



Self-compassion, mindful eating, eating attitudes and wellbeing among emerging adults

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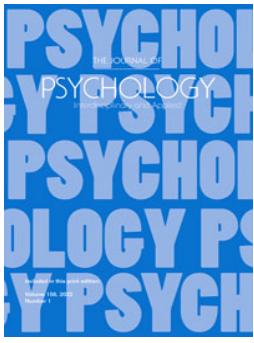
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Self-Compassion, Mindful Eating, Eating Attitudes and Wellbeing Among Emerging Adults

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ABSTRACT

Mindful eating behavior and self-compassion have been individually shown to contribute to healthy eating. Evidence suggests that they may interact and that interaction may increase our understanding of eating behavior. The aim of the current study was to explore the relationship between mindful eating behavior, self-compassion, healthy/unhealthy weight, eating disorder and wellbeing in a sample of university students. An online survey using questionnaire data collection in a sample of 349 students (105 males and 244 females). Variables measured included body mass index (BMI), mindful eating behavior, eating attitudes, self-compassion and mental wellbeing. Regression and path analysis show mindful eating behavior and self-compassion to individually and interaction predict eating attitudes and wellbeing. BMI was shown to have a curvilinear relationship with mindful eating behavior, self-compassion and wellbeing with both the underweight and obese reporting lower self-compassion, less Mindful eating behavior, lower wellbeing and more likely to exhibit disordered eating. These results indicate that self-compassion and mindful eating behavior might be usefully targeted in interventions to prevent both obesity and eating disorder.

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Mindful eating behavior;
self-compassion; eating
attitudes; wellbeing;
body mass

Introduction

Obesity is described as an epidemic in a substantial proportion of the world and probably the greatest threat to long term health that exists (Reiband et al., 2020; Reilly & Kelly, 2011). Eating disorders are defined as psychiatric illness associated with a range of psychological and physical outcomes (Culbert et al., 2015). Both are largely a function of problematic eating behavior and cognitions around eating.

There is a growing literature on the role of mindfulness in eating behavior and obesity (Beshara et al., 2013; Mantzios & Wilson, 2015a). Mantzios (2020) argues that to advance scientific enquiry it is more appropriate to use the terms mindful eating behavior. Mindfulness is a state of awareness of the present moment which requires constant practice, usually through meditation (Mantzios & Wilson, 2015a). It is believed

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This study was approved by the School of Psychology Filter Committee.

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to involve maintaining a nonjudgmental awareness of thoughts, feelings and perceptions in the moment (Lofgren, 2015). Mindfulness skills are essential in assisting individuals to increase their awareness of both emotional and physical states, as well as how to respond in a nonjudgmental way (Kristeller et al., 2006). Additionally, mindful eating behavior techniques are thought to increase an individual's awareness of signals relating to hunger and fullness (Egan et al., 2020; Hussain et al., 2021). As a result, this enables them to respond appropriately to hunger cues, as opposed to engaging in restrictive or indulgent eating (Dutt et al., 2018). For example, mindful breathing is believed to increase identification of hunger cues (Hepworth, 2011 Jan-Feb). Mindfulness interventions have been found to produce a positive impact on reducing the frequency of binge eating (Kristeller et al., 2006; Mantzios & Giannou, 2019).

Mindful eating behavior consists of a strong awareness of personal eating behaviors as well as low emotional response to eating (Framson et al., 2009). Mindful eating behavior also involves adjusting attitudes toward food and aids a broader understanding of food preferences and aversions (Baer et al., 2005). Research evidence indicates mindfulness has the potential to reduce emotional triggers, which can often lead to emotional eating, whereas grazing (mindless eating behavior) is considered to be associated with anxiety and binge eating (Mantzios et al., 2018a).

Results from a study carried out by Pintado-Cucarella and Rodríguez-Salgado (2016) showed that people who were less mindful, in relation to their eating behaviors, had less awareness and control of their eating habits and were overall more overweight. Similarly, Taylor et al. (2015) argue that insufficient attention to the experience of eating can result in a decrease in awareness of external eating cues or satiety signals, which in turn may lead to maladaptive eating behaviors. In contrast, participants in a study by Beshara et al. (2013), who self-reported as mindful eaters (as measured by the Mindful Eating Questionnaire) reported less emotional and stress eating. According to Corstorphine (2006), mindfulness is important for individuals with an eating disorder, as many sufferers find it difficult to regulate physical, emotional and cognitive experiences. Recent research investigating the application of mindfulness interventions with people who have eating disorders, has demonstrated promising results (Hepworth, 2011 Jan-Feb).

In a programme of research, Mantzios and colleagues have demonstrated the efficacy of mindful intervention in changing eating behavior and increasing weight loss in a range of settings. These researchers used a self-distancing technique in which participants were instructed to spend time holding, smelling or looking at food (such as chocolate) with the aim of increasing their awareness of their eating (mindfulness). This 'Mindful Raisin Practice' (Mantzios et al., 2020b), is a relatively simple procedure and has been shown to reduce the consumption of targeted foods and increase mindful eating behavior leading to effective weight reduction (Hussein et al., 2017; Mantzios et al., 2019; Mantzios et al., 2020a, 2020b; Mantzios & Giannou, 2014)

A separate literature has grown on self-compassion and its relationship to eating behavior (Neff et al., 2007, 2020). According to Neff (2003) self-compassion comprises of three connecting components, each with opposite dimensions: self-kindness versus self-judgment, common humanity versus isolation and mindfulness versus over-identification. Firstly, self-kindness versus self-judgment refers to individuals' ability

to be caring and understanding with themselves, rather than being self-critical of failure. Secondly, the common humanity versus the isolation dimension refers to an ability to remember that suffering is part of nature. Lastly, mindfulness versus over-identification involves an awareness and acceptance of painful experiences, without being judgmental.

Neff (2003) states that self-compassion may help people to engage in healthy eating behaviors, because of wanting to look after their bodies. Self-compassion is also thought to increase healthy eating behaviors by decreasing body dissatisfaction (Albertson et al., 2015). For example, a self-compassionate attitude may enable individuals to view their bodies in a way which minimizes body shame, consequently reducing maladaptive eating behaviors (Berry et al., 2010). Additionally, self-compassion can reduce the likelihood of an individual engaging in unhealthy eating behaviors (as the result of becoming overwhelmed by negative thoughts and feeling) through encouragement of a non-judgmental and balanced view of self (Albertson et al., 2015). Research carried out by Kelly et al. (2014) showed that eating disorder patients who implemented self-compassion early on during treatment, had a better response. Individuals who are self-compassionate are found to be less self-critical if they fail on diets (Adams & Leary, 2007). Therefore, self-compassionate eaters are considered to demonstrate less emotional eating and lower eating disorder psychopathology (Kelly et al., 2014). Findings from a study carried out by Swan et al. (2016) showed that self-compassion can aid in decreasing self-judgement, meanwhile increasing self-regulation of dietary restraint.

Conversely, a lack of self-compassion is found to lead to maladaptive eating behaviors, such as strict dieting and feelings of guilt associated with diet failures (Shafran et al., 2002). This feeling of guilt can lead to further unhealthy eating behaviors, such as overeating, in an attempt to cope with negative self-thoughts (Jackson et al., 2003). In addition, McKinley and Hyde (1996) state that maladaptive eating is partially a result of self-criticism (Raes et al., 2011). Previous research has supported the psychological benefits of self-compassion, however there is limited research considering its impact on eating behaviors (Swan et al., 2016).

The relationship between self-compassion and mindful eating behavior might be a fruitful avenue to explore (Mantzios et al., 2018a,b). Mantzios and colleagues have engaged in an extensive programme of research which has linked mindful eating behavior and self-compassion both theoretically and at the level of intervention. Their work shows that combining mindfulness with self-compassion enhances the impact of both on weight reduction and eating behavior (Egan & Mantzios, 2018; Egan et al., 2020; Hussain et al., 2017, 2021; Mantzios & Egan, 2017; Mantzios et al., 2015, 2018a,b, 2019, 2020a; Mantzios & Giannou, 2019; Mantzios & Wilson, 2014, 2015a).

The transition from school to university requires students to adapt to a new, unfamiliar environment (Dyson & Renk, 2006), and is a crucial period in which changes in eating behaviors commonly occur (Racette et al., 2008). Research indicates that if students fail to effectively adapt to university life, it can negatively affect their health behaviors and consequently their weight (Von Ah et al., 2004). According to Tanton et al. (2015), university students engage in risky lifestyle behaviors, including unhealthy eating, such as over-consumption of food or insufficient food intake, increasing the risk of becoming over-weight or malnourished (Tanton et al., 2015).

The aim of the current study was to explore the relationship between mindful eating behavior, self-compassion, healthy/unhealthy weight, eating attitudes and wellbeing in a sample of university students.

Methods

Design

An online survey using questionnaire data collection.

Participants

Participants were 349 (150 males and 244 females) university students, aged between 18 and 30 ($M=22.04$, $SD=2.72$). Of these 40 were underweight, 144 were normal weight, 122 were overweight, and 43 were obese according to the standard body mass index (BMI) categorization. Mean BMI = 25.5, $SD=4.69$.

Materials

Participants were asked for their sex, age, height and weight before completing the following standard measures. Height and weight were used to calculate BMI.

The Mindful Eating Behavior Scale (MEBS: Winkens et al., 2018.) is a scale made up of 20 items, measuring four domains of: Focused Eating ($\alpha=.76$); Hunger and Satiety Cues ($\alpha=.89$); Eating with Awareness ($\alpha=.70$); and Eating without Distraction ($\alpha=.75$). Examples of statements include 'I notice how my food looks' or 'I multi-task while I am eating'. Participants respond to the statements by indicating how often they behave in such a way. Responses are given on a 0–4 scale, with 0 being 'never' and 4 being 'always'. Cronbach's alpha values were medium to high (.70 to .89)

The Self-Compassion Scale - Short Form (SCS-SF: Raes et al., 2011) is an efficient alternative 12 item version of the original Self-Compassion Scale (SCS: Neff, 2003). It is reliable and has the equivalent factorial structure as the original scale. Examples include 'I'm disapproving and judgmental about my own flaws and inadequacies' and 'When something upsets me, I try to keep my emotions in balance'. Responses are rated on a 5-point Likert scale with 1 being 'almost always' and 5 being 'almost never'. The SCS-SF has internal consistency, as the Cronbach's alpha for the scale is 0.86, in all samples.

Eating Attitudes Test (EAT-26: Garner et al., 1982) is a 26-item shortened version of the original 40 item scale (EAT-40: Garner & Garfinkel, 1979). It is widely used to identify potential eating disorders and has a cut off score of 20 above which participants might require treatment. Participants are asked to state how often they engage in the behaviors relating to weight and food, on a 6-point scale from 'never' to 'always'. The scale is scored 0 for the first 3 points (never, rarely and sometimes) and the 1 for often, 2 for usually, and 3 for always. Examples include 'I like my stomach to be empty' and 'I display self-control around food' (Garner et al., 1982). EAT-26 is found to have good internal consistency, with an alpha coefficient of 0.79 (Lane, 2003).

The Warwick Edinburgh Mental Well-being Scale (WEMWBS) was used to measure wellbeing and is made up of 18 positively worded items that relate to the different aspects of positive mental health. These include things such as positive functioning, satisfying interpersonal relationships and positive affect (Tennant et al., 2007). Each item is rated based on the experience of the respondent over the past two weeks. The items are ranked on a 5-point Likert scale ranging from 1 (“None of the Time”) to 5 (“All of the Time”). The summed item scores are used to determine the level of positive mental well-being, with a higher score indicative of a higher level of positive mental well-being. The Cronbach’s alpha for the scale is 0.93.

Procedure

After ethical approval from the School of Psychology Ethics Committee an email containing a link to the questionnaire was sent to 532 students in the Faculty of Health Science. On clicking the link participants were taken to the online survey where they were presented with an information sheet and asked to tick a box indicating consent. In total 349 participants completed the survey.

Ethics

In order for informed consent from participants to be received for this research study, an information sheet was provided with an attached tick box consent form.

Results

The first stage in analysis was to explore the relationships between each of the variables involved and to calculate some descriptive statistics, firstly using the variable dimensions (Table 1) and then using the composite variable scores (Table 2).

Mindful eating behavior and self-compassion both correlate positively with wellbeing, while eating attitudes correlates inversely with wellbeing. Mindful eating behavior and self-compassion correlate inversely with eating attitudes. In addition, all four dimensions of mindful eating behavior and all three dimensions of self-compassion correlate positively with wellbeing, while all three dimensions of eating attitudes correlate inversely with wellbeing. All four dimensions of mindful eating behavior correlate inversely with the dieting and bulimia dimensions of eating attitudes but do not correlate significantly with the oral control dimension. All three dimensions of self-compassion correlate inversely with all three dimensions of eating attitudes. There was also an inverse correlation between age and wellbeing, common humanity, and oral control.

To explicate these relationships more robustly hierarchical multiple regression analysis (HMRA) was used with wellbeing as the dependent variable on the first analysis and eating attitudes as dependent variable on the second analysis (see Table 3). Age, sex and BMI raw score were entered on the first step and accounted for 9% of the variance. The only individual significant predictor was age ($\beta = -.274$). The four dimensions of mindful eating behavior were entered on the second step and accounted for 43.2%

Table 1. Means, Standard Deviations, and Correlations for Study Variables Using Factor Scores for the EAT, the Self-Compassion Scale and the Mindful Eating Scale.

	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	24.93 (8.00)											
2. BMI raw score	25.50 (4.69)	-.08										
3. Focused eating	19.85 (2.79)	-.09	.05									
4. Hunger/satiety cues	15.66 (4.61)	-.07	.02	.35**								
5. Eating with awareness	12.04 (0.64)	-.06	.10	.19**								
6. Eating no distraction	12.42 (2.98)	-.04	.11*	.26**	.18**							
7. Self-kindness	11.73 (3.71)	-.13*	.13*	.23**	.43**	.10	.21**					
8. Common humanity	12.38 (3.99)	-.09	.13*	.16**	.28**	-.02	.07	.66**				
9. Mindfulness	13.32 (4.11)	-.12*	.13*	.25**	.37**	.03	.32**	.73**	.58**			
10. Dieting	9.13 (7.36)	-.02	.02	-.41**	-.34**	-.06	-.26**	-.46**	-.32**	-.40**		
11. Bulimia	2.47 (2.88)	.00	.15**	-.24**	-.41**	.05	.11	-.34**	-.24**	-.19**	.20**	
12. Oral control	3.17 (3.39)	-.16**	-.13*	-.32**	-.32**	-.08	-.26**	-.42**	-.24**	-.38**	.37**	.17**
13. Wellbeing	50.18 (10.44)	-.29**	.11*	.33**	.67**	.16**	.43**	.64**	.37**	-.29**	-.29**	-.36**

* $p < .05$. ** $p < .01$.

Table 2. Correlations Between Variables Using Composite Scores.

Variable	Mean (SD)	1	2	3	4	5
1. Age	24.93 (8.00)					
2. BMI raw score	25.50 (4.69)	-.08				
3. Mindful eating behavior	59.98 (7.24)	-.03	.09			
4. Self-compassion	37.43 (10.35)	-.09	.15**	.33**		
5. Eating attitudes	14.77 (10.23)	.02	.02	-.54**	-.53**	
6. Wellbeing	50.18 (10.44)	-.23**	.11*	.48**	.59**	-.40**

* $p < .05$. ** $p < .01$.

Table 3. HMRA to Identify the Predictors of Wellbeing and Eating Attitudes.

HMRA to identify the predictors of wellbeing			
	<i>B</i>	<i>SE B</i>	β
Step 1: $R^2 = .09$, $F(3,345) = 11.53$, $p < .001$			
Age	-.024	.005	-.274***
Sex	.073	.078	.048
BMI raw score	.011	.008	.076
Step 2: $R^2 \Delta = .432$, $F(4,341) = 77.36$, $p < .001$			
Age:	-.013	.003	-.147***
Sex	.054	.060	.036
BMI raw score	.008	.006	.053
Focused eating	.018	.010	.071
Hunger and satiety cues	.081	.007	.533***
Eating with awareness	.000	.043	.000
Eating without distraction	.050	.010	.216***
Step 3: $R^2 \Delta = .149$, $F(3,338) = 51.40$, $p < .001$			
Age	-.013	.003	-.153***
Sex	.090	.050	.059
BMI raw score	.002	.005	.013
Focused eating	.009	.009	.037
Hunger and satiety cues	.057	.006	.376***
Eating with awareness	-.014	.036	-.013
Eating without distraction	.039	.008	.167***
Self-kindness	.313	.039	.417***
Common humanity	-.101	.031	-.145***
Mindfulness	.088	.033	.130**
Step 4: $R^2 \Delta = .013$, $F(3,335) = 4.49$, $p < .01$			
Age:	-.012	.003	-.137***
Sex	.108	.050	.071*
BMI raw score	.001	.005	.007
Focused eating	.018	.009	.073*
Hunger and satiety cues	.056	.006	.373***
Eating with awareness	-.017	.036	-.015
Eating without distraction	.044	.009	.190***
Self-kindness	.337	.041	.449***
Common humanity	-.093	.031	-.134**
Mindfulness	.094	.033	.139**
Dieting	.013	.004	.134***
Bulimia	-.007	.009	-.031
Oral control	.001	.007	.005

Total $R^2 = .67$.

* $p < .05$.

** $p < .01$.

of the variance in wellbeing. The significant predictors were hunger and satiety cues ($\beta = .533$) and eating without distraction ($\beta = .216$). On the third step the three dimensions of self-compassion were entered and accounted for 14.9% of the variance. All three were significant predictors of well-being, self-kindness ($\beta = .417$), common humanity ($\beta = .145$), and mindfulness ($\beta = .130$). On the final step the three dimensions of

eating attitudes were entered and accounted for 1.3% of the variance, dieting was the only significant predictor ($\beta=.134$). The pattern that emerges associated with positive wellbeing is a younger person who responds to hunger and satiety cues and eats without distraction, who is kinder to the self, sees failures as part of common humanity and is more mindful, and who is less concerned with dieting.

A second HMRA was carried out with eating attitudes as the dependent variable (Table 4). Again sex, age and BMI raw score were entered on step one but did not account for any variance in eating attitudes. The four dimensions of mindful eating behavior were entered on the second step and accounted for 32.9% of the variance in wellbeing. The significant predictors were hunger and satiety cues ($\beta=-.361$) and focused eating ($\beta=-.338$). On the third step the three dimensions of self-compassion were entered and accounted for 15.1% of the variance. The significant predictor of eating attitude was self-kindness ($\beta=-.388$).

Based on the analysis so far and the background literature a path model (Figure 1) was proposed and tested using structural equation modeling with AMOS 25. The model is based on the evidence reviewed in the introduction and the analysis thus far using HMRA. The evidence reviewed clearly links both mindful eating behavior and self-compassion to eating attitudes and wellbeing. Healthy/unhealthy weight as measured by BMI has also been linked to both mindful eating behavior and self-compassion (Mantzios & Wilson, 2015b), and to wellbeing (Linna et al., 2013). There is also evidence that eating attitudes are related to age (Johnson & Bedford, 2004). Taken together with the results of the HMRA, Figure 1 represents a possible Path Model.

The model that best fits the data is shown in Figure 2. Fit statistics for the model were chi-square (3)=4.19, $p=.241$, CMIN/DF = 1.4, GFI=.99, NFI=.99, IFI=.99, CFI=.99, RMSEA=.03, PCLOSE=.557.

Table 4. HMRA to Identify the Predictors of Eating Attitudes.

	<i>B</i>	SE <i>B</i>	<i>B</i>
Step 1: $R^2=.007$, $F(3,345)=0.84$, $p=.471$			
Age:	.036	.070	.028
Sex	1.820	1.201	.082
BMI raw score	.048	.118	.022
Step 2: $R^2 \Delta=.329$, $F(4,341)=42.26$, $p<.001$			
Age:	-.104	.059	-.082
Sex	1.132	1.033	.051
BMI raw score	.081	.098	.037
Focused eating	-1.234	.177	-.338***
Hunger and satiety cues	-.802	.113	-.361***
Eating with awareness	.642	.748	.040
Eating without distraction	-.136	.166	-.040
Step 3: $R^2 \Delta=.151$, $F(3,338)=32.25$, $p<.001$			
Age	-.153	.054	-.120
Sex	.262	.920	.012
BMI raw score	.179	.087	.082*
Focused eating	-1.122	.157	-.307***
Hunger and satiety cues	-.439	.106	-.198***
Eating with awareness	.780	.666	.049
Eating without distraction	-.072	.152	-.021
Self-kindness	-4.276	.720	-.388***
Common humanity	-.497	.573	-.048
Mindfulness	-.255	.605	-.026

Total $R^2=.47$.

* $p<.05$. ** $p<.01$.

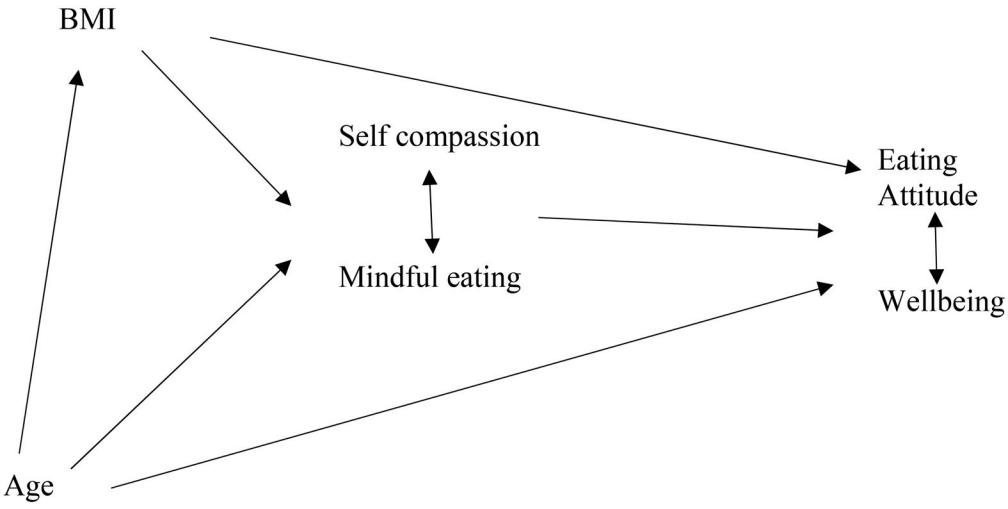


Figure 1. Proposed model of predictors of eating attitudes and wellbeing in students.

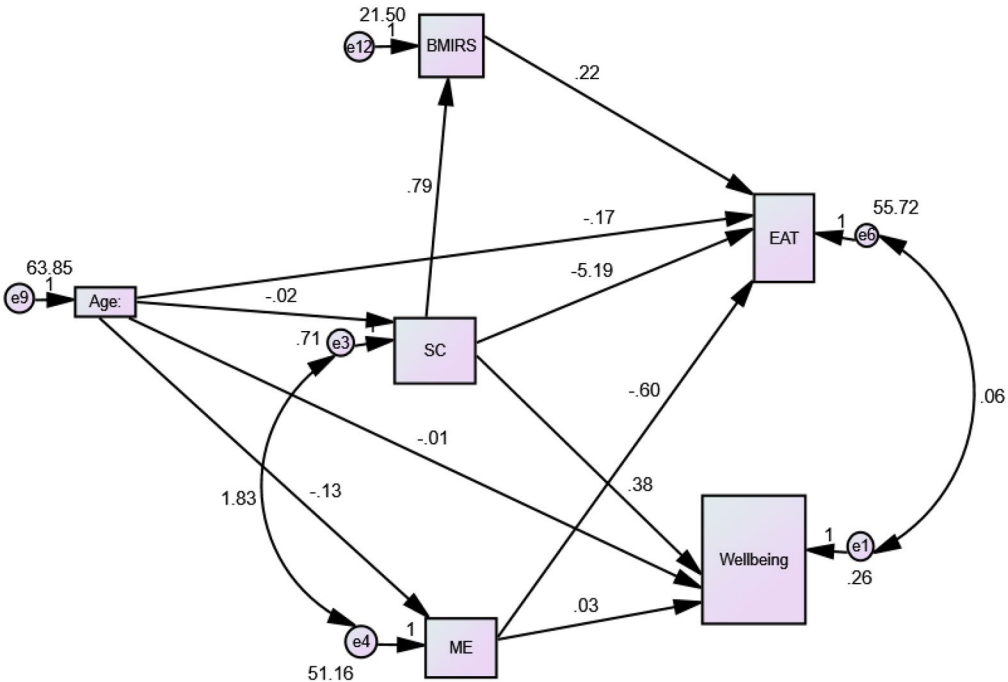


Figure 2. Path model of eating attitudes and wellbeing; BMIRS=body mass raw score; EAT=eating attitude total SCO; SC=self-compassion; ME=mindful eating.

Using the EAT cut off score of 20, 92 participants were indicated as potential eating disorder. The distribution of above the cut off by BMI was 34 underweight, 14 normal weight, 19 overweight, and 25 obese. The association between these distributions was significant (Pearson chi-square = 121.074, DF=3, p<.001).

The final analysis used one-way analysis of variance (ANOVA) to test for mean differences on wellbeing, eating attitudes, mindful eating behavior and self-compassion in an attempt to explore the lack of relationship between BMI raw scores and these variables. The descriptive statistics for this are shown in Table 5.

There were main effects for wellbeing ($f(3,345)=45.71, p<.001$), eating attitudes ($f(3,345)=4.27, p<.01$), mindful eating behavior ($f(3,345)=19.02, p<.001$), and self-compassion ($f(3,345)=22.58, p<.001$), Bonferroni correction shows that the differences were between underweight and both normal weight and overweight, and between obese and normal weight and overweight. The means for normal and overweight did not differ significantly. This demonstrates that the relationship between BMI scores and other variables is curvilinear in that both at the upper end and lower end of the BMI distribution participants exhibit lower wellbeing, mindful eating behavior, and self-compassion, and higher eating attitudes scores.

Discussion

The aim of the current study was to explore the relationship between mindful eating behavior, self-compassion, healthy/unhealthy weight, eating disorder and wellbeing in a sample of university students. Previous research shows that both mindful eating behavior and self-compassion are implicated separately in healthy eating and hence both a healthier body mass and lower likelihood of disordered eating. The current study explored their joint relationship and ultimately to see if an outcome might be better mental wellbeing. To that end the data supports both above propositions. Through the correlations, HMRA and path analysis there appears to be a joint impact of mindful eating behavior and self-compassion on eating attitudes which are an indication of disordered eating. Participants who are self-compassionate and also engage in mindful eating behavior are less likely to have a potential eating disorder.

In terms of body mass, the relationship is more complex because it is curvilinear and therefore there appears to be no significant relationship in the correlation and regression analysis. However, when we looked at the distribution of mean scores across BMI categories, we can see that both underweight and obese individuals have lower wellbeing, lower levels of mindful eating behavior and self-compassion and higher scores on eating attitudes demonstrating more propensity for eating disorder. The chi-square analysis supports this showing that there are significantly more participants scoring above the cut off on the EAT in the underweight and obese categories. The path analysis picks up on a strong relationship between self-compassion and BMI, and a relationship between BMI and eating attitudes. It also demonstrates an interaction between mindful eating behavior and self-compassion in a complex relationship with eating attitudes and

Table 5. Means and Standard Deviations Across BMI Categories.

	Underweight <i>N</i> = 40	Normal weight <i>N</i> = 144	Overweight <i>N</i> = 122	Obese <i>N</i> = 43
Wellbeing	36.69 (8.39)	53.47 (8.77)	52.59 (9.29)	44.83 (8.36)
Eating attitudes	18.75 (13.94)	12.91 (9.37)	14.98 (9.92)	16.69 (8.51)
Mindful eating behavior	53.48 (9.08)	61.99 (6.91)	60.61 (6.08)	57.49 (5.25)
Self-compassion	26.60 (9.97)	39.74 (9.62)	39.19 (8.90)	34.84 (10.36)

indirectly with wellbeing. This suggests that both are useful target in understanding both eating disorders and obesity and potentially useful target for intervention. Of course, there may be some shared variance between mindful eating behavior and self-compassion as one of the dimensions of self-compassion is mindfulness. On the other hand, factor analysis of the items from both scales together produced separate factors in our data suggesting that they are, at least statistically, measuring different constructs.

The findings above support previous literature on the separate effects of mindful eating behavior (Hussein et al., 2017; Mantzios & Giannou, 2014; Mantzios et al., 2019, 2020a,b) and self-compassion (Albertson et al., 2015; Mantzios & Giannou, 2019; Mantzios et al., 2015, 2018a,b, 2019, 2020a; Mantzios & Wilson, 2014, 2015a), on eating behavior. The current study adds evidence that mindful eating behavior and self-compassion may be usefully combined to add more explanatory power. Reciprocal relations of causality may exist where self-compassionate individuals may be more likely to eat mindfully and vice versa. In addition, the current study proposes that mindful eating behavior and self-compassion may underpin both healthier eating and therefore less obesity, as well as a healthier attitude toward food and less likelihood of developing an eating disorder.

The role of self-compassion in eating behavior has shown equivocal findings, in particular the dimension of self-kindness. In this study self-kindness was related to more positive eating attitudes. However, its relationship with BMI suggests that perhaps it could relate to increased eating as demonstrated in some previous studies (Ali et al., 2017; Egan & Mantzios, 2018; Mantzios & Egan, 2017). Self-compassion, and in particular self-kindness, may lead individuals to treat themselves when it comes to unhealthy foods and therefore have a detrimental effect on weight. However rational self-kindness would suggest that ultimately individuals would choose the healthy option.

The study is limited in the strength of conclusions that can be drawn because it is cross-sectional, and it is restricted to a student sample. Taking into consideration the limitations, and the previous evidence (Egan & Mantzios, 2018; Egan et al., 2020; Hussain et al., 2017, 2021; Mantzios & Egan, 2017; Mantzios et al., 2018a,b), the study provides some pointers in terms of interventions based on enhancing self-compassion and mindful eating behavior perhaps starting early with children. Future research could explore these variables and their developmental origins in children. Furthermore, understanding the role of family in engendering mindful eating behavior and self-compassion might advance the prevention agenda in health promotion.

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