Utrecht, 05.07.2023

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Master's Thesis Applied Cognitive Psychology

Thesis Proposal (27.5 ECTS)

The mediating effect of response inhibition on the relationship between dieting preoccupation and impulsivity.

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Summary

Current impulsiveness and disinhibition might be possible causes for constant dieting not being linked to weight loss, increasing impulsive eating, and making sustaining a desirable diet difficult. To explore this dependency and find potential tools for determining the risk of unhealthy food preoccupation, we investigated if inhibitory control abilities mediate the relationship between food preoccupation and impulsivity. The Stop-Signal Task (SST) was used as a measure of inhibitory control, the Revised Restraint Scale (RRS) and Food Frequency Questionnaire (FFQ) measured dieting preoccupation, and Barratt Impulsiveness Scale 11 (BIS) measured impulsiveness levels among the adult participants. The regression analysis did not demonstrate significant correlations between any of the measures except for RRS and FFQ, and therefore the mediation of inhibition on impulsiveness and dieting preoccupation was not found. The findings suggest that low levels of food preoccupation might be necessary to sustain healthy eating behaviors.

1. Introduction

With thinness often viewed as the only desirable body type, dieting culture, and dieting preoccupation are becoming more prominent, especially in higher-income nations. At the same time, obesity levels are growing continuously, despite better health consciousness among people (Blüher, 2019).

Impulsivity

Depending on the definition, impulsivity can be characterized as an action or tendency to act without planning, inattentively, and in the spur of the moment with disregard and reduced sensitivity to consequences (Bakshani, 2014). It consists of multiple factors, including behavioral and cognitive inhibition and prepotent responses (Stahl et al., 2014). Impulsiveness is a spectrum, and its lack or excess can lead to psychical and physical health struggles. There is strong evidence that a healthy diet can yield improvements in impulsivity regulation, making it one of the most promising supplementary treatments for ADHD (attention deficit hyperactivity disorder) (Heilskov Rytter et al., 2014). Moreover, dysregulated impulsivity levels are highly correlated with undesirable dieting behaviors and eating disorders, most notably being often linked to emotional and binge eating (Maule and Platte, 2015). Furthermore, it has been suggested that restrictive eating does not produce suspected results because lack of a well-balanced diet and hunger enhances impulsivity and binge eating (Claes et al., 2006), while already being highly impulsive makes you prone to binge eating and then wanting to participate in restrictive behaviors.

Response inhibition

Inhibitory control is a cognitive process that enables inhibition of the registration of irrelevant stimuli, unwanted reactions to stimuli, or unnecessary participation in tasks, that are irrelevant to a target (Barkley, 1997). Response inhibition is one of the main inhibitory control processes, allowing people to subdue undesirable behavioral responses (Verbruggen and Logan, 2008). This cognitive function enables responding to certain stimuli, information, and situations in a pertinent manner, inhibiting inappropriate, precipitative actions.

Impaired inhibition can have negative effects on attentional abilities by hindering an individual's capacity to concentrate on the intended task. This limitation can arise due to the individual's incapacity to suppress thoughts about unrelated tasks or their difficulty in inhibiting locating attention toward irrelevant stimuli. In addition, problems with response inhibition may lead to impulsive behaviors, which can be considered redundant or inappropriate in specific social or age-related contexts. It is also noteworthy that inhibition plays a crucial role in emotion regulation, which can be observed in individuals with various conditions, including ADHD or OCD (obsessive compulsive disorder). For instance, individuals with ADHD may exhibit emotional dysregulation, such as being unable to inhibit their emotional involvement in trivial matters. As a result, they may experience intense emotional reactions to minor events that are not commensurate with their developmental stage or age (Barkley, 1997).

Although researching inhibition through different disorders is effective, it does not mean that inhibitory problems cannot prevail in more general populations. It has been widely suggested that eating behaviour influences cognitive functions in all populations and can accelerate the deterioration or development of impairments.

Stop-signal task

The stop-signal task is one of the widely used paradigms in response inhibition research (Verbruggen & Logan, 2008). The subjects are asked to respond to go-stimuli as quickly as possible while their response time is being measured. In a smaller number of trials, quickly after a go-signal, a stop-signal appears. Participants then must inhibit their response immediately, suppressing their reaction to the go-stimuli.

Typically, the main response inhibition indicator considered is a stop signal reaction time (SSRT). It is not a direct measure of reaction time but rather an algorithmically extrapolated score based on a participant's performance during the task (Verbruggen & Logan, 2008).

Response inhibition measures are useful in research concerning disinhibition and other issues. For instance, it can serve as a good predictor for phenomena such as psychopathological disorders (Verbruggen and Logan, 2008), which in the future can prove to be prospective for identifying people with higher risks of developing undesirable eating patterns.

Restrictive diet and frequent/constant dieting

Restrictive eating is a dietary pattern in which a person eliminates one or multiple types of food from their diet (Polivy, 1996). The decision to follow the diet can be influenced by the desire to be more healthy, attractive, spiritual, or directly by economic and social pressure.

Many studies have shown the nonproductiveness of restriction, some of which highlighted that constant dieting and dieting preoccupation might indicate unhealthy eating behaviors and problems with inhibition (eg., Lowe et al., 2006; Rollins et al., 2014, Williams et al., 2017).

The possible explanations for constant dieting not leading to desired weight outcomes might be:

- People with inhibitory and impulsivity problems might have a higher tendency for binge eating, emotional eating, or having trouble following a diet plan and thus unwillingly gaining weight (Savage et al., 2009; Rollins et al., 2014; Williams et al., 2017). Impulsivity makes them prone to fulfill their sudden cravings, while disinhibition makes it harder for them to refrain, even when knowing the potential consequences of their behaviours. Correspondingly, they are unsatisfied with their weight and begin dieting again, leading them to crave restricted foods and impulsive overeating to satisfy their needs. Subsequently, an unproductive dieting cycle continues.
- People usually partake in constant dieting without professional supervision. An unbalanced diet can cause malnutrition or improper nutrient intake, which weakens inhibitory control abilities and increases impulsivity (Claes et al., 2006; Howard et al., 2020). Both impulsivity and disinhibition increase the risk of overeating, and thus the dieting effects decline, and a person feels the need to diet again.

The above explanations, derived from previous scientific observations, suggest a bilateral causal relationship between frequent dieting and impulsivity, with response inhibition control as the mediator. Concurrently, they posit that preoccupation with dieting, in large part, does not yield the desirable weight outcomes but can contribute to unhealthy eating behaviors and cognitive impairments.

Although many publications are supporting the validity of the proposed explanations, the dieting preoccupation-inhibition-impulsivity direct concatenation is yet to be studied. Thus far, the explanations given above were proposed in separate articles as post hoc observations or concerning restriction rather than frequent dieting. The relationship between the factors, their possible impact

on unhealthy eating behaviors, and cognitive dysregulation must be determined to ascertain potential risk factors for undesirable dietary patterns, devise effective prevention and treatment methods, and support mental health through diet interventions.

Research question and hypotheses

The discussed problems pose the following research question**:**

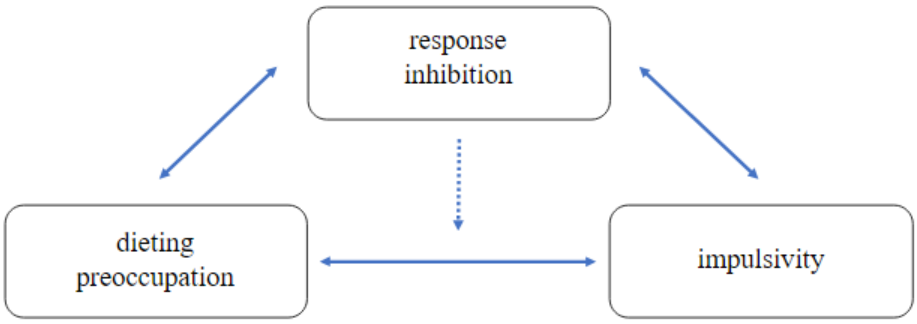
Does response inhibition have a mediating effect on the relationship between preoccupation with dieting and impulsivity?

Determining the validity of the succeeding hypotheses should indicate the answer to the stated problem.

1. Impulsivity and preoccupation with dieting are positively correlated.
2. Response inhibition and preoccupation with dieting are positively correlated.
3. Response inhibition and impulsivity are positively correlated.
4. Response inhibition has a mediating effect on the relationship between preoccupation with dieting and impulsivity.

Based on the literature review, the biliteracy of the relationship between frequent dieting is posited, notwithstanding the proposed one-way analysis.

Figure 1. The proposed model of response inhibition having a mediating effect on the relationship between preoccupation with dieting and impulsivity.



2. Method

2.1 Participants

The inclusion criteria for the experiment were:

- being 18-65 years old
- having healthy hearing and vision
- not having epilepsy
- not drinking coffee or using any drugs or other stimulants starting at 22:00 the night before the experiment.

The participants were recruited primarily from the student population. 66 signed up for the study. For the data to be utilized in the analysis, both survey and stop task had to be completed. 58 people completed the stop-signal task, and 59 completed the questionnaire. Data of 12 people had to be excluded due to missing questionnaire data, contaminated or missing stop-task data, or withdrawing from the study. 54 people qualified for the final data analysis (age: mean = 24.1, SD = 4.47), with 36 participants identifying as women (age: mean = 23.47, SD = 2.5, range = 20:30), and 18 participants identifying as men (age: mean = 25.33, SD = 6.85, range = 19:51).

2.2 Measures

The Revised Restraint Scale (RRS) was used to determine food preoccupation scores, which were intended to later be used as the dependent variable in the mediation analysis. The final scores were established by summing the answers on the Likert scale, where the higher number indicated higher food preoccupation. RRS examines tendencies for engaging in dieting, food preoccupation, and weight fluctuation, but the results obtained using it are not informative about actual dietary composition. Thus, the current dieting composition derived from the FFQ (Food Frequency Questionnaire) was considered a covariate, beyond sex and age.

The Food Frequency Questionnaire (FFQ) is a tool utilized to measure individual dietary components and food intake. In this study, the questionnaire was used to derive information about the healthiness of one's diet, where higher scores implied a healthier died. The healthy diet variable was intended to be a covariate in the mediation analysis.

The Barrat Impulsiveness Scale (BIS-11) was used to determine impulsiveness scores. The total score calculated by taking a sum of the responses was intended to be used as an independent variable in the mediation analysis later. Higher scores indicated higher impulsivity.

The inhibitory control abilities were measured by the stop-signal task. Participants were presented with irregular sequences of stimuli, to which they had to respond promptly or suppress their reaction. Their stop-signal reaction times (SSRTs) were used as a predictor of inhibitory control abilities, and their mean reaction time variances (MRTVs) were used as a predictor for cognitive performance. For both variables, higher scores meant worse performance. SSRTs were calculated according to Kenemans et al. article (2023): by subtracting the average go-stop stimulus-onset asynchrony from the Nth RRT in the block, where Nth RT is a multiplication of the total number of RTs by 1-stop rate. MRTV was calculated by dividing the standard deviation of mean reaction times by the mean rection times and multiplying it by 100 to get a percentage value. SSRTs were supposed to be used as a mediator in mediation analysis, with MRTV as a covariate.

2.3 Procedure

Initially, the study required participants to complete an online Qualtrics survey, encompassing two standardized measures, the Barratt Impulsiveness Scale 11 (BIS-11) and the Revised Restrained Scale (RRS), to gauge their level of impulsivity and dieting competencies, respectively. Additionally, demographic information, such as age, gender, and contact details, was also collected from participants.

Subsequently, response inhibition control was evaluated by administering auditory and visual versions of the stop-signal task to participants in a laboratory setting. Participants were asked to sit still in a room with dim lighting, while the task was administered from the Presentation software installed on the computer in another room.

Each version of the task comprised two calibration blocks and six experimental blocks consisting of stop and no-stop signals, respectively. The proportion of stop and no-stop signals was adjusted based on each participant's performance, which was updated after every trial, to maintain a consistent target signal-to-no-signal stimuli ratio for all participants. In each version of the task, no-stop signals were represented visually by the letters "x" and "o" presented on a computer screen. Participants were required to respond to the "x" stimulus by pressing the left key on the keyboard

in half of the blocks and the right key when an "o" stimulus appeared. The opposite response was required in the remaining blocks to control for any potential handedness bias. In the auditory version, participants were provided with earplugs and presented with a stop signal in the form of a brief sound. Conversely, in the visual version, a red square covering the entire screen's dimensions appeared as a stop signal. All stop signals were equated for their perceptual salience. The data collected from participants included information on the time of stimuli appearance, time of pressing the keys, information about which key was pressed, the latencies of responses on unsuccessful and successful stop trials, success and failure rate, and the probability of responding on stop trials. The data were subsequently stored on external drives for future analysis.

2.4 Analysis plan

The statistical analysis plan contains the following steps:

Regression analysis

- Testing if impulsivity and preoccupation with dieting are positively correlated. Firstly, the normalcy of BIS and RRS total scores will be examined. If both variables are normally distributed, according to Shapiro-Wilk test, a single regression analysis will be conducted, with RRS scores as a dependent variable indicating preoccupation with dieting and BIS scores as an independent variable indicating individual impulsiveness levels. If the variables are not normally distributed, they will be analyzed after logarithmic transformation.
- Testing if response inhibition and preoccupation with dieting are positively correlated. Firstly, the normalcy of SSRTs and RRS total scores will be examined. If both variables are normally distributed, according to Shapiro-Wilk test, a single regression analysis will be conducted, with RRS scores as a dependent variable indicating preoccupation with dieting and SSRTs as an independent variable indicating response inhibition abilities. If the variables are not normally distributed, they will be analyzed after logarithmic transformation.
- Testing if response inhibition and impulsivity are positively correlated. Firstly, the normalcy of SSRTs and BIS total scores will be examined. If both variables are normally distributed, according to Shapiro-Wilk test, a single regression analysis will be conducted,

with BIS scores as a dependent variable indicating individual impulsiveness levels and SSRTs as an independent variable indicating response inhibition abilities. If the variables are not normally distributed, they will be analyzed after logarithmic transformation.

- The BIS, SSRT, and RRS variables will be tested for correlations with sex, healthy diet, and cognitive performance, by conducting separate single regression analyses for all variables. Firstly, the normalcy of MRTVs and a healthy diet will be tested with the Shapiro-Wilk test. If the variables are not normally distributed, they will be analyzed after logarithmic transformation.

Mediation model

- If all the first three single regression analyses will indicate significant correlations between RRS-BIS, RRS-SSRT, and BIS-SSRT, the mediation analysis could be conducted, to examine whether response inhibition has a mediating effect on the relationship between impulsiveness and preoccupation with dieting. The preoccupation with dieting will be a dependent variable, impulsiveness an independent variable, and response inhibition a mediator. The healthy diet, cognitive performance, and sex will be added as covariates.

Secondary analysis

- If at least one of the first three single regression analyses will not display a significant relationship between two variables, the mediation analysis cannot be conducted. Cognitive performance and healthy diet will be included in the final analysis as potential predictors, to explain the relationship between preoccupation with dieting and broader cognitive abilities.

3. Results

Table 1. Means and standard deviation (sd) of the variables used in the data analysis

	general population		women		men	
	mean	sd	mean	sd	mean	sd
RRS	11.98	6.42	13.25	6.81	9.44	4.76
BIS	67.80	7.20	67.00	7.84	69.34	5.57
FFQ	5.64	1.44	5.95	1.48	5.02	1.16

SSRT means (ms)	198.75	59.66	194.10	40.74	208.10	86.83
MRTV (%)	13.15	6.69	12.33	5.19	14.82	8.93

Relationship between preoccupation with dieting and impulsivity

Firstly, the RRS and BIS total scores were checked for normalcy using the Shapiro-Wilk test.

The BIS ($W = 0.98$, $p = 0.38$) and RRS ($W = 0.96$, $p = 0.08$) total scores were normally distributed, which rendered them appropriate for further regression analysis.

Regression analysis showed that impulsiveness was not a significant predictor of dieting preoccupation (beta = -0.04, SE = 0.12, $t = -0.29$, $p = 0.77$).

Relationship between preoccupation with dieting and response inhibition

Firstly, the SSRTs were checked for normalcy using the Shapiro-Wilk test.

The SSRTs were not normally distributed ($W = 0.67$, $p < 0.01$), and had to be logarithmically transformed for the further regression analysis. RRS was earlier shown to be normally distributed and was used in the analysis without any transformation.

Regression analysis showed that response inhibition was not a significant predictor of dieting preoccupation (beta = 0.63, SE = 3.86, $t = 0.16$, $p = 0.87$).

Relationship between impulsivity and response inhibition

SSRT was not normally distributed and had to be used logarithmically transformed before further analysis. BIS was normally distributed and used without transformation.

Regression analysis showed that response inhibition was not a significant predictor of impulsiveness (beta = - 0.80, SE = 4.33, $t = - 0.19$, $p = 0.85$).

Relationship between preoccupation with dieting, impulsivity and response inhibition and covariates: cognitive performance, healthy diet and sex

Firstly, the FFQ healthy diet and cognitive performance were checked for normalcy using the Shapiro-Wilk test. Healthy diet variable was normally distributed ($W = 0.99$, $p = 0.73$), while

MRTVs were not (W = 0.91, p < 0.01). In the later regression analysis MRTVs were used after logarithmic transformation.

Healthy diet was a positive predictor of higher preoccupation with dieting (beta = 1.72, SE = 0.57, t = 3.01, p < 0.01), but not impulsivity (beta = - 0.12, SE = 0.69, t = - 0.18, p = 0.86), response inhibition (beta = - 0.01, SE = 0.02, t = - 0.63, p = 0.53), and cognitive performance (beta = - 0.07, SE = 0.05, t = - 1.45, p = 0.15).

Worse cognitive performance was a negative predictor of higher preoccupation with dieting (beta = - 4.62, SE = 1.60, t = - 2.88, p < 0.01), but not impulsivity (beta = - 1.87, SE = 1.92, t = -0.97, p = 0.34) and response inhibition (beta = 0.05, SE = 0.06, t = 0.88, p = 0.38)

Being a women was a positive predictor of higher preoccupation with dieting (beta = 3.81, SE = 1.79, t = 2.12, p = 0.04) healthier diet (beta = 0.93, SE = 0.40, t = 2.32, p = 0.02), but did not predict impulsivity (beta = -2.39, SE = 2.07, t = - 1.15, p = 0.25), response inhibition (beta = -0.03, SE = 0.07, t = - 0.51, p = 0.61) and cognitive performance (beta = -0.10, SE = 0.15, t = 0.67, p = 0.506).

Mediation analysis

As a result of no correlations being found between RRS-BIS, RRS-SSRT, and BIS-SSRT, the mediation analysis could not be conducted. To better explain the relationship between preoccupation with dieting and cognitive abilities, MRTVs and a healthy diet were included in the analysis as predictors instead of covariates. To further examine the lack of correlations, the variables correlated with sex were analyzed separately for men and women.

Separate single regressions for men and women

Preoccupation with dieting was positively correlated with a healthy diet in men in men (beta = 0.14, SE = 0.05, t = 2.65, p = 0.02) but not in women (beta = 0.06, SE = 0.04, t = 1.62, p = 0.11).

Cognitive performance was positively correlated with a dieting preoccupation in women (beta = - 0.08, SE = 0.02, t =-3.87, p < 0.01) but not in men (beta = -0.04, SE = 0.07, t = 0.63, p = 0.54).

Preoccupation with dieting was not a predictor of response inhibition control neither in men (beta = -0.1, SE = 0.02, t = -0.69, p = 0.5) nor women (beta = 0, SE = 0, t = 0, p = 0.32)

4. Discussion

The data analysis did not support inhibition having a mediating effect on the relationship between preoccupation with dieting and impulsivity, as there were no significant correlations between postulated factors of the model. Conducting the mediation analysis was, therefore, unwarranted, further implying the model was unfounded. Neither of the proposed hypotheses was supported by the research results. The regression analysis did not find a significant correlation between BIS-11 scores or any stop-task-related variables, including SSRT. Furthermore, preoccupation with dieting displayed did not display a significant correlation with inhibitory control abilities, albeit being strongly correlated to attentional performance and during the stop task.

None of the proposed hypotheses were supported by the data. The issue of none of the hypothesized relationships being significant and many p-values being unusually high might eventuate from a highly nonrepresentative participant sample, resulting in abnormal impulsiveness scores and stop-task performance.

Impulsivity was correlated neither with preoccupation with dieting nor response inhibition. The data showed that impulsiveness had a substantially low correlation with all the variables. Although BIS scores were normally distributed, their standard deviation was low, and there was a limited number of people with differentiating scores, which might be a result of recruiting participants from similar educational backgrounds and age groups. This might have rendered the inability to find any correlations in the data, as the score differences were too similar for the sample size in this study, to distinguish what influences them. Another possible explanation could be that inhibitory control might be independent of impulsivity using BIS and stop-signal tasks. Previous research indicates three plausible rationales based on the existing empirical evidence:

- That impulsivity and inhibition present as independent factors, due to high impulsivity resulting in different inhibitory reactions neutralizing each other: faster reaction time, more errors, longer reaction to a stop-signal as a result of not being prepared for stop-signal occurrence, but also no intentional anticipation of stop-signals, which lowers the reaction time to the stop signal (Aichert et al., 2012).
- That the stop-signal task is not a good paradigm to explore the relationship between impulsivity and response inhibition due to the inconsistencies that it creates, mentioned in the previous point (Aichert et al., 2012).

- That some aspects of impulsivity and inhibition might not be correlated, and therefore, the tests and subscales used to measure them can influence the perceived relationship (Aichert et al., 2012)

The insufficient distribution of BIS-11 scores likely makes it hard to correlate to most of the factors, including RRS scores while the above explanations contribute to the BIS-SSRT correlation being prominently low.

Preoccupation with dieting was correlated neither with impulsivity nor response inhibition. The issue of RRS having different than proposed or no correlations could eventuate from an unrepresentative population of higher education students, with similar impulsiveness and self-control capabilities.

It is well known that prominent levels of restriction and preoccupation with dieting can cause various eating disorders, thus there is no need for proving that they are detrimental to mental and physical health. Thus, this study wanted to explore if, in the normal population, dieting preoccupation would also be correlated with lower cognitive performance- inhibition and impulsivity. Nevertheless, it is worth mentioning, that previous studies using RRS as a measure of dieting preoccupation usually used it on defined groups of people with lower and higher dieting preoccupation, and hence always had a sample of people unhealthily occupied with diet. The sample of this study had low scores, and a scarce number of participants showed high dieting preoccupation. The data did not show any correlation between impulsiveness and response inhibition, but it might be related to the unrepresentative sample of consistently less impulsive individuals and stop-signal task drawbacks in inhibition concerning some concepts.

The lack of correlations between RRS-BIS, RRS-SSRT, and BIS-SSRT rendered further mediation analysis disproving the hypothesis proposing that response inhibition has a mediating effect on the relationship between preoccupation with dieting and impulsiveness. However, other conclusions about the relationship between preoccupation with dieting and cognitive abilities can be posed.

An unexpected finding of higher preoccupation with dieting being correlated with a better diet was made. Restraint and preoccupation with diet are typically referred to as undesirable approaches to food, often causing food binging, malnutrition, and worse cognitive performance. However, the

sample consisted of people not preoccupated with dieting and given that this study was conducted on healthy individuals with low food preoccupation, it might suggest that low levels of thinking about dieting might be useful in implementing and maintaining a healthy diet. It could mean that people have to think about dieting sometimes to care about eating healthily and know how to enforce it correctly. Thus, there might be a threshold of ideal healthy food preoccupation, when it is better to care about diet until it is reached but surpassing it may indicate obsessive and unproductive thinking about diet. This theory can be further reinforced by RRS being positively correlated with cognitive performance, meaning that people in this sample possibly could maintain their diet better, even if the willingness to do so had been higher. However, later regression analyses with data divided for men and women showed that RRS is positively correlated only in men, while MRTV scores are better only with correlation to RRS in women. This might mean that the threshold phenomenon might be related to different cognitive mechanisms, but regardless of sex, higher restriction meant better health outcomes.

The threshold of healthy dieting preoccupation is the most probable explanation of the results, given that the lack of correlations can be explained by the nonrepresentative population, but the correlation between food preoccupation and a healthy diet has not been observed before. Concurrently, considering that it has never been mentioned or explained, it may be an anomaly and further research is needed to determine that. However, the sample size and the number of trials make it improbable, so there might be another underlying explanation or problem, either with the sample, implemented methods, or previous assumptions.

Although the first proposed model did not work, the study showed that a significant number of topics need further research.

Firstly, further inspection of inhibition and its measures is needed to determine what precisely they are measuring, and which concepts and relationships might be explored with their use.

Secondly, several papers determining the validity of RRS have been published, but its properties when used on only low diet-preoccupated populations, need to be specified. This study showed that it is still unclear if it provides valid scientific insight if no unhealthy/highly food-preoccupated populations are involved. Moreover, further studies on low-preoccupation populations are needed to determine whether the adverse consequences of food preoccupation are non-linear and whether low preoccupation is desirable.

Lastly, further research on the relationship between food preoccupation and different behavioral measures would be needed to support this study's rejection of the proposed model. Changing the used psychometric tools and widening the population may yield different results. However, it is important to highlight that regardless of many possible explanations, the model failed.

The rise of societal pressure on maintaining a healthy diet, having a slim body, and constant threats about the effects of not adhering to the standards, make preoccupation with dieting and its consequences an important topic to study. A link between impulsivity or disinhibition to restrictive dieting can suggest that excessive food preoccupation could have a similarly harmful effect on cognitive functions. Concurrently, this study showed that diet preoccupation can have a positive impact on a healthy diet and cognitive abilities. However, this might apply only to groups of people with lower concern about diet. Furthermore, the implication that the more worrying about a diet, the better is not productive, as elevated levels of it can lead to eating disorders and deterioration of cognitive functions. For the same reason, propagating the idea that worrying about diet is healthy could have negative effects on mental health and lead to people engaging in unhealthy extremes. Thus, it is unwise, especially before further research, to propagate the idea that some worrying about diet could be healthy, as it is hard to control its levels. Nevertheless, exploring if there is a healthy threshold of preoccupation with dieting might help develop efficient and harmless strategies for raising awareness about the importance of healthy eating, without impacting mental health negatively. Moreover, determining if the threshold exists and finding it could provide specialists with a tool for finding the risk groups for unhealthy eating behaviors, and monitoring if eating disorders recover patients return to their previous patterns or if it is still healthy. As this is the first study to find food preoccupation being positively correlated with a healthier diet, there is a chance that the RRS might not be suitable to research cognitive functions of low-preoccupation populations, and thus both the usage of RRS on only healthy participants, and the theory of the healthy food preoccupation threshold have to be studied extensively.

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