Title: Self-Compassion and Reasons Individuals Stop Eating: An Exploratory Investigation

Misba Hussain[1*]

Natasha Dunsmore[1]

Lucy Ung[1]

Michail Mantzios[1]

[1] *Department of Psychology, Birmingham City University, United Kingdom*

[*]Corresponding Author:

Misba Hussain, Birmingham City University, Department of Psychology, Faculty of Business, Law and Social Sciences, The Curzon Building, 4 Cardigan St., Birmingham, B4 7BD. e-mail: Misba.hussain2@bcu.ac.uk

This is the accepted version of the manuscript published by Sage Journals in Nutrition and Health, Doi: https://doi.org/10.1177/02601060241266387

Hussain, M., Dunsmore, N., Ung, L., & Mantzios, M. (2024). Self-compassion and reasons individuals stop eating: An exploratory investigation. *Nutrition and Health*, 02601060241266387

Abstract

Background: Self-compassion is a prevalent factor that has been explored in eating behaviour and weight loss literature. The present study explored the potential relationship between self-compassion and reasons individuals stop eating. **Method:** Two hundred and eighty-three participants were recruited from social media platforms and a research participation scheme at a university in the West Midlands, UK, and completed questionnaires on self-compassion and reasons individuals stop eating. **Results:** The findings suggested that self-compassion was negatively associated with decreased food appeal, self-consciousness, and decreased food priority, whilst being positively associated with physical satisfaction. **Conclusion:** Self-compassion plays a prevalent role in the reasons individuals stop eating, and future research should continue exploring the effect of self-compassion on eating behaviour regulation.

Keywords: Self-Compassion, Reasons Individuals Stop Eating; Eating Termination; Eating Cessation; Consumption

.

Self-compassion is the ability to recognise suffering and its universality, whilst also being able to tolerate elicit feelings, and act to alleviate suffering towards oneself (Straus et al., 2016). Engaging in self-compassion has been positively associated with health behaviours, such as physical fitness and psychological wellbeing (Bieber & Ellis, 2019; Phillips & Hine, 2019; Sirois and Hirsch, 2019). In recent years, self-compassion has demonstrated improvements towards body image, eating behaviour and weight loss (e.g., Rahimi-Ardabili et al., 2018). For example, self-compassion was negatively associated with fat and sugar consumption and grazing (Mantzios et al., 2018a; Mantzios et al., 2018b), and negatively predicted weight gain (Mantzios et al., 2015). Furthermore, engaging in self-compassion has been found to lead to reduced caloric intake and less desire to continue eating in the context of negative mood (Seprell et al., 2020). Similarly, self-compassion was also implied to promote positive outcomes for patients with diabetes by improving self-regulation of diet (Friis et al., 2015). Self-compassion is suggested to promote healthier eating behaviours by evoking positive feelings that motivate one to attain health goals, utilise adaptive coping strategies that enable one to work towards those goals, and thus, take care of one's body (Sirois, 2015; Sirois et al., 2015).

Yet, despite the evidence, there have also been suggestions that self-compassion may not always be beneficial towards healthy eating behaviours (Mantzios & Egan, 2017; Egan & Mantzios, 2018). For example, a component of self-compassion, namely self-kindness was recently found to be interpreted ambiguously amongst participants (Egan & Mantzios; Hussain et al., 2021). While certain individuals view self-kindness as taking a warm bath, exercising, or consuming a nourishing meal, others perceive it as indulging excessively in favourite foods, using recreational drugs, or engaging in binge drinking. (Egan & Mantzios, 2018). Whilst the former group's behaviour aligns with a more accurate model of self-compassion, aligning with both the mind and body simultaneously (Neff, 2003), the latter group's behaviour can result in unhealthy eating patterns and indeed be damaging to physiological health (Hussain et al., 2021; Mantzios & Egan, 2017). In practise, psychological health may be prioritised over physiological health. For example, someone who is on a weight loss diet and has had a stressful day may want to treat themselves by overindulging on a chocolate cake or their favourite takeaway because "they deserve it" (Taylor et al., 2013). By doing so, they are only showing perceived kindness to their mind, and if such behaviour is sustained continuously, it can

make adhering to healthy eating difficult (see Mantzios & Egan, 2017 for a full review). In a more recent study, it was also found that self-compassion moderated the relationship between orthorexia and quality of life, whereby individuals with high levels of orthorexia and self-compassion displayed a eating-related poorer quality of life (Kalika et al., 2023), suggesting a somewhat complex relationship between self-compassion and eating. There are also suggested to be methodological issues in the measurements of self-compassion with health-related behaviours, such as eating (Mantzios & Egan, 2017). While the relationship between self-compassion and mental health is straightforward (Inwood and Ferrari, 2018), the relationship between self-compassion and physical health can be particularly complex when physical health is influenced by consumption and potential abuse, such as with alcohol and food (e.g., Ellingwood et al., 2019). These behaviours may be used as a method to be kind to oneself and regulate emotions, complicating the assessment and understanding of self-compassion in these contexts, where having a drink or two may be an act of kindness (Mantzios & Egan, 2017). For example, responses to items such as "When times are really difficult, I tend to be kind to myself" can vary significantly. The interpretation of this self-compassionate item might range from eating a healthy meal to overeating or undereating, depending on individual differences. This variation differs from responses to a more specific hypothetical item such as "When times are really difficult, I tend to be kind to myself by overindulging in my favourite foods", making self-compassion more health relevant. In other words, such discrepancies can complicate the interpretation of self-compassion in the context of eating (Egan & Mantzios, 2018). Furthermore, implications for interventions may pose a question of looking at self-compassion differently, for example, Mantzios et al. (2020) found that a self-compassion intervention (focusing on positive items of self-kindness, common humanity and mindfulness from the self-compassion scale [Neff, 2003]) and a self-criticism reduction intervention (focusing on non-judgment, sense of isolation or over-identification from the self-compassion scale [Neff, 2003]) found no significant differences in increasing state self-compassion between the two groups. As such, exploring the "acting" component that has been proposed in a newer scale of self-compassion, namely Sussex-Oxford Compassion for Self (Gu et al., 2020) may be one way to explore self-compassion differently compared to previous research (Mantzios et al., 2018a, Mantzios et al., 2018b; Hussain et al., 2022). Given the evidence on

the role that self-compassion may play in eating behaviours (e.g., Fan & Wang, 2022; Fekete et al., 2021; Rahimi-Ardabili et al., 2018), it is yet to be determined how self-compassion could relate to the termination of eating.

Recently, research has explored the termination of eating with a specific focus on five categories: "decreased food appeal, physical satisfaction, planned amount, self-consciousness, and decreased priority of eating" (Cunningham et al., 2021, p.120), which will be briefly described next. Decreased food appeal reflects sensory properties around food and the decline in liking, wanting or enjoying food (Rogers et al., 2021), which can lead one to stop consumption (Brondel et al., 2009; Heatherington, 1996). Physical satisfaction is the notion of satisfactory fullness, which can result in and indicate differences in portion selection, food intake, and eating cessation (Cheon et al., 2019; Hinton et al., 2021; Murray & Vickers, 2009). Planned amount refers to decision-making prior to eating on the amount that one will consume, for example, pre-meal planning has often been shown to correspond closely with the amount of food that is consumed (Brunstrom, 2011; Fay et al., 2011; Hege et al., 2018). Self-consciousness reflects negative affect and the comparison of one's eating behaviour to the eating behaviour of others, which can result in suppressing intake (Herman et al., 2003; Herman, 2015; Tuomisto et al., 1998). Finally, a decreased priority of eating represents a lack of motivation or interest in eating (Adise et al., 2018). Although the framework on reasons individuals stop eating is relatively new (Cunningham et al., 2021), research on physical contentment revealed a positive correlation with sensitivity to internal satiation cues, which were defined as the capacity to recognize internal sensations.as measured by the mindfulness eating questionnaire (Chawner et al., 2022), aligning with similar research suggesting mindfulness can modify tendencies to over-eat as satiety perception is increased when one is more inclined to be in the moment (e.g., Mantzios & Wilson, 2015). Research has also consistently found a strong association between elements of mindfulness and self-compassion (e.g., Bluth & Blanton, 2014; Conversano et al., 2014; Neff & Dahm, 2015), suggesting the current findings could indeed be applied to self-compassion. Furthermore, physical satisfaction, decreased food priority, self-consciousness and decreased food appeal were found to be positively associated with satiety responsiveness (Chawner et al., 2022), which has also been found to be negatively associated with over-eating and weight gain (Routelle et

al., 2020). Inconsistent findings have emerged regarding the relationship between reasons for individuals stopping eating and BMI. A prior study conducted by Cunningham et al. (2021) suggested significant positive associations between BMI and self-consciousness, as well as inverse relationships between BMI and planned amount and physical satisfaction. However, more recent research (Chawner et al., 2022) found no discernible association between BMI and any of the five components related to reasons individuals stop eating.

As such, extending the current findings will provide a more comprehensive understanding of eating behaviours specifically related to the termination of eating. Thus, the current study aims to conduct a novel exploration on the potential relationship between self-compassion and reasons individuals stop eating, which will contribute towards the existing literature on self-compassion and eating regulation, and may have beneficial implications in designing future interventions on eating regulation.

Method

Participants

A power analysis showed that with an effect size of .03, and an alpha level of .01, a minimum sample of 184 participants was required to obtain a power of .95. A larger sample size was aimed to account for any participant attrition from failure to complete the study. The final sample size consisted of two hundred and eighty-three participants who were selected through opportunity sampling using various social media platforms, including Facebook and Twitter as well as the Research Participation Scheme (RPS) at a university in West Midlands, UK. Participants recruited via RPS were awarded two-course credits for their participation, whilst those recruited via social media were not compensated. The sample included 232 females, 50 males, and 1 not specified. Participants had an average age of 25.75 (*SD*= 11.24), and a mean BMI of 24.50 (*SD* = 5.28).

Eligibility. To minimise the risk of psychological harm that the topic of eating behaviour may cause, the exclusion criteria within the information sheet and consent form stated participants were not eligible to participate if they had been diagnosed with an eating disorder, and were also advised not to participate if they felt uncomfortable around the topic of eating behaviours.

Materials

To assess background information and calculate BMI, participants were asked questions on their gender, age, height and weight. To assess self-compassion, participants completed Sussex-Oxford Compassion for the Self Scale (SOCS, Gu et al., 2020) assessing five subscales (1) recognizing suffering, (2) understanding the universality of suffering, (3) feeling for the person suffering, (4) tolerating uncomfortable feelings, and (5) motivation to act/acting to alleviate suffering. The present study produced alphas of $\alpha = .76$ for recognising suffering, $\alpha = .80$ for understanding the universality of suffering, $\alpha = .82$ for feeling for the person suffering, $\alpha = .66$ for tolerating uncomfortable feelings, $\alpha = .86$ for motivation to act/acting to alleviate suffering, and $\alpha = .89$ for the total self-compassion score. To assess reasons individuals stop eating, participants completed Reasons Individuals Stop Eating Questionnaire (RISE-Q, Cunningham et al., 2021) exploring five subscales including (1) decreased food appeal, (2) physical satisfaction, (3) planned amount, (4) self-consciousness, and (5) decreased priority of eating. The present study produced alphas of $\alpha = .90$ for decreased food appeal, $\alpha = .91$ for physical satisfaction, $\alpha = .81$ for planned amount, $\alpha = .92$ for self-consciousness, and $\alpha = .86$ for decreased food priority.

Procedure

The present study was advertised online (Facebook, Twitter, and RPS), and potential participants responded by clicking on the link which directed them to the participant information sheet outlining the nature of the study, and the consent form.. After providing informed consent, participants were presented with demographic questions (gender, age, height and weight) and questionnaires on self-compassion and reasons individuals stop eating, which took approximately 10 minutes to complete. After the completion of the study, participants were provided with a debriefing sheet outlining the study's objectives, as well as the researcher's contact details. The University's Research Ethics Committee approved the study in accordance with ethical guidelines.

Results

Inter-correlations between BMI, self-compassion, and reasons individuals stop eating are presented in Table 1. Findings suggests there is a significant small and negative relationship between decreased priority of eating and self-compassion ($r = -.278$, $p < .001$), recognising suffering ($r =$ -

.151, p = .013), understanding the universality of suffering (r = -.185, p = .002), feeling for the person suffering (r = -.270, p < .001), tolerating uncomfortable feelings (r = -.269, p < .001), and acting to alleviate suffering (r = -.257, p < .001). Furthermore, self-consciousness displayed a significant small and positive relationship with BMI (r = .266, p < .001), and significant small and negative relationships with self-compassion (r = -.148, p = .015), understanding the universality of suffering (r = -.210, p < .001), and feeling for the person suffering (r = -.228 p < .001). A significant small and negative relationship is also displayed between physical satisfaction and BMI (r = -.266, p < .001), and a significant small and positive relationship with self-compassion (r = .178, p = .003), understanding the universality of suffering, (r = .194, p = .001), feeling for the person suffering (r = .208, p < .001), tolerating uncomfortable feelings (r = .126, p = .039), and acting to alleviate suffering (r = .131, p = .032). Finally, decreased food appeal displayed a significant small and negative relationship with self-compassion (r = -.132, p = .030) and understanding the universality of suffering (r = -.210, p < .001).

Discussion

The current study aimed to conduct a novel exploration of the potential relationship between self-compassion and reasons individuals stop eating. The results proposed that self-compassion was negatively associated with BMI, decreased food appeal, self-consciousness, decreased priority of eating, and positively associated with physical satisfaction. Recognising suffering was negatively associated with BMI and decreased priority of eating, whilst understanding the universality of suffering was negatively associated with decreased food appeal, self-consciousness, decreased priority of eating, and positively associated with physical satisfaction. Feeling for the person suffering was negatively associated with self-consciousness and decreased priority of eating, and positively associated with physical satisfaction. Tolerating uncomfortable feelings was positively associated with physical satisfaction, and negatively associated with decreased priority of eating. Motivation to act/acting to alleviate suffering was negatively associated with BMI and decreased priority of eating, and positively associated with physical satisfaction.

Previous research has found that self-compassion can encourage an individual to care for their body (Egan & Mantzios, 2018; Mantzios & Egan, 2017), as such, terminating eating when one has reached physical fullness can be viewed as an act of self-compassion (Hussain et al., 2021). Further support derives from the literature that has found self-compassion to support weight loss and weight regulation (Brenton-Peters et al., 2021; Mantzios & Wilson, 2014; Rahimi-Ardabili et al., 2018; Thøgersen-Ntoumani et al., 2021), and regulate healthier eating behaviours (Braun et al., 2016; Kelly & Stephen, 2016). Higher levels of self-compassion have also been associated with mindful eating which naturally predisposes people to become more attuned to hunger and satiety, and may in turn, explain the positive association between self-compassion and physical fullness (e.g., Hussain et al., 2023). Furthermore, understanding that suffering is a universal human experience may not only allow one to be aware and accepting of their suffering/personal attributes, but in the context of eating behaviours, and specifically physical satisfaction, it might modify one's behaviours that are harmful, such as binge eating or restrained eating, resulting in simply eating until one is physically satisfied (Rodrigrues et al., 2024). Given the novelty of such these findings, future confirmatory studies should replicate and explore them further. Self-consciousness, another subscale of reasons individuals stop eating, can also often play a role in eating-disorder symptomology (Palmieri et al., 2021; Sawaoka et al., 2012), and similar to the current findings, self-compassion is inversely associated with other comparable constructs, such as restrained eating, and shame and guilt around eating (Braun et al., 2016; Breines et al., 2014; Kalika et al., 2022; Kelly et al., 2013). Research on priority of eating has found those who find food more rewarding often allocate more time and effort to eating than those who do not (Epstein & Leddy, 2006; Salens & Epstein, 1996). Previous research found self-compassion to be positively associated with motivational processes on health goals and healthy eating, and negatively associated with unhealthy eating (Guertin et al., 2020), emphasising the significance of self-compassion, and particularly acting to alleviate suffering within eating, signifying the missed opportunities to explore and capture individual differences (Keyte et al., 2020; Mantzios & Egan, 2018).

The current findings provide insight into the role of self-compassion and eating cessation, which may indeed be beneficial in creating and developing self-compassion based interventions for

eating regulation, weight loss, and weight maintenance. Although, the majority of recent literature has found self-compassion to be associated with lower emotional eating, healthy eating behaviours, and improved food-related self-regulation in the context of negative mood (Babakhanloo et al., 2020; Fan & Wang, 2022; Gouveia et al., 2019; Serpell et al., 2020), certain components of self-compassion (i.e., self-kindness) have also shown equivocal findings, with a positive relationship with BMI and increased eating (Ali et al., 2017; Shaw & Cassidy, 2022). The evidence of self-compassion and eating cessation from the current study adds to the literature on self-compassion and eating behaviours, and it may be useful to explore self-compassion and its components over a longer period to capture their efficiency on eating-related outcomes, which may provide a better understanding on the mechanisms that impact both eating and weight regulation. Significantly, the manipulation or adjustment of self-kindness in the paradigm of self-compassion as described by Neff (2003), which proposes emotion regulation and physical health, is an element that can provide consistently positive outcomes for health and nutrition, and mandates innovative explorations in future research to measure and improve self-compassion for health outcomes.

Whilst the current study was the initial investigation into the connections between self-compassion and reasons individuals stop eating, several limitations and potential directions for future research have been identified. Firstly, the present study predominately recruited relatively healthy female participants, limiting the generalisability of the findings. For example, research has found eating behaviours of those who are overweight or obese can differ from those who are of average weight (Howarth et al., 2006; Werthmann et al., 2015), and across genders (Cornier et al., 2010; Hartmann et al., 2013; Hummel et al., 2018; Rolls, 1991). Future research should explore self-compassion and eating cessation across varied demographics. Furthermore, the current research used a general measure of self-compassion and whilst the scale is a reliable and valid measure (Gu et al., 2020), it may not adequately reflect self-compassion behaviours that are specific to eating. Whilst there are currently no existing eating-specific self-compassion scales, future research should develop appropriate measurements that allow for the direct assessment of eating outcomes. Finally, the cross-sectional element of the present study prevents conclusions around cause and effect on the observed associations. Importantly, the findings are limited by the self-report nature of eating termination, with

research suggesting susceptibility to response bias and lack of awareness of eating habits (Hagger et al., 2015; Herman et al., 2019). Thus, future research should employ experimental designs to explore the effect of self-compassion on eating termination.

Conclusion

To conclude, the current study conducted an exploratory analysis on the relationship between self-compassion and the reasons individuals stop eating. The findings suggest self-compassion is negatively associated with decreased food appeal, self-consciousness, and decreased food priority, whilst being positively associated with physical satisfaction. Whilst the findings do make a valuable contribution to the existing literature on self-compassion and eating behaviours, future research would benefit from conducting confirmatory studies to replicate the findings. Similarly, it would also be beneficial to consider investigating the impact of self-compassion on eating cessation within controlled experimental settings, which would shed light on the intricate interplay between self-compassion, different forms of self-kindness, and eating regulation.

References

Adise, S., Geier, C. F., Roberts, N. J., White, C. N., & Keller, K. L. (2018). Is brain response to food rewards related to overeating? A test of the reward surfeit model of overeating in children. *Appetite*, *128*, 167-179.

Ali, Z., Wong, K., Egan, H., Cook, A., & Mantzios, M. (2017). All you can eat buffets, obesity, mindfulness, and mindful eating: an exploratory investigation. *Journal of Psychology and Psychiatry*, *1*(1), 1-5.

Babakhanloo, A., Haghayegh, S. A., Moradi Manesh, F., & Dehghani, A. (2020). Emotional eating and self-compassion in people with obesity: The mediating role of emotional processing.

Biber, D. D., & Ellis, R. (2019). The effect of self-compassion on the self-regulation of health behaviors: A systematic review. *Journal of health psychology*, *24*(14), 2060-2071.

Bluth, K., & Blanton, P. W. (2014). Mindfulness and self-compassion: Exploring pathways to adolescent emotional well-being. *Journal of Child and Family Studies*, 23, 1298-1309.

Braun, T. D., Gorin, A. A., Puhl, R. M., Stone, A., Quinn, D. M., Ferrand, J., ... & Papasavas, P. (2021). Shame and self-compassion as risk and protective mechanisms of the internalized weight bias and emotional eating link in individuals seeking bariatric surgery. *Obesity surgery*, *31*(7), 3177-3187.

Braun, T. D., Park, C. L., & Gorin, A. (2016). Self-compassion, body image, and disordered eating: A review of the literature. *Body image*, *17*, 117-131.

Breines, J., Toole, A., Tu, C., & Chen, S. (2014). Self-compassion, body image, and self-reported disordered eating. *Self and Identity*, *13*(4), 432-448.

Brenton-Peters, J., Consedine, N. S., Boggiss, A., Wallace-Boyd, K., Roy, R., & Serlachius, A. (2021). Self-compassion in weight management: a systematic review. *Journal of psychosomatic research*, *150*, 110617.

Brondel, L., Lauraine, G., Van Wymelbeke, V., Romer, M., & Schaal, B. (2009). Alternation between foods within a meal. Influence on satiation and consumption in humans. *Appetite*, *53*(2), 203-209.

Brunstrom, J. M. (2011). The control of meal size in human subjects: a role for expected satiety, expected satiation and premeal planning. *Proceedings of the Nutrition Society*, *70*(2), 155-161.

Chawner, L. R., Yu, S., Cunningham, P. M., Rolls, B. J., & Hetherington, M. M. (2022). Construct validation of the Reasons Individuals Stop Eating Questionnaire (RISE-Q) and the development of the RISE-Q-15. *Appetite*, 170, 105898.

Cheon, B. K., Sim, A. Y., Lee, L., & Forde, C. G. (2019). Avoiding hunger or attaining fullness? Implicit goals of satiety guide portion selection and food intake patterns. *Appetite*, *138*, 10-16.

Conversano, C., Ciacchini, R., Orrù, G., Di Giuseppe, M., Gemignani, A., & Poli, A. (2020). Mindfulness, compassion, and self-compassion among health care professionals: What's new? A systematic review. *Frontiers in Psychology*, *11*, 1683.

Cornier, M. A., Salzberg, A. K., Endly, D. C., Bessesen, D. H., & Tregellas, J. R. (2010). Sex-based differences in the behavioral and neuronal responses to food. *Physiology & behavior*, *99*(4), 538-543.

Cunningham, P. M., Roe, L. S., Hayes, J. E., Hetherington, M. M., Keller, K. L., & Rolls, B. J. (2021). Development and validation of the Reasons Individuals Stop Eating Questionnaire (RISE-Q): a novel tool to characterize satiation. *Appetite*, *161*, 105127.

Egan, H., & Mantzios, M. (2018). A qualitative exploration of self-kindness and “treating oneself” in contexts of eating, weight regulation and other health behaviors: implications for mindfulness-based eating programs. *Frontiers in Psychology*, *9*, 880.

Ellingwood, L., Espinoza, M. A., Acevedo, M., & Olson, L. E. (2019). College student drinkers have higher self-compassion scores than nondrinkers. *International Journal of Mental Health and Addiction*, *17*, 658-666.

Epstein, L. H., & Leddy, J. J. (2006). Food reinforcement. *Appetite*, *46*(1), 22-25.

Fan, L., & Wang, Y. (2022). Healthy eating behaviors and self-control in scarcity: The protective effects of self-compassion. *Appetite*, *169*, 105860.

Fan, L., & Wang, Y. (2022). Healthy eating behaviors and self-control in scarcity: The protective effects of self-compassion. *Appetite*, *169*, 105860.

Fay, S. H., Ferriday, D., Hinton, E. C., Shakeshaft, N. G., Rogers, P. J., & Brunstrom, J. M. (2011). What determines real-world meal size? Evidence for pre-meal planning. *Appetite*, *56*(2), 284-289.

Fekete, E. M., Herndier, R. E., & Sander, A. C. (2021). Self-compassion, internalized weight stigma, psychological well-being, and eating behaviors in women. *Mindfulness*, *12*, 1262-1271.

Friis, A. M., Consedine, N. S., & Johnson, M. H. (2015). Does kindness matter? Diabetes, depression, and self-compassion: a selective review and research agenda. *Diabetes Spectrum*, *28*(4), 252-257.

Gouveia, M. J., Canavarro, M. C., & Moreira, H. (2019). Associations between mindfulness, self-compassion, difficulties in emotion regulation, and emotional eating among adolescents with overweight/obesity. *Journal of Child and Family Studies*, *28*, 273-285.

Gu, J., Baer, R., Cavanagh, K., Kuyken, W., & Strauss, C. (2020). Development and psychometric properties of the Sussex-Oxford compassion scales (SOCS). *Assessment*, *27*(1), 3-20.

Guertin, C., Barbeau, K., & Pelletier, L. (2020). Examining fat talk and self-compassion as distinct motivational processes in women's eating regulation: A self-determination theory perspective. *Journal of health psychology*, *25*(12), 1965-1977.

Hagger, M. S., Rebar, A. L., Mullan, B., Lipp, O. V., & Chatzisarantis, N. L. (2015). The subjective experience of habit captured by self-report indexes may lead to inaccuracies in the measurement of habitual action. *Health Psychology Review*, *9*(3), 296-302.

Hartmann, C., Siegrist, M., & Van der Horst, K. (2013). Snack frequency: associations with healthy and unhealthy food choices. *Public health nutrition*, *16*(8), 1487-1496.

Hege, M. A., Veit, R., Krumsiek, J., Kullmann, S., Heni, M., Rogers, P. J., ... & Preissl, H. (2018). Eating less or more–Mindset induced changes in neural correlates of pre-meal planning. *Appetite*, *125*, 492-501.

Herman, C. P. (2015). The social facilitation of eating. A review. *Appetite*, *86*, 61-73.

Herman, C. P., Polivy, J., Pliner, P., Vartanian, L. R., Herman, C. P., Polivy, J., ... & Vartanian, L. R. (2019). Awareness of Social Cues. *Social Influences on Eating*, 201-213.

Herman, C. P., Roth, D. A., & Polivy, J. (2003). Effects of the presence of others on food intake: a normative interpretation. *Psychological bulletin*, *129*(6), 873.

Hetherington, M. M. (1996). Sensory-specific satiety and its importance in meal termination. *Neuroscience and Biobehavioral Reviews, 20*(1), 113–117.

Higgs, S. (2015). Social norms and their influence on eating behaviours. *Appetite*, *86*, 38-44.

Hinton, E. C., Leary, S. D., Comlek, L., Rogers, P. J., & Hamilton-Shield, J. P. (2021). How full am I? The effect of rating fullness during eating on food intake, eating speed and relationship with satiety responsiveness. *Appetite*, *157*, 104998.

Howarth, N. C., Huang, T. T., Roberts, S. B., Lin, B. H., & McCrory, M. A. (2007). Eating patterns and dietary composition in relation to BMI in younger and older adults. *International journal of obesity*, *31*(4), 675-684.

Hummel, G., Ehret, J., Zerweck, I., Winter, S. S., & Stroebele-Benschop, N. (2018). How eating behavior, food stimuli and gender may affect visual attention–An eye tracking study. *Eating behaviors*, *31*, 60-67.

Hussain, M., Egan, H., Keyte, R., & Mantzios, M. (2021). Exploring the role of self-kindness in making healthier eating choices: A preliminary study. *International Journal of Behavioral Medicine*, *28*, 664-669.

Hussain, M., Egan, H., Keyte, R., & Mantzios, M. (2021). Mindful construal reflections: reducing unhealthier eating choices. *Mindfulness*, *12*(7), 1757-1767.

Inwood, E., & Ferrari, M. (2018). Mechanisms of change in the relationship between self-compassion, emotion regulation, and mental health: A systematic review. *Applied Psychology: Health and Well-Being, 10*(2), 215-235.

Kalika, E., Hussain, M., Egan, H., & Mantzios, M. (2023). Exploring the moderating role of mindfulness, mindful eating, and self-compassion on the relationship between eating-disordered quality of life and orthorexia nervosa. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, *28*(1), 18.

Kelly, A. C., & Stephen, E. (2016). A daily diary study of self-compassion, body image, and eating behavior in female college students. *Body Image*, *17*, 152-160.

Kelly, A. C., Carter, J. C., Zuroff, D. C., & Borairi, S. (2013). Self-compassion and fear of self-compassion interact to predict response to eating disorders treatment: A preliminary investigation. *Psychotherapy Research*, *23*(3), 252-264.

Keyte, R., Egan, H., & Mantzios, M. (2020). How does mindful eating without non-judgement, mindfulness and self-compassion relate to motivations to eat palatable foods in a student population?. *Nutrition and Health*, 26(1), 27-34.

Mantzios M. (2021) (Re)defining mindful eating behaviour to advance scientific enquiry. *Nutrition and Health*. 1-5.

Mantzios M. (2023a) Mindful eating: A conceptual critical review of the literature, measurement and intervention development. *Nutrition and Health.* 1-7.

Mantzios M. (2023b). Development and initial validation of the Trait and State Mindful Eating Behaviour scales. Pre-print https://assets.researchsquare.com/files/rs-2291102/v1/051b7caa-88ef-40f9-ac7e-b71804f7a23e.pdf?c=1669736320

Mantzios, M., & Egan, H. (2018). An exploratory examination of mindfulness, self-compassion, and mindful eating in relation to motivations to eat palatable foods and BMI. Health Psychology Report, 6(3), 207-215.

Mantzios, M., & Egan, H. H. (2017). On the role of self-compassion and self-kindness in weight regulation and health behavior change. *Frontiers in psychology*, *8*, 229.

Mantzios, M., & Wilson, J. C. (2014). Making concrete construals mindful: a novel approach for developing mindfulness and self-compassion to assist weight loss. *Psychology & health*, *29*(4), 422-441.

Mantzios, M., & Wilson, J. C. (2015). Exploring mindfulness and mindfulness with self-compassion-centered interventions to assist weight loss: theoretical considerations and preliminary results of a randomized pilot study. *Mindfulness*, *6*, 824-835.

Mantzios, M., Egan, H., Bahia, H., Hussain, M., & Keyte, R. (2018a). How does grazing relate to body mass index, self-compassion, mindfulness and mindful eating in a student population?. *Health psychology open*, *5*(1), 2055102918762701.

Mantzios, M., Egan, H., Hussain, M., Keyte, R., & Bahia, H. (2018b). Mindfulness, self-compassion, and mindful eating in relation to fat and sugar consumption: an exploratory investigation. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, *23*, 833-840.

Mantzios, M., Koneva, A., & Egan, H. (2020). When 'negativity'becomes obstructive: A novel exploration of the two-factor model of the Self-Compassion Scale and a comparison of self-compassion and self-criticism interventions. *Current Issues in Personality Psychology*, *8*(4), 289-300.

Mantzios, M., Wilson, J. C., Linnell, M., & Morris, P. (2015). The role of negative cognition, intolerance of uncertainty, mindfulness, and self-compassion in weight regulation among male army recruits. *Mindfulness*, *6*, 545-552.

Murray, M., & Vickers, Z. (2009). Consumer views of hunger and fullness. A qualitative approach. *Appetite*, *53*(2), 174-182.

Neff, K. D. (2003). The development and validation of a scale to measure self-compassion. *Self and Identity*, *2*(3), 223-250.

Neff, K. D., & Dahm, K. A. (2015). Self-compassion: What it is, what it does, and how it relates to mindfulness. *Handbook of Mindfulness and Self-Regulation*, 121-137.

Palmieri, S., Mansueto, G., Ruggiero, G. M., Caselli, G., Sassaroli, S., & Spada, M. M. (2021). Metacognitive beliefs across eating disorders and eating behaviours: A systematic review. *Clinical Psychology & Psychotherapy*, *28*(5), 1254-1265.

Phillips, W. J., & Hine, D. W. (2021). Self-compassion, physical health, and health behaviour: A meta-analysis. *Health Psychology Review*, *15*(1), 113-139.

Pliner, P., & Mann, N. (2004). Influence of social norms and palatability on amount consumed and food choice. *Appetite*, *42*(2), 227-237.

Rahimi-Ardabili, H., Reynolds, R., Vartanian, L. R., McLeod, L. V. D., & Zwar, N. (2018). A systematic review of the efficacy of interventions that aim to increase self-compassion on nutrition habits, eating behaviours, body weight and body image. *Mindfulness*, *9*, 388-400.

Rodrigues, T. F., Baenas, I., Coelho, C., Ramos, R., Fernández-Aranda, F., & Machado, P. P. (2024). Self-compassion, difficulties in emotion regulation and eating psychopathology: findings from an eating disorders clinical sample and a college sample. *Journal of Contextual Behavioral Science*, 100779.

Rogers, P. J., Drumgoole, F. D., Quinlan, E., & Thompson, Y. (2021). An analysis of sensory-specific satiation: Food liking, food wanting, and the effects of distraction. *Learning and Motivation*, *73*, 101688.

Rolls, B. J., & McDermott, T. M. (1991). Effects of age on sensory-specific satiety. *The American journal of clinical nutrition*, *54*(6), 988-996.

Rolls, B. J., Fedoroff, I. C., & Guthrie, J. F. (1991). Gender differences in eating behavior and body weight regulation. *Health Psychology*, *10*(2), 133.

Saelens, B. E., & Epstein, L. H. (1996). Reinforcing value of food in obese and non-obese women. *Appetite*, *27*(1), 41-50.

Sawaoka, T., Barnes, R. D., Blomquist, K. K., Masheb, R. M., & Grilo, C. M. (2012). Social anxiety and self-consciousness in binge eating disorder: associations with eating disorder psychopathology. *Comprehensive psychiatry*, *53*(6), 740-745.

Serpell, L., Amey, R., & Kamboj, S. K. (2020). The role of self-compassion and self-criticism in binge eating behaviour. *Appetite*, *144*, 104470.

Serpell, L., Amey, R., & Kamboj, S. K. (2020). The role of self-compassion and self-criticism in binge eating behaviour. *Appetite*, *144*, 104470.

Sevilla, J., & Redden, J. P. (2014). Limited availability reduces the rate of satiation. *Journal of Marketing Research*, *51*(2), 205-217.

Shaw, R., & Cassidy, T. (2022). Self-compassion, mindful eating, eating attitudes and wellbeing among emerging adults. *The Journal of Psychology*, *156*(1), 33-47.

Sirois, F. M. (2015). A self-regulation resource model of self-compassion and health behavior intentions in emerging adults. *Preventive medicine reports*, *2*, 218-222.

Sirois, F. M., & Hirsch, J. K. (2019). Self-compassion and adherence in five medical samples: The role of stress. *Mindfulness*, *10*(1), 46-54.

Sirois, F. M., Kitner, R., & Hirsch, J. K. (2015). Self-compassion, affect, and health-promoting behaviors. *Health Psychology*, *34*(6), 661.

Strauss C., Taylor B. L., Gu J., Kuyken W., Baer R., Jones F., Cavanagh K. (2016). What is compassion and how can we measure it? A review of definitions and measures. *Clinical Psychology Review*, 47, 15-27.

Striegel-Moore, R. H., Silberstein, L. R., & Rodin, J. (1993). The social self in bulimia nervosa: public self-consciousness, social anxiety, and perceived fraudulence. *Journal of Abnormal Psychology*, *102*(2), 297.

Tapper, K. (2017). Can mindfulness influence weight management related eating behaviors? If so, how?. *Clinical psychology review*, *53*, 122-134.

Taylor, C., Webb, T. L., & Sheeran, P. (2014). 'I deserve a treat!': Justifications for indulgence undermine the translation of intentions into action. *British Journal of Social Psychology*, *53*(3), 501-520.

Thøgersen-Ntoumani, C., Dodos, L. A., Stenling, A., & Ntoumanis, N. (2021). Does self-compassion help to deal with dietary lapses among overweight and obese adults who pursue weight-loss goals?. *British Journal of Health Psychology*, *26*(3), 767-788.

Tuomisto, T., Tuomisto, M. T., Hetherington, M., & Lappalainen, R. (1998). Reasons for initiation and cessation of eating in obese men and women and the affective consequences of eating in everyday situations. *Appetite*, *30*(2), 211-222.

Warren, J. M., Smith, N., & Ashwell, M. (2017). A structured literature review on the role of mindfulness, mindful eating and intuitive eating in changing eating behaviours: effectiveness and associated potential mechanisms. *Nutrition Research Reviews*, *30*(2), 272-283.

Werthmann, J., Jansen, A., & Roefs, A. (2015). Worry or craving? A selective review of evidence for food-related attention biases in obese individuals, eating-disorder patients, restrained eaters and healthy samples. *Proceedings of the Nutrition Society*, *74*(2), 99-114.

Table 1. Bivariate Correlations Between BMI, Self-Compassion, and Reasons Individuals Stop Eating

	1	2	3	4	5	6	7	8	9
1. BMI									
2. Self-Compassion[1]	-.125*								
3. Recognising[1a]	-.074	.599**							
4.Understanding[1b]	-.137*	.544**	.400**						
5. Feeling[1c]	-.089	.847**	.341**	.331**					
6. Tolerating[1d]	-.044	.800**	.255**	.189**	.642**				
7. Acting[1e]	-.156*	.872**	.331**	.255**	.748**	.754**			
8. Decreased Food Appeal[2]	.037	-.132*	-.069	-.210**	-.100	-.075	-.075		
9. Physical Satisfaction[2]	-.226**	.178**	.068	.194**	.208**	.126*	.131*	.240**	
10. Planned Amount[2]	-.002	-.015	-.015	.083	-.005	.004	-.060	.065	.467**
11. Self-Consciousness[2]	.291**	-.148*	-.097	-.210**	-.227**	-.042	-.056	.282**	-.168**
12. Decreased Priority of Eating[2]	.086	-.278**	-.151*	-.185**	-.270**	-.269**	-.257**	.530**	.040

Note. [1] –The Sussex Oxford Compassion for the Self; [1a] - Recognizing Suffering; [1b] - Understanding the Universality of Suffering; [1c] - Feeling for the Person Suffering; [1d] - Tolerating Uncomfortable Feelings; [1e] – Motivation to act/acting to alleviate suffering; [2] -Subscales of Reasons Individuals Stop Eating Questionnaire

M – Mean; SD – *Standard Deviation*

**Correlation is significant at the .01 level.

*Correlation is significant at the .05 level.

Declarations

Acknowledgements:

The authors would like to thank all participants of this study.

Author's contributions:

MH supported the design of the study, conducted data analyses and wrote the manuscript. ND and LU designed the study and collected data analysis. MM supported the study and reviewed the manuscript.

Availability of data:

Data can be made available upon request to the corresponding author.

Conflict of interest:

The authors declare no potential conflicts of interest with respect to this study, the authorship and publication of this study.

Funding:

This work in this study was not funded.

Consent and approval:

This study was approved by Birmingham City University Ethics Committee and informed consent was gained from all participants.

Consent for publication:

I, Misba Hussain, give my consent for the publication of this work to be published in this Journal and Article.