

Self-efficacy as a Mediator between Causal Attributions and Subsequent Failure in Dieting

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Abstract

This article examines why some individuals snowball into subsequent failure after failing their diet goal once, and others do not. After reviewing the literature about the disinhibition effect and the abstinence violation effect, it is hypothesized that causal attributions are a predictor of subsequent failure and that the relationship between causal attributions and subsequent failure is mediated by self-efficacy. A study was conducted to investigate the predictive validity of causal attributions and the mediating effect of self-efficacy, employing a two-phased questionnaire ($N=221$). Phase one measured the initial failure, causal attributions and self-efficacy. Phase two was distributed after four days and included the assessment of subsequent failure. Results from this retrospective cross-sectional study showed that causal attributions did not significantly predicted subsequent failure. Yet, the sample lacked variance in causal attributions and which complicated the analyses. In view of the lack of variance, the effect of self-efficacy was tested across the entire sample. Negative r correlations were found, which indicated that reduced feelings of self-efficacy after the initial failure were related to more days of subsequent failure and subjective failure. The results suggest that almost all participants attributed internally and that self-efficacy plays a part in subsequent failure in dieting.

Keywords: subsequent failure, dieting, causal attributions, self-efficacy

Many people want to become fit and lose weight. Therefore they set a diet goal. However, only setting this goal is not enough to complete it. Self-regulation is needed to overcome temptations, for instance a piece of chocolate, that conflict with this long-term goal. Nevertheless, self-regulation is not infallible and therefore individuals can often not resist these temptations and give in to the desired impulse of eating that piece of chocolate (Baumeister & Heatherton, 1996). Although successful dieting requires the resistance of temptations, it is important to realize, however, that a single diet violation such as eating that piece of chocolate, is in itself quite harmless. That is, that one piece of chocolate does not result in extra body weight on the scale in the end. However, it can become harmful when individuals have the irrational thought, that giving in to one temptation ruins their whole diet. This can set in motion a chain of failures and results in eating the whole bar of chocolate, a box of cookies and a bag of chips (Herman & Mack, 1975; Baumeister & Heatherton, 1996). Fortunately, this does not happen all the time. For example, there are people that can just eat one piece of pie on a birthday and then stick to their diet again. Also, there are many success stories of individuals who lost ten or more pounds by dieting.

Considering the success stories about dieting, it is obvious, that those individuals did not failed their diet goal subsequently and therefore subsequent failure does not happen to everyone. This may possibly be explained by the different reasons individuals give for their failure. To explore this, the present study is conducted to determine why some people snowball into subsequent failure and others do not. Understanding the causes of subsequent failure is vitally important to overcome this problem (Tomiyama, Moskovich, Haltom, Ju & Mann, 2009). However, most conducted research in the field of failure is about prevention of failure (Wagner & Heatherton, 2015). Therefore, this research examines what happens after individuals failed their goal. The present study searches for clarification by reviewing two lines of research that show different angles on subsequent failure. One line is specifically

about subsequent failure in dieting and is called the disinhibition effect (Herman & Mack, 1975). This is followed by the line of research about the abstinence violation effect in addiction (Curry, Marlatt & Gordon, 1987). The disinhibition effect will be reviewed first.

In the classical and limited line of research on the disinhibition effect, Herman and Mack (1975) were the first to demonstrate the phenomenon, whereby giving in to one temptation leads to total disinhibition. They conducted a milkshake tasting experiment among normal weight college age females, differencing in their concern about their weight, and restrained eating, that is the occupation with their eating behavior. In the experiment participants were manipulated into breaking their diet with a preload. Participants in the preload condition were asked to drink one or two high calorie milkshakes before participating in the taste perception study. After the preload, they had to taste ice-cream flavors and at the end of the experiment they could eat the remaining ice-cream. It is found that high restrained participants ate considerably more ice-cream after breaking their diet in the preload than non-restrained eaters or restrained eaters who did not consume the preload. It is suggested that this chain of failure is a result of the cognitive reaction that they termed the what-the-hell effect. This means that individuals have negative thoughts about the usefulness of maintaining their diet after failure and therefore they overindulge (Cochran & Tesser, 1996). It is believed that high restrained individuals have adopted a zero-tolerance belief, meaning that when the limit is exceeded once, there is no need to attempt further restraint for the goal (Baumeister & Heatherton, 1996). It is important to note that attempts to replicate this study of Herman and Mack (1975) are scarce and specific. The studies that have been conducted, yielded mixed findings, since the disinhibition effect is not always found. The study of Westenhoefer, Broeckmann, Münch and Pudiel (1994) did replicate this experiment, using the same paradigm. They found, consistent with the findings of Herman and Mack (1975), that restrained eaters ate more after violating their diet.

Even though the study of Westenhoefer and colleagues (1994) confirmed the results of Herman and Mack (1975), Tomiyama, Moskovich, Haltom and Mann (2009) reported the contrasting result that participants did not overeat after violating their diet. In this study it was examined if the disinhibition effect also occurs in a real-life setting, since previous studies were mostly restricted to the laboratory. It was hypothesized that the violation of a diet goal would not lead to overeating. To test this hypothesis, Tomiyama and colleagues (2009) conducted two studies. The first study tested the disinhibition effect immediately after a goal violation, by examining eating patterns. In this experiment the participants were paged once an hour, following two days. Every time they were paged, they had to fill out multiple-choice questions to monitor whether they had eaten a snack or a meal since the last time they were paged. In the second study participants were asked to keep a diary about their eating behavior following eight days. On day seven they had to violate their diet with a milkshake. Both studies reported no results of overeating after a goal violation. Therefore, Tomiyama and colleagues (2009) could confirm their hypothesis. As can be witnessed by the many health blogs about binges on the internet and the aim of dieting programs to overcome binge eating, the phenomenon of the disinhibition effect may be recognizable for most people. However, the results of the conducted scientific studies are unclear. This mixed evidence regarding the disinhibition effect might be explained by the fact that subsequent failure in dieting potentially involves a moderator.

One suggestion for a potential moderator comes from another line of research that approached the snowball effect from a slightly different angle, namely the abstinence violation effect (AVE) in addiction. The AVE also concerns subsequent failure after giving in to one temptation and gives a central role to causal attributions (Curry, Marlatt & Gordon, 1987). As noted before, the AVE was introduced in the field of substance abuse in the context of relapse process. It refers to the negative cognitive or affective responses an individual

experiences after a return to an addictive substance after a period of abstinence (Collins & Witkiewitz, 2013). To elaborate, the AVE occurs when an individual limits his/her consumption of a substance, but then experiences a lapse. This lapse can set in motion a series of cognitive reactions that can result in overindulgence in the substance (Collins & Lapp, 1991) For example, someone who quits smoking can smoke a cigarette after being abstinent for a while. When this lapse is paired with a negative cognitive or affective response, the AVE occurs and this can lead to multiple cigarettes followed by relapse (Collins & Witkiewitz, 2013; Shiffman, Hickcox, Paty, Gnys, Kassel & Richards, 1997).

According to the literature, the cognitive reactions in the AVE stem from the attributional theory, which proposes that individuals may give causal attributions to their behavior (Collins & Witkiewitz, 2013). Causal attributions can be defined as the explanations that individuals give for their failures and they can be external or internal. When an individual gives an external attribution to a lapse, he states that the lapse is entirely due to circumstances or other people. For example, someone with a binge eating disorder accepts a piece of cake on his aunts' birthday, because he does not want to disappoint her. In this case, the lapse is not a threat to the self-image of a person and is seen as an event that can be avoided next time. This may diminish the AVE and therefore reduces the likelihood of a progression from a lapse to a relapse. On the other hand, an individual can give internal attributions to a lapse. These attributions are uncontrollable. Internal attributions cause a more intense AVE, since the individual is more likely to perceive the lapse as a more generalized failure. For instance, a binge-eater attributes the lapse entirely to himself, due to his irreparable character defects. This causes a high intensity of the AVE, because people take along these thoughts to a next risk situation and therefore the chance of a relapse increases (Collins & Witkiewitz, 2013; Curry, Marlat & Gordon, 1987; Grilo & Shiffman, 1994).

Considering the above presented findings, there can be concluded that the

disinhibition effect and the AVE both concern failure snowballing into subsequent failure. Both effects are found in individuals who stay almost entirely abstinent from something, namely addictive substances or unhealthy food (Herman & Mack, 1975; Collins & Witkiewitz, 2013). These goals differ from individuals who have more everyday diet goals about losing a few pounds. This group is not staying completely abstinent from all unhealthy food, but mostly eat less unhealthy food or food groups. However, there is overlap since it is clear that these goal violations also can lead to subsequent failure. According to research, the AVE is more likely to occur when there are internal attributions given to a lapse. Therefore, causal attributions are a moderator of the AVE (Collins & Witkiewitz, 2013; Curry, Marlat & Gordon, 1987; Grilo & Shiffman, 1994). Since the overlap with the AVE it makes it interesting to examine if this is also the case for failure snowballing into subsequent failure in dieting. It is possible individuals give different explanations for violating their diet once. Therefore, causal attributions could also be moderating this snowball effect

To summarize, internal attributions may moderate the effect of an initial instance of failure on subsequent failure, because the beliefs individuals have are possibly a threat to the self-image. Therefore, these thoughts are taken along to a next critical situation. On the contrary, external attributions will not cause subsequent failure, because they are not a threat to the self-image. In addition to the broader question of whether internal versus external attributions affect the changes of failure snowballing into subsequent failure, the concept of self-efficacy as a particularly likely candidate for a maladaptive internal attribution will also be investigated. Although internal attributions can be diverse, according to the AVE a key candidate for maladaptive internal attributions is the concept of self-efficacy, which refers to people's perceptions of control over their behavior (Collins & Witkiewitz, 2013). According to research, the relapse process begins with an individual who is abstinent, encountering a high-risk situation. If he feels like he is not in control about his behavior in that situation, he

will experience low self-efficacy. This can result in a relapse. Low self-efficacy can be seen as a personal defect and is therefore an internal attribution (Curry, Marlat & Gordon, 1987; Collins & Witkiewitz, 2013). Possibly, self-efficacy could be an underlying mechanism for failure snowballing into subsequent failure in dieting as well. An individual with a diet goal can also feel not in control about a risky situation after he failed the first time. This could set in motion subsequent failure.

As previously stated, there is still little evidence on how the phenomenon of failure snowballing into subsequent failure works. As a result, the purpose of this study is to gain more insight in failure snowballing into subsequent failure in a real-life context. The importance of gaining more insight is high. Wagner and Heatherton (2015) stated that lapse-activated patterns and abstinence violation is one of the seven deadliest threats to self-regulation. According to this study, individuals cannot always act rationally after a single slip and no longer see a reason to self-regulate. This can cause different unhealthy outcomes on the long-term, for example obesity. Furthermore, when there is more knowledge about the mechanisms of subsequent failure, interventions can target these mechanisms and this will possibly be more effective in overcoming relapse after failure. As a consequence, this can result in healthier outcomes on different domains.

Based on the findings of the two reviewed lines of research, the present study was designed to test the hypothesis that failure is more likely to snowball into subsequent failure when individuals make internal attributions. It is suggested that the effect of subsequent failure is stronger when individuals give internal attributions to their failure. Furthermore, a mediating effect of self-efficacy on the relationship between causal attributions and subsequent failure was expected, since the literature presented self-efficacy as an important internal attribution. The present study will zoom within the failure group to test these hypotheses. Furthermore, previous research on the disinhibition effect suggested that high

restrained individuals overindulge when they have negative feelings about the usefulness of maintaining their diet. Therefore, the present study will test for explorative reasons, if feelings of perceived usefulness (also defined as the what-the-hell effect), play a part in subsequent failure in dieting.

Method

Participants

Two hundred ninety-nine women with the goal to restrict their food intake, were recruited from the online platform Prolific to participate in a two-phased study about dieting behavior. Participants were included if they had indicated during prescreening to be women, aged 18 to 40, living in the UK and to have a goal to restrict their food intake. This was important, since almost all earlier research on the disinhibition effect included women and therefore it would be easier to compare results. Also, the goal to restrict food intake was necessary for the measurement of goal violation. Participants who did not have a diet goal after the screening and failed more than four days ago were not invited for the follow-up ($N=51$). Participants who were successful in maintaining their diet in phase one, were excluded from the analysis since we wanted to zoom in on the failure group ($N=19$). Of the participants invited to participate in phase two, seven participants did not complete this second part of the study. As a result, the final sample, that completed both phases of the study, consisted of two hundred twenty-one participants, with a mean age of 31 years ($SD=5.52$) and a mean body mass index of 28.03 ($SD=7.26$). Participants who completed only phase one received £1.50 and participants who completed both phases of the study received £4.50 as compensation for their participation.

Design

The study adopted a retrospective cross-sectional design, with two measurements

separated by five days. Participants had to answer questions in retrospect about their dieting behavior in the past four days. Also, the study was cross-sectional, since we did not manipulate the independent variable of causal attributions in phase one. In the second phase of the study subsequent failure was measured with three dependent variables, namely objective failure in days, objective failure in times and subjective failure. Self-efficacy was assessed as a potential mediator in phase one.

Procedure

A pilot study was conducted in order to evaluate if the survey was well-designed and feasible. The study started in March 2018. After a screening, participants on the platform Prolific who met our eligibility criteria (see above), were approached to join a two-phased study about dieting behavior. Respondents who agreed to participate were informed about the general purpose of the study and received informed consent.

In phase one participants were first asked to fill out a baseline measurement, including demographic questions and the Restraint Scale. The Attribution Style Questionnaire and the Preference for Consistency – Brief, were added in the baseline measurement for exploration. These additional questionnaires go beyond the purpose of the study and will not be further discussed. After the baseline measurement our independent variable was assessed with a questionnaire about goal violation. This questionnaire included questions about failure, including the key question of whether participants had failed in the past four days, the assessment of causal attributions as well as the potential mediator self-efficacy. After the first phase, all participants were thanked, paid and debriefed.

Five days later, the participants who met the inclusion criteria after phase one, were approached again and requested to fill out the follow-up questionnaire. The follow-up measurement included a questionnaire about subsequent behavior to examine the dependent

variables. This questionnaire contained questions about diet goal failure in the previous four days. After completing the study, participants were debriefed and thanked.

Materials

Phase 1.

Baseline Questionnaire. At baseline the participants were asked to indicate their age, gender, education, language, height, weight and diet goal. Then, the Restrained Scale (Herman & Polivy, 1980) was administered. This questionnaire contained ten questions about the occupation with their food intake. All answers could be rated on different scales. Four questions contained a 5-point scale ranging from (1) *never* to (5) *always*, two questions contained a 4-point scale ranging from (1) *not at all* to (4) *extremely* or (4) *very much* and four questions contained a scale on which they had to indicate an interval.

Goal violation. In this questionnaire the participant filled out retrospective questions about the violation of their diet goal. First, there were three explorative questions about their dieting behavior in a typical week. These questions consisted of two open questions and one question that could be indicated on a 7-point scale ranging from (1) *not at all* to (7) *very much*. After completing these questions the participant had to indicate with a multiple-choice question (a) *yes* and (b) *no*, if they violated their goal in the past four days. The questionnaire continued with four open questions about the situation in which they failed, and one item about the proportion of the violation that could be rated on a 7-point scale ranging from (1) *very small violation* to (2) *very large violation*. This questionnaire ended with the question about how many days ago the violation took place ranging from (1) *today* to (6) *more than four days ago*. To assess whether causal attributions play a role, people answered two questions about the cause of the goal violation. One open question and one on a 5-point scale ranging from (1) *entirely due to myself* to (7) *entirely due to circumstances or other people*. These questions were followed by a questionnaire with 16 items about internal attributions.

Items 13 and 14 assessed self-efficacy in comparison to before having failed as a potential mediator. These items were rated on a 5-point scale ranging from (1) *much less* to (7) *much more*. Furthermore, items 15 and 16 tested perceived usefulness in comparison to before having failed, also ranging from (1) *much less* to (7) *much more*.

Phase 2.

Subsequent behavior. In the follow-up the dependent variables objective failure in days, objective failure in times and subjective failure were assessed. For every day of the week the participants got the same questions. The first question contained a multiple-choice question about failing that day (a) *yes* or (b) *no*. The second question about how often one failed, was rated on a scale ranging from 1 to 20. Thirdly, they had to rate two items about the feeling of successfully maintaining their diet and recalling their dieting behavior on a 7-point scale ranging from (1) *not at all* to (7) *very much*. After they completed these questions for all four days, they filled out one overall question about the feeling of successfully maintaining their diet, ranging from (1) *not at all* to (7) *very much*. Lastly, there were two final items about dieting. The items were rated on a 7-point scale ranging from (1) *Strongly disagree* to (7) *strongly agree*. This questionnaire served to assess how many days the participants failed, how many times they failed and if they had the feeling of successfully maintaining their diet.

Statistical Analysis

With the aid of *Statistical Program for Social Sciences (SPSS)* the research question will be tested, using a regression analysis and a Pearson correlational analysis (Field, 2013).

Results

Descriptives and intercorrelations

Table 1 presents the mean scores, standard deviations and intercorrelations of the variables age, BMI, restraint eating, causal attributions, self-efficacy, perceived usefulness,

objective failure in days, objective failure in times and subjective failure for the sample respectively. Participants failed an average of 2.29 out of four days ($SD=0.95$) and 4.21 times ($SD=3.06$). Almost all participants in the sample failed in phase two (97.3%). The mean score for causal attributions is high ($M=5.48$), which indicates that the participants mostly attributed internally. Furthermore, the variable restraint eating significantly correlates with all dependent variables.

Table 1.

Means (M), standard deviations (SD) and correlations of the variables.

	1	2	3	4	5	6	7	8	9
Age (1)	-								
BMI (2)	0.21**	-							
Restrained eating (3)	-0.03	0.39**	-						
Causal attributions (4)	0.10	0.05	0.05	-					
Self-efficacy (5)	0.06	0.01	-0.06	0.06	-				
Perceived usefulness (6)	0.04	-0.08	-0.04	0.09	0.40**	-			
Objective failure in days (7)	-0.13	0.01	0.17*	-0.02	-0.18**	-0.10	-		
Objective failure in times (8)	-0.12	0.09	0.22**	-0.00	-0.09	-0.07	0.68**	-	
Subjective failure (9)	-0.08	0.04	0.21**	-0.03	0.18**	-0.18**	0.70**	0.72**	-
<i>M</i>	31.00	28.03	30.03	5.48	3.69	4.52	2.29	4.21	3.34
<i>SD</i>	5.52	7.26	4.80	1.66	1.50	1.69	0.95	3.06	1.20

Note. $N=221$; * $p < 0.05$; ** $p < 0.01$.

Main analysis

Prior to conducting a hierarchical multiple regression, the relevant assumptions of this statistical analysis were tested. The assumptions of singularity, multicollinearity have been met and an examination of the Mahalanobis distance scores indicated no multivariate outliers. Three two stage hierarchical multiple regression analyses with objective failure in days, objective failure in times and subjective failure as dependent variables were performed to examine the predictive validity of causal attributions. Restraint eating was entered as a control variable in step 1 of the model since it has significant correlations with the dependent variables. In step 2, the variable causal attributions was entered.

Objective failure in days. The hierarchical multiple regression revealed that the first step, including restrained eating as a significant predictor, $\beta = 0.17$, $p = 0.01$, was significant, $F(1,219) = 6.47$, $p = 0.01$, $R^2 = 0.03$. Step 2, including causal attributions, did not significantly improve the model, $F(2,218) = 3.28$, $p = 0.04$.

Objective failure in times. The hierarchical multiple regression revealed that the first step, including restrained eating as a significant predictor, $\beta = 0.22$, $p = 0.00$, was significant, $F(1,219) = 11.16$, $p = 0.00$, $R^2 = 0.05$. Step 2, including causal attributions, did not significantly improve the model, $F(2,218) = 5.58$, $p = 0.00$.

Subjective failure. The hierarchical multiple regression revealed that the first step, including restrained eating as a significant predictor, $\beta = 0.21$, $p = 0.00$, was significant, $F(1,219) = 9.75$, $p = 0.00$, $R^2 = 0.04$. Step 2, including causal attributions, did not significantly improve the model, $F(2,218) = 5.05$, $p = 0.01$.

The lack of significant effects for causal attributions may be related to the lack of variance. That is, 71.6% of the participants scored 5 or higher and means that almost the whole sample attributed internally. This indicated that there is no sufficient evidence to confirm the hypothesis.

Table 2.

Hierarchical multiple regression analysis for objective failure in days, objective failure in times and subjective failure.

	Objective failure in days				Objective failure in times				Subjective failure			
	<i>B</i>	β	ΔF	ΔR^2	<i>B</i>	β	ΔF	ΔR^2	<i>B</i>	β	ΔF	ΔR^2
Step 1	1.28		6.47	0.03	-0.00		11.16	0.05	1.80		9.75	0.04
Restraint eating	0.03	0.17*			0.14	0.22**			0.05	0.21**		
Step 2	1.35		0.12	0.00	0.13		0.05	0.00	1.94		0.37	0.00
Restraint eating	0.03	0.17*			0.14	0.22**			0.05	0.21**		
Causal attributions	-0.01	-0.02				-0.01			-0.03	-0.04		

Note. $N=220$; * $p < 0.05$; ** $p < 0.01$.

Self-efficacy

As the effect of causal attributions was not significant, the mediating role of self-efficacy explaining the relation between internal attributions for initial failure and subsequent failure could not be investigated. Yet, as overall the entire sample indicated to make mostly internal attributions of failure, correlations between self-efficacy and subsequent failure were investigated across the entire (overall internally attributing) sample. Table 1 provides the Pearson correlations with the three dependent variables to test this. The mean score for self-efficacy was below the neutral point of 4, $M=3.69$, $SD=1.50$, indicating that the feelings of self-efficacy were lower compared to before the initial failure. Self-efficacy had a significant correlation with objective failure in days $r=-0.18$, $p=0.01$ and with subjective failure $r=-0.18$, $p=0.01$. This indicates an association between self-efficacy and objective failure in days and self-efficacy and subjective failure, and means that when there is less self-efficacy in comparison to before the initial failure, there was a higher amount of failure in days and participants felt less successful about maintaining their diet.

For the explorative hypothesis of the effect of perceived usefulness on subsequent failure, a similar analysis can be used. Table 1 provides one significant correlation between feelings of perceived usefulness ($M=4.52$, $SD=1.69$) and subjective failure $r=-.176$, $p=.009$. This suggests that participants who had reduced feelings of perceived usefulness compared to before the initial failure also felt less successful about maintaining their diet. Therefore, the third hypothesis can be confirmed, nevertheless only for subjective failure.

Discussion

It was suggested that individuals can snowball into subsequent failure after failing their diet goal once. However, there is still little evidence on how this phenomenon works. Therefore, the present study was designed to test how people respond to failure. Research on this topic is

relevant since most research about failure concerns the prevention of failure. However, understanding the causes of subsequent failure is important to prevent unhealthy outcomes on the long term, such as obesity (Wagner & Heatherton, 2015). The present study examined the potential role of causal attributions and it was hypothesized that the effect of failure snowballing into subsequent failure is stronger, when individuals give internal attributions to their failure. Furthermore, the present study researched self-efficacy as a likely candidate for an internal attribution. Therefore, it was hypothesized that self-efficacy mediates the relationship between causal attributions and subsequent failure. The findings will now shortly be reviewed, followed by an explanation of the key results.

A first finding that is important to discuss refers to the overall frequency of failure. It is noteworthy, that overall participants in the sample failed on average more than two days and more than four times. This indicates that investigating how individuals deal with failure is relevant. Secondly, in contrast with our hypotheses, no effects were found for causal attributions that could explain this failure. Yet, the sample mostly attributed internally, which could explain why the effect of attributions on subsequent failure was not significant. In view of the lack of an effect of causal attributions, the mediating role of self-efficacy could not be tested. However, as most of the sample indicated to make internal attributions, the overall correlation between self-efficacy and subsequent failure was assessed. An overall effect of self-efficacy on objective failure in days and subjective was found. This suggests that people who felt less in control about maintaining their diet, compared to before the initial failure, failed more days, and felt less successful about maintaining their diet. Furthermore, the mean of self-efficacy indicates that individuals felt less in control after their failure in comparison with the moment before failure. In addition, evidence was found for an association between perceived usefulness and subjective failure. This indicates that individuals who felt like it is no use to maintain their diet, compared to before the initial failure, also felt like they did not

successfully maintained their diet.

There are some key findings that need further explanation. The present finding that almost all participants snowball into subsequent failure after failing once is in line with earlier research (Herman & Mack, 1975; Westenhoefer et al, 1994). This finding shows the relevance of researching how individuals respond to the initial failure. When there is more clarity in the underlying mechanisms, interventions can be developed to prevent subsequent failure in dieting.

Although the detrimental role of internal causal attribution could not be demonstrated, it is striking that the large majority of the sample attributed their failure internally. According to the attributional theory, individuals fail more often after attributing their failure internally (Collins & Witkiewitz, 2013; Curry, Marlat & Gordon, 1987; Grilo & Shiffman, 1994). However, this group cannot be compared with participants who attribute externally, since that group is absent. The absence of this control group is a limitation of the study, because it cannot be confirmed that failing subsequently only happens when individuals attribute internally. Therefore, it cannot be indicated that the effect in present research is similar to the attributional theory from the abstinence violation effect, and that it has the same effect on subsequent failure in dieting (Collins & Witkiewitz, 2013; Curry, Marlat & Gordon, 1987; Grilo & Shiffman, 1994). Thus, a recommendation for future research to overcome that individuals only attribute internally, is to manipulate external attributions. External attributions can be manipulated by giving one group of participants an attributional training before the start of the study and by letting them consider the situation (Stewart, Latu, Kawakami & Myers, 2010). If in one group attributions are manipulated by attributional training and in the other group people do not get this training, causal attributions can be tested as a moderator. This study can be conducted with the same paradigm as the present study.

The surprising finding from the main analysis that people attribute their failure

internally is not in correspondence with the fundamental attribution error. This refers to the phenomenon that individuals who observe others tend to attribute a stronger impact to personal factors instead of situational influences (Tetlock, 1985). However, when they observe themselves they attribute a stronger impact to situational influences instead of personal factors (Gawronski, 2007). This theory about the fundamental attribution error also matches the self-serving bias of the attributional theory. This refers to the distorted cognitive processes individuals have, because of the need to enhance their self-esteem. To accomplish this, they overlook their faults and failures and focus on their achievements. As a result people blame their failures on external factors and their successes on themselves (Forsyth, 2008). Nevertheless, this is not what happens in this study. Possibly, individuals do not look at their surroundings or the situation they are in when failing and it does not come to mind to attribute externally. When looking at the content of reasons the participants give to their failure it becomes clear that most participants blame their failure on a lack of willpower or because of emotional eating, instead of external features. According to research, individuals have limited self-knowledge. They have limited access to the reasons for their responses and their feelings (Wilson, 2002). This could be an explanation for attributing only internally.

Since the lack of variance in causal attributions, self-efficacy could not be tested as a mediator. However, the majority of the sample made internal attributions and so all participants fell within the condition of attributions in which self-efficacy was expected to matter. Therefore, simple correlations between self-efficacy and subsequent failure could be assessed across the entire sample. An overall association of self-efficacy with subjective failure and objective failure in days within the failure group was found. This suggests that individuals with lower self-efficacy, after the initial failure in comparison to before the initial failure, possibly snowball into subsequent failure. As stated in the literature about the AVE, a low self-efficacy leads to less effective coping across risk situations, and therefore explains

why individuals fail more often. Namely, individuals take along these thoughts to a next risk situation. (Curry, Marlat & Gordon, 1987; Collins & Witkiewitz, 2013). Nonetheless, more research is needed to confirm this, since an association does not explain a causal effect. Surprisingly, it is also found that self-efficacy decreases after failure. This means that the feelings of being in control over a diet lowers after failure. Bandura (1982) confirms this by stating that successes heighten self-efficacy and failures lower it. Especially when failures do not adverse external circumstances. Based on these findings it can be concluded that future research not necessarily has to focus on manipulating external attributions. It can also put the focus on an intervention to directly boost self-efficacy. Because of the association between self-efficacy and subsequent failure, enhancing self-efficacy might overcome subsequent failure. This intervention must increase the feeling that an individual has control about maintaining their diet before failing and also after failing once. Perhaps implementation intentions could work to make simple plans, so individuals take back control about their diet (Koestner et al, 2006).

The scarce literature about the disinhibition effect has suggested that individuals think it is no use to further maintain their diet goal after failure. Therefore, this will result in subsequent failure (Cochran & Tesser, 1996; Baumeister & Heatherton, 1996). However, the present study only found an association between perceived usefulness and the feeling of successfully maintaining your diet. This means that individuals who had reduced feelings about the usefulness of maintaining their diet goal, compared to before the initial failure, also had the feeling that they did not successfully held on to their diet. However, these results concerning objective failure are absent. When looking at the mean, a very small increase in feelings of perceived usefulness after failure is also found. This indicates that whenever someone fails the feelings of usefulness about maintaining their diet goes up. Even though these results do not support the findings of the previous research, it is also not enough to

contradict this theory. More research on this topic is necessary. Since there is only a negative correlation with subjective failure, it is unclear if perceived usefulness has an effect on the subsequent failure. Therefore, there may be more gain in boosting self-efficacy.

Taken everything together, the results provide no evidence for causal attribution as a predictor for subsequent failure. This indicates that the first and second hypotheses cannot be confirmed. However, there is evidence that self-efficacy plays a part in failure snowballing into subsequent failure. Therefore, the role of self-efficacy may be important for future research.

References

- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37(2), 122-147.
- Baumeister, R. F., & Heatherton, T. F. (1996). Self-regulation failure: An overview. *Psychological inquiry*, 7(1), 1-15.
- Cialdini, R. B., Trost, M. R., & Newsom, J. T. (1995). Preference for consistency: The development of a valid measure and the discovery of surprising behavioral implications. *Journal of Personality and Social Psychology*, 69(2), 318.
- Cochran, W., & Tesser, A. (1996). The “what the hell” effect: Some effects of goal proximity and goal framing on performance. *Striving and feeling: Interactions among goals, affect, and self-regulation*, 99-120.
- Collins, R. L., & Lapp, W. M. (1991). Restraint and attributions: Evidence of the abstinence violation effect in alcohol consumption. *Cognitive Therapy and Research*, 15(1), 69-84.
- Collins, S. E., & Witkiewitz, K. (2013). Abstinence violation effect. In *Encyclopedia of behavioral medicine* (pp. 8-9). Springer New York.
- Conditte, M. M., & Lichtenstein, E. (1981). Self-efficacy and relapse in smoking cessation programs. *Journal of consulting and clinical psychology*, 49(5), 648.
- Curry, S., Marlatt, G. A., & Gordon, J. R. (1987). Abstinence violation effect: Validation of an attributional construct with smoking cessation. *Journal of Consulting and Clinical Psychology*, 55(2), 145.

Dykema, J., Bergbower, K., Doctora, J. D., & Peterson, C. (1996). An Attributional Style Questionnaire for General Use. *Journal of Psychoeducational Assessment, 14*(2), 100–108.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage.

Forsyth, D. R. (2008). *International Encyclopedia of the Social Sciences* (2nd ed.). Detroit, USA, Macmillan Reference.

Grawonski, B. (2007) The fundamental attribution error. *Personality and Social Psychology Bulletin, 21*, 367-369.

Grilo, C. M., & Shiffman, S. (1994). Longitudinal investigation of the abstinence violation effect in binge eaters. *Journal of Consulting and Clinical Psychology, 62*(3), 611.

Heatherton, T. F., & Baumeister, R. F.(1996). Self-regulation failure: Past, present, and future. *Psychological inquiry, 7*(1), 90-98.

Herman, C. P., & Mack, D. (1975). Restrained and unrestrained eating. *Journal of personality, 43*(4), 647-660.

Herman, C. P. & Polivy, J. (1980) Restrained eating. In A. J. Stunkard (Eds.), *Obesity*, 208-225.

Koestner, R., Horberg, E. J., Gaudreau, P., Powers, T., Di Dio, P., Bryan, C., ... & Salter, N. (2006). Bolstering implementation plans for the long haul: The benefits of simultaneously boosting self-concordance or self-efficacy. *Personality and Social Psychology Bulletin, 32*(11), 1547-1558.

Shiffman, S., Hickcox, M., Paty, J. A., Gnys, M., Kassel, J. D., & Richards, T. J. (1997). The abstinence violation effect following smoking lapses and temptations. *Cognitive Therapy and Research, 21*(5), 497-523.

- Stewart, T. L., Latu, I. M., Kawakami, K., & Myers, A. C. (2010). Consider the situation: Reducing automatic stereotyping through situational attribution training. *Journal of Experimental Social Psychology, 46*(1), 221-225.
- Tetlock, P. E. (1985). Accountability: A social check on the fundamental attribution error. *Social Psychology Quarterly, 227-236*.
- Tomiya, A. J., Moskovich, A., Haltom, K. B., Ju, T., & Mann, T. (2009). Consumption after a diet violation: disinhibition or compensation?. *Psychological science, 20*(10), 1275-1281.
- Wagner, D. D., & Heatherton, T. F. (2015). Self-regulation and its failure: the seven deadly threats to self-regulation. *APA handbook of personality and social psychology, 1*, 805-842.
- Westenhoefer, J., Broeckmann, P., Münch, A. K., & Pudel, V. (1994). Cognitive control of eating behavior and the disinhibition effect. *Appetite, 23*(1), 27-41.
- Wilson, T. D. (2002). *Strangers to ourselves: Discovering the adaptive unconscious*. Cambridge, MA: Harvard University Press.

Appendix A Informed Consent

Welcome to this study! First of all, thank you for participating. This study consists of two parts. In the first part, you will be asked several questions about your dieting behavior and your thoughts and feelings. In addition, you will be asked to fill out a few questionnaires. This part will take approximately 15 minutes, and you will receive **£1.50**. If you are selected to participate in the second part of this study, you will receive an invitation for the second part five days from now. Part two consists of similar questions as the first part. This part will take approximately 5 minutes.

If you are invited for part two, please complete your participation in both parts of the study, as the data from part two is of great importance for our research. The second part will only take 5 minutes, but to encourage you to also complete the second part of the study, you will receive **£3.00** for completing this part.

You are allowed to withdraw and discontinue participation at any moment without penalty.

Participation in this study is entirely voluntary.

The data will be analyzed anonymously. In case of publication of the data, we will make sure that data cannot be recognized individually.

In case you have any questions about the study, you can contact the researchers:

Ileen Balk (i.balk@students.uu.nl) / Caithlin Petersen (c.j.g.petersen@students.uu.nl)

Pam ten Broeke (p.tenbroeke@uu.nl) or Annewieke Berlage (a.w.a.berlage@students.uu.nl).

By checking this box, you give consent for participating in the study.

[consent box] I was informed about this study. My participation in the study is entirely voluntary and I am allowed to withdraw and discontinue participation at any moment without penalty.

Appendix B Questionnaire Demographics

1. What is your age?
2. What is your gender?
male - female
3. What is the highest level of school you have completed or the highest degree you have received?
none - high/secondary school - associate degree - bachelor - master - PhD
4. Where do you live?
United States - United Kingdom – other
5. Is English your native language?
yes – no

For the current study, we are also interested in your BMI. Therefore, we want to ask you to indicate your height and your weight. First, please indicate in which unit of measurements you prefer to indicate your height and your weight.

Height:

- a. Feet and inches
- b. Centimeters

Weight:

- a. Pounds
- b. Kilograms

6. What is your height in feet and inches? **[text entry]**

For example:

If your height is 5 feet 7 inches (5' 7"), you fill out

- *Feet: 5*

- *Inches: 7*

7. What is your height in centimeters? **[text entry]**

8. What is your weight in pounds (lbs)? **[text entry]**

What is your weight in kilograms? **[text entry]**

9. Do you currently **for at least one week** restrict your food intake in any way, with the goal to manage your weight?

For example by restricting caloric intake, following a specific diet, maintaining a macronutrient balance, minimizing the consumption of unhealthy foods, restricting products or food groups, etc.

If yes, what is your goal?

- a. Yes, to lose weight.
- b. Yes, to maintain my current weight.
- c. Yes, to gain weight.
- d. No, I do not currently for at least one week restrict my food intake to manage my weight.

10. In which way do you restrict your food intake? Choose from the following options (If you have more than one goal, or if your goal is not represented within these options, please choose the option that most closely resembles your goal))

- a. Restricting my caloric intake
- b. Maintaining a specific macronutrient (carbs; protein; fat) balance (e.g. trying to limit your intake of carbs; etc.)
- c. Following a specific diet (e.g. weight watchers; atkins diet; etc.)

- d. Minimizing the consumption of unhealthy foods (e.g. certain snacks)
- e. Restricting specific products / food groups from your daily diet (e.g. candy; alcohol; bread; etc.)

11. How long are you restricting your food intake with the goal to manage your weight?

[dropdown weeks]

[dropdown months]

[dropdown years]

Appendix C Restraint Scale

With the next questionnaire we would like to measure how much you are occupied with your food intake. Please answer the questions as honestly as possible.

1. How often are you dieting?

never - rarely - sometimes - usually - always

2. Would a weight fluctuation of 5 lb. affect the way you live your life?

not at all - slightly - moderately - very much

3. Do you eat sensibly in front of others and splurge alone?

never - rarely - sometimes - usually - always

4. Do you give too much time and thought to food?

never - rarely - sometimes - usually - always

5. Do you have feelings of guilt after overeating?

never - rarely - sometimes - usually - always

6. How conscious are you of what you are eating?

not at all - slightly - moderately - extremely

7. What is the maximum amount of weight (in pounds) you have ever lost within one month?

0-4 - 5-9 - 10-14 - 15-19 - 20+

8. What is your maximum weight gain (in pounds) within a week?

0-1 - 1.1 - 2 - 2.1-3 - 3.1-5 - 5.1+

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9. In a typical week, how much does your weight (in pounds) fluctuate?

0-1 - 1.1-2 - 2.1-3 - 3.1-5 - 5.1+

10. How many pounds over your desired weight were you at your maximum weight?

0-1 - 1-5 - 6-10 - 11-20 - 21+

Appendix D Goal violation Questionnaire

You indicated that you aim to restrict your daily food intake with the goal to manage your weight. For this study, we want to ask you several questions about the times you violated this dieting goal.

1. During a typical week, on **how many days** do you eat something - a meal or a snack - that is not in line with your dieting goal?

[textbox]

2. During a typical week, **how many times in total** do you eat something - a meal or a snack - that is not in line with your dieting goal?

[textbox]

3. During a typical week, to what extent do you feel like you successfully follow your diet?

Not at all 1 2 3 4 5 6 7 *Very much*

In the past 4 days, did you eat something - a meal or a snack - that was not in line with your dieting goal? Choose from the following options:

1. Yes
2. No

[When the answer is Yes: participants continue with the questionnaire.]

Take a moment to think back to **the most recent situation** in which you ate something - a meal or a snack - that was not in line with your dieting goal. In other words, the most recent situation in which you violated your dieting goal. Try to recall this situation as detailed as possible and describe the situation by answering the following questions:

1. What was going on at the moment you ate something that was not in line with your dieting goal? What were you doing? Where were other people present? Please describe the context of the situation in at least two sentences.
2. Where were you when you ate something that was not in line with your dieting goal? Please describe the location and the environment.
3. What was the emotional context of the situation? In other words, how did you feel before you ate something that was not in line with your dieting goal? Please describe.
4. What meal or snack did you eat?
5. To what degree did eating this specific meal or snack violate your dieting goal?

very small violation 1 2 3 4 5 6 7 *very large violation*

Below, you find a calendar

[image calendar]

Please indicate today's day and date [date entry]

Now think back to the situation you just described, in which you ate something that was not in line with your dieting goal, and **on which day** this took place.

7. How many days ago did you eat something that was not in line with your dieting goal (the situation you just described)?

- i. Today
- ii. One day ago
- iii. Two days ago

- iv. Three days ago
- v. Four days ago
- vi. More than four days ago

Appendix E Attributions Questionnaire

Now, while keeping in mind the situation you just described, please try and answer the following questions about what could have caused you to eat something - a meal or a snack - that was not in line with your dieting goal. While events may have many causes, we want you to pick only one - the *major* cause for you, that is most likely to have caused you to eat something that was not in line with your dieting goal.

1. Try to really imagine the cause, how the cause had an influence on your behavior, emotions and thoughts. What caused you to eat something that was not in line with your dieting goal? Please describe in a few sentences.

.....

2. Now please try to classify the cause you just wrote down as something that has to do with yourself or something that has to do with other people or circumstances.

Entirely due to other

people or circumstances

Entirely due to me

1 2 3 4 5 6 7

3. In the future you will probably encounter other situations in which you need to choose if you will eat or refrain from eating certain foods. How likely is it that the cause you specified at question 1 will continue to affect you in such future dieting situations?

Will never again

Will always

affect you in other dieting situations

be present in other dieting situations

1 2 3 4 5 6 7

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4. Does the cause which made you eat something that was not in line with your dieting goal, only influence dieting behaviour or does it also influence other areas of your life (e.g. decisions related to your career, social, or other health goals)?

Influences

Influences only

all situations

dieting behavior

1 2 3 4 5 6 7

in my life

5. Is the cause that you specified at question 1 something that is controllable by you, or something that is not controllable by you?

Not at all controllable

Totally controllable

by me

1 2 3 4 5 6 7

by me

Appendix F Emotional Response Questionnaire

The following questions are about your feelings and thoughts right after you ate something that was not in line with your dieting goal.

Negative emotions

1. Directly after you ate something that was not in line with your dieting goal, how did you feel?

.....

2. Compared to before you violated your dieting goal, to what extent did you experience **positive** emotions after you violated your dieting goal?

Much less 1 2 3 4 5 6 7 *Much more*

3. Compared to before you violated your dieting goal, to what extent did you experience **negative** emotions after you violated your dieting goal?

Much less 1 2 3 4 5 6 7 *Much more*

4. Compared to before you violated your dieting goal, to what extent did you experience **guilt** after you violated your dieting goal?

Much less 1 2 3 4 5 6 7 *Much more*

5. Compared to before you violated your dieting goal, to what extent did you experience **regret** after you violated your dieting goal?

Much less 1 2 3 4 5 6 7 *Much more*

6. Compared to before you violated your dieting goal, to what extent did you experience **shame** after you violated your dieting goal?

Much less 1 2 3 4 5 6 7 *Much more*

7. Compared to before you violated your dieting goal, to what extent did you experience **humiliation** after you violated your dieting goal?

Much less 1 2 3 4 5 6 7 *Much more*

8. Compared to before you violated your dieting goal, to what extent did you experience **helplessness** after you violated your dieting goal?

Much less 1 2 3 4 5 6 7 *Much more*

9. Compared to before you violated your dieting goal, to what extent did you experience **hopelessness** after you violated your dieting goal?

Much less 1 2 3 4 5 6 7 *Much more*

10. Compared to before you violated your dieting goal, to what extent did you experience **hope** after you violated your dieting goal?

Much less 1 2 3 4 5 6 7 *Much more*

Motivation

11. Compared to before you violated your dieting goal, how motivated did you feel to restrict your food intake after you violated your dieting goal?

Much less 1 2 3 4 5 6 7 *Much more*

12. Compared to before you violated your dieting goal, to what extent did you intend to restrict your food intake after you violated your dieting goal?

Much less 1 2 3 4 5 6 7 *Much more*

Self-efficacy

13. Compared to before you violated your dieting goal, how much in control did you feel over restricting your food intake after you violated your dieting goal?

Much less 1 2 3 4 5 6 7 *Much more*

14. Compared to before you violated your dieting goal, how confident did you feel about your abilities to restrict your food intake after you violated your dieting goal?

Much less 1 2 3 4 5 6 7 *Much more*

Perceived usefulness

15. Compared to before you violated your dieting goal, to what extent did you feel that it was worthwhile to continue restricting your food intake for the rest of the day after you violated your dieting goal?

Much less 1 2 3 4 5 6 7 *Much more*

16. Compared to before you violated your dieting goal, to what extent did you feel that it was worthwhile to restrict your food intake from that moment on after you violated your dieting goal?

Much less 1 2 3 4 5 6 7 *Much more*

Appendix G Debriefing Phase 1

This is the end of the first part of the study.

Thank you for your participation! Based on your responses, you are selected to participate in the second part of this study. You will receive an invitation for the second part of this study in 5 days. **You will then have 2 days to fill out the second questionnaire.** After two days, the questionnaire is no longer available. Again, we want to stress the importance of participating in both parts of the study. Therefore, although the second part will only take 5 minutes, you will receive **€3** for completing it. We encourage you to anticipate and write down a reminder for yourself for participating in this second part 5 days from now.

In case you have any questions about the study, please contact the researcher,

Ileen Balk (i.balk@students.uu.nl) /

Pam ten Broeke (p.tenbroeke@uu.nl) or Annewieke Berlage (a.w.a.berlage@uu.nl). If you have any comments about the study, please enter them below. Thank you for participating in this study.

Kind regards,

Ileen Balk and Caithlin Petersen

Pam ten Broeke and Annewieke Berlage

[TEXTBOX]

**WHEN PARTICIPANT DOES NOT MEET INCLUSION CRITERIA OF
RESTRICTING FOOD INTAKE (DEMO9) OPTION A OR B**

Thank you for participating in our study. Unfortunately, based on the previous questions, you did not meet our inclusion criteria for the current study. Therefore, you can not participate in the rest of this study.

As we were not able to notify you about the inclusion criteria prior to the start of this study, you will receive the reward of £1.50 as if you completed this study. However, you will not be invited to participate in the second part of this study.

In case you have any questions about the study, please contact the researcher,

Ileen Balk (i.balk@students.uu.nl) /

Pam ten Broeke (p.tenbroeke@uu.nl) or Annewieke Berlage (a.w.a.berlage@students.uu.nl).

If you have any comments about the study, please enter them below. Thank you for participating in this study.

Kind regards,

Ileen Balk and Caithlin Petersen

Pam ten Broeke and Annewieke Berlage

[TEXTBOX]

Appendix H Questionnaire Phase 2

Welcome to the second part of the study! This part will take approximately 5 minutes and you will receive £3 for completing it. In the first part of this study, you indicated that you restrict your food intake with the goal to manage your weight. In this questionnaire, you will be asked questions about your dieting behavior **related to this specific goal** for the past four days.

In order to help you to recall your dieting behavior for the past four days, we provide you with the image of a calendar

[image calendar]

Please indicate today's day and date, and make sure you find it on the calendar.

Day 1

[image calendar]

Please indicate **yesterday's** day and date ...

Take a moment to think back to **yesterday**. What did you do during this day? Were there other people with you during this day?

While remembering this day please answer the following questions:

1. On this day did you eat something that was not in line with your dieting goal?

a. Yes

b. No

2. How many times during this day did you eat something that was not in line with your dieting goal?

0 - 20+ [DROP DOWN]

3. To what extent do you feel like you successfully followed your diet during this day?

Not at all 1 2 3 4 5 6 7 *Very much*

4. To what extent do you feel like you were able to correctly recall your dieting behavior during this day in order to answer the above questions?

Not at all 1 2 3 4 5 6 7 *Very much*

Day 2

[image calendar]

Please indicate the day and date **of two days ago** ...

Take a moment to think back to **two days ago**. What did you do during this day? Were there other people with you during this day?

While remembering this day please answer the following questions:

1. On this day did you eat something that was not in line with your dieting goal?

c. Yes

d. No

2. How many times during this day did you eat something that was not in line with your dieting goal?

0 - 20+ [DROP DOWN]

3. To what extent do you feel like you successfully followed your diet during this day?

Not at all 1 2 3 4 5 6 7 *Very much*

4. To what extent do you feel like you were able to correctly recall your dieting behavior during this day in order to answer the above questions?

Not at all 1 2 3 4 5 6 7 *Very much*

Day 3

[image calendar]

Please indicate the day and date **of three days ago** ...

Take a moment to think back to **three days ago**. What did you do during this day? Were there other people with you during this day?

While remembering this day please answer the following questions:

1. On this day did you eat something that was not in line with your dieting goal?

e. Yes

f. No

2. How many times during this day did you eat something that was not in line with your dieting goal?

0 - 20+ [DROP DOWN]

3. To what extent do you feel like you successfully followed your diet during this day?

Not at all 1 2 3 4 5 6 7 *Very much*

4. To what extent do you feel like you were able to correctly recall your dieting behavior during this day in order to answer the above questions?

Not at all 1 2 3 4 5 6 7 *Very much*

Day 4

[image calendar]

Please indicate the day and date of four days ago ...

Take a moment to think back to **four days ago**. What did you do during this day? Were there other people with you during this day?

While remembering this day please answer the following questions:

1. On this day did you eat something that was not in line with your dieting goal?

g. Yes

h. No

2. How many times during this day did you eat something that was not in line with your dieting goal?

0 - 20+ [DROP DOWN]

3. To what extent do you feel like you successfully followed your diet during this day?

Not at all 1 2 3 4 5 6 7 Very much

4. To what extent do you feel like you were able to correctly recall your dieting behavior during this day in order to answer the above questions?

Not at all 1 2 3 4 5 6 7 Very much

Overall

To what extent do you feel like successfully followed your diet overall during these past four days?

Not at all 1 2 3 4 5 6 7 Very much

Final Question

Please indicate to what extent you agree with the following statements regarding your dieting behavior.

1. Once I eat something that is not in line with my dieting goal, I feel that I am more likely to do it again.

Strongly disagree 1 2 3 4 5 6 7 *Strongly agree*

2. When I eat something that is not in line with my dieting goal, I feel there is no point in adhering to my diet for the rest of the day, so I abandon my dieting standards for that day.

Strongly disagree 1 2 3 4 5 6 7 *Strongly agree*

Appendix I Debriefing Phase 2

This is the end of the second part of the study.

Thank you for your participation! With this study we want to investigate the influence of one instance of self-control success/failure on subsequent behavior. In other words, does one instance of self-control success/failure lead to subsequent self-control success or failure?

Also, do the perceived causes of the initial behavior influence if the initial behavior leads to success or failure?

In case you have any questions about the study, please contact the researcher,

Ileen Balk (i.balk@students.uu.nl) /

Pam ten Broeke (p.tenbroeke@uu.nl) or Annewieke Berlage (a.w.a.berlage@uu.nl). If you have any comments about the study, please enter them below. Thank you for participating in this study.

Kind regards,

Ileen Balk and Caithlin Petersen

Pam ten Broeke and Annewieke Berlage

[TEXTBOX]