively) compared to non-clinical samples assessed in previous studies. For instance, in Luce, Crowther, and Pole's (2008) study occurrence was as follows: 25.9% for fasting, 32.1% for SBE, and 21.3% for OBE. These discrepancies might be accounted for by cultural differences, characteristics of the Greek EDE-Q version, or other unknown factors. However, although one would expect that participants in this sample would score higher regarding the four EP dimensions (*Restraint, weight, shape* and *eating* concerns) compared to participants in Luce et al.'s (2008) study, scores were similar between samples. This raises questions about the reliability of our findings. Furthermore, 40% of participants reported ER difficulties of clinical importance. They also reported marked difficulties regarding "Access to Adaptive ER Strategies" compared to community samples assessed in previous studies: for instance, the mean score was 25.23 in this sample while in Monell, Clinton, and Birgegard's (2018) it was 17. However, for the "Emotional Awareness" dimension participants reported way less



difficulties (mean score: 7.62) than the control group in Monell et al.'s (2018) study (mean score: 10.5).

Although several studies have assessed the association between EDR and EP in both clinical and non-clinical samples, mainly among Northern European and American populations, this is the first study examining this exact topic in Greece. Also, controlling for confounding factors, namely BMI and depression, protected from having overestimated findings. Nevertheless, there are several noteworthy limitations that need to be taken into account when interpreting the findings of the present study. First, results may not be generalisable to neither a male nor a more general population since our sample was solely composed of female university students. Second, the use of self-report measures has the limitation of participant bias. Namely, self-reported ER might not be entirely equivalent to actual abilities. Also, it might be the case that participants misunderstood terms such as LOC or large quantity of food. Indeed, research reveals some discrepancies between disordered behaviours self-reported with the EDE-Q (version 6) and those observed at interviews (Pliatskidou, Samakouri, Kalamara et al., 2015). Providing participants with detailed clarifications regarding those terms, requesting participants to complete two well-validated ED measures or including a companion interview examination could enable to overcome self-report biases and enhance accuracy of results. Third, one needs to be cautious when interpreting results regarding the "Awareness" dimension since its internal consistency index was low. Fourth, analysis was not adjusted for anxiety levels which might have overemphasised the effect of BMI and depression. Fifth, the fact that we only included SBE episodes is an important limitation since all cited previous studies have merely relied on OBE episodes.

Regarding suggestions for future research, additional research is required to examine the role of ER in a Greek clinical sample as well as in male and other more general populations. Future research could benefit from examining EDR via more objective methods, namely via experimental laboratory procedures or psychophysiological measures such as respiratory sinus arrhythmia: that is, the ebbing and flowing of heart rate that occurs across the breathing cycle. It is, indeed, shown to be a transdiagnostic biomarker of EDR (Beauchaine, 2015). Furthermore, additional research in the Greek population should assess whether EDR explains BE severity beyond food restriction and preoccupation about weight and shape. Moreover, since to date studies have only assessed dysregulation of negative emotions, dysregulation of

positive emotions should further be explored. Future research could further benefit from a longitudinal design since causation cannot be inferred with cross-sectional designs.

While western countries have incorporated components directly targeting ER deficits into treatments for EP, this cannot be done in Greece yet before further studies ascertain the relationship between EDR and EP within a clinical population. However, the slight ER differences reported between the groups could suggest that preventive work regarding individuals who engage in BE should increase “Clarity of emotions”, while preventive work regarding individuals who engage in both BE&RE should target “Impulsivity” and “Non-acceptance of emotions”. Our findings further suggest that ED professionals should tackle depressive symptoms when working with girls who experience subthreshold EDs. Moreover, Greek health campaigns should increase awareness of disordered eating behaviours, mainly those of BE and fasting, and also target ER difficulties, in particular regarding “Limited Access to Adaptive ER Strategies”.

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## Appendix A: Greek Version of Difficulties in Emotion Regulation Scale

### ΚΛΙΜΑΚΑ ΔΥΣΚΟΛΙΩΝ ΑΥΤΟΡΥΘΜΙΣΗΣ ΣΥΝΑΙΣΘΗΜΑΤΩΝ

Βάλτε σε κύκλο τον αριθμό που εκφράζει καλύτερα το πόσο συχνά αισθάνεσθε κάθε δήλωση

χρησιμοποιώντας την ακόλουθη κλίμακα (1= Ποτέ έως 5 = Πάντα). Παρακαλώ, απαντήστε ειλικρινώς σε κάθε μία ξεχωριστά.

	Ποτε	Μερικές φορές	Αρκετές φορές	Συχνά	Πάντα
1. Ντρέπομαι για τον εαυτό μου όταν αισθάνομαι μεγάλη ταραχή για κάτι	1	2	3	4	5
2. Θυμώνω με τον εαυτό μου όταν κάτι με αναστατώνει πραγματικά	1	2	3	4	5
3. Γνωρίζω ακριβώς πώς αισθάνομαι	1	2	3	4	5
4. Όταν είμαι ταραγμένος, ντρέπομαι με τον εαυτό μου που νιώθει έτσι	1	2	3	4	5
5. Όταν είμαι ταραγμένος, με παρασύρουν τα συναισθήματα	1	2	3	4	5
6. Ενδιαφέρομαι για το τί αισθάνομαι	1	2	3	4	5
7. Όταν αναστατωθώ με κάτι, τα συναισθήματά μου με συνθλίβουν	1	2	3	4	5
8. Όταν κάτι με αναστατώνει αισθάνομαι ενοχές για τον τρόπο που αισθάνομαι	1	2	3	4	5
9. Δεν έχω ιδέα για το πώς αισθάνομαι	1	2	3	4	5
10. Με απασχολούν τα συναισθήματά μου	1	2	3	4	5
11. Όταν νιώσω μεγάλη ταραχή, πιστεύω ότι θα καταλήξω να αισθάνομαι θλιμμένος	1	2	3	4	5
12. Όταν κάτι με αναστατώνει ξαναβρίσκω γρήγορα την ηρεμία μου	1	2	3	4	5
13. Όταν είμαι ταραγμένος διατηρώ τον έλεγχο της συμπεριφοράς μου	1	2	3	4	5
14. Μπορώ να ελέγξω τον εαυτό μου ακόμα και όταν αισθάνομαι μεγάλη ταραχή	1	2	3	4	5
15. Δυσκολεύομαι να τελειώσω κάτι όταν είμαι ταραγμένος	1	2	3	4	5
16. Διατηρώ την αυτοκυριαρχία μου ακόμα κι όταν κάτι με αναστατώνει πολύ	1	2	3	4	5
17. Όταν είμαι ταραγμένος νιώθω ότι δεν υπάρχει τίποτα που μπορώ να κάνω για να αισθανθώ καλύτερα	1	2	3	4	5
18. Όταν είμαι ταραγμένος ξέρω ότι μπορώ να βρω ένα τρόπο για να αισθανθώ καλύτερα στο τέλος	1	2	3	4	5
19. Όταν είμαι ταραγμένος, προσπαθώ να προσδιορίσω τι ακριβώς αισθάνομαι	1	2	3	4	5
20. Βιώνω τα συναισθήματά μου ως συντριπτικά και ανεξέλεγκτα	1	2	3	4	5
21. Είμαι βέβαιος/-η για το πώς νιώθω σε κάθε στιγμή	1	2	3	4	5
22. Δίνω προσοχή στο πώς αισθάνομαι	1	2	3	4	5
23. Όταν είμαι ταραγμένος, δυσκολεύομαι να σκεφτώ οτιδήποτε άλλο	1	2	3	4	5
24. Όταν είμαι ταραγμένος είμαι εκτός ελέγχου	1	2	3	4	5
25. Δυσκολεύομαι να κατανοήσω τα συναισθήματά μου	1	2	3	4	5

26. Όταν κάτι με αναστατώνει δυσκολεύομαι να ελέγξω τη σκέψη μου	1	2	3	4	5
27. Δεν είμαι σίγουρος/-η για το πώς αισθάνομαι	1	2	3	4	5
28. Όταν είμαι ταραγμένος, χάνω τον έλεγχο της συμπεριφοράς μου	1	2	3	4	5
29. Όταν αναστατωθώ με κάτι, αργώ πολύ να ηρεμήσω	1	2	3	4	5
30. Όταν είμαι ταραγμένος δυσκολεύομαι να συγκεντρωθώ σε άλλα πράγματα	1	2	3	4	5

**Ευχαριστούμε πολύ για τον χρόνο σας**



## Appendix B: Greek Version of Eating Disorder Examination Questionnaire (4<sup>th</sup> version)

### ΠΑΡΑΡΤΗΜΑ ΣΤ

#### Ερωτηματολόγιο Εξέτασης των Διαταραχών Διατροφής (4<sup>η</sup> έκδοση)

Οι παρακάτω ερωτήσεις αφορούν τις τελευταίες 4 εβδομάδες μόνο (28 μέρες). Παρακαλώ διαβάστε την κάθε ερώτηση προσεκτικά και κυκλώστε τον κατάλληλο αριθμό που βρίσκεται στα δεξιά. Παρακαλώ να απαντήσετε σε όλες τις ερωτήσεις.

ΣΕ ΠΟΣΕΣ ΑΠΟ ΤΙΣ ΤΕΛΕΥΤΑΙΕΣ 28 ΗΜΕΡΕΣ...	Καμία μέρα	1-5 μέρες	6-12 μέρες	13-15 μέρες	16-22 μέρες	23-27 μέρες	Κάθε μέρα
15. Έχετε ηθελημένα <u>προσπαθήσει</u> να περιορίσετε την ποσότητα του φαγητού που τρώτε, για να επηρεάσετε το βάρος ή το σχήμα του σώματός σας;	0	1	2	3	4	5	6
16. Έχετε μείνει για μεγάλες χρονικές περιόδους (8 ώρες ή περισσότερο) χωρίς να φάτε τίποτα προκειμένου να επηρεάσετε το βάρος ή το σχήμα του σώματός σας;	0	1	2	3	4	5	6
17. Έχετε <u>προσπαθήσει</u> να αποφύγετε να φάτε κάποιο φαγητό που σας αρέσει προκειμένου να επηρεάσετε το βάρος ή το σχήμα του σώματός σας;	0	1	2	3	4	5	6
18. Έχετε <u>προσπαθήσει</u> να ακολουθήσετε συγκεκριμένους κανόνες σε σχέση με τη διατροφή σας προκειμένου να επηρεάσετε το βάρος ή το σχήμα του σώματός σας; για παράδειγμα, περιορισμό των θερμίδων, συγκεκριμένη ποσότητα φαγητού ή κανόνες για το τι και πότε θα πρέπει να φάτε;	0	1	2	3	4	5	6
19. Έχετε θελήσει το στομάχι σας να είναι άδειο;	0	1	2	3	4	5	6
20. Δυσκολευτήκατε ποτέ να συγκεντρωθείτε σε δραστηριότητες που σας ενδιαφέρουν, για παράδειγμα να διαβάσετε, να δείτε τηλεόραση ή να παρακολουθήσετε μία συζήτηση, επειδή σκεφτόσασταν το φαγητό ή το θερμιδικό του περιεχόμενο;	0	1	2	3	4	5	6
21. Έχετε φοβηθεί ότι θα χάσετε τον έλεγχο απέναντι στο φαγητό;	0	1	2	3	4	5	6
22. Είχατε επεισόδια <u>*υπερφαγίας</u> ; (*ένα επεισόδιο υπερφαγίας συμβαίνει όταν τρώτε μία πολύ μεγάλη ποσότητα φαγητού και παράλληλα νιώθετε ότι χάνετε τον έλεγχο απέναντι στο φαγητό)	0	1	2	3	4	5	6
23. Έχετε φάει στα κρυφά; (μην μετρήσετε τα επεισόδια υπερφαγίας)	0	1	2	3	4	5	6
24. Έχετε θελήσει οπωσδήποτε το στομάχι σας να είναι επίπεδο;	0	1	2	3	4	5	6
25. Δυσκολευτήκατε ποτέ να συγκεντρωθείτε σε	0	1	2	3	4	5	6

δραστηριότητες που σας ενδιαφέρουν, για παράδειγμα να διαβάσετε, να δείτε τηλεόραση ή να παρακολουθήσετε μία συζήτηση, επειδή σκεφτόσασταν το βάρος ή το σχήμα του σώματός σας;

26. Είχατε έναν συγκεκριμένο φόβο ότι μπορεί να πάρετε βάρος ή να γίνετε παχύς-ιά;	0	1	2	3	4	5	6
27. Έχετε αισθανθεί παχύς-ιά;	0	1	2	3	4	5	6
28. Είχατε μία ισχυρή επιθυμία να χάσετε βάρος;	0	1	2	3	4	5	6

#### ΚΑΤΑ ΤΗ ΔΙΑΡΚΕΙΑ ΤΩΝ ΤΕΛΕΥΤΑΙΩΝ ΤΕΣΣΑΡΩΝ ΕΒΔΟΜΑΔΩΝ (28 ΗΜΕΡΕΣ)...

15. Σε ποια αναλογία από τις φορές που έχετε φάει, αισθανθήκατε ένοχος-η λόγω των επιπτώσεων στο βάρος ή στο σχήμα του σώματός σας; (Μην μετρήσετε τα επεισόδια υπερφαγίας). Κυκλώστε τον αριθμό που αντιστοιχεί.

0 Καμία φορά	1 Λίγες φορές	2 Λιγότερες από τις μισές φορές	3 Τις μισές φορές	4 Περισσότερες από τις μισές φορές	5 Τις περισσότερες φορές	6 Κάθε φορά
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17. Κατά τη διάρκεια των τελευταίων τεσσάρων εβδομάδων (28 ημέρες), υπήρξαν κάποιες φορές που αισθανθήκατε ότι φάγατε τόσο όσο άλλα άτομα θα το θεωρούσαν μία ασυνήθιστα μεγάλη ποσότητα φαγητού, δεδομένης της περίπτωσης; Κυκλώστε τον αριθμό που αντιστοιχεί.

0 Όχι	1 Ναι
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20. Πόσα τέτοια επεισόδια είχατε τις τελευταίες τέσσερις εβδομάδες; \_\_\_\_

21. Στη διάρκεια πόσων από αυτά τα επεισόδια υπερφαγίας είχατε την αίσθηση ότι είχατε χάσει τον έλεγχο απέναντι στο φαγητό σας; \_\_\_\_

22. Υπήρξαν άλλες φορές όπου τρώγατε και είχατε την αίσθηση ότι είχατε χάσει τον έλεγχο και είχατε φάει πάρα πολύ, χωρίς ωστόσο να έχετε φάει μία ασυνήθιστα μεγάλη ποσότητα φαγητού δεδομένης της περίπτωσης;

0 Όχι	1 Ναι
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22. Πόσα τέτοια επεισόδια είχατε τις τελευταίες τέσσερις εβδομάδες; \_\_\_\_

23. Κατά τη διάρκεια των τελευταίων τεσσάρων εβδομάδων προκαλέσατε στον εαυτό σας εμετό σαν ένα μέσο για να ελέγξετε το βάρος ή το σχήμα του σώματός σας;

0 Όχι	1 Ναι
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24. Πόσες φορές το κάνατε αυτό τις τελευταίες τέσσερις εβδομάδες; \_\_\_\_

25. Πήρατε καθαρτικά σαν ένα μέσο για να ελέγξετε το βάρος ή το σχήμα του σώματός σας;

0 Όχι	1 Ναι
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24. Πόσες φορές το κάνατε αυτό κατά τη διάρκεια των τελευταίων τεσσάρων εβδομάδων; \_\_\_\_

25. Πήρατε διουρητικά σαν ένα μέσο για να ελέγξετε το βάρος ή το σχήμα του σώματός σας;

0                      1  
Όχι                      Ναι

28. Πόσες φορές το κάνατε αυτό κατά τη διάρκεια των τελευταίων τεσσάρων εβδομάδων; \_\_\_\_

29. Κάνετε έντονη σωματική άσκηση σαν ένα μέσο για να ελέγξετε το βάρος ή το σχήμα του σώματός σας;

0                      1  
Όχι                      Ναι

29. Πόσες φορές το κάνατε αυτό κατά τη διάρκεια των τελευταίων τεσσάρων εβδομάδων; \_\_\_\_

ΚΑΤΑ ΤΗ ΔΙΑΡΚΕΙΑ ΤΩΝ ΤΕΛΕΥΤΑΙΩΝ ΤΕΣΣΑΡΩΝ ΕΒΔΟΜΑΔΩΝ (28 ΗΜΕΡΕΣ)... Παρακαλώ κυκλώστε τον αριθμό που περιγράφει καλύτερα τη συμπεριφορά σας	Καθόλου	Ελαφρώς	Αρκετά	Πάρα πολύ			
37. Το βάρος σας επηρέασε το πώς κρίνετε τον εαυτό σας ως άτομο;	0	1	2	3	4	5	6
38. Το σχήμα του σώματός σας επηρέασε το πώς κρίνετε τον εαυτό σας ως άτομο;	0	1	2	3	4	5	6
31. Πόσο θα σας τάραιζε εάν έπρεπε να ζυγίζεστε μία φορά την εβδομάδα για τις προσεχείς τέσσερις εβδομάδες;	0	1	2	3	4	5	6
32. Πόσο δυσαρεστημένη αισθανθήκατε με το βάρος σας;	0	1	2	3	4	5	6
33. Πόσο δυσαρεστημένη αισθανθήκατε με το σχήμα του σώματός σας;	0	1	2	3	4	5	6
34. Πόσο σας έχει απασχολήσει το να σας βλέπουν οι άλλοι να τρώτε;	0	1	2	3	4	5	6
35. Πόσο άβολα έχετε αισθανθεί κοιτάζοντας το σώμα σας; για παράδειγμα στον καθρέφτη, σε αντανakλάσεις βιτρινών, όταν γδύνεστε ή κάνετε μπάνιο;	0	1	2	3	4	5	6
36. Πόσο άβολα αισθανθήκατε με το να κοιτάζουν οι άλλοι το σώμα σας; για παράδειγμα, σε κοινόχρηστα δοκιμαστήρια, όταν κολυμπάτε ή όταν φοράτε στενά ρούχα;	0	1	2	3	4	5	6

**Appendix C: Greek Version of Depression and Stress Survey short form- the 7 items utilised are highlighted**

<b>DASS21</b>					
Greek translation and Adaptation George N. Lyrakos and Chrysa Arvaniti					
Όνομα :			Ημερομηνία:		
<p>Παρακαλώ διαβάστε κάθε δήλωση και κυκλώστε έναν αριθμό 0 ..1 ..2 ή 3 που προσδιορίζει πόσο η δήλωση σας αντιπροσώπευσε <i>κατά τη διάρκεια της προηγούμενης εβδομάδας</i>. Δεν υπάρχει καμία σωστή ή λανθασμένη απάντηση. Μην ξεδέψετε πάρα πολύ χρόνο σε οποιαδήποτε δήλωση.</p> <p>Βαθμολογήστε σύμφωνα με την ακόλουθη κλίμακα:</p> <p>0 Δεν ίσχυσε καθόλου για μένα            1 Ίσχυε για μένα σε έναν ορισμένο βαθμό, ή για μικρό χρονικό διάστημα.            2 Ίσχυε για μένα σε έναν ιδιαίτερο βαθμό, ή για μεγάλο χρονικό διάστημα.            3 Ίσχυε για μένα πάρα πολύ, ή τις περισσότερες φορές.</p>					
1	Δεν μπορούσα να ηρεμήσω τον εαυτό μου	0	1	2	3
2	Ένιωθα ότι το στόμα μου ήταν ξηρό	0	1	2	3
3	<b>Δεν μπορούσα να βιώσω κανένα θετικό συναίσθημα</b>	0	1	2	3
4	Δυσκολευόμουν ν' ανασάνω (π.χ., υπερβολικά γρήγορη αναπνοή, κόψιμο της ανάσας μου χωρίς να έχω κάνει σωματική προσπάθεια )	0	1	2	3
5	<b>Μου φάνηκε δύσκολο να αναλάβω την πρωτοβουλία να κάνω κάποια πράγματα</b>	0	1	2	3
6	Είχα την τάση να αντιδρώ υπερβολικά στις καταστάσεις που αντιμετώπιζα	0	1	2	3
7	Αισθάνθηκα τρεμούλα (πχ στα χέρια)	0	1	2	3
8	Αισθανόμουν συχνά νευρικότητα	0	1	2	3
9	Ανησυχούσα για τις καταστάσεις στις οποίες θα μπορούσα να πανικοβληθώ και να φανώ ανόητος στους άλλους	0	1	2	3
10	<b>Ένιωσα ότι δεν είχα τίποτα να προσμένω με ενδιαφέρον</b>	0	1	2	3
11	Βρήκα τον εαυτό μου να νιώθει ενοχλημένος	0	1	2	3
12	Μου ήταν δύσκολο να χαλαρώσω	0	1	2	3
13	<b>Ένιωθα μελαγχολικός και απογοητευμένος</b>	0	1	2	3
14	Δεν μπορούσα να ανεχτώ οτιδήποτε με κρατούσε από το να συνεχίσω με αυτό που έκανα	0	1	2	3
15	Ένιωσα πολύ κοντά στον πανικό	0	1	2	3
16	<b>Τίποτα δεν μπορούσε να με κάνει να νιώσω ενθουσιασμό</b>	0	1	2	3
17	<b>Ένιωσα ότι δεν άξιζα πολύ ως άτομο</b>	0	1	2	3
18	Ένιωσα ότι ήμουν αρκετά ευερέθιστος	0	1	2	3
19	Αισθανόμουν την καρδιά μου να χτυπάει χωρίς να έχει προηγηθεί σωματική άσκηση (ταχυπαλμία, αρρυθμία)	0	1	2	3
20	Ένιωσα φοβισμένος χωρίς να υπάρχει λόγος	0	1	2	3
21	<b>Ένιωσα πως η ζωή δεν είχε νόημα</b>	0	1	2	3

## Appendix D: Consent form (screenshot)

# Συναισθηματική Αυτορρύθμιση & Διατροφικές Συμπεριφορές

Λέγομαι Αγγελική Μάγνη και είμαι μεταπτυχιακή φοιτήτρια Κλινικής Ψυχολογίας στο πανεπιστήμιο της Ουτρέχτης. Διεξάγω μια έρευνα, υπό την επίβλεψη της καθηγήτριας Lot Sternheim, για το ρόλο που παίζει η συναισθηματική αυτορρύθμιση ενός ατόμου στις διατροφικές του συμπεριφορές. Με τον όρο συναισθηματική αυτορρύθμιση αναφέρομαι στην επίκτητη ικανότητα ενός ατόμου να αναγνωρίζει, να κατανοεί και να αποδέχεται τα συναισθήματά του αλλά και στην ικανότητά του να ρυθμίζει τον τρόπο που τα βιώνει και τα εκφράζει για την επίτευξη μακροπρόθεσμων στόχων. Σκοπός της έρευνας είναι να φωτίσει το σκοτεινό μονοπάτι που διαβαίνουν κορίτσια με διατροφική παθολογία στην Ελλάδα. Ως χώρα έχουμε ακόμα πολύ δρόμο στο θέμα της ενημέρωσης και ευαισθητοποίησης για τα άτομα αυτά που νοσούν, αφού το ευρύ ελληνικό κοινό θεωρεί πως οι διατροφικές διαταραχές οφείλονται απλά και μόνο στην εμμονή νεαρών γυναικών να μιμηθούν μοντέλα, άρα δηλαδή ότι πρόκειται για συνειδητή επιλογή.

Κανένας όμως δεν επιλέγει να νοσήσει. Είναι φυσιολογικό να λέμε σε κάποιον με καρκίνο ότι επέλεξε να νοσήσει? Πρέπει να ξέρουμε μάλιστα ότι οι ασθενείς με νευρική ανορεξία έχουν ανοσογνωσία, που θα πει ότι φτάνουν να μην αναγνωρίζουν την κατάσταση στην οποία βρίσκονται αφού σημαντικά σημεία του εγκεφάλου υπολειπουργούν με αποτέλεσμα το μήνυμα της πείνας και του πόνου να μην φτάνει στον εγκέφαλο. Δυστυχώς η ελληνική Πολιτεία δεν δίνει τη βαρύτητα που αρμόζει στο θέμα, καθώς κρίνει πως πρόκειται για ψυχική νόσο άνευ μεγάλης σημασίας. Η νευρική ανορεξία όμως έχει το υψηλότερο ποσοστό θνησιμότητας (20%) από όλες τις ψυχικές νόσους, ξεπερνά ακόμη και τη χρήση ναρκωτικών και αλκοόλ!

Ένας διαδεδομένος μύθος είναι πως μόνο η ανορεξία είναι διατροφική διαταραχή και πως αν είσαι σε φυσιολογικό βάρος δεν έχεις τίποτα, απλά μια εμμονή. Όμως το βάρος δεν είναι παρά μόνο μία από τις συνιστώσες του προβλήματος. Πολλοί ασθενείς έχουν φυσιολογικό βάρος αλλά παρουσιάζουν κοινές συμπεριφορές και σκέψεις με αυτές των ατόμων με ανορεξία. Δυστυχώς η πλειοψηφία των ειδικών στην Ελλάδα που προσφέρουν θεραπεία δεν είναι εξειδικευμένοι στις διατροφικές διαταραχές, με αποτέλεσμα να παραβλέπεται η ακριβής διάγνωση και να καθυστερεί πολύ η ίαση. Για να βρεθούμε αποτελεσματικά στο πλάι των χιλιάδων νεαρών κοριτσιών που νοσούν στη χώρα μας, είναι απαραίτητο να γίνει έρευνα, κάτι το οποίο δεν συμβαίνει στην Ελλάδα λόγω έλλειψης χρηματοδότησης στον τομέα της ψυχικής υγείας. Μέχρι σήμερα λοιπόν δεν έχει διεξαχθεί καμία έρευνα στην Ελλάδα που να εξετάζει συγκεκριμένα το ρόλο της συναισθηματικής αυτορρύθμισης στη διατροφική παθολογία.

Εάν είσαι κοπέλα και είσαι είτε προπτυχιακή ή μεταπτυχιακή φοιτήτρια σε καλώ να λάβεις μέρος. Η έρευνα είναι ανώνυμη και περιλαμβάνει 3 ερωτηματολόγια. Θα χρειασθείς γύρω στα 10 λεπτά για να την ολοκληρώσεις. Αν αισθανθείς άβολα μπορείς να αποσυρθείς οποιαδήποτε στιγμή. Απάντησε ειλικρινά στις ερωτήσεις γιατί μόνο έτσι θα καταφέρουμε να συνεισφέρουμε στην εξεύρεση λύσεων για τη σοβαρή αυτή πάθηση που βρίσκεται σε έξαρση, βασανίζοντας χιλιάδες νεαρές κοπέλες.

Υ.Γ.: Η αντίληψη ότι πρόκειται για μια ολοκληρωτικά γυναικεία ασθένεια δεν συμβαδίζει με την πραγματικότητα. Έρευνες φανερώνουν πως το 30% των ατόμων που νοσούν είναι άνδρες οι οποίοι πέφτουν στην παγίδα της νόσου μέσω της υπεράσκησης και της κατανάλωσης στεροειδών για την απόκτηση του πολυπόθητου γραμμωμένου σώματος.

\* Απαιτείται

Δέχεσαι να λάβεις μέρος? \*

ΝΑΙ

ΟΧΙ

## Appendix E: Debrief form (screenshot)

Section 6 of 6



# Σε ευχαριστώ πολύ για τις απαντήσεις σου! Η συμμετοχή σου μετράει πολύ!

Αρχικά θα εξετάσω εάν το να δυσκολεύεται μια γυναίκα να ρυθμίζει τα συναισθήματά της συνδέεται με το να αντιμετωπίζει δυσκολίες στη διατροφική συμπεριφορά της. Έπειτα θα συγκρίνω τις γυναίκες που παρουσιάζουν επεισόδια υπερφαγίας με εκείνες που περιορίζουν σημαντικά τη διατροφή τους όσον αφορά στις δυσκολίες που αντιμετωπίζουν στην αυτορρύθμιση των συναισθημάτων τους. Η έρευνα έχει ως απώτερο σκοπό οι νεαρές κοπέλες που νοσούν από διατροφική διαταραχή να έχουν τη δυνατότητα να λαμβάνουν θεραπεία που να εστιάζει στη λειτουργική αυτορρύθμιση των συναισθημάτων τους.

Εάν θελήσεις να με ρωτήσεις κάτι μη διστάσεις! Το email μου είναι το παρακάτω: [a.magni@students.uu.nl](mailto:a.magni@students.uu.nl)

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