

An Exploratory Examination of Predictors in the Effectiveness of  
and Motivation to Engage in Financial Monitoring

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### Abstract

In a series of two studies, it was examined what processes may contribute to and determine the effectiveness of financial monitoring (i.e. keeping a cashbook) in improving one's ability to manage. Whereas in the first study the extent of overview over one's finances mediated the relation between self-reported financial monitoring and one's ability to manage, the second study failed to replicate these results with instructed financial monitoring. Furthermore, one's level of impulse buying tendency and motivation to change spending behavior turned out to be non-significant determinants in the effectiveness of instructed financial monitoring. In addition, it was explored whether an additional task to generate general goal intentions with additional reasons would increase an individual's motivation to engage in financial monitoring. However, this expectation could not be supported. Implications are discussed.

*Keywords:* financial monitoring, motivation, ability to manage, goal intentions

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As a consequence of the current financial depression, many individuals find themselves in a situation in which they are pressed for money. Several statistics point to an increase in financial difficulties among Dutch consumers. For example, nearly one out of four Dutch households had some arrears of payment throughout 2010 (Bleeker, Westhof, & Vroonhof, 2010). Even more extreme, one out of ten Dutch households is currently dealing with problematic debts, meaning that despite maximal effort it takes at least three years to settle one's debts (van Ommeren, de Ruig, & Vroonhof, 2009). Efforts made by the Dutch government to help consumers gain control over their financial situation unfortunately appear to have minimal effects, as the number of submitted applications for debt counseling is still rising<sup>1</sup>.

Van Ommeren, de Ruig and Vroonhof (2009) put forward several sources that are likely to contribute to this growing problem of financial difficulties. Besides the importance of factors like addiction, divorce, health issues and unemployment, the authors assert that in many instances a significant contributor to the development and worsening of problematic debts is poor financial management. Indeed, various studies suggest that financial management is an important factor in determining the extent to which one is able to manage financially (Antonides, de Groot, & van Raaij, 2008; Dowling, Corney, & Hoiles, 2009; Joo & Grable, 2004; Kim, Garman, & Sorhaindo, 2003; Lea, Webley, & Walker, 1995). Accordingly, training individuals in financial management is a commonly used method in debt counseling.

Financial management generally refers to organizing one's finances in a structured manner and may manifest itself in several forms. The most obvious form of financial management is budgetary control, in which an individual assigns a certain amount of one's financial resources to a particular category of expenses for a fixed period of time and subsequently attempts to stay within the limits of this budget. Although budgetary control

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may be an important and frequently applied form of financial management (Davis & Carr, 1992; Thaler, 1999), our discussion will be limited to another common form of financial management, namely financial monitoring (i.e. keeping a cashbook), in which individuals monitor their expenses. Specifically, for each purchase the individual records the date of purchase, what the purchase consists of and the amount of money involved.

Despite research demonstrating the effectiveness of financial monitoring in improving an individual's ability to manage (e.g. Oaten & Cheng, 2007), insight in what processes may be responsible for this beneficial influence is still limited. Therefore, our first goal is to enhance the knowledge on what factors may contribute to and determine the effectiveness of financial monitoring. In addition, as preventing individuals from getting into financial problems is a major issue nowadays, our second goal is to explore opportunities to increase the likelihood that individuals will engage in financial monitoring. However, before turning to these issues, we will first discuss an overarching construct of financial monitoring, namely behavioral monitoring.

### **Behavioral monitoring**

Behavioral monitoring refers to the tracking of a specific target behavior. By doing so, the individual is assumed to receive feedback about the progress in approaching one's goal and subsequently acts upon this feedback (Carver & Scheier, 1990; Kanfer, 1977). Specifically, monitoring one's target behavior allows an individual to compare one's current state to the goal state. If the individual observes a discrepancy, one is assumed to increase efforts in order to decrease this discrepancy and approach the goal being set more quickly. This feedback loop is presumed to recur until the goal has been reached. Therefore, behavioral monitoring is considered to be a useful and essential tool in goal achievement (Baumeister, 2002).

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Not only may behavioral monitoring occur spontaneously, outside one's awareness (Carver & Scheier, 1990), it is also frequently applied in interventions in which individuals are explicitly instructed to monitor a specific behavior that is the focus of treatment, which generally results in a decrease in frequency of undesirable behaviors, while increasing the frequency of desired behavior. Indeed, the effectiveness of instructed behavioral monitoring in obtaining behavioral change has been widely demonstrated, ranging from the treatment of panic and anxiety disorders (Craske & Tsao, 1999), disruptive classroom behavior (Brodén, Hall, & Mitts, 1971; Freeman & Dexter-Mazza, 2004), and substance (ab)use (Hay, Hay, & Angle, 1977; McFall, 1970; Rozensky, 1974), to weight control (Boutelle, Kirschenbaum, Baker, & Mitchell, 1999; Romanczyk, 1974; Spurduto, Thompson, & O'Brien, 1986), school drop-out (Gottman & McFall, 1972) and improvements in health (Johnson, Tayler, Sackett, Dunnett, & Shimizu, 1978; Laughlin, Fisher, & Sherrard, 1978), to mention just a few.

In a similar vein, Oaten and Cheng (2007) have shown that monitoring one's spending behavior (i.e. financial monitoring) resulted in a significant decrease in spending, leading to a more healthy financial situation. Interestingly, financial monitoring was effective regardless of whether individuals had set goals. So although progress feedback may partially explain the effectiveness of financial monitoring, some additional explanation may be needed to fully account for these results.

### **Overview over finances**

In an explanation offered by Nelson and Hayes (1981), it is argued that by monitoring one's behavior, individuals will notice consequences of performing the target behavior, as well as consequences of the monitoring process itself. For example, by monitoring one's smoking behavior, the individual not only may signal consequences of smoking cigarettes such as social disapproval or illness, but may also notice being more able to recall

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occurrences of smoking cigarettes. The individual is assumed to react to these consequences, thereby altering the likelihood of future incidence of the target behavior.

With respect to financial monitoring, it is proposed that as individuals monitor their spending, they will become more aware of their purchases and are less likely to overlook them, resulting in a more clear overview over one's financial situation. Gaining overview subsequently may serve individuals in making more financial responsible decisions, which in turn may result in a decrease in spending, eventually leading to a higher level of financial well-being. In line with this reasoning, a lack of overview is considered to be one of the main causes in the development of problematic finances (van Ommeren, de Ruig, & Vroonhof, 2009). Therefore, the process assumed to contribute to an improved ability to manage is the development of a more well-organized overview over one's finances. The first hypothesis thus runs as follows: *Financial monitoring contributes to a more clear overview over one's finances, which in turn results in an improved ability to manage.*

### **Potential determinants in the effectiveness of financial monitoring**

Although financial monitoring may improve one's ability to manage, it is doubtful whether all individuals are equally likely to benefit from monitoring their spending. What may characterize individuals who are unlikely to profit from financial monitoring? Potentially interesting factors can be found in individual differences in personality and motivation. In particular, it is argued that individuals high in impulse buying tendency may be unable, whereas individuals low in motivation to change one's spending behavior may be unwilling to monitor their spending, leading to ineffectiveness. Next, both will be discussed in more detail.

**Impulse buying tendency.** Impulse buying is generally considered to be the consequence of a sudden, powerful arising urge to buy something instantly, precluding any deliberate thought about alternative responses or future consequences of one's behavior (Rook, 1987). Individuals vary in the extent to which they are susceptible to experience the

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urge to buy and to act on this urge (Beatty & Ferrell, 1998; Rick, Cryder, & Loewenstein, 2008; Rook & Fisher, 1995; Weun, Jones, & Beatty, 1998). Individuals with a strong tendency to buy on impulse are more likely to purchase things they cannot really afford given their current financial situation (Rook, 1987), resulting in an inferior ability to manage. Unfortunately, even if these individuals notice consequences of financial monitoring, impulses are often hard to resist, making it unlikely that these individuals will be able to react to these consequences with decreased spending. Therefore, it is unlikely that financial monitoring will be effective in improving these individuals' ability to manage. The second hypothesis thus runs as follows: *The effectiveness of financial monitoring will be more pronounced for individuals low in impulse buying tendency resulting in a stronger increase in the ability to manage.*

**Motivation to change spending behavior.** Several studies further suggest that the motivation to change the target behavior is an important parameter in determining whether behavioral monitoring is effective in obtaining desirable results (Komaki & Dore-Boyce, 1978). For example, Lipinski, Black, Nelson and Ciminero (1975, study 3) compared the effectiveness of instructed behavioral monitoring in two groups, those who were motivated to quit smoking and those who were not motivated to quit smoking. These researchers found that monitoring one's smoking behavior reduced smoking only in those individuals who were motivated to quit smoking. Likewise, it is proposed that individuals who are motivated to change their spending behavior are more willing, and therefore more likely to benefit from monitoring their expenses. Our third hypothesis thus runs as follows: *The effectiveness of financial monitoring will be more pronounced for individuals who are highly motivated to change their spending resulting in a stronger increase in the ability to manage.*

To sum up, the relationship between financial monitoring and the ability to manage is thought to be mediated by the extent to which an individual has overview over one's finances.

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Its effectiveness is however expected to be conditional, depending on the tendency to buy on impulse and the level of motivation to change one's spending behavior.

### **Motivation to engage in financial monitoring**

Given the potency of financial monitoring to improve one's financial situation, heightening the likelihood that individuals will engage in financial monitoring may be valuable to the prevention of financial difficulties among individuals. One way to realize this is by increasing an individual's motivation to engage in financial monitoring. As financial monitoring is not likely to be intrinsically rewarding for individuals who do not already engage in this behavior, our focus lies on increasing one's extrinsic motivation (i.e. doing something because it leads to a favorable outcome; for a detailed discussion of intrinsic versus extrinsic motivation, see Ryan & Deci, 2000). How can we achieve this?

**General goal intentions with additional reasons.** One possibility proposed by Freitas, Gollwitzer and Trope (2004) is by adding reasons to an implementation intention. Whereas general goal intentions tend to be described in terms like 'I want to achieve goal X', implementation intentions are generally structured in terms like 'When situation Y arises, then I will perform goal-directed behavior Z' (Gollwitzer, 1999). By creating a strong link between a situation and goal-directed behavior, implementation intentions shield goal attainment by making interference and distraction less likely (for an overview of effective goal pursuit using implementation intentions, see Gollwitzer & Sheeran, 2006). Since implementation intentions as such do not affect an individual's motivation to perform the goal-directed behavior (Webb & Sheeran, 2008), Freitas and colleagues (2004) argue that by adding reasons to implementation intentions, the motive for performing the goal-directed behavior is emphasized, which may lead to increased motivation to engage in the goal-directed behavior.

In order to investigate this, Wieber, Gollwitzer, Gawrilow, Odenhals and Oettingen (2009) conducted a study on weight reduction in which participants either generated a general



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goal intention (e.g. ‘I want to lose weight’) or implementation intentions (e.g. ‘When I am at the supermarket, I will buy healthy products’). In addition, some participants added three reasons to their generated intentions, whereas other participants did not. The results of this study show that while regular implementation intentions (without the added reasons) and general goal intentions with additional reasons were equally effective in obtaining weight reduction, implementation intentions with additional reasons and general goal intentions (without the added reasons) were both ineffective. The authors explain their results by arguing that adding reasons to implementation intentions may motivate individuals, but eventually makes goal attainment ineffective by distracting the individual from the intentions. Specifically, by adding reasons to the implementation intention, the individual may not only activate the goal-directed behavior when encountering the relevant situation, but also their stated reason, possibly still distracting the individual from performing the goal-directed behavior, leading to ineffectiveness.

On the other hand, adding reasons to general goal intentions turned out to be equally effective in goal achievement as regular implementation intentions. However, as the authors merely measured the effectiveness of generating intentions (with or without additional reasons), it is unclear whether the additional reasons also increased one’s motivation to engage in the goal-directed behavior. Nevertheless, research on self-persuasion, which demonstrates that thinking about reasons for a particular position may persuade oneself into this position (e.g. Eagly & Chaiken, 1993; Wilson, 1990), suggests that by generating reasons for wanting to reach the stated goal, one may convince oneself of the importance of the goal, eventually increasing one’s motivation to engage in the goal-directed behavior. In a similar vein, one may expect an increase in motivation to engage in financial monitoring as a result of generating additional reasons. This leads to the last hypothesis: *Generating general goal*

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*intentions with additional reasons significantly increases one's motivation to engage in financial monitoring compared to generating no intentions.*

### **Study 1**

In this first study, our first hypothesis, which states that the improvement in overview over one's finances mediates the relationship between financial monitoring and the ability to manage, is tested. Moreover, it is examined whether financial monitoring directly predicts the extent to which an individual is able to manage.

Furthermore, in addition to examining whether one's level of impulse buying tendency is directly related to the extent of overview and one's ability to manage, several other personality characteristics are included for exploratory purposes. Specifically, it is investigated whether one's need for cognition (i.e. the extent to which a person engages in and finds it pleasant to engage in effortful thinking; Cacioppo & Petty, 1982), one's consideration of future consequences (i.e. the extent to which a person focuses on short-term versus long-term consequences of one's behavior; Strathman, Gleicher, Boninger, & Edwards, 1994) and one's desirability of control (i.e. the extent to which an individual prefers to have control over a situation; Burger & Cooper, 1979) also may directly predict the extent of overview and one's ability to manage.

In order to investigate this, participants completed a questionnaire which consisted of several sub-questionnaires. Each sub-questionnaire aims to measure one component (financial monitoring, overview over finances, ability to manage, impulse buying tendency, need for cognition, consideration of future consequences or desire for control), from which the average score was calculated, which served as either a predictor or criterion.

### **Method**

**Participants.** 118 participants, mainly undergraduates of the University of Twente and Radboud University Nijmegen, joined this study. Due to incomplete responses, data of only

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99 respondents (28 men, 71 women; age:  $M = 25.46$ ,  $SD = 8.99$ ; 81 Dutch, 18 German) were usable. For fully completing the questionnaire, participants were rewarded with a chance on winning a voucher at the value of 25 Euros.

**Procedure.** Participants anonymously completed the questionnaire online. Out of self-disclosure concerns, the ‘Financial monitoring’, ‘Overview over finances’ and ‘Ability to manage’ sub-questionnaires were presented first to the participants, including a reminder of anonymity. Next, participants completed the ‘Impulse buying tendency’, ‘Need for cognition’, ‘Consideration of future consequences’ and ‘Desire for control’ scale, concluding the questionnaire with demographics, a question for suspicion and comments concerning the questionnaire and an opportunity to leave one’s email address in order to have a chance on winning the voucher. Completing the questionnaire took about 20 minutes.

### **Measures.**

***Financial monitoring.*** In order to examine the extent to which individuals engage in financial monitoring, a partly self-developed measure was employed (one item was adopted from an existing questionnaire from Antonides, de Groot and van Raaij, 2008). Participants had to indicate their level of agreement with four items ( $\alpha = .56$ ) on a 7-point Likert-scale and included items such as ‘Once in a while I go through all my incomes and/or expenses’ and ‘I check whether all transactions are credited and debited’.

***Overview over finances.*** Five items (three self-invented, two adopted from Antonides et al., 2008;  $\alpha = .77$ ) were used to investigate the extent to which participants have a well-organized overview over one’s finances. Participants were requested to indicate the degree of (dis)agreement with statements such as ‘I have a well-organized overview over my monthly incomes and expenses’, ‘I will never get unexpectedly surprised when it comes to my finances’ and ‘I usually know how much money I have on my bank account’ on a 7-point Likert-scale.

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***Ability to manage.*** One's ability to manage was measured by items such as 'I am often running short on money by the end of the month', 'I find it hard to manage every month with the money I receive' and 'My bank account is often in the red'. This sub-questionnaire consists of five items (all self-invented;  $\alpha = .64$ ), which were presented on a 7-point Likert-scale (ranging from 1 = totally disagree to 7 = totally agree).

***Impulse buying tendency.*** In order to examine one's tendency to buy on impulse, the 'Impulse buying tendency' scale (Verplanken & Herabadi, 2001;  $\alpha = .88$ ) was administered. Participants were requested to indicate their degree of (dis)agreement on a 7-point Likert scale with twenty items such as 'If I buy something, I usually do that spontaneously' and 'I often buy things without thinking'.

***Need for cognition.*** The 18-item 'Need for cognition' scale (Cacioppo, Petty & Kao, 1984;  $\alpha = .86$ ) seeks to measure one's tendency to engage in and enjoy thinking. Statements such as 'I only think as hard as I have to' and 'I would rather do something that requires little thought than something that is sure to challenge my thinking abilities' were accompanied by a 7-point Likert scale (ranging from 1 = totally disagree to 7 = totally agree).

***Consideration of future consequences.*** One's tendency to focus on short-term versus long-term consequences of one's behavior was measured by the 'Consideration of future consequences' scale (Strathman, Gleicher, Boninger, & Edwards, 1994;  $\alpha = .81$ ). This scale consist of 12 items such as 'I am willing to sacrifice my immediate happiness or well-being in order to achieve future outcomes' and 'I only act to satisfy immediate concerns, figuring the future will take care of itself' to which participants had to indicate their level of agreement on a 7-point Likert scale.

***Desire for control.*** Measuring one's preference for control over events, the 'Desirability of control' scale (Burger & Cooper, 1979;  $\alpha = .83$ ) consists of 20 statements to which participants had to indicate to what extent they (dis)agree with the given statements on

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a 7-point Likert scale. This scale includes items such as 'I try to avoid situations where someone else tells me what to do' and 'I enjoy making my own decisions'.

### Results and discussion

It was argued that the extent of overview would mediate the relationship between financial monitoring and the ability to manage. To test this hypothesis, a mediation analysis was conducted (according to the procedure described in Kenny, Kashy, & Bolger, 1998). First, a linear regression analysis was executed with financial monitoring as predictor and overview over finances as dependent measure, resulting in a significant positive prediction ( $\beta = 0.48$ ,  $t(97) = 5.36$ ,  $p < .001$ ,  $R^2 = .23$ ). Second, a linear regression analysis was conducted with financial monitoring and overview as predictors and one's ability to manage as dependent measure. Whereas the extent of overview significantly positively predicted one's ability to manage ( $\beta = 0.33$ ,  $t(96) = 2.99$ ,  $p = .004$ ,  $R^2 = .09$ ), financial monitoring did not significantly predict one's ability to manage ( $t(96) = -0.65$ ,  $p = .522$ ). These results thus support our prediction, indicating that the relationship between financial monitoring and the ability to manage may be mediated by the overview one has over his finances.

Next, each personality characteristic was used as predictor for the extent of overview and one's ability to manage. The results of the first linear regression analysis show a significant negative prediction of one's tendency to buy on impulse on the extent of overview ( $\beta = -0.29$ ,  $t(97) = -3.02$ ,  $p = .003$ ,  $R^2 = .09$ ), as well as one's ability to manage ( $\beta = -0.34$ ,  $t(97) = -3.53$ ,  $p = .001$ ,  $R^2 = .11$ ), suggesting that individuals with a high impulse buying tendency may be less able to profit from financial monitoring, as was predicted. Another linear regression analysis with one's need for cognition as predictor resulted in a marginal significant positive prediction for the extent of overview ( $\beta = 0.19$ ,  $t(97) = 1.94$ ,  $p = .055$ ,  $R^2 = .04$ ), while being non-significant for the ability to manage ( $t(97) = 1.15$ ,  $p = .254$ ). Finally, a linear regression analysis with one's consideration of future consequences as predictor

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significantly positively predicted one's extent of overview ( $\beta = 0.20$ ,  $t(97) = 2.05$ ,  $p = .043$ ,  $R^2 = .04$ ), but not one's ability to manage ( $t(97) = 0.36$ ,  $p = .717$ ), while another linear regression analysis with one's desire for control as predictor also significantly positively predicted one's extent of overview ( $\beta = 0.20$ ,  $t(97) = 2.00$ ,  $p = .048$ ,  $R^2 = .04$ ), but not one's ability to manage ( $t(97) = -0.29$ ,  $p = .774$ ).

As all personality characteristics as well as financial monitoring significantly predicted one's extent of overview, a final linear regression analysis was conducted to examine which of these constructs may be most significant in predicting one's overview over finances. Financial monitoring, impulse buying tendency, need for cognition, consideration of future consequences and desire for control were used as predictors for the extent of overview, resulting in an overall significant prediction ( $F(5, 93) = 8.33$ ,  $p < .001$ ,  $\eta^2 = .31$ ). Whereas financial monitoring significantly positively predicted one's extent of overview ( $\beta = 0.44$ ,  $t(93) = 4.94$ ,  $p < .001$ ), one's level of impulse buying tendency significantly negatively predicted one's overview over finances ( $\beta = -0.20$ ,  $t(97) = -2.09$ ,  $p = .039$ ). On the other hand, while one's need for cognition, consideration of future consequences and desire for control were significant predictors of one's extent of overview when employed separately, these now turn out to be non-significant when included in the prediction with financial monitoring and impulse buying tendency (respectively  $t(93) = 0.05$ ,  $p = .961$ ,  $t(93) = 0.38$ ,  $p = .708$  and  $t(93) = 1.68$ ,  $p = .097$ ). Thus, these personality characteristics do not add predictive power over and above financial monitoring and impulse buying tendency in predicting one's extent of overview.

In all, the results give support to our first hypothesis which states that one's extent of overview mediates the relationship between financial monitoring and one's ability to manage. Although interesting, the present findings are only correlational in nature. To resolve this issue, our next study includes an instruction of financial monitoring, making it more feasible

to demonstrate a causal relationship. Further, contrary to what was expected, no significant direct relation was found between financial monitoring and the ability to manage. Our second study investigates whether there may be factors, such as one's impulse buying tendency, which determine whether financial monitoring is effective in increasing one's ability to manage.

### **Study 2**

The results of study 1 imply that the level of impulse buying tendency may be an important factor in determining the effectiveness of financial monitoring. Moreover, several studies suggest that the effectiveness of behavioral monitoring may depend on the level of motivation to change the target behavior (Komaki & Dore-Boyce, 1978; Lipinski, Black, Nelson, & Ciminero, 1975). Therefore, in this second study, it is examined whether the level of impulse buying tendency and motivation to change one's spending behavior are decisive in the effectiveness of financial monitoring. In addition, this study seeks to explore the effectiveness of general goal intentions with additional reasons in increasing one's motivation to engage in financial monitoring and whether one's level of motivation directly predicts the frequency by which the individual engages in financial monitoring. Finally, it is examined whether the extent of overview also mediates the relationship between instructed financial monitoring and the ability to manage.

In order to investigate this, participants were randomly assigned to one out of four conditions. All participants completed a pre- and post-measure which consisted of several sub-questionnaires. In addition, the three experimental conditions received an instruction to monitor their spending for fifteen days. Moreover, depending on the answers given on the 'Impulse buying tendency' scale and the 'Motivation to change spending' scale, participants were considered either high or low in impulse buying tendency and either high or low in

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motivation to change one's spending behavior. The change in one's ability to manage served as dependent measure.

Participants in two out of three experimental conditions further received an additional task in which they had to generate intentions. In one condition participants generated general goal intentions with additional reasons (GGIWAR), whereas in the other condition participants generated regular implementation intentions (II). Here, the motivation to engage in financial monitoring served as dependent measure. Since implementation intentions as such do not affect an individual's motivation to perform the goal-directed behavior (Webb & Sheeran, 2008), this condition creates an opportunity to check whether the additional assignment may in itself affect one's motivation. Furthermore, one's motivation to engage in financial monitoring served as predictor for the extent to which one actually engaged in financial monitoring.

### **Method**

**Participants.** Initially, 107 participants, mainly students of various universities and colleges throughout the Netherlands, joined the research. However, 51 participants dropped out during this study, of whom two explicitly refused further participation, mainly for privacy reasons<sup>2</sup>. Consequently, 56 respondents (18 men, 38 women; age:  $M = 26.07$ ,  $SD = 9.27$ ; 49 Dutch, 7 German) fully completed the research, resulting in the following division of conditions: no financial monitoring – 22, financial monitoring – 13, financial monitoring with II – 10 and financial monitoring with GGIWAR – 11. In return for participating, participants were given a choice between one fifth lottery ticket for the January's State Lottery draw worth 3 Euros or having a chance on winning a voucher worth 50 Euros.

**Procedure.** Participants were directed to a website which immediately assigned them randomly to one of four questionnaires, each containing different instructions in accordance with the different conditions.



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The pre-measure started with the participant's demographics, followed by the 'Ability to manage' scale, the 'Overview over finances' scale, the 'Impulse buying tendency' scale and the 'Motivation to change spending' scale. After completing these sub-questionnaires, participants in the control condition left their email address, were thanked for participating and were informed that they would be contacted after approximately fifteen days to complete a second questionnaire. Participants in the experimental conditions were then instructed to monitor their spending for the next fifteen days, in which they needed to list the (kind of) purchases, the date of their occurrence and the amount of money involved. After this request, all entered their email address, as they would be contacted right after completing this first questionnaire with the instructions of keeping an online cashbook.

Subsequently, participants in the financial monitoring condition were thanked for participating, while the remaining two conditions performed an additional task. Participants in the GGIWAR condition formulated a goal one would like to achieve by keeping a cashbook (e.g. 'More savings in order to create a buffer') and two to three reasons for wanting to achieve this goal (e.g. 'Gives me a feeling of peace', 'Being more able to make large purchases'), whereas participants in the II condition formulated two to three implementation intentions relevant to keeping a cashbook (e.g. 'When I check my e-mail, then I will bring my cashbook up to date'). For both groups, an explanation and some examples of unrelated situations preceded their assignment.

After fifteen days, all participants completed the second questionnaire, which consists of the 'Overview over finances' scale, the 'Ability to manage' scale and the 'Motivation to change spending' scale. Participants in the experimental conditions further had to indicate their level of motivation to keep the online cashbook and how many times they have kept their online cashbook<sup>3</sup> (both presented on a 7-point scale, ranging from 1 = not at all to 7 = very much). The final part of the questionnaire contained an inquiry for suspicion and

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comments, after which participants could leave their email address in order to receive a reward. After the research had ended, all participants were shortly debriefed about the actual purpose of the study.

**Measures.** In addition to the ‘Overview over finances’ scale ( $\alpha = .82$ ), the ‘Ability to manage’ scale ( $\alpha = .83$ ) and the ‘Impulse buying tendency’ scale (Verplanken & Herabadi, 2001;  $\alpha = .93$ ), which were directly adopted from study 1, one new sub-questionnaire was introduced in this study.

***Motivation to change spending.*** In order to measure the participant’s motivation to change one’s spending behavior, a self-invented two-item scale ( $\alpha = .69$ ) was administered, consisting of the items ‘In general, I would like to lower my spending’ and ‘It would be wise for me to watch the pennies’. Participants had to indicate their degree of agreement on a 7-point Likert-scale.

### **Results and discussion**

It was hypothesized that the level of impulse buying tendency and an individual’s motivation to change one’s spending behavior would determine the effectiveness of financial monitoring. First, a univariate analysis of variance was conducted with financial monitoring (yes/no) and impulse buying tendency (high/low) as independent variables and the change in ability to manage as dependent measure. Both main effects as well as the interaction effect were non-significant (respectively, financial monitoring:  $F(1, 50) = 2.80, p = .100$ ; impulse buying tendency:  $F(1, 50) = 1.32, p = .255$ ; financial monitoring x impulse buying tendency:  $F(1, 50) = 0.46, p = .500$ ). Next, another univariate analysis of variance was conducted with financial monitoring (yes/no) and motivation to change spending (high/low) as independent variables and the change in ability to manage as dependent measure. Again, both the main effects and the interaction turned out to be non-significant (respectively, financial monitoring:  $F(1, 50) = 2.04, p = .160$ ; motivation to change spending:  $F(1, 50) = 0.06, p = .806$ ; financial

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monitoring x motivation to change spending:  $F(1, 50) = 0.20, p = .656$ ). These results thus fail to support both predictions, suggesting that neither impulse buying tendency, nor one's motivation to change spending behavior defines whether financial monitoring contributes to an improved ability to manage.

In addition, it was explored whether generating general goal intentions with additional reasons would heighten one's motivation to engage in financial monitoring. In order to examine this, a univariate analysis of variance was conducted in which instruction (financial monitoring/financial monitoring and GGIWAR/financial monitoring and II) served as independent variable for the level of motivation to engage in financial monitoring, resulting in a marginal significant effect ( $F(2, 29) = 3.18, p = .056, \eta^2 = .18$ ). Subsequently, a contrast analysis was executed to discover which comparison might be significant. The results show that one's motivation to engage in financial monitoring did not significantly differ between GGIWAR and no additional intentions ( $F(1, 20) = 1.49, p = .237$ ) as well as between GGIWAR and II ( $F(1, 18) = 1.28, p = .272$ ). On the other hand, generating implementation intentions significantly lowered the participant's motivation to monitor their spending ( $M = 3.30, SD = 1.95$ ), compared to individuals who were not requested to generate any additional intentions ( $M = 5.08, SD = 0.90; F(1, 20) = 8.07, p = .010, \eta^2 = .29$ ). However, due to substantial and disproportional drop-out during this study, particularly these results may have been distorted. A linear regression analysis further reveals a significant positive prediction of one's motivation to engage in financial monitoring on the frequency of monitoring ( $\beta = 0.63, t(30) = 5.45, p < .001, R^2 = .50$ ).

Finally, it was tested whether the main results of our first study could be replicated with instructed financial monitoring. A univariate analysis with financial monitoring (yes/no) as independent variable neither showed a significant effect on the change in overview ( $F(1, 52) = 0.02, p = .889$ ), nor on the change in ability to manage ( $F(1, 52) = 2.10, p = .152$ ). Also,

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a linear regression analysis revealed no significant prediction of the change in overview on the change in ability to manage ( $t(52) = 0.48, p = .631$ ).

### **General discussion**

In a series of two studies, it was examined what processes may contribute to and determine the effectiveness of financial monitoring in increasing one's ability to manage. In addition, it was explored whether it is possible to increase an individual's motivation to engage in financial monitoring.

In study 1, our first hypothesis was supported, which states that the extent of overview over one's finances mediates the relation between financial monitoring and the ability to manage. In addition, one's level of impulse buying tendency negatively predicted the extent of overview and one's ability to manage, suggesting that this personality characteristic may be an important determinant in the effectiveness of financial monitoring.

Our second study examined whether the level of impulse buying tendency (hypothesis 2) and an individual's motivation to change one's spending behavior (hypothesis 3) determine whether instructed financial monitoring contributes to an improved ability to manage. However, no support was found for both predictions. Also, one's overview over finances did not mediate the relation between instructed financial monitoring and the ability to manage (hypothesis 1). Finally, contrary to what was expected, an additional task to generate general goal intentions with additional reasons was ineffective in increasing one's motivation to engage in financial monitoring (hypothesis 4). Nevertheless, the results of our second study did show a significant positive prediction of one's motivation to engage in financial monitoring on the frequency of monitoring.

Next, theoretical and practical implications of each finding will be discussed.

### **Overview over finances**

Whereas our first study supported our first hypothesis, our second study failed to replicate these results with instructed financial monitoring, indicating that the extent of overview does not mediate the relationship between financial monitoring and the ability to manage.

An alternative process which may account for the improvement in the ability to manage may be the increase in awareness of one's purchases. Nowadays, more and more people pay with their credit or bank card, while the option to pay in cash is considered less and less (Centraal Bureau voor de Statistiek, 2009). This digitizing of money leads to higher spending compared to cash payments in identical situations (e.g. Feinberg, 1986; Hirschman, 1979; Prelec & Simester, 1998; Roberts & Jones, 2001), which may be explained by lowered awareness of one's expenses. Indeed, individuals are usually better able to remember the amount of money involved in cash payments compared to payments by card (Soman, 2001). Monitoring one's spending may restore this awareness, resulting in more deliberate purchasing, which in turn may lead to a decrease in spending and an increased ability to manage. Although these are just speculations, they might be interesting avenues for future research.

### **Financial monitoring**

Even though not explicitly hypothesized, based on the large body of research on behavioral monitoring demonstrating an increase in desirable behavior, while decreasing undesirable behavior as a result of instructed behavioral monitoring (for an overview, see Korotitsch & Nelson-Gray, 1999) and the research of Oaten and Cheng (2007) on financial monitoring in particular, it was expected that financial monitoring would lead to an improved ability to manage. However, both of our studies revealed no direct significant relation between financial monitoring and (the improvement in) one's ability to manage.

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In both studies, a self-reported measure of one's ability to manage was employed. As this measure is a subjective representation of one's actual ability to manage, it is possible that individuals simply were unable to detect any changes in one's ability to manage. However, as individuals merely had to indicate their current level of ability to manage (the change was calculated afterwards), it is unlikely that this would have affected our results. Still, a more well-designed measure would involve one's actual income and spending in determining whether the individual experiences an improved ability to manage.

To some extent, the discrepancy in findings may also be explained by procedural differences with other research on behavioral monitoring. First, whereas in most research on behavioral monitoring participants had to monitor a specific behavior for at least one month, in our study individuals only had to monitor their spending for fifteen days. Another difference lies in the strength of the behavioral monitoring manipulation. As previous research was often applied in the light of some treatment, most studies on the effectiveness of behavioral monitoring involved intensive coaching. Participants in our study merely received a detailed instruction of how to keep the online cashbook. Moreover, whereas participants in Oaten and Cheng's study (2007) had to monitor their income and savings in addition to their spending, our participants only had to monitor their spending. Our results do approach significance in the expected direction (i.e. individuals who engaged in financial monitoring had a greater improvement in their ability to manage, compared to individuals who did not engage in financial monitoring), suggesting that financial monitoring might significantly improve one's ability to manage when meeting one or more of these requirements (length of monitoring period, intensive coaching and more extensive monitoring). However, besides these procedural conditions, there may also be individual differences which determine whether financial monitoring is effective.

**Impulse buying tendency and motivation to change spending.** It was hypothesized that especially those individuals low in impulse buying tendency (hypothesis 2) and high in motivation to change one's spending behavior (hypothesis 3) would profit from financial monitoring in improving one's ability to manage. In our first study impulse buying tendency was negatively related to one's ability to manage, indicating that individuals high on impulse buying tendency indeed may be less able to profit from financial monitoring. However, our second study failed to support both hypotheses, suggesting that neither one's tendency to buy on impulse, nor the motivation to change spending behavior determines whether financial monitoring is effective in contributing to an improvement in the ability to manage.

Although these results do not conflict with any consisting research on impulse buying tendency, they do contradict previous research which has shown that individuals who were highly motivated to change the target behavior were more likely to benefit from behavioral monitoring (Komaki & Dore-Boyce, 1978; Lipinski, Black, Nelson, & Ciminero, 1975). However, in one of these two studies (Lipinski et al., 1975), participants were classified as either high or low in motivation to change by making use of different recruitment methods ('participants who want to quit smoking' versus 'participants who smoke'). Because the authors failed to measure one's actual motivation, it is unclear whether their motivation did indeed differ between these two conditions. In the other study (Komaki & Dore-Boyce, 1978), the authors did measure one's motivation to change, however, due to a small sample size (four participants in both groups), the reliability of their results might be called into question.

On the other hand, some limitations of our study may also account for the discrepancy in results. Even though our sample size was considerably larger than in the study of Komaki and Dore-Boyce (1978), it still may have been insufficient in giving support to our hypothesis in a 4x2 design. Moreover, the variance in our participant's reported motivation to change may have been too narrow in order to define the effectiveness of financial monitoring. As

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none of our participants reported any financial difficulties during this study, one's motivation to change perhaps may be an important determinant in the effectiveness of financial monitoring when also including individuals who are in financial difficulties (who are probably more strongly motivated to change their spending). Future studies may resolve whichever finding may be correct.

Thus, while financial monitoring is often encouraged in debt counseling, mainly because it is thought to lead to an improved ability to manage, the present research shows that this may not always be the case. Factors such as sustained monitoring and intensive coaching may be essential for the effectiveness of financial monitoring. Furthermore, some individuals may be more likely to benefit from monitoring than others. Although our study does not reveal what may characterize these individuals, factors that are related to motivation and ability to monitor are likely candidates in determining whether financial monitoring is effective. Future studies may demonstrate whether and if so, which conditions may be required for financial monitoring to be effective.

### **Motivation to engage in financial monitoring**

Whereas generating general goal intentions with additional reasons turned out to be ineffective in increasing one's motivation to engage in financial monitoring, generating implementation intentions significantly decreased one's motivation. Since implementation intentions as such do not affect an individual's motivation to perform the goal-directed behavior (Webb & Sheeran, 2008), these results suggest that the additional request may have lowered one's motivation.

A possible explanation for these findings may be that the active decision to comply with the multiple requests (instruction of financial monitoring and the additional request to formulate intentions) may have resulted in ego depletion. As a result, participants may have developed feelings of incompetence concerning the initial request, which in turn may have



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undermined one's extrinsic motivation. Thus, while general goal intentions with additional reasons normally may increase one's motivation to engage in financial monitoring, posing this additional request right after the initial instruction for financial monitoring might result in a net null-effect. Indeed, research has shown that actively responding to multiple requests depletes individuals (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Fennis, Janssen, & Vohs, 2009; Janssen, Fennis, Pruyn, & Vohs, 2008). In addition, Ryan and Deci (2000) state that one's perceived competence may partially determine the effectiveness of an attempt to increase one's extrinsic motivation. However, research has also demonstrated that ego depletion does not necessarily lead to lowered feelings of competence (Wallace & Baumeister, 2002). Moreover, our second study suffered from substantial and disproportionate drop-out. This may particularly affect these results on one's motivation, partly because dropping out indicates a lack of motivation, but also because the two conditions in which participants had to generate intentions suffered from to highest drop-out rate. So, the signs of lowered motivation to engage in financial monitoring as a result of generating implementation intentions may have also been found by accident.

Another explanation for the failure to find support for our fourth hypothesis may be the absence of mentioning a favorable outcome which may result from financial monitoring. As extrinsic motivation implies doing something in order to obtain a favorable outcome (Ryan & Deci, 2000), mentioning a favorable outcome may be necessary in order to increase one's extrinsic motivation. Although participants self-generated possible favorable outcomes, the effectiveness of the additional reasons in increasing one's motivation may be more pronounced when a favorable outcome is put forward (e.g. financial monitoring leads to an increased ability to manage). However, since research on self-persuasion has demonstrated that individuals are more likely to be persuaded by themselves than by the same arguments that come from another person (Eagly & Chaiken, 1993; Wilson, 1990), one may actually

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expect the opposite. Thus, whether generating reasons may or may not lead to increased motivation unfortunately is still unclear.

Nevertheless, as our results suggest that the more an individual is motivated to engage in financial monitoring, the more likely one will engage in financial monitoring, attempts to increase one's motivation may prove fruitful in heightening people's application of financial monitoring. With the rising incidence of individuals with problematic debts and the potency of financial monitoring to improve one's financial situation, this may be an interesting opportunity in promoting the goal to prevent individuals from ending up in financial problems.

### **Conclusion**

Despite the increased acknowledgement of financial difficulties among individuals, research on how to support individuals in preventing to end up in a problematic situation and insight in what processes may promote or hinder financial difficulties is still limited. In particular, while training individuals in financial monitoring is frequently applied in debt counseling, too little attention is being paid to the conditions under which financial monitoring may be effective in improving one's financial situation.

To our knowledge, this research constitutes one of the first empirical studies in exploring underlying processes and factors in the effectiveness of financial monitoring and whether it is possible to influence the likelihood that an individual will engage in financial monitoring. Although our research certainly is a valuable to the understanding of the effectiveness of financial monitoring, still much is left to discover. Indeed, one thing our research definitely makes clear is that the effectiveness of financial monitoring should not be accepted unquestioningly.

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Footnotes

<sup>1</sup> Press report available at <http://denvvk.nl/includes/loadfile.aspx?fileID=591>

(Retrieved on 04/05/2010)

<sup>2</sup> Participants in the experimental condition had to indicate whether they were unwilling to keep the cashbook out of privacy concerns. Two participants reported refusing to monitor their spending. Therefore, they were not included in our analyses.

<sup>3</sup> In order to verify the reported frequency, the researcher was informed by email each time the participant changed something in his online cashbook. The correlation between these two measures was .69.

**APPENDIX 1: MEASURE OF FINANCIAL MONITORING**

1. Eens in de zoveel tijd loop ik al mijn inkomsten en/of uitgaven door:

Helemaal Helemaal  
mee oneens mee eens

2. Ik controleer of alle transacties bij- en afgeschreven zijn:

Helemaal Helemaal  
mee oneens mee eens

3. Ik bekijk regelmatig het saldo van mijn betaalrekening:

Helemaal Helemaal  
mee oneens mee eens

4. Ik bewaar al mijn bonnetjes en andere betaalbewijzen:

Helemaal Helemaal  
mee oneens mee eens

**APPENDIX 2: MEASURE OF OVERVIEW OVER FINANCES**

1. Doorgaans weet ik hoeveel geld ik op mijn betaalrekening heb staan:

Helemaal Helemaal  
mee oneens mee eens

2. Ik ga georganiseerd met mijn dagelijkse geldzaken om:

Helemaal Helemaal  
mee oneens mee eens

3. Ik heb een goed overzicht van mijn maandelijkse inkomsten en uitgaven:

Helemaal Helemaal  
mee oneens mee eens

4. Ik bewaar mijn rekeningen en betaalbewijzen op een overzichtelijke manier:

Helemaal Helemaal  
mee oneens mee eens

5. Ik kom nooit voor onverwachte verrassingen te staan op financieel gebied:

Helemaal Helemaal  
mee oneens mee eens

**APPENDIX 3: MEASURE OF ABILITY TO MANAGE**

1. Ik kom regelmatig geld tekort aan het eind van de maand:

Helemaal  
mee oneens

Helemaal  
mee eens

2. Ik geef nooit meer geld uit dan ik bezit (reverse scored):

Helemaal  
mee oneens

Helemaal  
mee eens

3. Ik ben niet in staat om op een zodanige manier te sparen dat ik iets heb om op terug te vallen:

Helemaal  
mee oneens

Helemaal  
mee eens

Ik heb  
geen  
spaar-  
rekening

4. Mijn betaalrekening staat regelmatig in het rood:

Helemaal  
mee oneens

Helemaal  
mee eens

Ik kan  
niet  
rood  
staan

Geen  
idee

5. Ik heb moeite om iedere maand rond te komen met het geld dat ik ontvang:

Helemaal  
mee oneens

Helemaal  
mee eens

**APPENDIX 4: THE IMPULSE BUYING TENDENCY SCALE  
(IBTS; Verplanken & Herabadi, 2001)**

Items	ENGLISH	DUTCH
1.	I usually think carefully before I buy something	Normaal gesproken denk ik zorgvuldig na voor ik iets koop
2.	I usually only buy things that I intended to buy	Normaal gesproken koop ik alleen dingen waarvan ik de intentie had om ze te kopen
3.	If I buy something, I usually do that spontaneously	Als ik iets koop, doe ik dat doorgaans spontaan
4.	Most of my purchases are planned in advance	Het grootste gedeelte van mijn aankopen is van tevoren gepland
5.	I only buy things that I really need	Ik koop alleen dingen die ik echt nodig heb
6.	It is not my style to just buy things	Ik ben niet iemand die zomaar dingen koopt
7.	I like to compare different brands before I buy one	Ik vergelijk graag verschillende merken voordat ik er één koop
8.	Before I buy something I always carefully consider whether I need it	Voordat ik iets koop overweeg ik altijd eerst zorgvuldig of ik het nodig heb
9.	I am used to buying things ‘on the spot’	Ik ben gewend om dingen ter plekke te kopen
10.	I often buy things without thinking	Ik koop vaak dingen zonder erbij na te denken
11.	It is a struggle to leave nice things I see in a shop	Het kost me veel moeite om leuke dingen achter te laten die ik in de winkel zie
12.	I sometimes cannot suppress the feeling of wanting to buy something	Soms kan ik de behoefte om iets te kopen niet onderdrukken
13.	I sometimes feel guilty after having bought something	Soms voel ik me schuldig nadat ik iets heb gekocht
14.	I’m not the kind of person who ‘falls in love at first sight’ with things I see in shops	Ik ben niet iemand die “verliefd wordt op het eerste gezicht” bij dingen die ik in winkels zie
15.	I can become very excited if I see something I would like to buy	Ik kan heel enthousiast worden als ik iets zie dat ik graag zou willen kopen
16.	I always see something nice whenever I pass by shops	Ik zie altijd iets leuks wanneer ik voorbij winkels wandel
17.	I find it difficult to pass up a bargain	Ik vind het moeilijk om een aanbieding aan me voorbij te laten gaan
18.	If I see something new, I want to buy it	Als ik iets nieuws zie, wil ik het kopen
19.	I am a bit reckless in buying things	Ik ben een beetje roekeloos met dingen kopen
20.	I sometimes buy things because I like buying things, rather than because I need them	Soms koop ik dingen omdat ik het leuk vind om dingen te kopen; niet omdat ik ze nodig heb

Note: items 1, 2, 4-8, and 14 should be reverse scored. Items 1-10 constitute of the cognition subscale and items 11-20 constitute of the affective subscale

**APPENDIX 5: THE NEED FOR COGNITION SCALE  
(NFCS; Cacioppo, Petty, & Feng Kao, 1984)**

Items	ENGLISH	DUTCH
1.	I would prefer complex to simple problems	Als ik moet kiezen heb ik liever een ingewikkeld dan een simpel probleem
2.	I like to have the responsibility of handling a situation that requires a lot of thinking	Ik ben graag verantwoordelijk voor een situatie waarin veel nagedacht moet worden
3.	Thinking is not my idea of fun	Nadenken is niet mijn idee van plezier hebben
4.	I would rather do something that requires little thought than something that is sure to challenge my thinking abilities	Ik doe liever iets waarbij weinig nagedacht hoeft te worden dan iets waarbij mijn denkvermogen zeker op de proef wordt gesteld
5.	I try to anticipate and avoid situations where there is likely chance I will have to think in depth about something	Ik houd niet van situaties waarin ik diep moet nadenken
6.	I find satisfaction in deliberating hard and for long hours	Iets langdurig en precies afwegen geeft mij voldoening
7.	I only think as hard as I have to	Ik denk alleen zoveel als nodig is
8.	I prefer to think about small, daily projects to long-term ones	Ik denk liever over kleine dagelijkse dingen dan over lange termijn zaken na
9.	I like tasks that require little thought once I have learned them	Ik houd van taken waarbij weinig nagedacht hoeft te worden als ik ze eenmaal geleerd heb
10.	The idea of relying on thought to make my way to the top appeals to me	Het idee om op mijn verstand te vertrouwen vind ik aantrekkelijk
11.	I really enjoy a task that involves coming up with new solutions to problems	Ik geniet echt van een taak waarbij men met nieuwe oplossingen voor problemen moet komen
12.	Learning new ways to think doesn't excite me very much	Nieuwe manieren leren om te denken trekt me niet bijzonder aan
13.	I prefer my life to be filled with puzzles that I must solve	Ik vind het prettig als mijn leven gevuld is met puzzels die ik moet oplossen
14.	The notion of thinking abstractly is appealing to me	Het idee om abstract te denken vind ik aantrekkelijk
15.	I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought	Ik heb liever een taak die intellectueel, moeilijk en belangrijk is, dan een taak die enigszins belangrijk is, maar waarbij je niet veel hoeft na te denken
16.	I feel relief rather than satisfaction after completing a task that required a lot of mental effort	Als ik een taak heb voltooid die veel mentale inspanning heeft gevergd ben ik meer opgelucht dan voldaan
17.	It's enough for me that something gets the job done; I don't care how or why it works	Ik vind het voldoende wanneer iets blijkt te werken; hoe of waarom het precies werkt interesseert me niet
18.	I usually end up deliberating about issues even when they do not affect me personally	Gewoonlijk maak ik zelfs uitgebreid afwegingen over zaken die niet persoonlijk op mijzelf betrekking hebben

Note: items 3-5, 7-9, 12, 16 and 17 should be reverse scored

**APPENDIX 6: THE CONSIDERATION OF FUTURE CONSEQUENCES SCALE  
(CFCS; Strathman, Gleicher, Boninger, & Edwards, 1994)**

<b>Items</b>	<b>ENGLISH</b>	<b>DUTCH</b>
1.	I consider how things might be in the future, and try to influence those things with my day to day behavior	Ik denk na over hoe de toekomst eruit zal zien en probeer deze te beïnvloeden met mijn dagelijkse gedragingen
2.	Often I engage in a particular behavior in order to achieve outcomes that may not result for many years	Ik handel vaak om iets te bereiken waarvan het resultaat misschien pas over jaren zichtbaar is
3.	I only act to satisfy immediate concerns, figuring the future will take care of itself	Ik ben ingesteld op het voldoen van mijn directe behoeften, overtuigd dat de toekomst voor zichzelf zal zorgen
4.	My behavior is only influenced by the immediate (i.e., a matter of days or weeks) outcomes of my actions	Mijn gedrag wordt alleen beïnvloed door de directe (dat wil zeggen, binnen enkele dagen of weken) uitkomsten van mijn gedragingen
5.	My convenience is a big factor in the decisions I make or the actions I take	Gemak is een belangrijke factor in de beslissingen die ik neem of het gedrag dat ik uitvoer
6.	I am willing to sacrifice my immediate happiness or well-being in order to achieve future outcomes	Ik ben bereid om mijn directe geluk of welzijn op te offeren voor het behalen van toekomstige resultaten
7.	I think it is important to take warnings about negative outcomes seriously even if the negative outcome will not occur for many years	Ik vind het belangrijk om waarschuwingen over negatieve uitkomsten serieus te nemen, ook al uit deze negatieve uitkomst zich pas na jaren
8.	I think it is more important to perform a behavior with important distant consequences than a behavior with less-important immediate consequences	Ik vind het belangrijker om gedrag uit te voeren met belangrijke toekomstige gevolgen dan gedrag met minder belangrijke directe gevolgen
9.	I generally ignore warnings about possible future problems because I think the problems will be resolved before they reach crisis level	Normaal gesproken negeer ik waarschuwingen van mogelijke toekomstige problemen omdat ik denk dat de problemen opgelost zullen worden voordat ze een problematisch niveau bereiken
10.	I think that sacrificing now is usually unnecessary since future outcomes can be dealt with at a later time	Ik denk dat het opofferen van het heden gewoonlijk onnodig is, omdat toekomstige gevolgen later aangepakt kunnen worden
11.	I only act to satisfy immediate concerns, figuring that I will take care of future problems that may occur at a later date	Ik houd me alleen bezig met het vervullen van mijn directe behoeften, bedenkend dat ik toekomstige problemen later zal oplossen
12.	Since my day to day work has specific outcomes, it is more important to me than behavior that has distant outcomes	Omdat mijn dagelijks werk specifieke uitkomsten heeft, is het belangrijker voor me dan gedrag dat toekomstige uitkomsten heeft

Note: items 3-5 and 9-12 should be reverse scored



**APPENDIX 7: THE DESIRABILITY OF CONTROL SCALE  
(DCS; Burger & Cooper, 1979)**

Items	ENGLISH	DUTCH
1.	I prefer a job where I have a lot of control over what I do and when I do it.	Ik heb het liefst een baan waarbij ik zelf kan bepalen wat ik doe en wanneer ik dat doe
2.	I enjoy political participation because I want to have as much of a say in running government as possible	Ik houd ervan om deel te nemen aan politiek omdat ik zoveel mogelijk te zeggen wil hebben in het beleid van de regering
3.	I try to avoid situations where someone else tells me what to do	Ik probeer situaties te vermijden waarin iemand anders mij vertelt wat ik moet doen
4.	I would prefer to be a leader rather than a follower	Ik heb liever de leiding dan dat ik geleid wordt
5.	I enjoy being able to influence the actions of others	Ik beïnvloed graag het doen en laten van anderen
6.	I am careful to check everything on an automobile before I leave for a long trip	Ik zorg ervoor dat ik alles aan de auto gecontroleerd heb voordat ik op reis ga
7.	Others usually know what is best for me	Anderen weten meestal wat het beste voor me is
8.	I enjoy making my own decisions	Ik houd ervan mijn eigen beslissingen te nemen
9.	I enjoy having control over my own destiny	Ik beschik graag over mijn eigen lot
10.	I would rather someone else took over the leadership role when I'm involved in a group project	Bij een groepstaak heb ik liever dat een ander het leiderschap op zich neemt
11.	I consider myself to be generally more capable of handling situations than others are	Ik denk dat ik beter ben in het omgaan met moeilijke situaties dan anderen
12.	I'd rather run my own business and make my own mistakes than listen to someone else's orders	Ik zou liever mijn eigen bedrijf hebben en mijn eigen fouten maken dan andermans bevelen te moeten opvolgen
13.	I like to get a good idea of what a job is all about before I begin	Ik wil graag een goed beeld hebben van wat een baan precies inhoudt voordat ik er aan begin
14.	When I see a problem I prefer to do something about it rather than sit by and let it continue	Als ik een probleem zie, doe ik er liever iets aan, in plaats van dat ik passief toekijk en het op zijn beloop laat
15.	When it comes to orders, I would rather give them than receive them	Als het op bevelen aankomt, geef ik die liever dan dat ik ze krijg
16.	I wish I could push many of life's daily decisions off on someone else	Ik zou willen dat ik veel van mijn dagelijkse beslissingen op anderen zou kunnen afschuiven
17.	When driving, I try to avoid putting myself in a situation where I could be hurt by someone else's mistake	Als ik autorijd, probeer ik situaties te voorkomen waarin ik door andermans fout een ongeluk zou kunnen krijgen
18.	I prefer to avoid situations where someone else has to tell me what it is I should be doing	Ik vermijd liever situaties waarin iemand anders mij moet vertellen wat ik moet doen
19.	There are many situations in which I would prefer only one choice rather than having to make a decision	Er zijn veel situaties waarin ik liever geen keus zou hebben dan dat ik een beslissing moet nemen
20.	I like to wait and see if someone else is going to solve a problem so that I don't have to be bothered by it	Ik wacht liever af tot iemand anders het probleem oplost dan dat ik me er zelf druk over maak

Note: items 7, 10, 16, 19 and 20 should be reversed scored

**APPENDIX 8: MEASURE OF MOTIVATION TO CHANGE SPENDING**

1. Over het algemeen zou ik wat minder geld uit willen geven:

Helemaal Helemaal  
mee oneens mee eens

2. Het zou voor mij verstandig zijn om wat beter op de centen te letten:

Helemaal Helemaal  
mee oneens mee eens

**APPENDIX 9: EXPERIMENTAL CONDITION MEASURE**

1. Geef aan of de volgende stelling bij jou van toepassing is (wees hierbij eerlijk a.u.b.). Indien eens met deze stelling, probeer dan de rest van de vragen zo volledig mogelijk in te vullen.

Ik weigerde om het kasboek bij te houden (daarmee geef je aan bewust ervoor gekozen te hebben het niet bij te houden; dus het zijn vergeten o.i.d. hoort hier niet bij)

2. Hoe vaak heb jij je kasboek bijgehouden?

Helemaal Heel  
niet vaak

3. In hoeverre was je gemotiveerd om het kasboek bij te houden?

Helemaal Heel  
niet erg