The Relationship between Meaning In Life, Emotional Dysregulation and Eating Disorder Symptoms: A Mediation Analysis

Nina Schoonbeek

Master Thesis – Clinical Psychology

S4006917
February 2023
Department of Psychology
University of Groningen
Examiner/Daily supervisor:
prof. dr. P.J. de Jong

A thesis is an aptitude test for students. The approval of the thesis is proof that the student has sufficient research and reporting skills to graduate, but does not guarantee the quality of the research and the results of the research as such, and the thesis is therefore not necessarily suitable to be used as an academic source to refer to. If you would like to know more about the research discussed in this thesis and any publications based on it, to which you could refer, please contact the supervisor mentioned.

Abstract

Background: Research previously showed that experiencing low meaning in life (MIL) might be an important factor related to eating disorder symptoms (EDS). To this day, however, it is not clear how this relationship can be explained. The starting point of this study was to examine whether 1) there would indeed be a relationship between MIL and EDS, and if so, 2) whether emotional dysregulation might mediate this relationship. Additionally, it was expected that purpose, one of three subconstructs of MIL, would have the most pronounced relationship with EDS.

Methods: The hypotheses were tested in a Dutch sample, using a cross-sectional design. An online survey was administered in a sample of 504 participants, consisting of men and women, who completed measures of MIL, emotional dysregulation, and EDS, as well as demographic measures. A bootstrapping analysis using PROCESS-macro for SPSS was used to examine the mediation model, and a linear regression analysis was used to assess whether the subconstruct purpose would have the most pronounced relationship with EDS.

Results: A negative relationship between MIL and EDS was found, and this relationship was shown to be mediated by emotional dysregulation. Linear regression analysis did not support the prediction that purpose would have the most pronounced relationship with EDS.

Limitations: A cross-sectional design was used.

Conclusions: This study builds upon existing research by identifying an additional mechanism by which low MIL may influence EDS. The findings point to the importance of increasing life meaning and adaptive emotional regulation strategies, in order to reduce EDS.

Keywords: meaning in life (MIL), emotional dysregulation, eating disorder symptoms (EDS), mediation

The Relationship between Meaning In Life, Emotional Dysregulation and Eating Disorder Symptoms: A Mediation Analysis

Adolescents are at high risk for the development of eating disorder symptoms (EDS; Matthews et al., 2012). Eating disorders are the third most common chronic disease among adolescents, and it does not differentiate: It affects men and women, the young and the old, across different ethnicities (Hudson et al., 2007). Young individuals suffering from EDS have ten times more risk of dying compared to individuals with the same age, who are not suffering from EDS. Moreover, EDS are a substantial problem because they might lead to both severe physical and mental health problems (Smink et al., 2012). Despite the substantial impact of EDS, treatments are limited in their effectiveness (Murray et al., 2019). Therefore, it is meaningful to gain more insight into the factors that might be related to EDS, and might increase the risk for developing EDS.

Disordered eating might function as a maladaptive attempt to cope with general feelings of meaninglessness (Fox & Leung, 2009). Engaging in disordered eating behaviors would confirm the ideal identity and global meaning individuals wish to have, which in turn would reduce the negative feelings that are associated with feelings of meaninglessness or purposelessness. Although disordered eating might provide individuals with a sense of purpose and meaning, their goal-related activity prevents them from pursuing more intrinsically valued sources of meaning in life, such as personal development or personal relationships with significant others (Fox & Leung, 2009). In the long-term, this goal-related activity, which impairs pursuing intrinsically valued sources of meaning in life, could lead to even more feelings of meaninglessness, resulting in a vicious circle that is hard to escape from (Marco et al., 2019; Van Doornik et al., 2021).

Research by Van Doornik and colleagues (2021) recently found that the meaning in life (MIL) seems to be an important factor related to EDS, especially in anorexia nervosa. They found that individuals diagnosed with anorexia nervosa were not as satisfied with normative life domains (e.g., school or work), as were their peers. More specifically, they showed that lower MIL is associated with greater severity of EDS (Van Doornik et al., 2021). According to research by George and Park (2017), MIL refers to three subconstructs that can be distinguished. Firstly, it refers to *comprehension*; the degree to which individuals perceive a sense of coherency and understanding about their own lives. Individuals with high levels of comprehension have the feeling that their lives are clear and that their lives make sense. On the contrary, individuals with low levels of comprehension feel like their lives are unclear and disjointed. Secondly, MIL refers to *purpose* (George & Park, 2017), which concerns the extent to which individuals experience their life as being motivated and directed by important life goals. Individuals with high levels of purpose have a clear idea, or understanding, of the goals they are striving for. They feel guided by their goals. In contrast, individuals who are low on purpose perceive a sense of aimlessness. The third and last construct of MIL refers to *mattering* (George & Park, 2017); the degree to which individuals feel like their existence is significant in the world. Those individuals high on mattering feel like their existence has ongoing value, in contrast to those individuals who are low on mattering, who feel like their nonexistence would not matter in the world. Although Van Doornik and colleagues (2021) showed that individuals diagnosed with an eating disorder seem to have lower MIL, their study did not differentiate between the three subconstructs of MIL defined by George and Park (2017). Therefore, it would be valuable to gain more insight into how these subconstructs are related to EDS. If more is known about the relationship between the subconstructs of MIL and EDS, interventions could increase their effectiveness by focusing on the subconstruct(s) with the highest impact.

Although several studies have indicated that low MIL is associated to EDS (Matthews et al., 2012; Marco et al., 2019; Van Doornik et al., 2021), not much is known about the mechanism that might explain this relationship. Emotional dysregulation might be such an explanatory mechanism (Monell et al., 2018). Emotional dysregulation refers to having difficulties with regulating the quality and intensity of emotions in such a way that an adequate emotional response can be produced. Furthermore, emotional dysregulation is about the inability to handle unstable mood states, irritability and emotional overactivity (Paulus et al., 2021). While individuals with more adaptive emotion regulation strategies often experience greater well-being, individuals high on emotional dysregulation often experience less well-being, having a higher chance for developing psychopathology (Kraiss et al., 2020).

Emotional dysregulation might play a mediating role between low MIL and EDS for two reasons. First, high MIL is suggested to give individuals a sense of control over their lives. When individuals have the feeling that they are in control about certain aspects in their lives, this makes them more able to choose adaptive emotional regulation strategies to handle aversive situations or emotions (Chen et al., 2022). Thus, the sense of control that is salient when having a high MIL serves individuals in choosing adaptive emotion regulation strategies. This is in line with Self-Determination Theory (SDT), which also suggests that individuals need to have a sense of autonomy or control about certain experiences in their lives, in order to establish efficient self-regulation (Ryan & Deci, 2017; Ryan et al., 2006). With that in mind, having low MIL would then mean that individuals experience a lack of sense of control, making them less able to choose adaptive emotion regulation strategies when confronted with aversive situations or emotions (Chen et al., 2022). Thus, low MIL and emotional dysregulation might be related because of a lack of sense of control that individuals experience when confronted with the negative feelings associated with low MIL.

The second reason as to why emotional dysregulation might play a mediating role between low MIL and EDS is because emotional dysregulation is shown to play a mediating role between several psychiatric conditions and EDS (e.g., between hoarding disorder and binge-eating disorder; Raines et al., 2015). Therefore, it might also be possible that emotional dysregulation has a mediating role between low MIL and EDS. For these theoretical and empirical reasons, the expectation is that emotional dysregulation might also play a role in the relationship between MIL and EDS.

Now that it is explained from SDT as to why low MIL would be related to emotional dysregulation (because of a lack of control), it needs to be clarified why emotional dysregulation then would be associated with EDS. According to research by Monell and colleagues (2018), emotional dysregulation might lead to disordered eating patterns because emotions are often recognized as overwhelming: Individuals suffering from emotional dysregulation possess less emotion regulation strategies to deal with such negative emotions, often making them engage in maladaptive strategies, such as disordered eating, to deal with these emotions. For example, in binge eating disorder, theoretical frameworks have suggested that these emotion regulation difficulties often result in maladaptive eating patterns because individuals diagnosed with binge eating disorder view binge eating as an effective way to escape from negative emotions (Heatherton & Baumeister, 1991).

Going back to emotional dysregulation, it further consists of the experience of poor awareness of emotions and the experience of non-acceptance of emotions. These processes often lead to individuals being less able to choose adaptive emotion regulation strategies, making them more likely to engage in disordered eating patterns (Monell et al., 2018). Altogether, low MIL might lead to EDS through a process of emotional dysregulation: Due to emotional dysregulation, individuals low on MIL have no or less access to adaptive emotion

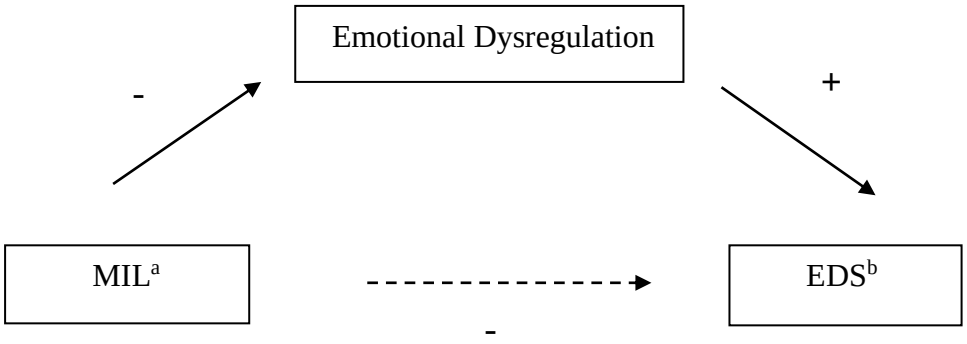
regulation strategies (such as acceptance of emotions or awareness of emotions), making individuals more prone to engage in disordered eating patterns. The function of these disordered eating patterns is that it might reduce the negative feelings associated with low MIL, such as general feelings of meaninglessness or purposelessness, because disordered eating provides individuals with a sense of meaning and purpose again.

To summarize, the current study examined 1) whether indeed there is a relationship between MIL (specifically the three subconstructs *comprehension*, *purpose* and *mattering*) and EDS, and if so, 2) whether emotional dysregulation plays a mediating role in this relationship. More specifically, the first expectation was that MIL is negatively associated with EDS, meaning that lower MIL will be related to more EDS. The second expectation was that this relationship will be mediated by emotional dysregulation (see Figure 1). Finally, since theory suggests that disordered eating often serves as a maladaptive attempt to cope with general feelings of purposelessness, the third expectation of this study was that the subconstruct *purpose* will have the most pronounced relationship with EDS, meaning that low purpose is most strongly associated with EDS. The following hypotheses will be tested;

1. MIL is negatively associated with EDS (the lower the MIL, the higher the degree of EDS).
2. MIL is negatively associated with emotional dysregulation (the lower the MIL, the higher the degree of emotional dysregulation).
3. Emotional dysregulation is positively associated with EDS.
4. Emotional dysregulation explains the relationship between MIL and EDS.
5. The subconstruct *purpose* will have the most pronounced relationship with EDS.

Figure 1

Predicted Mediation Model



Note. The expected associations and their directions between MIL, emotional dysregulation and EDS.

[a]MIL = Meaning In Life, [b]EDS = Eating Disorder Symptoms.

Method

Participants

The population of interest concerned the Dutch general adult population: both men and women aged eighteen years or older could participate in the study. Participants were recruited using Prolific, an efficient online research platform that provides recruitment of participants and enables quick, reliable data collection (Prolific, n.d.). A priori power analysis using G*Power indicated that, for a mediation analysis, a sample size of 311 participants was needed to get a power of 0.80, finding a small effect size ($f^2 = 0.02$) with $\alpha = 0.05$. The goal was to recruit 500 participants. A total of 504 participants originally took part in the study. Outliers were not excluded from the dataset since they reflect natural aspects of the real population (Wiggins, 2000). A total of 31 participants were excluded from the dataset: Participants that answered check questions incorrectly were excluded. Check questions

contained items such as: “To make sure you are still paying attention, please select *usually*.” Participants that filled in another answer were excluded, since it could not be known for sure that those participants filled in the questionnaire reliably. Another reason for excluding participants was the fact that some reported personal variables that were unrealistic (e.g., a height of 1500 centimeters). The final sample consisted of a total of 473 participants that remained for statistical analysis (234 men and 235 women). Ages ranged from 18 to 70 years (M = 28.77, SD = 8.86), with a Body Mass Index (BMI) ranging from 14.01 to 45.11 (M = 24.47, SD = 4.77).

Measures

Meaning In Life

To measure the meaning in life, the Dutch version of the Multidimensional Existential Meaning Scale (MEMS), originally developed by George & Park (2017), was used (Van Doornik et al., 2022). More specifically, the MEMS measured the three subconstructs of MIL, namely *comprehension*, *purpose* and *mattering*. The scale contained 15 items (e.g., “My life makes sense” or “whether my life ever existed matters even in the grand scheme of the universe”), with a 7-point Likert scale running from 1 (*very strongly disagree*) to 7 (*very strongly agree*). Higher total scores reflected a higher amount of MIL. One reversed item was recoded. George & Park (2017) report an excellent internal reliability for the three subscales *comprehension*, *purpose*, and *mattering* of a = 0.90, 0.89, and 0.85, respectively. The current study indicated a Cronbach’s alpha for the MEMS in its entirety of a = 0.90. Cronbach’s alpha’s found for the subscales *comprehension*, *purpose*, and *mattering* were a = 0.86, a = 0.92, and a = 0.85, respectively.

Emotional Dysregulation

The scale used to measure emotional dysregulation is the Dutch version of the Difficulties in Emotion Regulation Scale (DERS), originally developed by Gratz and Roemer (2004). This scale consists of six subscales; *non-acceptance of emotional responses (nonacceptance), difficulties engaging in goal-directed behavior (goals), impulse control difficulties (impulse), lack of emotional awareness (awareness), limited access to emotion regulation strategies (strategies),* and *lack of emotional clarity (clarity).* The scale contained 36 items (e.g., "When I am upset, it takes me a long time to feel better" or "When I am upset, I feel like I am weak"), with a 5-point Likert scale from 1 (*almost never*) to 5 (*almost always*). A total score was used to get an impression of the level of emotion regulation difficulties. Higher total scores reflected greater difficulties with emotion regulation. Eleven reversed items were recoded. Gratz and Roemer (2004) indicate excellent internal consistency of a = 0.93 for the DERS. Moreover, for its six subscales, the DERS also showed high internal consistency which were all higher than a = 0.80. The current study indicated a Cronbach's alpha for the DERS of a = 0.95. For the DERS, only the total score was used in this study, the subscales were not of interest.

Eating Disorder Symptoms

To measure eating disorder symptoms, the Dutch version of the 28-item Eating Disorder Examination Questionnaire (EDE-Q 6.0; Fairburn & Beglin, 2008) was used. Of the 28 items, 22 items were multiple choice and utilized a 7-point Likert scale ranging from 0 (*no days* or *not at all*) to 6 (*every day* or *markedly*). These items reflect 4 subscales: *restraint, eating concern, shape concern,* and *weight concern,* and included items such as: "Have you had a definite fear that you might gain weight?" A global score for this scale was used; higher scores reflected a higher amount of eating disorder symptoms. Following the approach of

Aardoom and colleagues (2012), the global score was obtained by summing all individual items and consequently averaging them. The remaining 6 items were open questions, and contained items such as “Over the past 28 days, how many times have you taken laxatives as a means of controlling your shape or weight?” Participants could fill in any number they thought was reflective of their behavior. Excellent internal reliability for the scale was indicated; a = 0.95 (Aardoom et al., 2012). The current study showed an internal reliability of a = 0.94.

Procedure

Ethical approval was acquired from the Faculty ethics committee from the University of Groningen. Before launching the online questionnaire, the researchers filled in the questionnaire themselves in order to check for any problems. After approval was obtained, and it was made sure that the questionnaire was ready to launch, the online survey was made available on Prolific for participants. Data collection started at December 15th and was completed at the 19th of January. After participants had provided their informed consent, they were instructed to complete the online survey including demographic information (e.g., age, weight, and height), as well as measures of perceived MIL, emotional dysregulation, and degree of EDS (See Appendix A for the questionnaires used). A compensation for participants that took part in the study was provided by giving them a financial reward worth 7 pounds (equivalent to 8.40 euros at the moment).

Statistical Analysis

The predicted mediation model (see Figure 1) was examined using PROCESS-macro for SPSS (27th version), which includes a bootstrapping method for testing the model (Hayes, 2013). Using this model for testing mediation is beneficial since it is robust to possible influences that non-normal data may have (Wright, London & Field, 2011). Before carrying

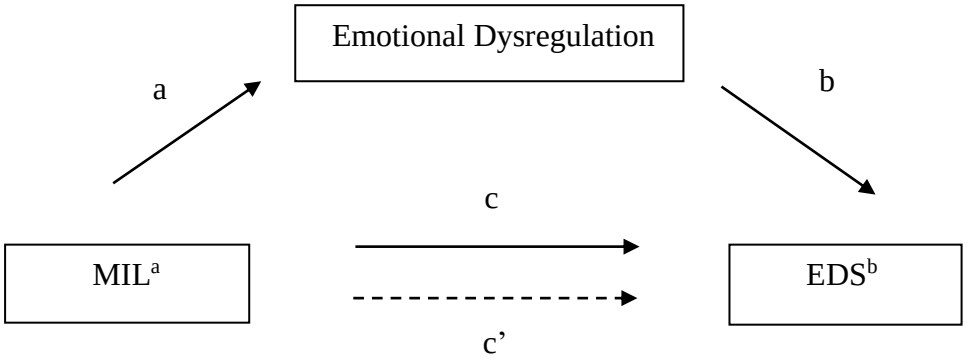
out the actual statistical analysis, descriptive and correlational statistics as well as assumptions for carrying out the bootstrapping method, were checked. The bootstrapping analysis used 5000 bootstrap re-samples. Significance was based on 95% confidence intervals. The model tested included MIL as the predictor variable, emotional dysregulation as the mediator and EDS as the dependent variable. Total scores were used to examine the predictions.

To be more specific, the first hypothesis, which assessed whether there is indeed a relationship between MIL and EDS (pathway c), was examined by looking at the total effect using model 4 in PROCESS-macro (Hayes, 2013). The direct effect (pathway c') could demonstrate whether the relationship between MIL and EDS would still be as strong as was the total effect, when looking at the full model. The second hypothesis, that predicted that there is a negative association between MIL and the mediator (pathway a), was assessed by also using model 4. Subsequently, the third hypothesis, which stated that emotional dysregulation would predict EDS (pathway b), was examined using model 4 again. Finally, also using model 4, the indirect effect was checked in order to see whether mediation indeed occurred (pathway ab), and thus whether hypothesis 4 could be confirmed. See Figure 2 for the specific pathways.

Ultimately, to assess whether the subconstruct *purpose* has the most pronounced relationship with EDS (hypothesis 5), Pearson's correlations between EDS and the three subconstructs of MIL were calculated.

Figure 2

Predicted Mediation Model and its Pathways



Note. The pathways between MIL, emotional dysregulation and EDS.

[a]MIL = Meaning In Life, [b]EDS = Eating Disorder Symptoms.

Results

Assumption Check and Data Screening

Prior to performing the data-analysis, assumptions for the bootstrap method were checked. The assumptions for linearity and homoscedasticity seem reasonably satisfied (see Appendix B: Figure B1); despite a small deviation in the scatterplot, no serious violations were visible (almost all points were randomly distributed across the plot). For heteroscedasticity was controlled by including the Huber-White assumption check in the analysis (Hayes & Cay, 2007). This option includes a heteroscedasticity-consistent standard error. By including this option, the possible violations of homoscedasticity cannot influence the results. Since the Durbin-Watson statistic is between 1.5 and 2.5, the assumption of independence of errors is fulfilled (See Appendix B: Table B1; Schreiber-Gregory & Jackson, 2018). The assumption of absence of multicollinearity is fulfilled since the Pearson´s correlations between all independent variables are less than 0.8, as can be seen in Table 1

(Schreiber-Gregory & Jackson, 2018). Since the bootstrapping procedure is robust against the influences that non-normal data may have, there was no need to test for normality (Hayes, 2013).

The descriptive statistics and Pearson's correlations of the variables of interest are presented in Table 1.

Table 1

Descriptive Statistics and Pearson Correlations of the Measured Variables

Variable	M	SD	1.	2.	3.	4.	5.
1.MIL[a]	121.24	13.18	-				
2.ED[b]	91.02	23.09	-0.467**	-			
3.EDS[c]	1.34	1.14	-0.220**	0.257**	-		
4.AGE	28.77	8.86	0.032	-0.215**	-0.022	-	
5.BMI[d]	24.47	4.77	0.002	-0.067	0.357**	0.206**	-

Note. $N = 473$.

[a] MIL = Meaning In Life, [b] ED = Emotional Dysregulation, [c] EDS = Eating Disorder Symptoms, [d] BMI = Body Mass Index.

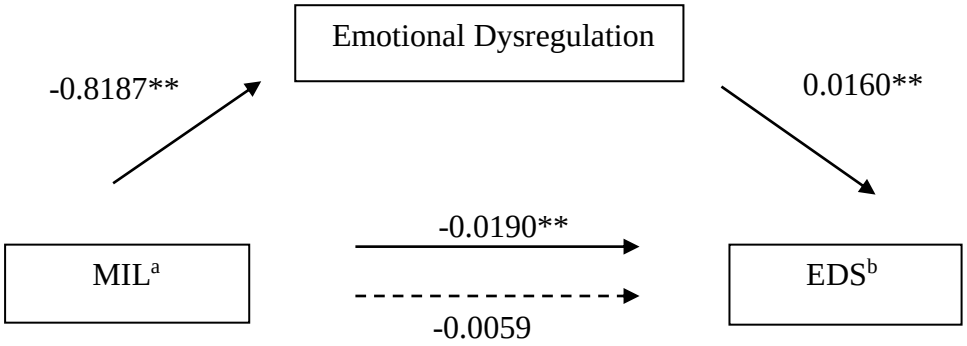
**$p < 0.01$.

Mediation Analysis

A mediation analysis was carried out to examine whether emotional dysregulation would mediate the relationship between MIL and EDS. An overall significant model was found ($F(2,470) = 27.4839$, $p < 0.01$), with 13.12% of the variance in EDS explained by MIL and emotional dysregulation. When MIL was regressed on EDS, a significant total effect was found (path c; $B = -0.0190$, $SE = 0.0041$, 95% CI (-0.0270, -0.0109), $p < 0.01$), and displayed a negative fashion, which means that lower MIL was associated with a higher amount of EDS. This indicated significant total effect was consistent with the first prediction that there would be a relationship between MIL and EDS, independent of the mediator. The effect decreased in strength and was not significant any longer when looking at the full model (direct effect, path c'; $B = -0.0059$, $SE = 0.0045$, 95% CI (-0.0147, 0.0030). Moreover, MIL significantly predicted emotional dysregulation (path a; $B = -0.8187$, $SE = 0.0736$, 95% CI (-0.9635, -0.6740), $p < 0.01$). This relationship was also found to be negative: lower MIL was associated with more difficulties in emotion regulation. Emotional dysregulation was found to be a significant predictor of EDS (path b; $B = 0.0160$ $SE = 0.0029$, 95% CI (0.0104, 0.0216), $p < 0.01$), and displayed a positive relationship, indicating that stronger emotional dysregulation was associated with a higher amount of EDS. Furthermore, the indirect effect for MIL on EDS through emotional dysregulation was found significant (path ab; $B = -0.0131$, $SE = 0.0027$, 95% CI (-0.0186, -0.0082). Consistent with the prediction, emotional dysregulation mediated the relationship between MIL and EDS. The percent mediation (P(m) = ab/c = -0.0131/-0.0190) was calculated and indicated that 68.95% of the total effect was accounted for by the indirect effect, which suggests that emotional dysregulation was able to account for part of the relationship between MIL and EDS. See Figure 3 for the mediation model.

Figure 3

The Mediation Model



Note. N = 473. Emotional dysregulation mediated the relationship between MIL and EDS in the general sample.

[a]MIL = Meaning In Life, [b]EDS = Eating Disorder Symptoms.

***p* < 0.01.

In order to carefully test the last prediction, which hypothesized that the subconstruct *purpose* would have the most pronounced relationship with EDS, Pearson's correlations between EDS and each of the three MIL subconstructs were calculated. As shown in Table 2, not *purpose* but ***comprehension*** had the highest correlation with EDS, and explained the highest amount of variance in EDS. These findings were inconsistent with the prediction. However, it is worth noting that these differences in explained variance are, from a subjective point of view, very small.

Table 2

Pearson's Correlations and Explained Variances of The Three Subconstructs with EDS

Subconstruct	Correlation with EDS[a]	R^2
Purpose	-0.164**	0.027
Mattering	-0.114*	0.013
Comprehension	-0.281**	0.079

Note. $N = 473$. Pearson's correlations of the subconstructs purpose, mattering, and comprehension with EDS, and their explained variances.

[a]EDS = Eating disorder symptoms.

*$p < 0.05$, **$p < 0.01$.

Post-Hoc Analyses

Examination of Men and Women Separately

The findings in the previous section indicated that emotional dysregulation was found to play a mediating role in the relationship between MIL and EDS, in the general sample. As a post-hoc exploratory analysis, it was assessed whether the same pattern occurred for both the male and female sample separately. Indeed, for both men and women, the same pattern was found. For men, the total effect was significant (B = -0.0133, SE = 0.0047, 95% CI (-0.0225, -0.0040). Looking at the full model, the direct effect was not significant (B = -0.0069, SE = 0.0052, 95% CI (-0.0171, 0.0032), whereas the indirect effect was significant (B = -0.0063, SE = 0.0028, 95% CI (-0.0123, -0.0013).

For women, a significant total effect was also found (B = -0.0186, SE = 0.0064, 95% CI (-0.0313, -0.0059). Looking at the full model, the direct effect was not significant (B = -0.0023, SE = 0.0069, 95% CI (-0.0159, 0.0112), whereas the indirect effect was significant (B = -0.0163, SE = 0.0039, 95% CI (-0.0244, -0.0089). Thus, in both the male and female sample, emotional dysregulation was found to fully mediate the relationship between MIL and EDS. See Appendix C: Table C1 and C2 for an overview of the results.

Examination of MIL Dimensions Separately

Since emotional dysregulation was found to mediate the relationship between MIL and EDS in the general sample as well as for both men and women separately, an additional post-hoc exploratory analysis was carried out in order to see what the mediation pattern would look like when taking into account the three dimensions of MIL separately. Results indicated that for men and women separately, the same mediation pattern still occurred for the dimensions *purpose* and *mattering*. For these dimensions it was shown that emotional dysregulation fully mediated the relationship between those two dimension and EDS. However, for the subconstruct *comprehension* a different pattern was found: although for women the same mediation pattern occurred for the subconstruct comprehension (full mediation), the men's sample showed a partial mediation pattern. Both the direct and indirect effect were significant (whereas for the other subconstructs only the indirect effects were significant). This indicated partial mediation instead of full mediation as was the case for the other subconstructs. See Appendix C: Table C3, C4, C5, C6, C7 and C8 for statistical results.

A post-hoc regression analysis was also carried out, with EDS regressed on the three dimensions of MIL. An overall significant model was found (F(3,469) = 13.405, p < 0.01), with 7.9% of the variance in EDS explained. Only comprehension showed a significant independent relationship with EDS (B = -0.065, SE = 0.013, p < 0.001; see Table 3).

Table 3

Regression Analysis of EDS on The Three Subconstructs of MIL

Model	Coefficient	*SE*	*t*	*p*
Purpose	-0.001	0.472	-0.038	0.969
Mattering	0.003	0.010	0.261	0.794
Comprehension	-0.065	0.013	-5.094	< 0.001

Note. $N = 473$. EDS regressed on the three subconstructs of MIL.

Discussion

Eating disorders are common chronic diseases among adolescents, and they often lead to both severe physical and mental health problems (Hudson et al., 2007). Despite the very substantial impact of eating disorders, treatments are limited in their effectiveness (Murray et al., 2019). It is therefore important to gain more insight into factors that might be related to EDS, so that interventions could take these relationships into account, and hopefully increase the effectiveness of treatments.

The current study investigated such factors that may possibly relate to EDS, and specifically looked into the relevance of MIL and emotional dysregulation as factors related to EDS, in the general Dutch population. More specifically, it was examined whether there would be a relationship between MIL and EDS, and if so, - whether this relationship would be mediated by emotional dysregulation. Main findings of the study were that there is indeed a (negative) relationship between MIL and EDS, and that emotional dysregulation was found to play a mediating role in this relationship.

The Relationship between Meaning in Life and Eating Disorder Symptoms

The first expectation of this study was that there would be a (negative) relationship between MIL and EDS. In line with the prediction, a negative relationship between MIL and EDS was found. Individuals experiencing low MIL were more likely to experience higher amounts of EDS. In other words, those individuals who experience their lives as shattered and unclear (less *comprehension*), who experience a sense of aimlessness (less *purpose*) and who feel like their existence is not important in the world (less *mattering*), are more likely to experience EDS (George & Park, 2017). These findings are consistent with findings from previous research (Van Doornik et al., 2021). They also indicated that individuals diagnosed with anorexia nervosa were significantly less satisfied with important live domains, in contrast to their healthy peers. Thus, the more EDS those individuals expressed, the lower was their MIL. However, the findings of the current study were inconsistent with research by Van Doornik and colleagues (2023), who did not find a significant relationship between MIL and EDS. The discrepancy between their findings and that of the current study might be due to differences in sample sizes; the sample size of the current study was much bigger than that of the study by Van Doornik and colleagues (2023), which implies that the current study had more power to find relevant associations. Differences in samples can also be seen in the means of the MEMS-scores, which differed: the mean-score of the MEMS of the current study was much higher than that of the study by Van Doornik and colleagues (2023). These differences in samples may have accounted for differences in findings. Finally, the sample in the study by Van Doornik and colleagues (2023) was limited to first-year female students, whereas the current study had not such restrictions, and perhaps might therefore provide a more accurate reflection of the relationship between MIL and EDS in the general population.

It has been proposed that the relationship between MIL and EDS might be explained as a way of dealing with feelings of meaninglessness (Fox & Leung, 2009). The symptoms of an eating disorder might function as a maladaptive coping strategy to handle the negative feelings of purposelessness that low MIL brings along. The EDS that individuals start to express may provide them with a new sense of purpose and meaning, thereby reducing the low experiences of MIL. However, although the EDS might provide these individuals with a sense of meaning in the short-term, it has substantial negative consequences in the long run (Fox & Leung, 2009). Altogether, this study provides evidence for a relationship between low MIL and EDS.

The Mediating Role of Emotional Dysregulation

Although the relationship between MIL and EDS was indicated before by previous research (Van Doornik et al., 2021; Marco et al., 2019), not much research has focused on mechanisms that might explain this relationship. The second expectation of this study was that emotional dysregulation would be such an explanatory mechanism, and that it would function as a mediator in the relationship between MIL and EDS. Consistent with this prediction, emotional dysregulation was found to mediate this relationship. In other words, the current study suggests that the effect of low MIL on EDS seems to be indirect, flowing *through* emotional dysregulation (See Figure 1).

The Relationship Between Meaning In Life and Emotional Dysregulation

Experiences of low MIL go hand in hand with experiencing minimal control about aspects in one's life, such as thoughts or emotions (Chen et al., 2022). Experiencing this lack of control makes individuals less able to choose effective emotional coping strategies. It is for this reason that low MIL might be associated with emotional dysregulation: the lack of sense of control that is experienced when having low MIL makes individuals less able to choose

effective emotion regulation strategies, making them more prone to choose ineffective emotion regulation strategies (Chen et al., 2022).

The Relationship between Emotional Dysregulation and Eating Disorder Symptoms

Emotional dysregulation concerns difficulties with regulating the quality and intensity of emotions (Paulus et al., 2021). Emotions are often perceived as overwhelming. These negative feelings motivate individuals to escape from these feelings, which can be achieved with EDS such as binge-eating or dieting (Monell et al., 2018; Heatherton & Baumeister, 1991). Thus, emotional dysregulation might lead to EDS because individuals want to escape overwhelming and negative feelings that are experienced because of emotional dysregulation, and may try to achieve this by engaging in maladaptive eating patterns.

Altogether, this study provides evidence for the mediating role of emotional dysregulation in the relationship between MIL and EDS, and illustrates how the specific pathways in the model might work. Additionally, the study provides evidence that this mediation pattern can be seen in men as well as in women, suggesting that the pattern is probably universal.

The Impact of Purpose on EDS

The third expectation of the study was that the subconstruct *purpose* would have the most pronounced relationship with EDS, meaning that purpose would have the strongest association with EDS of all three subconstructs. However, the study did not confirm this hypothesis. It appeared that the subconstruct *comprehension* had the most pronounced relationship with EDS. It is worth noting that the differences in explained variance were very small, and that it was not formally tested whether the strength between the relationships of the three subconstructs of MIL with EDS significantly differed. Therefore, the method used in

this study was not the most reliable method to draw conclusions about which subconstruct would have the highest impact. In order to reliably conclude which subconstruct has the highest impact on EDS, future studies should use a method that is more capable of investigating this (e.g., F-tests).

The finding that the subconstruct *comprehension* had the most pronounced relationship with EDS is in line with previous research. George and Park (2017) indicated that experiencing less *comprehension* was the strongest predictor of several health-related variables, such as anxiety or depression. More specifically, experiencing one's life as disjointed and unclear is associated with experiencing more anxiety or depression. In the context of eating pathology, this means that experiencing a disjointed and unclear life is associated with expressing more EDS, suggesting that having a sense of *comprehension* is probably more important in experiencing well-being than is having a sense of *purpose* or *mattering*.

Limitations, Strengths, and Implications

Some limitations of this study should be acknowledged. First, the study used a cross-sectional design. Cross-sectional designs may produce biased estimates of mediation patterns and their results should therefore be interpreted with caution (Cole & Maxwell, 2003). Moreover, results that cross-sectional designs produce are often interpreted as causal conclusions, although this cannot be determined with such designs. Despite this limitation, however, the current study was successful in providing more insight into the relationships between the key variables of this study. It builds upon existing literature by providing insight into how the relationship between MIL and EDS might work. In order to make causal conclusions, a suggestion for future research could be to examine this mediation model in a longitudinal design. For example, one could investigate whether the mediation pattern would

be similar from pre- to post-adolescence, or even after emerging adulthood. This enables more reliable conclusions regarding causality.

A second limitation of the study is that every person could participate, despite having an eating disorder or not. Although such a sample might be a good representation of the natural population, it may represent biased results. It is not clear whether the indicated results are similar for clinical and "healthy" populations. If it is desired to make statements about the clinical population, it is recommended for future research to focus on examining the mediation model in a clinical sample.

Also worth noting is that the DERS (Gratz & Roemer, 2004) and the EDE-Q-6.0 (Fairburn & Beglin, 2008) entailed subscales, but only the total scores were used in this study. For that reason, it might be the case that some important information was overlooked. It would be interesting for future research to include these subscales in the analysis, in order to see whether specific relationships could be indicated. However, it might even have been wise not to focus on the subscales of the EDE-Q, since those subscales were not empirically supported (Aardoom et al., 2012). Rather, all items together reflect a general dimension, namely eating pathology, which was exactly the focus of the current study.

The study also has its strengths. Firstly, it contained a large sample with sufficient power (0.80) to arrive at reliable conclusions. Furthermore, the sample consisted of both men and women, and was not limited to a particular age group or education level, which enables better generalizability to the natural population. Additionally, the current study used a bootstrapping method (PROCESS-macro) for testing mediation, which is a more reliable method for mediational testing than is the often used *causal steps approach*, provided by Baron and Kenny (1986), which is suggested to be outdated nowadays (Hayes, 2009). Keeping these strengths in mind, the current study adds upon existing literature by providing

insights into how the relationship between MIL and EDS might work. Future studies could use the findings of the current study by developing interventions and prevention programs that might respond better to the important key variables in this study.

The current study supports findings that have important implications. Since the current study indicated that individuals who experience low MIL are at risk for developing EDS, these individuals should be targets for intervention. An intervention that aims to increase the MIL, and thereby reduces EDS, could be beneficial. Research by Ostafin and Feyel (2019) has indicated before that a MIL-intervention was successful in reducing alcohol consumption, but it might also be helpful in reducing EDS. In this intervention, individuals are motivated to think about "true-self values," which are values that individuals cherish deeply, despite what other people might think is important. Consequently, they are instructed to think about behaviors that these individuals could perform that would be in line with these values. Such an intervention would lead to an increased sense of MIL (Ostafin & Feyel, 2019). In addition, since emotional dysregulation was found to play an important role in the relationship between MIL and EDS, an intervention that would also pay attention to teaching individuals more adaptive emotion regulation strategies might be helpful too. Indeed, increasing adaptive emotion regulation strategies was shown to be associated with more favorable treatment outcomes in patients with bulimia (Macdonald et al., 2017).

To summarize, emotional dysregulation was found to mediate the relationship between low MIL and high EDS. This points to the possibility that individuals who experience low MIL are more likely to engage in EDS, because they experience trouble with regulating their emotions. Experiencing increased meaning in life, and possessing adaptive emotional regulation strategies, may protect individuals from engaging in maladaptive eating patterns.

References

Aardoom, J. J., Dingemans, A. E., Slof Op't Landt, M. C. T., & Van Furth, E. F. (2012). Norms and discriminative validity of the Eating Disorder Examination Questionnaire (EDE-Q). *Eating Behaviors, 13*(4), 305–309. https://doi-org.proxy-ub.rug.nl/10.1016/j.eatbeh.2012.09.002

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173–1182. https://doi-org.proxy-ub.rug.nl/10.1037/0022-3514.51.6.1173

Chen, S., Zhou, W., Luo, T., & Huang, L. (2022). Relationships between mental health, emotion regulation, and meaning in life of frontline nurses during the covid-19 outbreak. *Frontiers in Psychiatry*, *13*. https://doi.org/10.3389/fpsyt.2022.798406

Cole, D. A., & Maxwell, S. E. (2003). Testing Mediational Models With Longitudinal Data: Questions and Tips in the Use of Structural Equation Modeling. *Journal of Abnormal Psychology*, *112*(4), 558–577. https://doi-org.proxy-ub.rug.nl/10.1037/0021-843X.112.4.558

Fairburn, C.G. & Beglin, S. J. (2008). Eating Disorder Examination Questionnaire (EDE-Q 6.0). In: Fairburn, C.G. (Ed.). *Cognitive Behavior Therapy and Eating Disorders*. Guilford Press: New York.

Fox, A. P., & Leung, N. (2009). Existential well-being in younger and older people with anorexia nervosa—A preliminary investigation. *European Eating Disorders Review*, *17*(1), 24–30. https://doi.org/10.1002/erv.895

Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, *18*(3), 233–239. http://dx.doi.org.proxy-ub.rug.nl/10.1111/j.1467-9280.2007.01882.x

George, L. S., & Park, C. L. (2017). The Multidimensional Existential Meaning Scale: A tripartite approach to measuring meaning in life. *The Journal of Positive Psychology*, *12*(6), 613–627. https://doi-org.proxy-ub.rug.nl/10.1080/17439760.2016.1209546

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment*, *26*(1), 41–54. https://doi.org/10.1023/B:JOBA.0000007455.08539.94

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, *76*(4), 408–420. https://doi-org.proxy-ub.rug.nl/10.1080/03637750903310360

Hayes, A. F., & Cai, L. (2007). Using heteroskedasticity-consistent standard error estimators in OLS regression: An introduction and software implementation. *Behavior Research Methods*, *39*(4), 709–722. https://doi-org.proxy-ub.rug.nl/10.3758/BF03192961

Hayes, A.F. (2013). *Introduction to mediation, moderation, and conditional process analysis: a regression-based approach*. New York: Guilford Press.

Heatherton, T. F., & Baumeister, R. F. (1991). Binge eating as escape from self-awareness. *Psychological Bulletin*, *110*(1), 86–108. http://dx.doi.org.proxy-ub.rug.nl/10.1037/0033-2909.110.1.86

Hudson, J. I., Hiripi, E., Pope, H. G., & Kessler, R. C. (2007). The prevalence and correlates of eating disorders in the national comorbidity survey replication. *Biological Psychiatry*, *61*(3), 348–358. http://dx.doi.org.proxy-ub.rug.nl/10.1016/j.biopsych.2006.03.040

Kraiss, J. T., ten Klooster, P. M., Moskowitz, J. T., & Bohlmeijer, E. T. (2020). The relationship between emotion regulation and well-being in patients with mental disorders: A meta-analysis. *Comprehensive Psychiatry*, *102*, 152189. http://dx.doi.org.proxy-ub.rug.nl/10.1016/j.comppsych.2020.152189

MacDonald, D. E., Trottier, K., & Olmsted, M. P. (2017). Rapid improvements in emotion regulation predict intensive treatment outcome for patients with bulimia nervosa and purging disorder. *International Journal of Eating Disorders*, *50*(10), 1152–1161. https://doi.org/10.1002/eat.22766

Marco, J. H., Cañabate, M., & Pérez, S. (2019). Meaning in life is associated with the psychopathology of eating disorders: Differences depending on the diagnosis. *Eating Disorders*, *27*(6), 550–564. http://dx.doi.org.proxy-ub.rug.nl/10.1080/10640266.2018.1560852

Matthews, M., Zullig, K. J., Ward, R. M., Horn, T., & Huebner, E. S. (2012). An analysis of specific life satisfaction domains and disordered eating among college students. *Social Indicators Research*, *107*(1), 55–69. http://dx.doi.org.proxy-ub.rug.nl/10.1007/s11205-011-9826-5

Monell, E., Clinton, D., & Birgegård Andreas. (2018). Emotion dysregulation and eating disorders—associations with diagnostic presentation and key symptoms. *International Journal of Eating Disorders*, *51*(8), 921–930. https://doi.org/10.1002/eat.22925

Murray, S. B., Quintana, D. S., Loeb, K. L., Griffiths, S., & Le Grange, D. (2019). Treatment outcomes for anorexia nervosa: A systematic review and meta-analysis of randomized controlled trials. *Psychological Medicine, 49*, 535–544. http://dx.doi.org.proxy-ub.rug.nl/10.1017/S0033291718003185

Ostafin, B. D., & Feyel, N. (2019). The effects of a brief meaning in life intervention on the incentive salience of alcohol. *Addictive Behaviors, 90*, 107–111. https://doi-org.proxy-ub.rug.nl/10.1016/j.addbeh.2018.10.035

Paulus, F. W., Ohmann, S., Möhler, E., Plener, P., & Popow, C. (2021). Emotional dysregulation in children and adolescents with psychiatric disorders. A narrative review. *Frontiers in Psychiatry*, *12*, 628252–628252. https://doi.org/10.3389/fpsyt.2021.628252

Prolific (n.d.). A higher standard of online research. Retrieved November 27, 2022, from https://www.prolific.co/

Raines, A. M., Boffa, J. W., Allan, N. P., Short, N. A., & Schmidt, N. B. (2015). Hoarding and eating pathology: The mediating role of emotion regulation. *Comprehensive Psychiatry*, *57*, 29–35. https://doi.org/10.1016/j.comppsych.2014.11.005

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory : basic psychological needs in motivation, development, and wellness*. New York: Guilford Press.

Ryan, R. M., Deci, E. L., Grolnick, W. S., & La Guardia, J. G. (2006). The significance of autonomy and autonomy support in psychological development and psychopathology. In D. Cicchetti & D. J. Cohne (Eds.), *Developmental psychopathology*. Hoboken, NJ: Wiley .

Schreiber-Gregory, D., & Jackson, H.M. (2018). Logistic and Linear Regression Assumptions: Violation Recognition and Control. Retrieved June 9, 2022, from https://www.lexjansen.com/wuss/2018/130_Final_Paper_PDF.pdf

Smink, F. E., van Hoeken, D., & Hoek, H. W. (2012). Epidemiology of eating disorders: Incidence, prevalence and mortality rates. *Current Psychiatry Reports*, *14*(4), 406-414. https://doi.org/10.1007/s11920-012-0282-y

Van Doornik, S. F. W., Höing, F. E. J., Glashouwer, K. A., de Jong, P. J., & Ostafin, B. D. (2023). Brief report: The relationship between eating disorder symptoms and meaning in life. *The Humanistic Psychologist.* https://doi-org.proxy-ub.rug.nl/10.1037/hum0000312

Van Doornik, S. F. W., Ostafin, B. D., Jonker, N. C., Glashouwer, K. A., & De Jong, P. J. (2021). Low satisfaction with normative life domains in adolescents with anorexia nervosa. *Clinical Psychology & Psychotherapy*, *28*(5), 1266–1274. https://doi.org/10.1002/cpp.2574

Van Doornik, S., Glashouwer, K.A., & De Jong, P.J. (2022). Geautoriseerde Nederlandse vertaling van de MEMS © (2022). Rijksuniversiteit Groningen.

Wiggins, B. C. (2000). Detecting and dealing with outliers in univariate and multivariate contexts. Paper presented at the Annual Meeting of the Mid-South Educational 129 Research Association KY, 1-35.

Wright, D. B., London, K., & Field, A. P. (2011). Using bootstrap estimation and the plug-in principle for clinical psychology data. *Journal of Experimental Psychopathology*, *2*(2), 252–270. https://doi.org/10.5127/jep.013611

Appendix A

Table A1:

The Multidimensional Existential Meaning Scale (MEMS)

Items
1) My life makes sense.
2) There is nothing special about my existence (r).
3) I have aims in my life that are worth striving for.
4) Even a thousand years from now, it would still matter whether I existed or not.
5) I have certain life goals that compel me to keep going.
6) I have overarching goals that guide me in my life.
7) I know what my life is about.
8) I can make sense of the things that happen in my life.
9) I have goals in life that are very important to me.
10) I understand my life.
11) Whether my life ever existed matters even in the grand scheme of the universe.
12) My direction in life is motivating to me.
13) I am certain that my life is of importance.
14) Looking at my life as a whole, things seem clear to me.
15) Even considering how big the universe is, I can say that my life matters.

7-point Likert-Scale of the MEMS
1 = Very strongly disagree, 2 = Strongly disagree, 3 = Disagree, 4 = Neither disagree nor agree, 5 = Agree, 6 = Strongly agree, 7 = Very strongly agree.

Table A2

The Difficulties in Emotion Regulation Scale (DERS)

Items
1) I am clear about my feelings (r).
2) I pay attention to how I feel (r).
3) I experience my emotions as overwhelming and out of control.
4) I have no idea how I am feeling.
5) I have difficulty making sense out of my feelings.
6) I am attentive to my feelings (r).
7) I know exactly how I am feeling (r).
8) I care about what I am feeling (r).
9) I am confused about how I feel.
10) When I'm upset, I acknowledge my emotions (r).
11) When I'm upset, I become angry with myself for feeling that way.
12) When I'm upset, I become embarrassed for feeling that way.
13) When I'm upset, I have difficulty getting work done.
14) When I'm upset, I become out of control.
15) When I'm upset, I believe that I will remain that way for a long time.
16) When I'm upset, I believe that I'll end up feeling very depressed.
17) When I'm upset, I believe that my feelings are valid and important (r).
18) When I'm upset, I have difficulty focusing on other things.
19) When I'm upset, I feel out of control.
20) When I'm upset, I can still get things done (r).
21) When I'm upset, I feel ashamed with myself for feeling that way.
22) When I'm upset, I feel like I am weak.
23) When I'm upset, I feel like I can remain in control of my behaviors (r).
24) When I'm upset, I feel guilty for feeling that way.
25) When I'm upset, I have difficulty concentrating.
26) When I'm upset, I have difficulty controlling my behaviors.
27) When I'm upset, I believe that there is nothing I can do to make myself feel better.
28) When I'm upset, I become irritated with myself for feeling that way.

29) When I’m upset, I start to feel very bad about myself.

30) When I’m upset, I believe that wallowing in it is all I can do.

31) When I’m upset, I lose control over my behaviors.

32) When I’m upset, I have difficulty thinking about anything else.

33) When I’m upset, I take time to figure out what I’m really feeling (r).

34) When I’m upset, it takes me a long time to feel better.

35) When I’m upset, my emotions feel overwhelming.

36) When I’m upset, I know that I can find a way to eventually feel better (r).

5-point Likert-Scale of the DERS

---

1 = almost never, 2 = sometimes, 3 = regularly, 4 = very often, 5 = almost always

---

Table A3

The Eating Disorder Examination Questionnaire (EDE-Q 6.0)

Items
On how many of the past 28 days…
1) Have you been deliberately trying to limit the amount of food you eat to influence your shape or weight (whether or not you have succeeded)?
2) Have you gone for long periods of time (8 waking hours or more) without eating anything at all in order to influence your shape or weight?
3) Have you tried to exclude from your diet any foods that you like in order to influence your shape or weight (whether or not you have succeeded)?
4) Have you tried to follow definite rules regarding your eating (for example, a calorie limit) in order to influence your shape or weight (whether or not you have succeeded)?
5) Have you had a definite desire to have an empty stomach with the aim of influencing your shape or weight?
6) Have you had a definite desire to have a totally flat stomach?
7) Has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?
8) Has thinking about shape or weight made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?
9) Have you had a definite fear of losing control over eating?
10) Have you had a definite fear that you might gain weight?
11) Have you felt fat?
12) Have you had a strong desire to lose weight?
Over the past four weeks (28 days)…
13) Over the past 28 days, how many times have you eaten what other people would regards as an unusually large amount of food (given the circumstances)?
14) … On how many of these times did you have a sense of having lost control over your eating

(at the time you were eating)?

15) Over the past 28 days, on how many DAYS have such episodes of overeating occurred (i.e. you have eaten an unusually large amount of food and have had a sense of loss of control at the time)?

16) Over the past 28 days, how many times have you made yourself sick (vomit) as a means of controlling your shape or weight?

17) Over the past 28 days, how many times have you taken laxatives as a means of controlling your shape or weight?

18) Over the past 28 days, how many times have you exercised in a "driven" or "compulsive" way as a means of controlling your weight, shape or amount of fat, or to burn off calories?

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

---

19) Over the past 28 days, on how many days have you eaten in secret (ie, furtively)? … Do not count episodes of binge eating.

20) On what proportion of the times that you have eaten have you felt guilty (felt that you've done wrong) because of its effect on your shape or weight? … Do not count episodes of binge eating.

21) Over the past 28 days, how concerned have you been about other people seeing you eat? … Do not count episodes of binge eating.

22) Has your weight influenced how you think about (judge) yourself as a person?

23) Has your shape influenced how you think about (judge) yourself as a person?

24) How much would it have upset you if you had been asked to weigh yourself once a week (no more, or less, often) for the next four weeks?

25) How dissatisfied have you been with your weight?

26) How dissatisfied have you been with your shape?

27) How uncomfortable have you felt seeing your body (for example, seeing your shape in the mirror, in a shop window reflection, while undressing or taking a bath or shower)?

28) How uncomfortable have you felt about others seeing your shape or figure (for example, in communal changing rooms, when swimming, or wearing tight clothes)?

7-point Likert-Scale EDE-Q 6.0

Items 1 to 12, and *from 19 to 21*: 0 = no days, 1 = 1-5 days, 2 = 6-12 days, 3 = 13-15 days, 4 = 16-22 days, 5 = 23-27 days, 6 = every day.

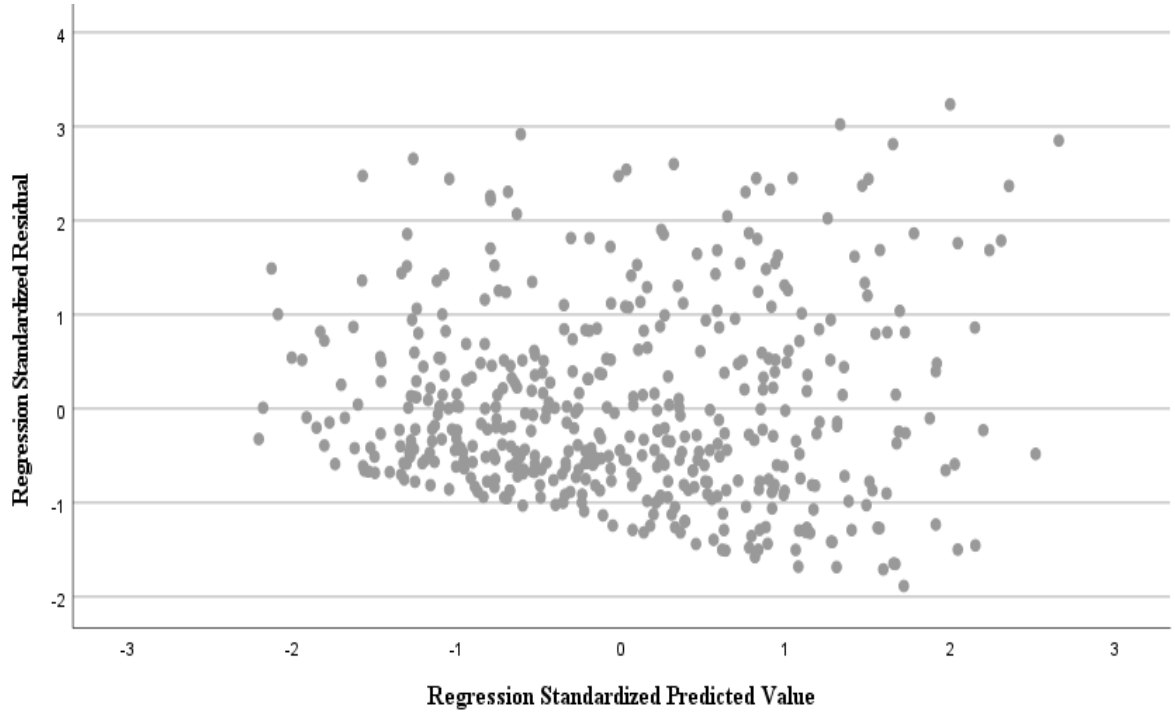
Items 13 to 18: open questions.

Items 22 to 28: 0 = not at all, 1 and 2 = slightly, 2 and 4 = moderately, 5 and 6 = markedly

Appendix B

Figure B1

Standardized Predicted Values vs. Standardized Residual



Note. N = 473. Scatterplot for testing linearity and homoscedasticity.

Table B1

Durbin- Watson Test

Model[1,2]	*R*	R^2	Durbin-Watson
1	0.362	0.131	2.029

Note. N = 473. Output from the Durbin- Watson test for testing the assumption of independence of errors, using regression analysis.

[1]Independent variables: Meaning in life and emotional dysregulation.

[2]Dependent variable: Eating disorder symptoms.

Appendix C

Table C1

Mediation Analysis for Women

Effect/path[1]	Effect	*SE*	*t*	*p*	*CI*
Direct effect	-0.0023	0.0069	-0.3360	0.7372	-0.0159, 0.0112
Indirect effect	-0.0163	0.0039			-0.0244, -0.0089
Total effect	-0.0186	0.0064	-2.8871	0.0043	-0.0313, -0.0059
Path a[a]	-0.8146	0.0985	-8.2744	0.0000	-1.0086, -0.6207
Path b[b]	0.0200	0.0042	4.7481	0.0000	0.0117, 0.0283

Note. $N = 235$. Output of the mediation analysis.

[1]This output was generated for the women's sample.

[a]Path a = the relationship between MIL and emotional dysregulation, [b]Path b = the relationship between emotional dysregulation and EDS.

Table C2

Mediation Analysis for Men

Effect/path[1]	Effect	*SE*	*t*	*p*	*CI*
Direct effect	-0.0069	0.0052	-1.3430	0.1806	-0.0171, 0.0032
Indirect effect	-0.0063	0.0028			-0.0123, -0.0013
Total effect	-0.0133	0.0047	-2.8096	0.0054	-0.0225, -0.0040
Path a[a]	-0.7593	0.1127	-6.7352	0.0000	-0.9815, -0.5372
Path b[b]	0.0083	0.0033	2.5539	0.0113	0.0019, 0.0147

Note. $N = 234$. Output for the mediation analysis.

[1]This output was generated for the men's sample.

[a]Path a = the relationship between MIL and emotional dysregulation, [b]Path b = the relationship between emotional dysregulation and EDS.

Table C3

Mediation Analysis for The Subconstruct Purpose for Women

Effect/path	Effect	*SE*	*t*	*p*	*CI*
Direct effect	-0.0074	0.0167	-0.4457	0.6563	-0.0404, 0.0255
Indirect effect	-0.0285	0.0078			-0.00452, -0.0151
Total effect	-0.0359	0.0170	-2.1103	0.0359	-0.0694 -0.0024
Path a[a]	-1.4155	0.2815	-5.0285	0.0000	-1.9701, -0.8609
Path b[b]	0.0201	0.0040	5.0449	0.0000	0.0123, 0.0280

Note. N = 235. Output for the mediation analysis using the subconstruct purpose as the independent variable, emotional dysregulation as the mediator, and EDS as the dependent variable.

[a]Path a = the relationship between MIL and emotional dysregulation, [b]Path b = the relationship between emotional dysregulation and EDS.

Table C4

Mediation Analysis for The Subconstruct Mattering for Women

Effect/path	Effect	*SE*	*t*	*p*	*CI*
Direct effect	0.0017	0.0143	0.1202	0.9044	-0.0265, 0.0299
Indirect effect	-0.0258	0.0089			-0.0432, -0.0122
Total effect	-0.0241	0.0144	-1.6717	0.0959	-0.0525, 0.0043
Path a[a]	-1.2455	0.2544	-4.8957	0.0000	-1.7467, -0.7443
Path b[b]	0.0207	0.0039	5.3314	0.0000	0.0131, 0.0284

Note. N = 235. Output for the mediation analysis using the subconstruct mattering as the independent variable, emotional dysregulation as the mediator, and EDS as the dependent variable.

[a]Path a = the relationship between MIL and emotional dysregulation, [b]Path b = the relationship between emotional dysregulation and EDS.

Table C5

Mediation Analysis for The Subconstruct Comprehension for Women

Effect/path[1]	Effect	*SE*	*t*	*p*	*CI*
Direct effect	-0.0117	0.0175	-0.6721	0.5022	-0.0461, 0.0227
Indirect effect	-0.0490	0.0118			-0.0734, -0.0272
Total effect	-0.0607	0.0165	-3.6737	0.0003	-0.0933, -0.0281
Path a[a]	-2.5260	0.2780	-9.0870	0.0000	-3.0737, -1.9783
Path b[b]	0.0194	0.0041	4.6752	0.0000	0.0112, 0.0276

Note. N = 235. Output for the mediation analysis using the subconstruct comprehension as the independent variable, emotional dysregulation as the mediator, and EDS as the dependent variable.

[a]Path a = the relationship between MIL and emotional dysregulation, [b]Path b = the relationship between emotional dysregulation and EDS.

Table C6

Mediation Analysis for The subconstruct Purpose for Men

Effect/path[1]	Effect	*SE*	*t*	*p*	*CI*
Direct effect	-0.0107	0.0141	-0.7536	0.4519	-0.0385, 0.0172
Indirect effect	-0.0160	0.0071			-0.0323, -0.0048
Total effect	-0.0267	0.0125	-2.1372	0.0336	-0.0513, -0.0021
Path a[a]	-1.7158	0.3516	-4.8801	0.0000	-2.4086, -1.0231
Path b[b]	0.0093	0.0033	2.8128	0.0053	0.0028, 0.0159

Note. N = 234. Output for the mediation analysis using the subconstruct purpose as the independent variable, emotional dysregulation as the mediator, and EDS as the dependent variable.

[a]Path a = the relationship between MIL and emotional dysregulation, [b]Path b = the relationship between emotional dysregulation and EDS.

Table C7

Mediation Analysis for The Subconstruct Mattering for Men

Effect/path[1]	Effect	*SE*	*t*	*p*	*CI*
Direct effect	-0.0037	0.0099	-1.3648	0.1736	-0.0323, 0.0059
Indirect effect	-0.0096	0.0040			-0.0187, -0.0030
Total effect	-0.0132	0.0097	-1.3648	0.1736	-0.0323, -0.0059
Path a[a]	-0.9634	0.2330	-4.1349	0.0000	-1.4224, -0.5043
Path b[b]	0.0099	0.0031	3.2403	0.0014	0.0039, 0.0160

Note. N = 234. Output for the mediation analysis using the subconstruct mattering as the independent variable, emotional dysregulation as the mediator, and EDS as the dependent variable.

[a]Path a = the relationship between MIL and emotional dysregulation, [b]Path b = the relationship between emotional dysregulation and EDS.

Table C8

Mediation Analysis for The Subconstruct Comprehension for Men

Effect/path[1]	Effect	*SE*	*t*	*p*	*CI*
Direct effect	-0.0327	0.0135	-2.4345	0.0156	-0.0591, 0.0062
Indirect effect	-0.0143	0.0073			-0.0293, -0.0004
Total effect	-0.0470	0.0126	-3.7187	0.0003	-0.0719, -0.0221
Path a[a]	-2.1882	0.2770	-7.8999	0.0000	-2.7340, -1.6425
Path b[b]	0.0066	0.0032	2.0571	0.0408	0.0003, 0.0128

Note. N = 234. Output for the mediation analysis using the subconstruct comprehension as the independent variable, emotional dysregulation as the mediator, and EDS as the dependent variable.

[a]Path a = the relationship between MIL and emotional dysregulation, [b]Path b = the relationship between emotional dysregulation and EDS.