Two sides of the same coin: The simultaneous effects of spending and saving needs on budget estimation

Min Jung Kim[1]

Abstract

This research explores how consumers plan for their personal finances, focusing on the simultaneous effects of spending and saving needs in budget-setting. The current research proposes that the number of budget categories and salient savings goals interactively influence consumers' budget estimation. In two lab studies, we showed that participants with a salient savings goal tend to experience conflicts when they have the same (vs. different) number of budget categories for spending and saving needs, thereby perceiving the increased savings goal importance, which leads to the increased money allocation to saving. Our results further suggest that a detailed financial plan may not always help consumers to pursue financial success. This research contributes to the body of work on budgeting and consumer finance. We conclude by discussing the theoretical and practical implications of our findings.

Keywords Budgeting · Budget-setting · Financial planning · Consumer finance

Introduction

Savings is one of the major components in understanding consumers' well-being (Dholakia et al. 2016; García and Vila 2020; Gjertson 2016). However, insufficient saving behavior seems prevalent in our society; for example, 21% of Americans are not saving at all and, in turn, at a greater risk of financial shocks (Dixon 2019; Brüggen et al. 2017). Accordingly, it has been of great interest to academics and practitioners to identify mechanisms that help consumer saving behavior (Netemeyer et al. 2018). One of the most recommended strategies for saving is financial planning (Guzman et al. 2019; Xiao and O'Neill 2018), and budgeting is one of the key activities in financial planning (Zhang and Sussman 2018).

Budgeting includes two sequential steps: (1) budget-setting focused on making financial plans, and (2) budget-tracking focused on following up such financial plans (Heath and Soll 1996). In other words, budget-setting provides a guideline for budget-tracking (Heath et al. 1999). This implies that budget-setting is critical to consumers' motivation to pursue financial success in the later phases (Peetz and Buehler 2009; Sussman and Alter 2012).

Given such importance of budget-setting, this research focuses on consumers' budget-setting behaviors, considering the simultaneous effects of spending and saving needs. Spending and saving needs may compete with each other for consumers' limited financial resources. Despite such interrelationships, prior research has mostly focused on budget-setting only for spending needs (e.g., Sussman and Alter 2012; Ülkümen et al. 2008) or saving needs (e.g., Peetz and Buehler 2012; Tam and Dholakia 2011). As a result, the existing knowledge cannot fully explain the interplay of spending and saving needs in consumers' budget-setting behaviors. In addition, prior literature has offered little explanation on how salient savings goals would influence budget-setting behaviors, given its positive role in encouraging saving behaviors (Ülkümen and Cheema 2011). To fill this gap, this research explores how the number of budget categories considered for spending and saving needs and salient savings goals interactively influence consumers' budget estimation. Accordingly, this research contributes to the existing literature by suggesting the importance of budget-setting guidelines in encouraging consumer financial success. Practically, this research helps policymakers and personal finance managers educate consumers to better plan for their personal finances.

✉ Min Jung Kim
mkim01@manhattan.edu

1 Department of Management and Marketing, Manhattan College, Riverdale, NY, USA

This paper is organized as follows. We first review the prior literature on budgeting and discuss how goal-setting literature helps understand budget-setting. Then, we present our hypotheses and show the experimental results that support the hypotheses. Finally, we discuss the contributions of this research and suggest future research directions.

Theoretical Background

As briefly discussed in the Introduction, budgeting (i.e., budget-setting and budget-tracking) is one strategy consumers can consider when managing their personal finances (Heath et al. 1999; Heath and Soll 1996). Despite the sequential relationship between budget-setting and budget-tracking, most past research has focused on the importance of budget-tracking for financial success. For example, past literature highlights that consumers' financial success depends on their precise budget-tracking (Cheema and Soman 2006) and their self-control exercise during the budget-tracking (Haws et al. 2012). However, consumers may not be committed to pursuing their financial success if they estimate inadequate budgets for their spending (Sussman and Alter 2012) or saving needs (Peetz and Buehler 2009; Tam and Dholakia 2011). Despite such an important role of budget-setting in encouraging financial success, little is known about consumers' budget estimation.

In this research, we suggest that the number of budget categories considered for spending and saving needs will influence consumers' budget estimation. According to the support theory, consumers are more likely to pay attention to and estimate that a given future event/outcome would happen when described in more detail (i.e., prediction bias, see Buehler et al. 2010; Tversky and Koehler 1994). By extending these findings, another stream of research shows the so-called *unpacking effects* in various domains, such that consumers tend to have a lower estimate for an overarching category than the sum of their estimates for all subcategories (Rottenstrich and Tversky 1997; Savitsky et al. 2005; Kruger and Evans 2004). For instance, when consumers estimate their spending needs, they are likely to have a higher estimate with the detailed (vs. general) spending needs (Peetz et al. 2015). In line with these findings, we predict that consumers' budget estimation will depend on the number of budget categories considered in budget-setting. More specifically,

H1: Consumers will have a higher estimate with more (vs. fewer) number of budget categories.

Furthermore, when consumers estimate budgets for spending and saving needs with their limited financial resources, they may need to make a trade-off allocation decision over two conflicting financial goals. Prior literature has

well-documented consumers' general tendency to emphasize their spending (vs. saving) needs (Coughlin and D'Ambrosio 2009). This may imply that, when spending and saving needs compete for consumers' limited financial resources, consumers may perceive their spending (vs. saving) needs as more important, thereby allocating more money to their spending needs. However, another research suggests that having salient savings goals can help consumers consider their saving needs to a greater extent (Ülkümen and Cheema 2011). As a result, consumers' budget estimation for spending and saving needs may exhibit different patterns depending on whether they have salient savings goals or not, since savings goals can shift their importance perception of spending/saving needs, thereby impacting their money allocation over two conflicting financial goals. Hence, by extending our prediction of the effects of the number of budget categories on budget estimation, we further explore the role of salient savings goals in budget-setting.

According to the goal-setting theory, when consumers experience conflicts between goals and possible obstacles, they are more likely to set goals with commitment (Gollwitzer et al. 2010; Gollwitzer and Oettingen 2011). This occurs because such conflict offers a chance for consumers to elaborate on their subjective perception of goal pursuit matched with the objective situation of goal pursuit, thereby leading them to set goals with commitment (Buehler et al. 2010). Furthermore, when conflicts arise between short- and long-term goals, consumers tend to exercise self-regulation to pursue long-term goals by actively perceiving long-term goals as more important (Fishbach and Trope 2005). Following this stream of research, we argue that saving needs may represent consumers' long-term financial goals, whereas spending needs may represent short-term financial obstacles for saving. If so, the following two questions arise: (1) under which situations will consumers experience conflicts between spending and saving needs in budget-setting?, and (2) how will such experienced conflicts influence consumers' budget estimation?

By extending prior literature on the support theory and the goal-setting theory, this research proposes that, when consumers estimate their spending and saving needs based on the same (vs. different) number of budget categories with salient savings goals, they are likely to predict a similar amount of money needed for spending and saving needs, thereby experiencing conflicts. Accordingly, the experienced conflicts between spending and saving needs will motivate consumers to perceive their saving needs as more important than before, since the saving needs are represented as long-term financial goals, whereas spending needs as short-term financial obstacles. Relevant to our theorizing, prior literature finds that, though consumers tend to exhibit prediction biases in estimation, such biases (e.g., unpacking effects) can be adjusted with their motivation. For instance, when
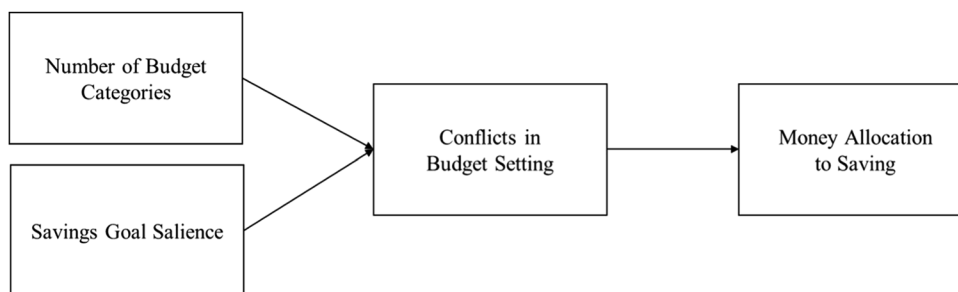
consumers are motivated to cut calories for their diet, they are likely to estimate *lower* calories with subcategories (vs. an overarching category) (Jia et al. 2020). In other words, consumers' motivation to cut calories leads them to adjust their estimation in the opposite direction of general unpacking effects. Similarly, we argue that, since consumers with salient savings goals are motivated to save, the experienced conflicts are likely to motivate consumers to allocate more money to saving by adjusting their initial budget estimation, which is based on the number of spending/saving budget categories.

Furthermore, though the increased goal importance provokes the need for self-regulation to attain goals, prior literature also points out that difficult goals can demotivate one's goal pursuit behaviors (Bagozzi and Dholakia 1999; Locke et al. 1981). In this sense, when consumers predict a higher spending estimate, they may perceive their savings goal as more difficult to attain given the limited financial resources, thereby being demotivated to pursue their savings goal. Hence, the positive effect of conflicts between spending and saving needs in budget-setting will be attenuated when the savings goal becomes more difficult to attain due to the increased spending estimates. Formally,

H2-1: Consumers with salient savings goals will allocate more money to saving when they estimate budgets based on the same (vs. different) number of budget categories for spending and saving needs.

H2-2: The proposed effect in **H2-1** will be mediated by savings goal importance.

H2-3: The proposed effect in **H2-1** will be attenuated with more (vs. fewer) spending budget categories.

Our proposed theoretical framework is presented in Fig. 1.

Experiment 1[1]

Design and procedure

Experiment 1 aimed to test our proposed effect of the number of budget categories on one's budget estimation and test whether such effects vary depending on salient savings goals. Toward this end, we recruited a total of 129 (47.3% male, 81.4% Caucasian) undergraduate students. They participated in an online study in a controlled laboratory setting for partial course credit.

This experiment was a 2 (savings goal salience: salient vs. non-salient) × 2 (the number of spending budget categories: three vs. six) × 2 (the number of saving budget categories: three vs. six) between-subjects full factorial design. To manipulate savings goal salience, we applied the goal salience manipulation to the context of the saving (Wilcox et al. 2011). Specifically, participants were randomly assigned and asked to read a paragraph either on savings (i.e., salient savings goal condition) which briefly states how people can benefit from savings for their financial security, or on the Titanic shipwreck (i.e., non-salient savings goal condition) which is an excerpt from a recent scientific article explaining that the Titanic shipwreck could have been caused by an ultra-rare alignment of the sun, the full moon, and Earth. After reading one of these paragraphs, participants completed manipulation check measures on the extent to which they agreed with the following three statements on nine-point scales (1 = *strongly disagree*, 9 = *strongly agree*): (1) this article is well-written, (2) this article is interesting, and (3) this article reminds me of savings (or the Titanic shipwreck).

Then, participants were asked to generate their own budget categories for use in the subsequent budget-setting task, either three or six for spending/saving budget categories (hereafter referred to as *BC*) depending on their assigned conditions. Next, participants were asked to allocate a fixed amount of hypothetical disposable income (e.g., $3500)

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[1] In this paper, we reported all conditions and measures and analyzed them after data collection was complete.

over their self-generated budget categories. Self-generated budget categories appeared randomly in the budget-setting task. Then, participants were asked to indicate their agreements with six items, measured on a 9-point scale, regarding their natural propensity to plan for money in the long-term (PPMLT; see Lynch et al. 2010). Finally, we collected demographic information (e.g., gender and ethnicity).

Results and discussion

Manipulation Check. To check whether or not we manipulated the savings goal salience, we conducted a repeated measures ANOVA with savings goal salience as a between-subject factor, spending BC and saving BC as within-subjects variables, demographic information as control. Results revealed that the two paragraphs were not evaluated differently on how well they were written or how interesting they were, across two savings goal conditions ($F(1,125) = 0.77$, $p = 0.381$, $\eta_p^2 = 0.006$). However, each paragraph reminded participants of either the importance of savings ($M = 7.29$, $SD = 1.63$, $t(62) = 11.13$, $p < 0.001$, Cohen's $d = 1.40$), or the Titanic shipwreck ($M = 7.21$, $SD = 2.04$, $t(65) = 8.80$, $p < 0.001$, Cohen's $d = 1.08$) successfully, as we intended. Hence, our salient savings goal manipulation was successful.

Savings Estimates (%). We first calculated the total savings estimates by summing up participants' estimates of all saving budget categories. We then calculated the savings estimates as a percentage of the total disposable income of \$3,500. We ran a three-way ANOVA on the total savings estimates (%) with savings goal salience, the number of spending BC, and the number of saving BC as factors, with one's PPMLT ($\alpha = 0.90$) and demographics as covariates. The ANOVA revealed a significant three-way interaction effect on the savings estimates (%) ($F(1, 118) = 8.45$, $p = 0.004$, $\eta_p^2 = 0.067$). No covariates were significant (all ps > 0.10).

According to our theorizing, we expected that the number of budget categories would influence the budget estimation; specifically, we predicted that participants would have a higher estimate with more (vs. fewer) number of budget categories. The ANOVA results showed that the main effect of the number of spending BC was significant; participants allocated more money to saving when they estimated less spending with three (vs. six) spending budget categories ($M_{Three\ Spending\ BC} = 59.20\%$, $SD = 18.29$ vs. $M_{Six\ Spending\ BC} = 44.75\%$, $SD = 15.26$; $F(1, 118) = 33.98$, $p < 0.001$, $\eta_p^2 = 0.224$). Also, the main effect of the number of saving BC was significant; participants allocated more money to saving when estimated with six (vs. three) saving budget categories ($M_{Three\ Saving\ BC} = 46.32\%$, $SD = 18.84$

vs. $M_{Six\ Saving\ BC} = 57.26\%$, $SD = 16.10$; $F(1, 118) = 17.82$, $p < 0.001$, $\eta_p^2 = 0.131$). These findings suggest that participants' savings estimates were higher when they estimated with fewer (more) spending (saving) budget categories. In other words, these results support our prediction of the effects of the number of budget categories on budget estimation (**H1** supported).

Next, we were interested in testing whether the effects of the number of budget categories on savings estimates may vary depending on the savings goal salience. Simple main effects analyses revealed that participants who were in the non-salient savings goal condition had the higher savings estimates when they predicted based on the more number of saving BC ($M_{Three\ Saving\ BC} = 42.57\%$, $SE = 2.69$ vs. $M_{Six\ Saving\ BC} = 59.94\%$, $SE = 2.67$; $F(1, 118) = 21.11$, $p < 0.001$, $\eta_p^2 = 0.152$). Furthermore, such a tendency exhibited stronger when participants predicted based on the fewer (i.e., three) number of spending BC ($M_{Three\ Spending,\ Three\ Saving\ BC} = 45.07\%$, $SE = 3.61$ vs. $M_{Three\ Spending,\ Six\ Saving\ BC} = 69.69\%$, $SE = 3.95$; $F(1, 118) = 21.13$, $p < 0.001$, $\eta_p^2 = 0.152$) than when those predicted based on the more (i.e., six) number of spending BC ($M_{Six\ Spending,\ Three\ Saving\ BC} = 40.06\%$, $SE = 3.98$ vs. $M_{Six\ Spending,\ Six\ Saving\ BC} = 50.20\%$, $SE = 3.61$; $F(1, 118) = 3.57$, $p = 0.061$, $\eta_p^2 = 0.029$). These results suggest that participants tend to consider their spending needs to a greater extent, thereby making budget estimation for their spending needs first, then their saving needs when they do not have salient savings goals (see Fig. 2A).

In contrast, participants in the salient savings goal condition exhibited different budget estimation patterns (see Fig. 2B). Notably, those who were in the fewer (i.e., three) number of spending BC condition had the similar savings estimates, regardless of the number of saving BC ($M_{Three\ Spending,\ Six\ Saving\ BC} = 64.11\%$, $SE = 3.94$ vs. $M_{Three\ Spending,\ Six\ Saving\ BC} = 61.22\%$, $SE = 3.98$; $F(1, 118) = 0.26$, $p = 0.608$, $\eta_p^2 = 0.002$). This result suggests that participants with a salient savings goal may not predict their savings estimates simply based on the number of spending or saving BC. Rather, they may adjust their savings estimates, especially when estimating budgets based on the same number of budget categories for spending and saving needs. However, when participants estimated budgets with the more (i.e., six) number of spending BC, their budget estimation seemed to be similar across savings goal salience conditions in the more (i.e., six) spending BC; with the fewer (i.e., three) saving BC ($M_{Non-salient} = 40.06\%$, $SE = 3.98$ vs. $M_{Salient} = 36.06\%$, $SE = 3.96$; $F(1, 118) = 0.51$, $p = 0.478$, $\eta_p^2 = 0.004$) and with the more (i.e., six) saving BC ($M_{Non-salient} = 50.20\%$, $SE = 3.61$ vs. $M_{Salient} = 50.27\%$, $SE = 3.71$; $F(1, 118) = 0.000$, $p = 0.989$, $\eta_p^2 = 0.000$). Accordingly, it is not clear whether savings estimates based on the same

A. Marginal Means of Savings Estimates (%) in the Non-Salient Savings Goal Condition
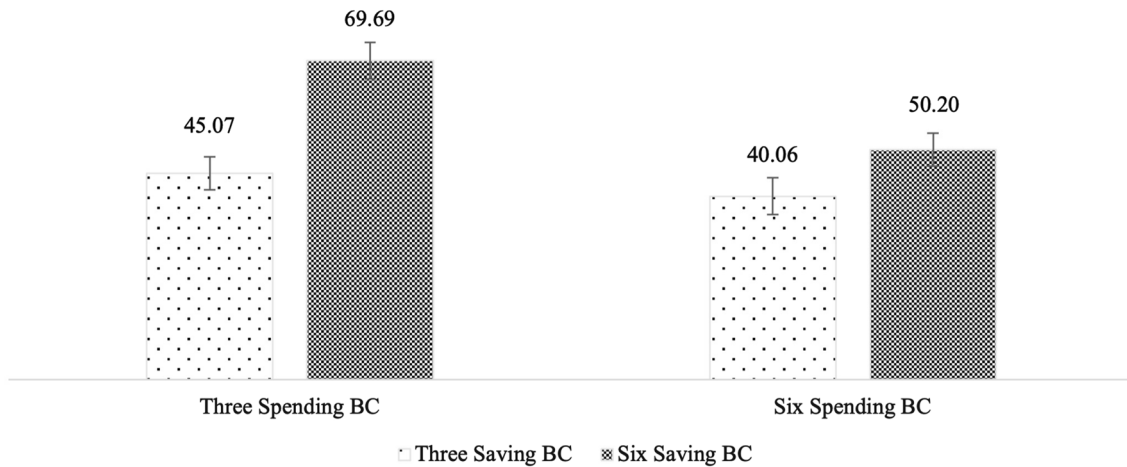
B. Marginal Means of Savings Estimates (%) in the Salient Savings Goal Condition
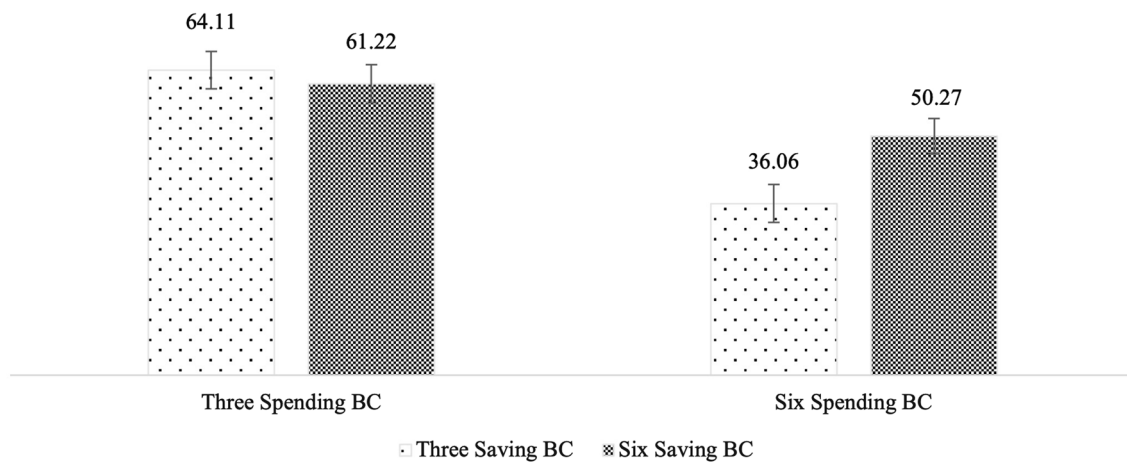

Fig. 2 Marginal means of savings estimates (%) in study 1. *Covariates appearing in the model are evaluated at the following values: Gender = 1.53, Ethnicity = 2.29, PPLMT = 5.91

budget categories for spending and saving needs were driven by the effects of conflicts. Hence, we ran the next experiment further to study our proposed effects of conflicts on budget estimation.

Experiment 2

Design and procedure

This experiment aimed to test the effects of the number of budget categories on budget estimation with a different savings goal salience manipulation and participants' choices of disposable income. According to prior literature, consumers who feel less wealthy tend to make a more present-oriented decision (e.g., prefer spending now than

later, see Carvalho et al. 2016). This stream of research suggests that consumers' financial planning behaviors (e.g., budget-setting) may vary depending on their wealth perception. Hence, to account for a possible effect of one's wealth perception on financial planning, we asked participants to plan for their personal finances based on their own choice of disposable income. By doing so, we assume that participants' wealth perception, which may be represented by their choice of disposable income, is considered in our study. However, we will use the savings estimates (%) as our key dependent variable, similar to Experiment 1, to standardize the effect of participants' choice of disposable income. Furthermore, we planned to test our proposed underlying effect of savings goal importance in increasing money allocation to saving in this experiment.

For these purposes, we recruited one hundred seventy-three undergraduate students for an online study in a controlled laboratory setting, but ten students failed to complete the entire task. As a result, we included a total of 163 (53.4% male, 74.8% Caucasian) students in our data analyses. All participating students were compensated for partial course credit.

The experiment was a 2 (saving goal salience: low vs. high) × 2 (the number of spending budget categories: fewer vs. more) × 2 (the number of saving budget categories: fewer vs. more) between-subjects full factorial design. To manipulate savings goal salience, half of the participants were provided with a set of budget category examples for both spending and saving, while the other half were not. Since consumers naturally tend to focus more on spending than saving (Hoch and Loewenstein 1991), there will be little difference in the perceptions of spending goal salience between the budget category generation task with examples and the one without examples. In contrast, the budget category generation task for saving without (vs. with) examples might render a savings goal more salient by encouraging participants to pay more attention to saving needs. In other words, participants will perceive the savings goal as more salient (i.e., pay more attention to saving) when they are not provided with examples in the budget category generation task. Also, participants were asked to generate different numbers of budget categories for their spending and saving needs (i.e., three vs. six budget categories for each, depending on the conditions to which they were assigned), similar to Experiment 1. Next, participants were asked to indicate whether they paid more attention to one needs as compared to the other ("I paid more attention to…"), which was measured on a 9-point scale (1 = *spending*, 9 = *saving*).

Next, we asked participants to choose their own hypothetical disposable incomes and then set their budgets with their self-generated budget categories, which appeared in random order. Participants were then asked to indicate their perceptions of the difficulty of the budget-setting task ("How difficult was this budgeting task?") on a 9-point scale (1 = not at all, 9 = very difficult). Measuring the difficulty of the budget-setting task will help us confirm whether or not consumers experience conflicts in budget-setting; when consumers experience conflicts, they might find it difficult to make resource allocation decisions (Cheng et al. 2007). Participants were asked to indicate their perceptions of savings goal importance ("How important is saving for the future to you?") as well as spending goal importance ("How important to you is spending money for current needs?") on a 9-point scale (1 = not at all important, 9 = very important), in random order. Finally, we measured participants' PPLMT and collected demographic information such as gender and ethnicity.

Results and discussion

Manipulation Check. To check whether or not the savings goal salience manipulation was successful, we ran a three-way ANOVA on the amount of attention paid to the savings (vs. spending) goal, with savings goal salience, the number of spending BC, and the number of saving BC as factors, and PPMLT ($\alpha = 0.94$) and demographics as covariates. The results showed the significant main effect of savings goal salience ($M_{Low} = 4.94$, SD = 2.11 vs. $M_{High} = 5.66$, SD = 2.34; F(1, 152) = 4.05, $p = 0.046$, $\eta_p^2 = 0.026$); that is, participants in the high (vs. low) savings goal salience condition paid more attention to saving (vs. spending) needs. All other effects were not significant (all $ps > 0.10$). Hence, the savings goal salience manipulation was successful.

Savings Estimates (%). Similar to Experiment 1, we calculated the savings estimates as a percentage of the participant's choice of disposable income. We ran a three-way ANOVA on the total savings estimates (%) with savings goal salience, the number of spending BC, and the number of saving BC as factors, with PPMLT as well as demographics as covariates. The ANOVA revealed a significant three-way interaction effect on the savings estimates (%) (F(1, 152) = 8.87, $p = 0.003$, $\eta_p^2 = 0.055$). One's PPLMT ($p = 0.076$) was marginally significant. Demographics were not significant (all $ps > 0.10$).

As depicted in Fig. 3, the results are similar to those in Experiment 1. Specifically, participants' savings estimates seemed to vary depending on the number of spending BC or saving BC in the low savings goal salience condition. Moreover, in the high savings goal salience condition, participants had higher savings estimates when they predicted based on the same (vs. different) number of spending and saving BC; either having three BC for both needs (F(1, 152) = 5.42, $p = 0.021$, $\eta_p^2 = 0.034$) or having six BC for both needs (F(1, 152) = 5.12, $p = 0.025$, $\eta_p^2 = 0.033$). These results support our prediction of the effects of the number of budget categories on budget estimation and provide preliminary evidence for the effects of conflicts between spending and saving needs on budget estimation. However, again, it is not clear whether such higher savings estimates were driven by our proposed effects of conflicts in both spending BC conditions.

Conflicts Experienced in Budget-Setting. To further explore our proposed effects of conflicts on budget estimation, we created a new categorical variable called *match* (i.e., the same or different number of budget categories for spending and saving needs). We then ran a two-way ANOVA on the perceptions of budget-setting difficulty with savings goal salience and *match* as factors, PPMLT and demographics as

A. Marginal Means of Savings Estimates (%) in the Low Savings Goal Salience Condition
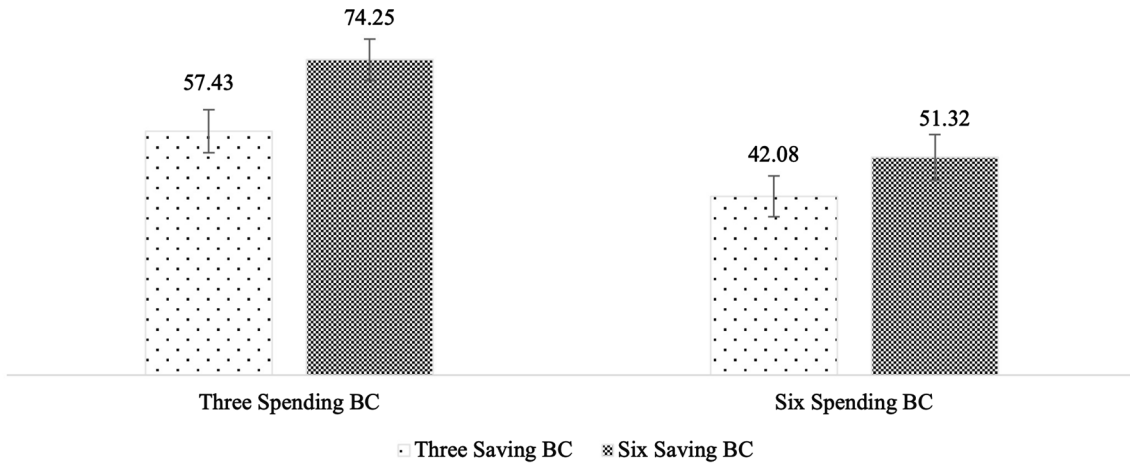
B. Marginal Means of Savings Estimates (%) in the High Savings Goal Salience Condition
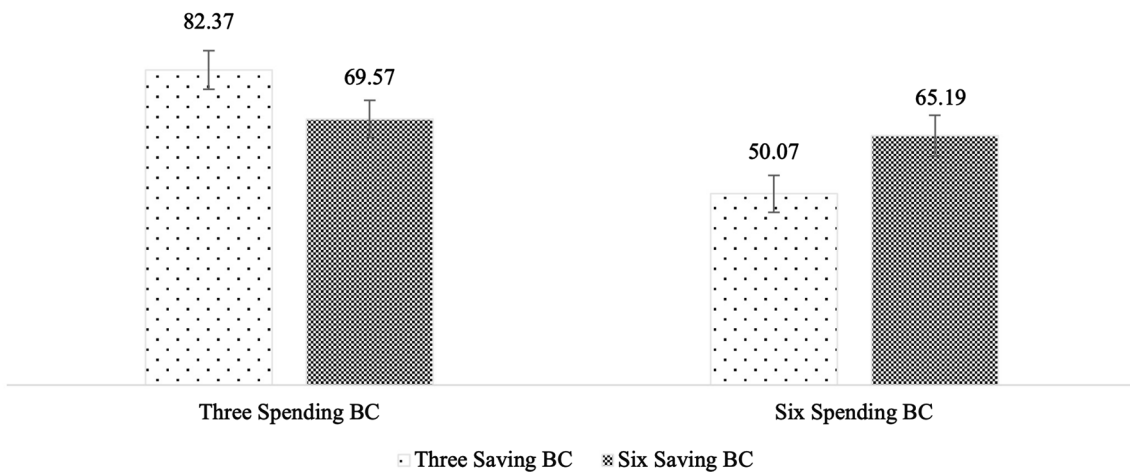

Fig. 3 Marginal means of savings estimates (%) in study 2. *Covariates appearing in the model are evaluated at the following values: Gender = 1.47, Ethnicity = 2.45, PPMLT = 5.29, Disposable Income = 15,542.85

covariates. Results showed that a significant two-way interaction (F(1, 156) = 6.89, p = 0.010, η_p^2 = 0.042); participants perceived the budget-setting task to be more difficult in the match (vs. mismatch) condition when they were in the high saving goal salience condition (M_{Match} = 6.40, SD = 2.25 vs. $M_{Mismatch}$ = 4.74, SD = 2.62; F(1, 156) = 8.92, p = 0.003, η_p^2 = 0.054). The corresponding difference was not significant when they were in the low savings goal salience condition (M_{Match} = 5.45, SD = 2.36 vs. $M_{Mismatch}$ = 5.95, SD = 2.49; F(1, 156) = 0.59, p = 0.445, η_p^2 = 0.004). Furthermore, when we ran pairwise comparisons by adding the spending BC condition, the results revealed that there was no difference in the perceived difficulty across the number of spending BC conditions in the match condition (F(1, 152) = 0.997, p = 0.320, η_p^2 = 0.007). In other words, this result indicates that consumers would experience conflicts (i.e., perceived

more difficulty in budget-setting) when estimating budgets based on the same number of budget categories for both spending and saving needs with a salient savings goal.

We predicted that the experienced conflicts would motivate participants to perceive their saving needs as more important (**H2-2**), thereby impacting budget estimation (**H2-1**). Furthermore, we predicted that the effect of increased savings goal importance perception on the money allocation to saving would be attenuated when participants also envisioned the difficulty of savings goals due to the higher spending estimates (**H2-3**). Though we did not directly measure one's perception of savings goal difficulty, we assumed that, if participants perceive the savings goal as being difficult to achieve, the savings goal importance perception may not be reflected in their savings estimates. We tested this proposition in the following mediation analysis.

Fig. 4 Conceptual model of moderated mediation in study 2
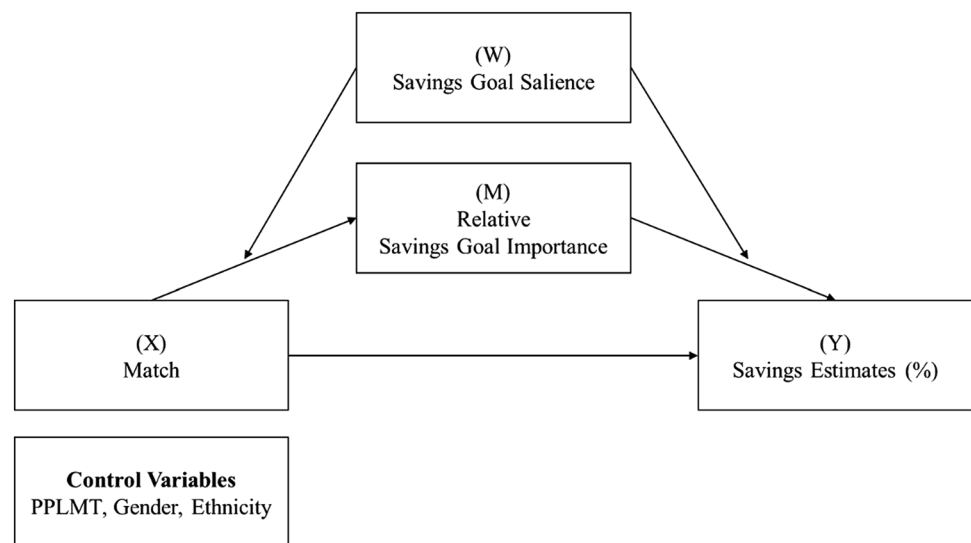
Mediation Analysis. We first calculated the relative saving goal importance by subtracting spending goal importance from saving goals importance. We then conducted a 5,000-samples bootstrapping analysis using the Model 58 (Hayes 2013) for each spending BC condition to test whether participants' relative saving goal importance impacts their savings estimates. Furthermore, using this model, we could test the proposed moderated mediation effect, i.e., differences in mediation across the levels of the moderator (W) (Edwards and Lambert 2007). Accordingly, we ran a regression with savings estimates (%) as the DV, *match* as the IV, the relative saving goal importance as the mediator, saving goal salience as the moderator, and PPMLT as well as demographics as covariates for each spending BC condition. The conceptual model of this moderated mediation is depicted in Fig. 4.

In the fewer (i.e., three) spending BC condition (N = 83), the moderated mediation results revealed that the interaction effect between *match* and savings goal salience on the relative savings goal importance was significant in the high savings goal salience condition (M = 7.0472, SE = 0.3125, 95% C.I. = [6.4247, 7.6696], $p < 0.001$), but not significant in the low savings goal salience condition (M = -0.4595, SE = 0.3181, 95% C.I. = [-1.0931, 0.1741], $p = 0.153$). Accordingly, such increased savings goal importance led participants to increase money allocation to saving in the high savings goal salience condition (M = 29.6221, SE = 9.3923, 95% C.I. = [10.2236, 47.1274]), but not in the low savings goal salience condition (M = -0.0764, SE = 2.2958, 95% C.I. = [- 4.9439, 4.8633]). In this model, one's PPLMT was a marginally significant covariate ($p = 0.058$).

In the more (i.e., six) spending BC condition (N = 80), the moderated mediation results revealed that the interaction effect between *match* and savings goal salience on the relative savings goal importance was significant in the high

savings goal salience condition (M = 7.4400, SE = 0.3396, 95% C.I. = [6.7632, 8.1168], $p < 0.001$), but not significant in the low savings goal salience condition (M = -0.6245, SE = 0.3448, 95% C.I. = [-1.3116, 0.0627], $p = 0.063$). More importantly, the savings goal importance did not impact participants' savings estimates; both in the low savings goal salience condition (M = 1.2101, SE = 2.4841, 95% C.I. = [-3.2559, 6.8767]) and in the high savings goal salience condition (M = 6.5685, SE = 11.6148, 95% C.I. = [- 15.4905, 29.7955]). These moderated mediation results showed that, though participants had the increased savings goal importance in the match condition with a salient savings goal, such increased savings goal importance perception did not lead participants to increase money allocation to saving when they estimated based on the more (i.e., six) number of spending BC. These results may further suggest that, if participants predicted higher savings estimates due to prediction biases, not the savings goal importance (e.g., six spending and six saving BC condition), they might not be committed to pursuing their savings plan in the later phases, similar to previous findings (e.g.,Peetz and Buehler 2012; Tam and Dholakia 2011).

In sum, our moderated mediation analysis results (see Table 1) confirmed that the same number of BC for spending and saving needs with a high-salient savings goal increased the relative savings goal importance (**H2-2** supported), thereby leading to the increased savings estimates (**H2-1** supported). More important, such a tendency was attenuated with the more (i.e., six) number of spending BC (**H2-3** supported).

Table 1 Moderated mediation analysis results in study 2

Fewer (i.e., Three) spending budget categories condition (N = 83)

Predictor	R-Squared	p				
Relative Savings Goal Importance (M)	.9200	< .001				
	B	SE	t	p	LLCI	ULCI
Constant	1.1802	.5524	2.1364	.0359	.0799	2.2805
Match (X)	− .4595	.3181	− 1.4444	.1527	− 1.0931	.1741
Savings goal salience (W)	− 7.8088	.3085	− 25.3144	< .001	− 8.4232	− 7.1944
X x W	7.5067	.4454	16.8545	< .001	6.6196	8.3938
PPLMT	− .0612	.0501	− 1.2223	.2254	− .1609	8.3938
Gender	− .0891	.2254	− .3954	.6937	− .5379	.3597
Ethnicity	− .0963	.0851	− 1.1314	.2614	− .2657	.0732
Conditional effects of X on W						
Low savings goal salience	− .4595	.3181	− 1.4444	.1527	− 1.0931	.1741
High savings goal salience	7.0472	.3125	22.5492	< .001	6.4247	7.6696

Predictor	R-Squared	p				
Savings Estimates (%) (Y)	.2077	.0119				
	B	SE	t	p	LLCI	ULCI
Constant	50.9218	12.9319	3.9377	.0002	25.1601	76.6835
Match	14.8068	7.2841	− 2.0328	.0456	− 29.3175	− .2962
Relative savings goal importance (M)	.1663	4.1217	.0403	.9679	− 8.0445	8.3771
Savings goal salience (W)	29.9674	7.4445	4.0255	< .001	15.1373	44.7976
M x W	4.0371	4.5640	.8846	.3792	− 5.0548	13.1291
PPLMT	2.2653	1.1750	1.9280	.0576	− .0753	4.6060
Gender	6.7374	5.2279	1.2887	.2014	− 3.6771	17.1518
Ethnicity	− .8334	1.9641	− .4243	.6725	− 4.7460	3.0792
Direct effect of X on Y	− 14.8068	7.2841	− 2.0328	.0456	− 29.3175	− .2962
Conditional Indirect Effects of X → M → Y						
Low savings goal salience	− .0764	2.2958			− 4.9439	4.8633
High savings goal salience	29.6221	9.3923			10.2236	47.1274

More (i.e., Six) Spending budget categories condition (N = 80)

Predictor	R − Squared	p				
Relative Savings Goal Importance (M)	.9150	< .001				
	B	SE	t	p	LLCI	ULCI
Constant	.6809	.6088	1.1184	.2671	− .5325	1.8942
Match (X)	− .6245	.3448	− 1.8113	.0742	− 1.3116	.0627
Savings goal salience (W)	− 7.9855	.3301	− 24.1893	< .001	− 8.6434	− 7.3275
X x W	8.0645	.4907	16.4362	< .001	7.0866	9.0424
PPLMT	− .0589	.0576	− 1.0209	.3107	− .1737	.0560
Gender	.4044	.2415	1.6745	.0983	− .0769	.8857
Ethnicity	− .0914	.1175	− .7773	.4395	− .3256	.1429
Conditional effects of X on W						
Low savings goal salience	− .6245	.3448	− 1.8113	.0742	− 1.3116	.0627
High savings goal salience	7.4400	.3396	21.9082	< .001	6.7632	8.1168

Predictor	R-Squared	p				
Savings Estimates (%) (Y)	.1076	.2923				
	B	SE	t	p	LLCI	ULCI
Constant	37.8478	14.4680	2.6150	.0108	9.0062	66.6894

Table 1 (continued)

	B	SE	t	p	LLCI	ULCI
Match	7.0872	8.0927	.8758	.3841	− 9.0454	23.2198
Relative savings goal importance (M)	− 1.9378	3.3355	− .5810	.5631	− 8.5871	4.7115
Savings goal salience (W)	11.9375	7.7067	1.5490	.1258	− 3.4255	27.3006
M x W	2.8207	3.9292	.7179	.4752	− 5.0121	10.6534
PPLMT	.5247	1.3328	.3937	.6950	− 2.1321	3.1816
Gender	.4355	5.5827	.0780	.9380	− 10.6934	11.5644
Ethnicity	1.5681	2.7835	.5634	.5749	− 3.9807	7.1169
Direct effect of X on Y	7.0872	8.0927	.8758	.3841	− 9.0454	23.2198
Conditional indirect effects of X → M → Y						
Low savings goal salience	1.2101	2.4841			− 3.2559	6.8767
High savings goal salience	6.5685	11.6148			− 15.4905	29.7955

General discussion

This research extends the previous knowledge on budgeting in meaningful ways. By joining the stream of research focusing on the importance of budget-setting (Peetz and Buehler 2009; Sussman and Alter 2012), this research provides new insights into the underlying mechanism in budget-setting. First, we found that consumers' budget estimation may depend on how many budget categories they consider. Second, we found that the number of budget categories can contribute to creating conflicts experienced between spending and saving needs, thereby influencing the perceptions of savings goal importance. Our findings further contribute to understanding the mixed findings in previous studies regarding the effect of planning on one's multiple-goal pursuits. Planning benefits consumer goal pursuit (Gollwitzer, 1999); however, when planning heightens the difficulty of goal pursuit, it can harm goal success — especially in a multiple-goal pursuit situation (Bayuk 2015; Dalton and Spiller 2012). By exploring how the number of budget categories (i.e., sub-goals for each budgetary goal) influences one's budget estimation, we find situations in which budget-setting (i.e., financial planning) benefits the consumers' savings goal pursuit. The number of budget categories may represent the specificity of one's financial planning. Prior research provides evidence for the beneficial effects of specific plans on goal attainment (Gollwitzer, 1999). However, we find that loosely defined plans may more encourage consumers to pursue their goals when such loose plans lead consumers to exercise their self-regulation, similar to the findings of Dalton and Spiller (2012). Our results suggest that, if loose plans are made based on a consideration of possible obstacles (e.g., spending needs) with desirable outcomes (e.g., saving needs) to a similar extent, it can encourage consumers to continue their savings goal pursuit.

Lastly, financial advisors and policymakers can also benefit from the current findings. By suggesting a simple but effective budget-setting strategy, they can encourage consumers to plan for saving more money, prepare for future financial needs (e.g., health care and retirement), and ultimately promote economic stability (Ülkümen and Cheema 2011; Vlaev et al. 2015). According to our results, if consumers make specific financial plans, they would not be motivated to pursue them in the later phases when realizing the difficulty in execution. Our results are consistent with some prior literature, showing a possible backfire effect of having multiple savings goals (Soman and Zhao 2011). However, if consumers can exert their self-control in following up on their specific financial plans, they are likely to achieve financial success (e.g., Haws et al. 2012). Hence, financial advisors and policymakers should consider the extent to which consumers can exert their financial self-control (for a review, see Davydenko et al. 2021) and advise them on how to make their financial plans. In other words, if consumers exhibit a lower level of financial self-control, the less specific plans may more help them achieve financial success with the heightened savings goal importance perception.

This research also has some limitations. In this research, we focused on one's budget-setting in a relatively short-term perspective (e.g., monthly budget-setting). As Tam and Dholakia (2011) found, the effects of time frame duration can produce different budget-setting behaviors as well as different levels of savings goal success. Hence, it is worth exploring the interaction between our proposed effects and the possible effect of time frame duration in budget-setting. Furthermore, our research aimed to show a possible effect of the number of budget categories on budget estimation. For this purpose, we asked participants to work on the budget-setting task with the fixed number of spending/saving budget categories, which is set by the authors. However, consumers are free to choose a varied number of budget categories in reality. Hence, future research can extend our findings if it studies consumers' actual budget-setting behaviors with a varied number of budget

categories. Also, we introduce the importance of the inter-relationship between spending and saving needs in budget-setting. However, it remains unclear how such interrelationships influence one's budget-tracking. Hence, we encourage researchers to study the interrelationships between spending and saving needs in budget-tracking. Lastly, readers should interpret our results with caution due to the small sample size. Though we failed to recruit the ideal number of participants in both experiments, the levels of power still exceed the ranges of typical personality and social psychology studies (e.g., 0.45 to 0.65, see Rossi 2013); Experiment 1 with the observed power of 0.804 and Experiment 2 with the observed power of 0.887. Hence, if future studies can extend our findings with larger samples, our findings can be more generalizable.

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Min Jung Kim is an Assistant Professor of Marketing at Manhattan College. She earned her Ph.D. in Business Administration (Major – Marketing) from Texas A&M University. Her research interests include consumers' financial and social behaviors, specifically as those impact consumers' responses to marketing strategy.