The Unexpected Positive Impact of Fixed Structures on Goal Completion

LIYIN JIN
SZU-CHI HUANG
YING ZHANG

The current research explores how the structure of a goal, more specifically whether its completion requires completing a set of actions in a fixed sequence or in a flexible order, influences consumers' decision to adopt the goal and how individuals actually fare once they have initiated the goal pursuit. Four experiments demonstrated that although the requirement to complete all goal-related actions following a fixed sequence discourages consumers from adopting the goal, this rigidity turns out to be more effective in inducing actual goal completion. This reversal occurs because consumers are unable to foresee the extent to which a fixed goal structure can help reduce the difficulty in goal pursuit.

Consumers adopt goals with rewards that are contingent on goal completion, with the expectation that they will eventually achieve the goal; therefore, being able to accurately assess the difficulty of the goal and the likelihood of reaching the end point is of critical importance when deciding on which goal to pursue. Although the literature has traditionally emphasized the importance of goal expectancy (Bandura 1977, 1997; Fishbein and Ajzen 1974; Mitchell 1982; Vroom 1964), we aim to advance this extensive literature by simultaneously investigating people's actual capability of choosing appropriate goals and whether people perform well once they initiate the pursuit of the chosen goal. More specifically, we investigate how the structure of a goal (particularly, whether its completion requires a set of actions that have to be performed in a fixed sequence or can be performed in a flexible order) influences the decision to adopt the goal and how individuals actually fare once they have initiated the goal pursuit.

Of the goals that require multiple actions, some require the steps to be completed in a specific sequence, whereas the steps of other goals can be completed in a flexible order. For example, some loyalty programs that require multiple purchases for the eventual redemption of rewards demand that purchases be made in a specified sequence, while other programs allow purchases to be made in any order, as long as they are all completed. An online wine store (yesmywine.com), for instance, offers its customers a "country medal" if they purchase a bottle of wine from a given country in a specific month and provides a large bonus for those customers who collect 12 country medals following a specified sequence (e.g., January—France, February—Chile, March—Italy, etc.) over the course of 1 year. Conventional wisdom suggests that such rigid structures remove the flexibility in pursuit, increase the difficulty of attaining the goal, and thus are less effective in encouraging more business. We, however, propose a different perspective that distinguishes between the adoption and the completion of goals. We suggest that although a structure that requires a fixed sequence makes the goal appear more difficult and discourages people from initiating the pursuit, this rigidity actually facilitates the goal's pursuit once individuals commit to it, resulting in a greater chance of completion.

The Initiation and Completion of Goals

The extant motivation research has extensively studied the contextual factors that encourage people to pursue certain goals. For example, the value × expectancy models

Order of authorship is random, and all authors contributed equally to this work. Liyin Jin (jinliyin@fudan.edu.cn) is an associate professor of marketing at the School of Management, Fudan University, no. 670 Guoshun Road, Shanghai 200433; Szu-Chi Huang (huangsc@stanford.edu) is an assistant professor of marketing at the Graduate School of Business, Stanford University; and Ying Zhang (Ying.Zhang@mccombs.utexas.edu) is an associate professor of marketing at the McCombs School of Business, University of Texas at Austin, and a JM honorary service professor at Guanghua School of Management, Peking University. Correspondence: Liyin Jin. This research is supported in part by National Natural Science Foundation of China grants 71272075 and 71272038.

Laura Peracchio served as editor and Hans Baumgartner served as associate editor for this article.

Electronically published July 11, 2013

(e.g., Shah and Higgins 1997; Vroom 1964) posit that the motivation to pursue a goal is positively influenced by the individual valuation of the goal, as well as by the anticipated chance of achieving it. Similarly, the social-cognitive model (e.g., Bandura 1997) suggests that the willingness to pursue a goal increases as a function of the belief that the goal can be achieved through effort.

The pursuit of a goal involves not only the performance of the actions that ensure its successful achievement but also the deliberation and decision-making processes related to goal adoption (Heckhausen 1991; Heckhausen and Gollwitzer 1987). Before starting to invest effort into a certain goal, people assess its value and their realistic chances of achieving it. Although there is substantial literature on the factors that influence goal-adoption decisions (e.g., Heckhausen and Gollwitzer 1987; Locke and Latham 1990) and on the factors that influence people's motivation during goal pursuit (e.g., Bandura 1997; Nunes and Dréze 2006; Weiner 1986), dialog between the two streams of research remains relatively limited. Specifically, we are interested in situations in which a certain goal structure might discourage goal adoption but in fact facilitates the actual performance of goal-directed actions.

The current article considers the flexibility of sequence as such a factor. Specifically, we examine the influences of two differently structured goal types: goals that require the completion of a set of actions in a predetermined sequence and goals that require the same set of actions but without specific requirements in the sequence of completion. For example, when purchasing a large number of items on a shopping trip, individuals can either follow a fixed sequence and buy the items according to the order of their shopping list or spontaneously adjust their purchase sequence during the shopping trip. Of these two structures, which is more conducive? We suggest that although people expect goals that require a fixed sequence to be more difficult and are less willing to initiate these goals, people are actually more likely to accomplish such goals once they begin their pursuit because the structure eliminates the need to make repeated choices regarding the next goal pursuit steps and, contrary to people's expectations, reduces the difficulty in completion. For this shopping goal, for example, we expect consumers to be more willing to start the shopping task if there is no imposed sequence to follow but to be more likely to finish the task in a timely manner if such a sequence is in place.

Choice and Goal Difficulty

The adoption of a goal and the resulting initiation of its pursuit are based on the assessment of the extent to which the goal is easily attainable (Bandura 1997; Locke and Latham 1990). The requirement of completing all necessary goal-related steps in a fixed sequence imposes restrictions on how the goal can be completed and allows for little flexibility. For example, one may find the fixed sequence inconvenient but have no option to switch to a different path. This rigidity, compared with the freedom of completing the same set of actions in whatever order one finds easier, leads to the expectation that the goal would be more difficult to achieve and therefore lowers people's interest in these goals. For example, a loyalty program that requires the purchase of six items in a fixed order would appear less attractive than a similar program that requires the purchase of the same six items but imposes no restrictions on which item needs to be purchased first; hence, people should show higher interest in the latter program.

While the absence of a predetermined order of completion provides flexibility, it requires consumers to make choices on what the next steps should be when they finish each goal-directed action. Although people are fully aware of the need to make these choices at the time they decide to adopt the goal, they expect such choices to be trivial and believe the flexibility would make the entire goal easier, despite the additional work that may come with the choices.

And that is precisely where things go wrong. While the choices appear trivial at the time of adoption, they may turn out to be something that can seriously undermine actual goal completion. Making choices for the next steps during goal pursuit requires consumers to temporarily take their mind off the active performance of goal-related actions and evaluate which option can better help attain the goal. When consumers are deciding whether to pursue a goal, they are unaware that the behavioral pursuit of a goal and the choice of an appropriate next step are two drastically different tasks that tune cognitive orientations differently (Brandstätter and Schüler 2013). The repeated choices for the next steps during active goal pursuit require consumers to shift back and forth between different mind-sets, and these transitions disrupt the continuity of the pursuit and can be a rather taxing and difficult experience (Hamilton et al. 2011).

In addition to the repeated transitions between different mind-sets, the process of choosing an appropriate next step can also become unexpectedly difficult. The choices for the next steps require consumers to evaluate the appropriateness of the remaining options, and such cognitive efforts, although seemingly trivial, are often a demanding experience (e.g., Baumeister et al. 2008; Vohs et al. 2008), particularly if there are a large number of possibilities to choose from and if the choices are complicated, such as when the subtasks involve a certain degree of uncertainty or when the options are equally attractive (Shafir, Simonson, and Tversky 1993). For example, when purchasing furniture pieces for an empty apartment, one needs to consider the budget for each item, how one item should match another item, where to make the purchases, and whether there are possibilities of future discounts at these stores. All these considerations influence one's decision on which furniture piece to purchase first, and the numerous trade-offs are likely to increase the experienced difficulty of furnishing the apartment, quite possibly delaying the purchases (Dhar 1997).

Extant literature provides supportive evidence for the detrimental effect of excessive choices in goal pursuit. For example, Iyengar and Lepper (2000) found that students wrote higher-quality essays if their essay topic had been

chosen from a smaller set of alternatives rather than a larger one. In the goal domain, recent findings showed that having multiple savings goals actually discourages saving behavior by evoking trade-offs between these goals (Soman and Zhao 2011). Overall, while choices are generally believed to be desirable because they offer flexibility, they often come at a cost that consumers fail to anticipate.

The Benefits of Rigidity

A fixed sequence, while restricting the options going forward, solves this problem by eliminating the need for repeated choices during goal pursuit. In these situations, whenever one goal-related action is completed, consumers move directly on to the predetermined next step without having to pause and deliberate. This fixed sequence creates an uninterrupted flow from one step to the next and ensures that consumers can remain in an implemental mind-set and execute the goal-directed actions more swiftly and efficiently (Gollwitzer 1999).

The literature on implementation intentions (e.g., Brandstätter, Lengfelder, and Gollwitzer 2001; Gollwitzer and Brandstätter 1997), for example, provides important conceptual support for this benefit and suggests that the existence of "if-then" links facilitates goal completion by keeping people in the implemental mind-set and allowing people to better capture the opportunity to act. In the context of completing a set of fixed steps, the rigid sequence establishes if-then conditions from one step to the next, such that whenever the preceding action is completed, the initiation of the next goal-directed action is automatized (Gollwitzer 1999), hence creating an overall less difficult experience of goal pursuit. For example, in the previous example of furnishing an apartment, if the purchasing sequence has been predetermined, consumers would not have to make those trade-offs and only need to follow the fixed order to make purchases. In the end, these people, compared to those who have a list that allows them to decide when to buy which item, are much more likely to have a fully furnished apartment.

Central to our hypothesis is consumers' erroneous prediction about how a fixed sequence might influence goal completion. A fixed sequence of completing all goal-related steps, although seemingly detrimental to goal completion because it restricts flexibility, may ironically facilitate goal completion. This unexpected lift occurs because once consumers initiate the pursuit, a fixed sequence removes the need for them to make repeated choices among the remaining steps, which may be a taxing and difficult experience, and allows these consumers to focus on the pursuit itself. On the basis of this reasoning, the positive impact of a fixed sequence should depend primarily on the difficulty of the choices that one needs to make (e.g., the number of different choice options to choose from) and less on the properties of the goals, such as the original levels of difficulty. Therefore, a fixed sequence, by removing these choices, should have a similarly positive impact on completion, regardless of the original difficulty of these goals.

In the following sections, we report four studies that test our hypothesis. In study 1, we use a field experiment to explore whether a loyalty program that requires all purchases to be completed following a fixed sequence (vs. a flexible sequence) is less preferred by consumers but is more effective in inducing consumers to complete all purchases once they join. Study 2 tests the hypothesis in a more controlled setting using a transcription task. In study 3, we test our proposed mechanism and examine whether a fixed sequence (vs. a flexible sequence) makes goals appear more difficult but ironically alleviates the difficulty of actual completion. Finally, study 4 more specifically investigates the relationships between making choices for the next steps and consumers' experienced goal difficulty and how this difficulty influences goal completion.

STUDY 1: LOYALTY PROGRAM

In study 1, we operated an actual loyalty program and tested our hypothesis that a program that requires a fixed purchasing sequence would induce a lower enrollment rate but yield greater completion rates relative to a similar program that does not require a specified completion sequence.

Method

This study used a 2 (action: goal adoption vs. goal completion) × 2 (goal structure: fixed sequence vs. flexible sequence) between-subjects design. As part of this experiment, we operated a customer loyalty program in cooperation with a local yogurt shop. The shop is located near the business center of the city and sells fresh yogurt in a variety of different flavors. The shop's customers are mainly business people and students from nearby colleges. The loyalty program required the purchase of six full-priced yogurts (approximately $1 each) for the redemption of a coupon that could be exchanged for two free yogurts. Each participant received a loyalty card, and each purchase earned a stamp on the card.

While all cards required the purchase of each of the store's six most popular flavors (apple, banana, orange, mango, grape, and strawberry) for the reward to be earned, the cards differed in whether the six purchases would have to be made in a predetermined sequence; in the flexible-sequence condition, there was no requirement on purchasing sequence, and customers could freely decide in which order to make the purchases that would accumulate stamps in the program. In contrast, in the fixed-sequence condition, the program required that the purchases be made following a sequence specified on the card (e.g., banana → apple → strawberry → orange → mango → grape). The order was counterbalanced within the condition. Therefore, although the requirements were identical across conditions, they differed in whether there was a prespecified purchasing sequence that people had to follow.

We then manipulated goal adoption and completion by informing customers about whether they needed to activate the card before starting to accumulate stamps. In the goal-

adoption conditions, we informed people who received the card that they would need to come back on a different day (i.e., not on the same day of issuance) to activate it before they could start accumulating stamps on their future purchases. By doing so, we were able to measure people's motivation to adopt the goal, by assessing whether they would be willing to invest some effort to make a trip to formally initiate the goal pursuit. In the goal-completion conditions, customers received an "activated" card and were told that they could accumulate stamps beginning with their next visit to the store.

We distributed a total of 800 cards (200 for each condition) during the second week of November and marked the expiration date of the card as December 31, thus ensuring that completing the goal in time remained a valid concern. We randomized the cards across conditions and offered them only to individual customers (i.e., not to customers who came in groups of more than one) after they made their purchases. For each card, we recorded the date of issuance, date of activation (only for the goal-adoption conditions), and dates of all purchases.

Results and Discussion

By the end of the program, a total of 76 people (26 in the goal-adoption conditions and 50 in the goal-completion conditions) had completed all purchases and redeemed the coupon, yielding an eventual redemption rate of 9.50%. The dependent variables of interest were the percentage of customers who chose to join the program when encountering fixed or flexible goal structures in the goal-adoption conditions and the percentage of customers who actually achieved the fixed- or flexible-sequence goals in the goal-completion conditions. It is important to note that the adoption rate in the goal-adoption conditions and the completion rate in the goal-completion conditions are two conceptually different variables. Participants in the goal-adoption conditions who voluntarily decided to pursue the goal after learning the rules represent a different sample from participants in the goal-completion conditions, who were randomly assigned to complete either a fixed or a flexible goal. For these reasons, our subsequent analyses will not simultaneously compare these two rates across all four conditions. Instead, we will perform separate analyses on consumer goal adoption and completion rates under different goal structures.

Of those customers who received an inactive card (goal-adoption conditions), 30% (60 people) in the flexible-sequence condition returned to activate the card, whereas only 12% (24 people) in the fixed-sequence condition came back ($\chi^2(1, N = 400) = 19.53, p < .01$). This difference suggests that consumers who received a card that required a fixed sequence of purchases were less likely to pursue the goal, compared to those who received a flexible-sequence card. The completion rate among people who received an activated card (goal-completion conditions), interestingly, showed the opposite pattern. While 16% (32 people) of the customers in the fixed-sequence condition completed all the necessary purchases, only 9% (18 people) of the customers in the flexible-sequence condition were able to complete the required purchases ($\chi^2(1, N = 400) = 4.48, p < .05$), suggesting that the requirement of a fixed purchase sequence resulted in greater motivation to complete the goal (see fig. 1). This important reversal supported our hypothesis that although people are less motivated to initiate goals that require actions to be completed following a specific sequence, they are more likely to complete these goals than goals that do not require any particular sequence.

It is also important to note that customers in the goal-adoption conditions who chose to initiate the goal showed the same behavioral pattern as those who were randomly assigned to the goal-completion conditions: 41.7% of the customers who initiated the fixed-sequence goal completed all purchases, compared to only 26.7% among the customers who initiated the flexible-sequence goal; however, this difference did not reach statistical significance (Wald $\chi^2(1, N = 84) = 1.81, p > .10$; see table 1). It is also worth noting that, among participants in the goal-adoption conditions, those who adopted the goal in the fixed goal condition are likely more motivated than those in the flexible goal condition to begin with and thus that the higher completion rate among these individuals should be interpreted with care.

One additional variable that we were able to record in this experiment was the amount of time that elapsed from when customers in the goal-adoption conditions received the card to when they returned to the store to activate it, which was another indicator of their motivation to adopt the goal. We found that customers who received the fixed-sequence card returned to activate the card later ($M = 5.79$ days) than those customers who received the flexible-sequence card ($M = 3.42$ days; $t(82) = 2.36, p < .05$), again suggesting a lower willingness to adopt the goal on the part of the former group.

For customers in the goal-completion conditions, we also recorded the dates on which they made each of their six

FIGURE 1

ADOPTION RATE AND COMPLETION RATE AS A FUNCTION OF ACTION AND GOAL STRUCTURE (STUDY 1)

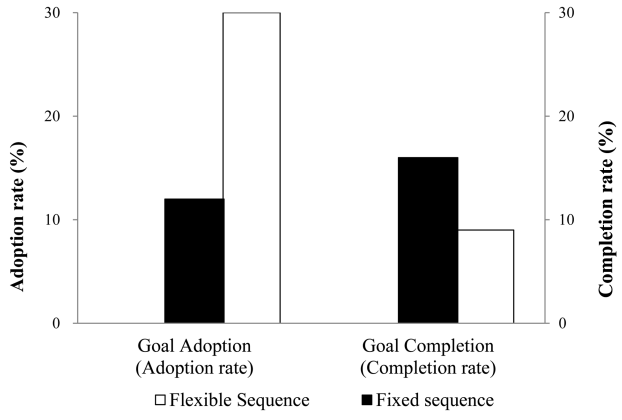


TABLE 1

COMPLETION RATE AND SUBTASKS COMPLETED OF PARTICIPANTS IN THE GOAL-ADOPTION CONDITIONS WHO CHOSE TO INITIATE THE GOAL (STUDIES 1–3)

	Study 1		Study 2		Study 3		
	Fixed (n = 24)	Flexible (n = 60)	Fixed (n = 15)	Flexible (n = 25)	Fixed (n = 37)	Flexible without default (n = 47)	Flexible with default (n = 46)
Completion rate (%)	41.7	26.7	60.0_a	32.0_b	78.4_a	48.9_b	76.1_a
Subtasks completed	3.04 (2.58)	2.15 (2.62)	$3.40\ (2.16)_a$	$2.16\ (2.10)_b$	$5.89\ (2.22)_a$	$4.21\ (2.89)_b$	$5.70\ (2.40)_a$

NOTE.—Within studies 2 and 3, means in the same row with different subscripts are significantly different at $p < .05$. Standard deviations reported in parentheses.

purchases. These data allowed us to further examine the number of days between purchases (i.e., interpurchase times) among those who completed all six required purchases. Because it is difficult to interpret the purchase intervals of those who initiated the pursuit but who did not complete all purchases (e.g., it is difficult to determine exactly when they dropped out and how many days after their last purchase should be included in the analysis), we included only participants who completed all the required purchases in this analysis. A repeated-measures ANOVA of the number of days between purchases first yielded a main effect for visits ($F(5, 288) = 3.44$, $p < .01$), showing that the time between visits decreased with each additional purchased yogurt. This acceleration in purchases replicated the previous findings indicating that effort increased as the reward got closer (Kivetz, Urminsky, and Zheng 2006; Nunes and Dréze 2006). More important, this analysis showed a significant interaction between goal structure (e.g., fixed sequence vs. flexible sequence) and the number of purchased yogurts ($F(5, 288) = 2.29$, $p < .05$). In particular, for the customers who received the card that required sequential purchases, the time between visits decreased by 1.49 days with each additional purchased yogurt ($F(4, 186) = 2.82$, $p < .05$). In comparison, for those customers who received a card that required them to decide which purchase to make next, the time between visits did not decrease with each additional purchased yogurt ($F(4, 102) = 1.15$, NS). A hazard rate model fitted on the time between each purchase provided a similar pattern. We find a main effect of visits ($\chi^2(1) = 17.68$, $p < .01$) as well as an interaction effect between goal structure (e.g., fixed sequence vs. flexible sequence) and the number of purchased yogurts ($\chi^2(1) = 9.00$, $p < .01$). For customers who received the fixed-sequence card, the time between visits decreased significantly with each additional purchased yogurt ($\beta = .18$, $\chi^2(1) = 16.19$, $p < .01$), whereas for those customers who received a card that required them to decide which purchase to make next, the time between visits did not decrease with each additional purchased yogurt ($\beta = .02$, $\chi^2(1) = 0.17$, NS).

This time trend difference highlighted an important moderator of the acceleration effect in goal pursuit: the time between purchases only decreased if there was a predetermined sequence that people had to follow; if customers faced a nonsequential set of options, the acceleration effect was attenuated, and the customers did not return to the store more quickly as they progressed, presumably because the difficulty in choosing among multiple possibilities moderated the effect of increased progress on goal completion. This pattern provided important initial support for our hypothesis that the difficulty of making decisions complicates goal pursuit and renders the nonsequential goal pursuit more demanding.

Although findings in a real business setting had important implications, we would also like to test our hypothesis with a more homogeneous sample in a more controlled setting in which we can track the behaviors of all participants throughout the entire process. With these objectives in mind, our next study took place in a laboratory environment and further tested our hypothesis through a transcription task.

STUDY 2: TRANSCRIPTION TASK

Participants in this study completed a task that required them to transcribe texts in five different foreign languages. We varied whether these tasks needed to be completed following a fixed sequence. We measured participants' goal-adoption behaviors and recorded their actual task performance.

Method

A total of 149 Fudan University undergraduate students (83 females, 66 males) completed this study in an experimental lab. This study used a 2 (action: goal adoption vs. goal completion) × 2 (goal structure: fixed sequence vs. flexible sequence) between-subjects design. Upon arriving at the lab, participants were told that the experiment was intended to test their abilities to learn foreign languages. The experimenter explained to participants that their task was to copy, word for word, five paragraphs of text written in different languages (one paragraph each in Arabic, Kannada, Mongolian, Uighur, and Kazakh) from a computer screen to paper. Pretests showed that people who are unfamiliar with these languages perceived them as equally illegible and found that they were all difficult to transcribe. We excluded participants (one person) who indicated that they were familiar with any of these languages.

The instructions explained that the task was divided into

five sections of one language each. We manipulated the sequence by telling people either that they could decide in which order to transcribe the different paragraphs or that they had to follow a specific sequence (e.g., Arabic → Kannada → Mongolian → Uighur → Kazakh). We counterbalanced the sequence of the five paragraphs to avoid any order effects.

After providing information about the task, we assessed participant motivation to adopt and complete the goal. In the goal-adoption conditions, participants were asked whether they would like to participate in this transcription task. We told participants that if they decided to participate, they would receive a $2 (RMB 12) participation fee, plus an additional $5 (RMB 30) if they completed all paragraphs, but would receive nothing if they failed to complete the task. Alternatively, if participants decided not to participate in this experiment, they could collect the participation fee and end the session. In contrast, in the goal-completion conditions, participants did not have to decide whether to participate and simply began the transcription task after reading the instructions. As in the goal-adoption condition, we told these participants that they would receive a cash reward ($2 participation fee plus $5 additional cash) if they completed the entire task successfully but would receive nothing if they failed to finish the task.

Participants completed the study individually in separate experiment rooms. In each room, there was one computer, a stack of paper, and a pencil. Participants in the goal-adoption conditions read the instructions and were then asked to indicate whether they wanted to participate. The computer program automatically skipped to the final page for those participants who chose not to participate and began the transcription task for those who did. Participants in the goal-completion conditions read the instructions and directly began the transcription task. A "quit" button was visible on the screen throughout the entire task for all participants, such that they could leave the experiment whenever they wanted.

In all four conditions, it was emphasized that the transcribed text would have to be identical to the original and that if there were more than three mistakes, the participants would receive nothing for the experiment. After completing the task, participants handed the transcribed texts to a "native speaker" for an accuracy check and were then compensated and dismissed.

Results

As in the previous study, we analyzed the goal-adoption and goal-completion rates as two separate measures. Among participants in the goal-adoption conditions, those who were told that they needed to complete the task following a fixed sequence were less likely to adopt the goal (40.54%) than those who were told that they could complete the task in any order (64.10%; $\beta = -0.96$, Wald $\chi^2(1, N = 76) = 4.15$, $p < .05$). However, the actual completion rate among participants in the goal-completion conditions showed the opposite pattern: those participants who had to follow a fixed sequence were more likely to complete all five required subtasks (75.00%) than those who could choose their own sequences (51.4%; $\beta = 1.05$, Wald $\chi^2(1, N = 73) = 4.26$, $p < .05$; see fig. 2).

A different way of assessing motivation in this task is to explore the total number of subtasks completed before quitting. We specifically observed people in the goal-completion conditions, that is, people who proceeded straight to the transcription task. In these conditions, participants who were given a fixed sequence completed more sessions ($M = 4.17$) before quitting, compared with those who were not given a fixed sequence ($M = 3.24$; $t(71) = 2.18$, $p < .05$), suggesting that during the actual goal pursuit, an inflexible task structure was more effective. We also performed similar analyses on participants in the goal-adoption conditions who chose to initiate the goal and observed the same pattern (see table 1).

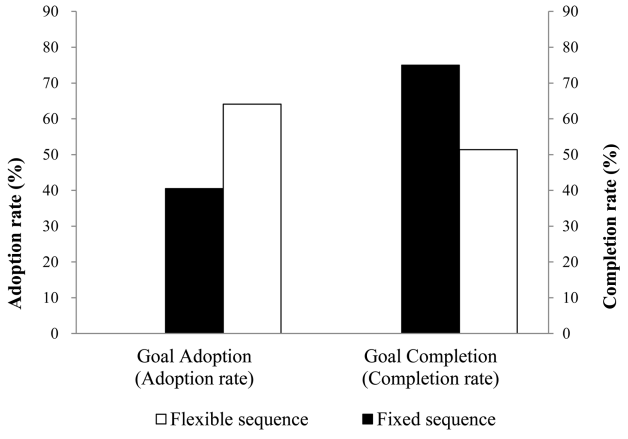
These results further supported our hypothesis that although people are more likely to adopt a goal that allows for a flexible completion structure, they are more likely to complete goals with a fixed sequence. We attribute the difficulty in completing the flexible goal to the repeated choice for their next steps; therefore, if given the option to skip these choices, people should perform better in completing their goals. For example, if there is a default option that relieves people from the need for repeatedly shifting to a deliberative mind-set and making choices, we should expect similar goal-completion rates for flexible- and fixed-sequence goals. Our next study tests this hypothesis.

STUDY 3: TRIP PLANNING

Participants in this study completed a typical consumer task (designing trip itineraries). In addition to their actual goal adoption and completion, we assessed participants' ex-

FIGURE 2

ADOPTION RATE AND COMPLETION RATE AS A FUNCTION OF ACTION AND GOAL STRUCTURE (STUDY 2)



pectations and experiences at various time points and observed whether people's erroneous expectations about goal difficulty indeed influenced their behaviors.

Method

A total of 343 Fudan University students (191 females, 152 males) completed this study in an experimental lab. This study used a 2 (action: goal adoption vs. goal completion) × 3 (goal structure: fixed sequence vs. flexible sequence without default options vs. flexible sequence with default options) between-subjects design.

Participants were informed that the researchers were interested in how consumers planned their overseas trips and that their task in this experiment was to design travel itineraries for seven different countries (see app. A, in the online version of *JCR*). On the basis of our pretest, we selected seven European countries that our participants indicated were relatively unfamiliar (i.e., Norway, Austria, Finland, Iceland, Denmark, Sweden, and Belgium) and excluded participants (three people) who indicated that they had traveled to any of these countries. Participants were allowed to access a travel website that contained all the information they needed for the task and were asked to design a recommended itinerary (including route, must-see attractions, options for transportation, and accommodations) for each of the seven countries. Participants were told that they would be entered into a lottery to win a $40-value (RMB 240), nice duffel bag. Participants were also informed that they could quit the experiment at any time but that quitting would mean that they would forgo the chance to win the prize. The option of quitting was provided at the bottom of the screen throughout the task.

To manipulate the goal structure, participants were told that some people would have to follow a prespecified order while others could follow whatever order they preferred and that the computer would randomly assign them to either of the conditions. Participants who were assigned to the fixed-sequence conditions learned that they had to follow a specific sequence when completing the itineraries for the seven countries (i.e., Norway → Austria → Finland → Iceland → Denmark → Sweden → Belgium). As in the previous studies, we counterbalanced the positions of the countries in the sequence to avoid any ordering effects. Participants in the flexible sequence without default options conditions were told that they could finish the seven itineraries following whatever order they preferred; upon completing the itinerary for one country, the remaining countries would appear on the screen, and participants could choose which one to proceed with.

We also added a flexible sequence with default option condition in this study in which participants learned that they could complete the itineraries for these seven countries following whatever order they preferred; however, after completing each country, participants would see not only the remaining countries but also a default country that was randomly chosen by the computer as the next step. It was emphasized that they could follow the default option or ignore it and choose another country to proceed with.

In addition, in the goal-adoption conditions, participants were informed that they could decide whether to participate in this study; there was no penalty if they decided not to participate (they would just forgo the chance to win the duffel bag). In contrast, for participants in the goal-completion conditions, this option was not presented, and all participants initiated the task.

We also told participants that they would need to answer some questions during the task. The first pop-up box appeared after all participants learned about the task and about whether they would need to follow a specific sequence when completing it. For participants in the goal-adoption conditions, these questions appeared after they learned that they were assigned to the fixed- or flexible-sequence conditions but before they decided whether to initiate the task. Among filler questions regarding items such as travel experience, of special interest to us was the question that gauged participants' expected difficulty in completing the task ("How difficult do you think it is for you to complete all itineraries to win the prize?"; 10-point scale; 1 = not difficult at all, and 10 = very difficult). After answering these questions, participants in the goal-completion conditions commenced the task, and those in the goal-adoption conditions indicated whether they would participate in this study; those who said yes then also started the task.

For participants who actually performed the task (including all participants in the goal-completion conditions and those in the goal-adoption conditions who chose to initiate the goal), a second pop-up box appeared after they submitted their first itinerary and made a decision regarding the next step. Our main interest here was participants' experienced difficulty; we asked them to indicate, among filler questions, how difficult they felt the task was ("To what extent do you feel the task is difficult right now?"; 10-point scale; 1 = not difficult at all, and 10 = very difficult). After answering these questions, participants continued with the main experiment. At the end of the study (or after participants quit the study), we probed them for suspicions and debriefed them.

Results and Discussion

Goal Adoption. A chi-square analysis of participants' goal-adoption rates demonstrated that participants who had to follow a fixed sequence were less likely to adopt the goal (66.1%) than those in the flexible sequence without default options condition (85.5%; $\chi^2(1, N = 111) = 5.66$, $p < .05$) or those in the flexible sequence with default options condition (82.1%; $\chi^2(1, N = 112) = 3.77$, $p = .05$). There were no differences between the latter groups ($\chi^2(1, N = 111) = 0.22$, NS; see table 2). This result again confirmed our earlier finding that a fixed (vs. flexible) sequence decreases goal adoption.

Goal Completion. Overall, the participants in the flexible sequence with default options conditions chose to follow

TABLE 2

ADOPTION RATE, COMPLETION RATE, SUBTASKS COMPLETED, EXPECTED DIFFICULTY, AND EXPERIENCED DIFFICULTY IN EACH CONDITION (STUDY 3)

	Goal adoption			Goal completion		
	Fixed ($n = 56$)	Flexible without default ($n = 55$)	Flexible with default ($n = 56$)	Fixed ($n = 57$)	Flexible without default ($n = 60$)	Flexible with default ($n = 59$)
Adoption rate (%)	66.1_a	85.5_b	82.1_b	. . .	. . .	. . .
Completion rate (%)	. . .	. . .	. . .	71.9_a	53.3_b	74.6_a
Subtasks completed	. . .	. . .	. . .	5.53 $(2.44)_a$	4.57 $(2.89)_b$	5.73 $(2.28)_a$
Expected difficulty	6.07 $(2.32)_a$	4.98 $(2.14)_b$	5.09 $(2.09)_b$	5.79 $(2.27)_a$	4.57 $(2.30)_b$	4.93 $(2.12)_b$
Experienced difficulty	. . .	. . .	. . .	5.05 $(2.44)_a$	6.22 $(2.26)_b$	4.92 $(2.38)_a$

NOTE.—Within the goal-adoption and goal-completion conditions, means in the same row with different subscripts are significantly different at $p < .05$. Standard deviations reported in parentheses.

the default option 90.85% of the time, confirming our expectations that they experienced the choices as being difficult and would mostly bypass them if possible. In the goal-completion conditions, of the participants who were required to follow a fixed sequence to complete the goal ($n = 57$), 71.9% completed all seven subtasks, compared with 53.3% ($n = 60$) of the participants who faced a flexible sequence without default options ($\chi^2(1, N = 117) = 4.31, p < .05$). Interestingly, among the participants who faced a flexible sequence with default options ($n = 59$), 74.6% completed all itineraries, a completion rate that was significantly higher than that in the flexible sequence without default option condition ($\chi^2(1, N = 119) = 5.82, p < .05$) and that was comparable to that in the fixed-sequence condition (71.9%; $\chi^2(1, N = 116) = 0.10$, NS; see table 2). The presence of a default action in transitional moments allowed people to skip difficult choices and increased their actual goal-completion rates.

An ANOVA of the number of participants' total completed itineraries before quitting also revealed a main effect of goal structure ($F(2, 173) = 3.52, p < .05$). Participants in the flexible sequence without default options goal-completion condition completed the fewest itineraries ($M = 4.57$) before quitting, compared to those in the flexible sequence with default options ($M = 5.73$; $t(173) = 2.48, p < .05$) and those in the fixed-sequence goal-completion conditions ($M = 5.53$; $t(173) = 2.03, p < .05$). There were no reliable differences between the latter groups ($t(173) = -0.42$, NS; see table 2). As in previous studies, we also found that individuals in the goal-adoption conditions who chose to initiate the goal behaved similarly to those in the goal-completion conditions (see table 1).

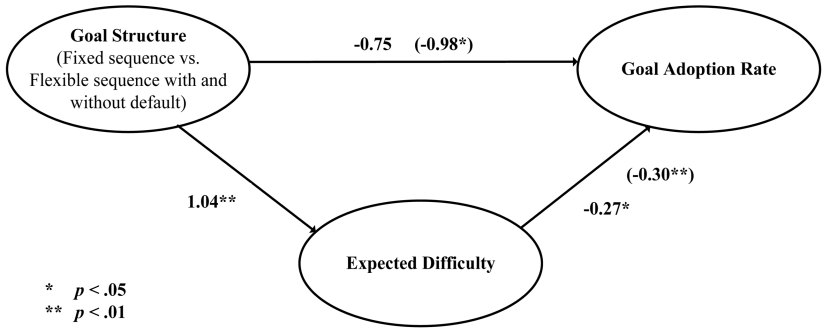
Expected Difficulty. We hypothesized that, before initiating goal pursuit, people avoid fixed-sequence goals because they expect them to be difficult. Indeed, an ANOVA of the expected difficulty reported by participants in the goal-adoption conditions first yielded a main effect of goal structure ($F(2, 164) = 4.21, p < .05$), such that participants expected the fixed-sequence goal to be more difficult ($M = 6.07$) than the flexible-sequence goal, regardless of whether there were default options ($M = 5.09$; $t(164) = 2.37, p < .05$) or not ($M = 4.98$; $t(164) = 2.63, p < .05$). The expected difficulty did not differ between the latter groups ($t(164) = 0.27$, NS), suggesting that people were confident about choosing a sequence and believed that a default option would not make the goal any easier.

To further test the relation between participants' goal-adoption decisions and expected goal difficulty, we conducted a mediation analysis with the participants in the goal-adoption conditions ($n = 167$), using a bootstrapping procedure that generated a sample size of 5,000 to assess the regression models (Preacher, Rucker, and Hayes 2007, model 4; Zhao, Lynch, and Chen 2010). Specifically, we compared the fixed-sequence condition to the combined flexible sequence with default and flexible sequence without default conditions in this mediation analysis because the latter two conditions showed similar goal-adoption patterns. This analysis showed that expected goal difficulty was predicted by the goal structure (1 = fixed sequence, 0 = flexible sequence with and without default) in the mediator model ($B = 1.04, t = 2.79, p < .01$). In the dependent variable model, expected goal difficulty predicted goal adoption ($B = -0.27, z = -2.88, p < .01$), whereas the direct effect of goal structure was no longer significant (direct effect: $B = -0.75, z = -1.87$, NS). The indirect effect of goal structure on goal adoption through expected goal difficulty was also significant (95%; $B = -0.27$, confidence interval [CI] $= -0.66$ to -0.05), which suggests that the effect of goal structure on goal adoption was fully mediated by expected goal difficulty (see fig. 3).

Experienced Difficulty. This study further allowed us to assess the experienced difficulty during goal pursuit among participants in the goal-completion conditions. An ANOVA of participants' experienced difficulty revealed a main effect of sequence ($F(2, 173) = 5.45, p < .01$), such that participants who faced a flexible-sequence goal with no default options experienced greater difficulty during the task ($M = 6.22$) than those in the flexible sequence with default options condition ($M = 4.92$; $t(173) = 3.00, p < .01$) and those who faced a goal with a fixed sequence ($M = 5.05$; $t(173) = 2.65, p < .01$). The experienced difficulty did not differ between the latter groups ($t(173) = 0.32$, NS; see table 2).

FIGURE 3

PATH MODEL OF THE INFLUENCE OF EXPECTED DIFFICULTY ON GOAL ADOPTION AMONG PARTICIPANTS IN THE GOAL-ADOPTION CONDITIONS (STUDY 3)



Participants who were in the goal-adoption conditions and who chose to initiate the goal reported experiencing patterns of difficulty similar to those in the goal-completion conditions. Participants who pursued a flexible sequence without default options experienced more difficulty ($M = 6.45$) than those who pursued a flexible sequence with default options ($M = 4.98$; $t(127) = 3.06$, $p < .01$) and those who pursued a fixed-sequence goal ($M = 4.76$; $t(127) = 3.32$, $p < .01$).

One advantage of this design is that we measured both the expected and the experienced difficulties of the individuals in the goal-completion conditions, which allowed us to make direct comparisons between these two measures. A repeated-measures ANOVA revealed a significant goal structure × timing of difficulty measure interaction ($F(2, 173) = 9.74$, $p < .01$). Although people expected that fixed goals ($M = 5.79$) would be more difficult than flexible goals with default options ($M = 4.93$; $t(173) = 2.07$, $p < .05$) or flexible goals without default options ($M = 4.57$; $t(173) = 2.95$, $p < .01$), their actual experiences showed the opposite pattern: flexible goals without default options were experienced as more difficult ($M = 6.22$) relative to flexible goals with default options ($M = 4.92$; $t(173) = 3.00$, $p < .01$) or fixed-sequence goals ($M = 5.05$; $t(173) = 2.65$, $p < .01$; see table 2). This pattern further highlighted the disparity between expected and experienced difficulties, which, on the basis of our reasoning, determines actual goal performance.

We conducted a second mediation analysis with participants in the goal-completion conditions to test whether the experienced difficulty actually influenced their goal-completion rates, using a bootstrapping procedure (5,000 bootstrap samples). In this mediation analysis, we compared the flexible sequence without default condition to the combined fixed sequence and flexible sequence with default conditions because the latter two conditions showed similar goal-completion patterns. The analysis showed that experienced goal difficulty was predicted by the goal structure (1 = fixed sequence and flexible sequence with default, 0 = flexible sequence without default; $B = -1.23$, $t = -3.34$, $p < .01$) in the mediator model. In the dependent variable model, experienced goal difficulty predicted goal completion ($B = -0.37$, $z = -4.51$, $p < .01$), whereas the direct effect of goal structure was no longer significant (direct effect: $B = 0.56$, $z = 1.56$, NS). The indirect effect of goal structure on goal completion through experienced goal difficulty was also significant (95%; $B = 0.46$, CI = 0.17 to 0.88), which suggests that the effect of goal structure on goal completion was fully mediated by experienced goal difficulty (see fig. 4).

This study provided important support for our hypothesis that although people were less likely to adopt fixed-sequence goals because they anticipated these goals to be more difficult, the rigid structure is actually more effective and induces greater goal-completion rates once people have committed to pursuing the goal. We also demonstrated that the presence of default options during transitions reduced the experienced goal pursuit difficulty and increased goal-completion rates among participants who faced flexible goal structures. Interestingly, before initiating goal pursuit, people did not anticipate that the default options would make the goal easier; however, people soon enjoyed the benefits once the goal pursuit was in process.

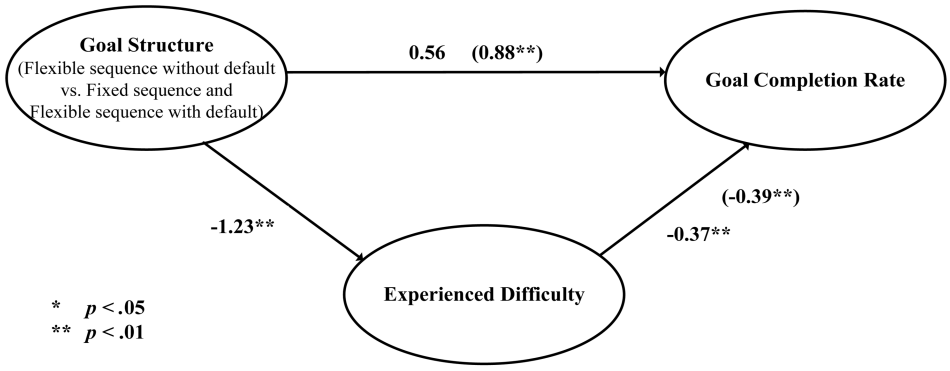
While this study provided strong evidence that it was the disparity between anticipated and experienced goal difficulty that contributed to the relative beneficial impact of a rigid goal structure, we only measured the general sense of difficulty, without specifically linking it to the choice that people need to make in flexible goals. In our next study, in addition to assessing the general sense of difficulty, we specifically explored whether having to make choices on the sequence increases goal difficulty and hurts goal completion.

STUDY 4: CUSTOMIZING FURNITURE

The main objective of study 4 is to further explore the specific mechanism behind the ironic effect in a consumption context. Participants in this study completed a shopping

FIGURE 4

PATH MODEL OF THE INFLUENCE OF EXPERIENCED DIFFICULTY ON GOAL COMPLETION AMONG PARTICIPANTS IN THE GOAL-COMPLETION CONDITIONS (STUDY 3)



task that required them to customize different furniture pieces. We assessed directly whether having to make choices on the sequence increases task difficulty and hurts goal completion.

In this study, we would also like to test our proposed mechanism by varying the overall task difficulty. We reason that if the choices hinder goal completion because they increase consumers' experienced difficulty, the positive impact of a fixed sequence, which eliminates the need to choose, should be relatively constant, regardless of the original task difficulty.

Method

A total of 439 Fudan University students (180 males, 259 females) completed this study in an experimental lab. This study used a 2 (action: goal adoption vs. goal completion) × 2 (goal structure: fixed sequence vs. flexible sequence) × 2 (task type: difficult vs. easy) between-subjects design.

Upon arriving at the lab, participants were told that the study that they were about to participate in was in collaboration with a custom furniture manufacturer. In this study, participants were going to play the role of a furniture shopper, and their task was to purchase seven custom "must-have" items for a new apartment. Specifically, participants were told that their task was to customize seven essential furniture pieces (couch, bed, coffee table, dining table, bookcases, wardrobe, and TV cabinet) and that, for each item, they needed to communicate their preferences and requirements to the manufacturer by answering some open-ended questions (see app. B, in the online version of *JCR*).

Participants completed the study on desktop computers and were promised a $5 (RMB 30) cash reward. Participants were also informed that they could quit the study at any time but that quitting meant that they would forgo the cash reward. The option of quitting was provided at the bottom of the screen throughout the task.

The manipulation of the goal sequence was similar to previous studies. Participants in the fixed-sequence conditions learned that they had to follow a specific sequence when customizing the seven pieces (e.g., bed → dining table → wardrobe → couch → coffee table → bookcases → TV cabinet), and the order of the items was counterbalanced. Participants in the flexible-sequence conditions were told that they could customize the seven items following whatever order they preferred and that upon completing each item, the remaining items would appear on the screen, and they could choose which one to proceed with.

We then manipulated the overall task difficulty. Specifically, participants in the easy task conditions were required to describe their preference for each item on three different attributes, and their answers to these open-ended questions should have no fewer than 100 words. By comparison, participants in the difficult-task conditions were required to communicate their preferences on seven different attributes, and the answers to these questions should have no fewer than 400 words.

After learning these rules, participants in the goal-adoption conditions further read that they could decide whether to participate in this study. These participants were told that they would receive a $5 (RMB 30) cash reward if they chose to participate and completed customizing all seven furniture pieces but that they would receive nothing if they did not complete the entire task. Similar to previous studies, to ensure that the people who chose to participate were truly expecting to finish the task instead of just trying, we also offered them $2 (RMB 12) for showing up if they decided not to participate. We measured how many people chose to participate in the study as an indicator of their willingness to adopt the goal. After participants indicated their decision, the computer loaded a page that explained that the study had been canceled because of technical difficulties and offered them $5 (RMB 30) in cash as compensation. Therefore, none of the participants in the goal-adoption conditions

TABLE 3

RESULTS OF STUDY 4

	Goal adoption				Goal completion			
	Easy task		Difficult task		Easy task		Difficult task	
	Fixed (n = 55)	Flexible (n = 54)	Fixed (n = 55)	Flexible (n = 55)	Fixed (n = 55)	Flexible (n = 55)	Fixed (n = 55)	Flexible (n = 55)
Adoption rate (%)	41.8_a	61.1_b	25.5_a	43.6_b	. . .	. . .	. . .	. . .
Completion rate (%)	. . .	. . .	. . .	. . .	81.8_a	65.5_b	67.3_a	47.3_b
Subtasks completed	. . .	. . .	. . .	. . .	5.95 $(2.26)_a$	5.16 $(2.59)_a$	5.42 $(2.54)_a$	4.15 $(2.82)_b$
Anticipated impact of choice	. . .	. . .	. . .	. . .	6.09 $(2.33)_a$	4.11 $(2.25)_a$	5.95 $(2.21)_a$	4.67 $(1.97)_a$
Experienced impact of choice	. . .	. . .	. . .	. . .	4.84 $(2.27)_b$	5.09 $(2.35)_b$	4.89 $(2.40)_b$	5.47 $(1.93)_b$
Anticipated goal difficulty	5.64 $(2.56)_a$	4.54 $(2.91)_b$	6.75 $(2.59)_a$	5.73 $(2.77)_b$	4.95 $(2.45)_a$	4.05 $(2.06)_b$	5.78 $(2.23)_a$	4.69 $(2.49)_b$
Experienced goal difficulty	. . .	. . .	. . .	. . .	4.49 $(2.28)_a$	5.51 $(2.60)_b$	5.45 $(2.45)_a$	6.55 $(2.50)_b$

NOTE.—Within the easy task and difficult task conditions, means in the same row with different subscripts are significantly different at $p \leq .05$. For the anticipated impact of choice and experienced impact of choice, means in the same column with different subscripts are significantly different at $p < .05$. Standard deviations reported in parentheses.

actually completed the task. By comparison, participants in the goal-completion conditions were not given the opportunity to decide whether to participate in the study, and the task commenced after the instructions.

To capture the specific mechanisms, we also informed all participants that they would encounter some questions about the design of the experiments during the task. The first pop-up question box appeared after all participants (goal-adoption and goal-completion conditions) learned about the task and whether they needed to follow a fixed sequence. For participants in the goal-adoption conditions, these questions appeared after they learned that they were about to complete the task following either a fixed or flexible sequence but before they decided whether to participate. Among filler questions, such as past furniture purchase experiences, two questions were of particular interest to us: the first question asked whether participants felt making choices would influence the difficulty level of the goal. Participants in the flexible-sequence conditions answered the following question: "Do you think that, after customizing each furniture piece, choosing which item to do next will make completing the task easier or more difficult?" (1 = much easier, and 10 = much more difficult). For participants in the fixed-sequence conditions, the question was as follows: "Do you think that, after customizing each furniture item, not choosing which item to do next will make completing the task easier or more difficult?" (1 = much easier, and 10 = much more difficult). Furthermore, we asked participants to predict the overall difficulty of the goal ("How difficult do you think it is for you to complete the task?"; 1 = not at all, and 10 = extremely). After answering these questions, participants in the completion conditions commenced the task, and participants in the goal-adoption conditions indicated whether they would participate in this study.

For participants in the goal-completion conditions, a second pop-up box appeared after they submitted their answers for the second piece of furniture and were about to start the third one. Among filler questions, we measured the influence of choices on goal difficulty. Participants in the flexible-sequence conditions answered the following question: "Does choosing which item to do next after customizing each furniture piece make completing the task easier or more difficult?" (1 = much easier, and 10 = much more difficult); participants in the fixed-sequence conditions answered the following question: "Does not choosing which item to do next after customizing each furniture piece make completing the task easier or more difficult?" (1 = much easier, and 10 = much more difficult). We then again asked participants about their actual experience of the overall goal difficulty ("To what extent do you feel completing the task is difficult?"; 1 = not at all, and 10 = extremely). After answering these questions, participants continued with the main experiment.

Results and Discussion

Goal Adoption. A logistic regression model of goal-adoption rates yielded a main effect of task type ($\beta = .74$, Wald $\chi^2(1) = 3.25$, $p = .07$), such that participants in the easy task conditions were more likely to adopt the goal (51.4%) than those in the difficult conditions (34.5%). This analysis also yielded a main effect of goal structure ($\beta = .82$, Wald $\chi^2(1) = 3.95$, $p < .05$), such that participants who had to follow a fixed sequence were less likely to adopt the goal (33.6%) than those in the flexible-sequence conditions (52.3%). No other effects emerged in this analysis (see table 3).

Expected Overall Goal Difficulty and Goal Adoption. Similar to the previous study, an ANOVA of the expected overall goal difficulty in the goal-adoption conditions yielded a main effect of task type ($F(1, 215) = 9.85$, $p < .01$) and a main effect of goal structure ($F(1, 215) = 8.35$, $p < .01$) but no interaction effect ($F(1, 215) = 0.01$, NS), suggesting that participants expected the fixed-sequence goal to be more difficult ($M = 6.19$) than the flexible-sequence goal ($M = 5.13$), regardless of whether the overall task was relatively easy ($M_{flex} = 4.54$, $M_{fixed} = 5.64$; $t(107)$

$= 2.10$, $p < .05$) or difficult ($M_{flex} = 5.73$, $M_{fixed} = 6.75$; $t(108) = 1.99$, $p < .05$).

How did the expected goal difficulty influence participants' goal-adoption decisions? We conducted a mediation analysis with all participants in the goal-adoption conditions ($n = 219$), using a bootstrapping procedure (5,000 bootstrap samples): expected overall goal difficulty was predicted by the goal structure (1 = fixed sequence, 0 = flexible sequence) in the mediator model ($B = 1.05$, $t = 2.82$, $p < .01$). In the dependent variable model, expected overall goal difficulty predicted goal adoption ($B = -0.32$, $z = -5.45$, $p < .01$), whereas the goal structure was no longer significant (direct effect: $B = -0.54$, $z = -1.80$, NS). The indirect effect of goal structure on goal adoption through expected overall goal difficulty was also significant (95%; $B = -0.33$, CI $= -0.64$ to -0.11), which suggests that the effect of goal structure on goal adoption was fully mediated by expected goal difficulty.

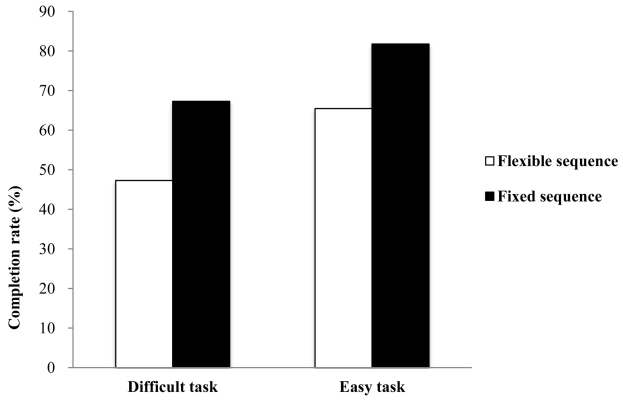
Goal Completion. We next examine how successful participants were in completing their goals. A logistic regression model of goal-completion rates yielded a main effect of task type ($\beta = .78$, Wald $\chi^2(1) = 3.00$, $p < .07$), such that participants were more likely to complete the relatively easy task (73.6%) than the difficult task (57.3%). In addition, this analysis yielded a main effect of goal structure ($\beta = -.83$, Wald $\chi^2(1) = 4.43$, $p < .05$), such that participants were more likely to complete the fixed-sequence goal (74.5%) than the flexible-sequence goal (56.4%). More important, there was no interaction effect in this analysis ($\beta = -.03$, NS), suggesting that a rigid goal structure positively affects goal completion, regardless of whether the task was relatively easy (81.8% vs. 65.5%; $\chi^2(1) = 3.79$, $p = .05$) or difficult (67.3% vs. 47.3%; $\chi^2(1) = 4.50$, $p < .05$; see fig. 5).

In addition to the overall goal-completion rate, a second measure of participants' goal-completion behaviors was the number of subtasks they finished before quitting. An ANOVA of this measure showed a pattern that was similar to the completion rate: participants in the fixed-sequence conditions completed more subtasks before quitting than did those in the flexible-sequence conditions, regardless of whether the task was relatively easy ($M_{flex} = 5.16$ vs. $M_{fixed} = 5.95$; $t(108) = 1.69$, $p = .09$) or difficult ($M_{flex} = 4.15$ vs. $M_{fixed} = 5.42$; $t(108) = 2.49$, $p < .05$). There was no interaction effect in this analysis ($F(1, 216) = 0.51$, NS).

Disparity between Anticipated and Experienced Impact of Choice on Goal Difficulty. We asked participants in the flexible-sequence goal-completion conditions about the anticipated and actual influences of having to make choices. This specific measure of whether choice influenced goal difficulty allowed us to conduct a more precise analysis of the role of choice in influencing goal difficulty. A repeated-measures ANOVA on this variable yielded a main effect of repeated measures ($F(1, 108) = 11.82$, $p < .01$). Compared with participants' preinitiation anticipation that choices would make the goal less difficult ($M = 4.39$), their actual experience of the choices showed that it made the goal more difficult ($M = 5.28$); this pattern holds true, regardless of whether the task was relatively easy ($M_{ant} = 4.11$, $M_{exp} = 5.09$; $t(54) = 2.40$, $p < .05$) or difficult ($M_{ant} = 4.67$, $M_{exp} = 5.47$; $t(54) = 2.51$, $p < .05$).

FIGURE 5

COMPLETION RATE AS A FUNCTION OF GOAL STRUCTURE AND TASK DIFFICULTY IN THE GOAL-COMPLETION CONDITIONS (STUDY 4)



Because they did not have to choose what the next steps should be, we asked participants in the fixed-sequence goal-completion conditions about the anticipated and actual influences of not having to make choices. Again, compared with participants' preinitiation anticipation that not making choices would make the goal difficult ($M = 6.02$), their experience of not having to make choices actually made them feel that the goal was less difficult ($M = 4.86$; $F(1, 108) = 11.22$, $p < .01$); this pattern held true, regardless of whether the overall task was relatively easy ($M_{ant} = 6.09$, $M_{exp} = 4.84$; $t(54) = 2.82$, $p < .01$) or difficult ($M_{ant} = 5.95$, $M_{exp} = 4.89$; $t(54) = 2.00$, $p = .05$).

Our theorizing suggests that it is the choices that increase the experienced goal difficulty, which in turn hinders goal completion. Therefore, in addition to the specific impact of choice, as in the previous study we also directly assessed the overall goal difficulty. Not surprisingly, the anticipated overall goal difficulty was correlated with the anticipated impact of choices on the goal ($r = .47$ for fixed goal-completion condition, $p < .001$; $r = .51$ for flexible goal-completion condition, $p < .001$). Similarly, the experienced overall goal difficulty was also correlated with the experienced impact of choices on the goal ($r = .29$ for fixed goal-completion condition, $p < .01$; $r = .42$ for flexible goal-completion condition, $p < .001$). Following our model, we then analyzed how the anticipated and experienced overall goal difficulty influenced participants' goal completion.

Disparity between Anticipated and Experienced Overall Goal Difficulty. A repeated-measures ANOVA revealed a significant goal structure × timing of difficulty measure

two-way interaction ($F(1, 216) = 31.57$, $p < .01$) and no three-way interaction ($F(1, 216) = 0.14$, NS). In the difficult task goal-completion conditions, although people expected fixed goals to be more difficult ($M = 5.78$) than flexible goals ($M = 4.69$; $t(108) = 2.42$, $p < .05$), their actual experiences showed the opposite pattern: flexible goals were experienced as more difficult ($M = 6.55$) relative to fixed goals ($M = 5.45$; $t(108) = 2.31$, $p < .05$). The same disparity occurred for participants in the easy task goal-completion conditions: while they expected fixed goals ($M = 4.95$) to be more difficult than flexible goals ($M = 4.05$; $t(108) = 2.07$, $p < .05$), they experienced the flexible goals as more difficult ($M = 5.51$) than the rigid goals ($M = 4.49$; $t(108) = 2.18$, $p < .05$).

Consistent with our hypothesis, while anticipated goal difficulty was not a significant predictor of goal completion ($B = -0.09$, Ward $\chi^2(1) = 2.21$, NS), experienced goal difficulty was. We then conducted a second mediation analysis with the participants in the goal-completion conditions ($n = 220$), using a bootstrapping procedure (5,000 bootstrap samples): goal structure (1 = fixed sequence, 0 = flexible sequence) predicted experienced goal difficulty in the mediator model ($B = -1.06$, $t = -3.11$, $p < .01$). In the dependent variable model, experienced goal difficulty predicted goal completion ($B = -0.33$, $z = -4.91$, $p < .01$), whereas the goal structure was no longer significant (direct effect: $B = 0.57$, $z = 1.81$, NS). The indirect effect of goal structure on goal completion through experienced goal difficulty was also significant (95%; $B = 0.35$, CI = 0.13 to 0.68), which suggests that experienced goal difficulty fully mediated the effect of goal structure on goal completion.

Overall, with more precise measures, this study demonstrated that while people expected a rigid goal structure to make a goal more difficult, their actual experience suggested the opposite. Furthermore, this study showed that the positive impact of a rigid structure did not vary depending on the original task properties, offering further support for the mechanism that a fixed goal structure facilitates goal completion by eliminating the need for consumers to make repeated choices.

GENERAL DISCUSSION

Successful goal pursuit starts with choosing the right goal. Consumers assess their attainment chances before committing to a goal and, holding the outcome constant, generally prefer goals that seem to be more easily attainable. These assessments, however, are sometimes inaccurate. The current research explored how goal structure affects consumers' decisions to initiate a goal and their actual goal completion. We found that although people are less interested in pursuing goals that demand that all steps be completed following a fixed sequence because this rigidity makes the goal seem more difficult, this structure actually facilitates goal completion compared to a flexible goal structure that does not require tasks to be completed in any particular order and results in higher completion rates once the goal is initiated.

Four studies provided evidence supporting our hypothesis. Using a customer loyalty program, study 1 demonstrated that consumers who were required to make purchases following a fixed sequence (vs. a flexible sequence) to earn a reward were less likely to adopt the goal but more likely to finish all the necessary purchases to be redeemed for the reward. Study 2 found the same pattern in a more controlled setting by observing goal-adoption decisions and performance in a transcription task and further demonstrated that a fixed (vs. flexible) goal-completion sequence enhanced goal completion. Study 3 directly tested the full model and showed that a fixed sequence (vs. a flexible sequence) made goals appear more difficult and discouraged goal adoption but ironically helped goal completion by alleviating the difficulty. This study also demonstrated that an option to bypass the choices, while not anticipated to be helpful, reduced experienced overall goal difficulty for flexible-sequence goals and increased goal-completion rates. Finally, study 4 analyzed the underlying mechanism in more detail by linking the choices to experienced goal difficulty and demonstrated that people who followed a fixed sequence felt that not having to make choices during goal pursuit actually made the goal easier and better completed the goal, regardless of whether the goal itself was easy or difficult.

Although our theorizing attributes consumers' inability to complete goals with a flexible sequence to the goal difficulty incurred by repeated choices, it is worth noting that choices also provide break points at which consumers might pause and contemplate the value or attainability of the goal. These moments of contemplation, in turn, become opportunities for consumers to withdraw their effort and abandon the pursuit (Cheema and Soman 2008). Although this effect might also in part contribute to the increased likelihood for consumers to abandon flexible goals, our empirical tests, in particular study 4 and the meditational analyses, suggest that its impact is relatively slight and that the difficulty experienced is a more fitting explanation in this case.

Consumers' inability to foresee the value of rigidity in goal pursuit is a critical factor in understanding the interesting reversals found in our results. When assessing the difficulty of pursuing a given goal, consumers believe that an inflexible sequence limits their room for adjustments and therefore increases the overall difficulty of the pursuit. While this belief is true in some cases, particularly when a certain path becomes impossible to follow and adjustments are necessary, what people fail to recognize is that relatively rigid structures simplify goal pursuit by removing the need to make repeated choices, ultimately making the pursuit less difficult.

At a more general level, the value of rigidity should be noted by theorists and practitioners alike. In certain situations, individuals see the value of restrictions and strategically use them to ensure successful goal attainment. For example, the self-control literature has documented consumer willingness to strategically limit the availability of tempting options so they can achieve their health goals (Ainslie 1992; Schelling 1984; Thaler and Shefrin 1981). Similarly, in the treatment of addiction and compulsion, follow-

ing a relatively rigid set of principles to achieve the desired outcome (e.g., Alcoholics Anonymous 12-step program) is often seen as a relatively effective mechanism (Fox 1995; Ronel 2000). For example, research on smoking cessation indicated that a relatively rigid "cold turkey" assisted method is more effective than a "gradually decreased number of cigarettes" in helping smokers to quit for the long term (Fiore et al. 1990, 2763). In the context of consumer goal pursuit, as demonstrated in this research, the value of rigidity is often less appreciated.

Our findings serve as a warning for marketers who try to induce greater motivation by giving more flexibility to consumers and suggest that restrictions may be more productive (e.g., Ariely and Wertenbroch 2002; Kivetz and Simonson 2003; Wertenbroch 1998). From a practical perspective, restrictions reduce the exertion of effort that is not directly related to goal attainment at the cost of discouraging goal initiation.

If a rigid goal structure decreases goal adoption but increases completion among those who initiate the pursuit of the goal, it would be of interest to both marketers and theorists to learn what the net effect of a rigid goal structure is and when marketers should use such a strategy. Although we have focused primarily on the benefits of a relatively rigid goal structure, it is important to note that rigidity may also sometimes come at a substantial cost and that flexibility, in many situations, is helpful for goal completion. On the conceptual level, rigidity helps goal achievement only if the costs associated with the repeated choices outweigh the benefits of being able to adapt the pursuit to the situation; therefore, the net effect of a rigid goal structure depends on the relative impact of its costs and benefits.

On the basis of this reasoning, in situations in which the costs associated with choices are minimal, such as when the choices are simple and obvious, it is likely that not having a fixed sequence can better facilitate goal completion. On the contrary, whenever the choices are tough, such as if there are a large number of options to choose from or if the options are difficult to compare, a rigid goal structure is likely to be helpful. In essence, flexibility protects people from uncertain circumstances; therefore, whenever the pursuit involves substantial uncertainty, the value of flexibility for overall goal completion should be the most positive and restrictions should be the most harmful for goal completion. For example, if the pursuit involves learning, offering people flexibility should be of great value and is likely to result in better goal completion because flexibility allows consumers to match their skill level to the task at hand. By comparison, a fixed sequence is more likely to be useful if people are fully aware of how to perform these actions. By eliminating the decisions between the steps, a rigid structure keeps people moving toward the end point uninterruptedly.

Another important determinant of the impact of a rigid structure is the stage at which goal completion needs to be assisted. On the basis of our analysis, whenever the attrition occurs primarily at the adoption stage, that is, whenever consumers are unwilling to initiate the goal, a more flexible goal structure should have a more positive outcome because it lowers the anticipated goal difficulty and encourages more people to adopt the goal. By comparison, if consumers are likely to initiate the goal but often drop out during the pursuit, particularly if the attrition occurs at the transitive stages between one step and another, a rigid goal structure should help the most by alleviating the difficulty in choices. For example, whenever people have a strong prior commitment, they are unlikely to abandon the goal; therefore, the value of rigidity would be limited, and consumers are better off with a relatively flexible structure that allows them to accomplish the goal most efficiently.

One implication, therefore, is that it is possible to have the best of both structures by offering a hybrid program, such that people are encouraged to initiate the goal by the flexibility but are better assisted in completing the goal by the relative rigidity in more advanced stages of the pursuit. For example, exercise regimens may start with something relatively flexible such that people are more likely to sign up but gradually move on to a more restricted structure such that people can follow a more rigid set of fixed steps and complete the entire program. Alternatively, companies can combine a flexible goal structure with a default route that can guide individuals through the pursuit. Studies that explore how different combinations of various goal structures may result in greater overall success in goal pursuit should be a fruitful avenue for future research.

REFERENCES

Ainslie, George (1992), *Picoeconomics: The Strategic Interaction of Successive Motivational States within the Person*, Cambridge: Cambridge University Press.

Ariely, Dan, and Klaus Wertenbroch (2002), "Procrastination, Deadlines, and Performance: Self-Control by Precommitment," *Psychological Science*, 13 (3), 219–24.

Bandura, Albert (1977), "Self-Efficacy: Toward a Unifying Theory of Behavioral Change," *Psychological Review*, 84 (2), 191–215.

——— (1997), *Self-Efficacy: The Exercise of Control*, New York: Freeman.

Baumeister, Roy F., Erin A. Sparks, Tyler F. Stillman, and Kathleen D. Vohs (2008), "Free Will in Consumer Behavior: Self-Control, Ego Depletion, and Choice," *Journal of Consumer Psychology*, 18 (1), 4–13.

Brandstätter, Veronika, Angelika Lengfelder, and Peter M. Gollwitzer (2001), "Implementation Intentions and Efficient Action Initiation," *Journal of Personality and Social Psychology*, 81 (5), 946–60.

Brandstätter, Veronika, and Julia Schüler (2013), "Action Crisis and Cost-Benefit Thinking: A Cognitive Analysis of a Goal-Disengagement Phase," *Journal of Experimental Social Psychology*, 49 (3), 543–53.

Cheema, Amar, and Dilip Soman (2008), "The Effect of Partitions on Controlling Consumption," *Journal of Marketing Research*, 45 (6), 665–75.

Dhar, Ravi (1997), "Consumer Preference for a No-Choice Option," *Journal of Consumer Research*, 24 (2), 215–31.

Fiore, Michael C., Thomas E. Novotny, John P. Pierce, Gary A. Giovino, Evridiki J. Hatziandreu, Polly A. Newcomb, Tanya

S. Surawicz, and Ronald M. Davis (1990), "Methods Used to Quit Smoking in the United States: Do Cessation Programs Help?" *Journal of the American Medical Association*, 263 (20), 2760–65.

Fishbein, Martin, and Icek Ajzen (1974), "Attitudes towards Objects as Predictors of Single and Multiple Behavioral Criteria," *Psychological Review*, 81 (1), 59–74.

Fox, Vince (1995), *Addiction, Change, and Choice*, Tucson, AZ: Sharp.

Gollwitzer, Peter M. (1999), "Implementation Intentions: Strong Effects of Simple Plans," *American Psychologist*, 54 (7), 493–503.

Gollwitzer, Peter M., and Veronika Brandstätter (1997), "Implementation Intentions and Effective Goal Pursuit," *Journal of Personality and Social Psychology*, 73 (1), 186–99.

Hamilton, Ryan, Kathleen D. Vohs, Anne-Laure Sellier, and Tom Meyvis (2011), "Being of Two Minds: Switching Mindsets Exhausts Self-Regulatory Resources," *Organizational Behavior and Human Decision Processes*, 115 (1), 13–24.

Heckhausen, Heinz (1991), *Motivation and Action*, New York: Springer.

Heckhausen, Heinz, and Peter M. Gollwitzer (1987), "Thought Contents and Cognitive Functioning in Motivational versus Volitional States of Mind," *Motivation and Emotion*, 11 (2), 101–20.

Iyengar, Sheena S., and Mark R. Lepper (2000), "When Choice Is Demotivating: Can One Desire Too Much of a Good Thing?" *Journal of Personality and Social Psychology*, 79 (6), 995–1006.

Kivetz, Ran, and Itamar Simonson (2003), "The Idiosyncratic Fit Heuristic: Effort Advantage as a Determinant of Consumer Response to Loyalty Programs," *Journal of Marketing Research*, 40 (4), 454–67.

Kivetz, Ran, Oleg Urminsky, and Yuhuang Zheng (2006), "The Goal-Gradient Hypothesis Resurrected: Purchase Acceleration, Illusionary Goal Progress, and Customer Retention," *Journal of Marketing Research*, 43 (1), 39–58.

Locke, Edwin A., and Gary P. Latham (1990), *A Theory of Goal Setting and Task Performance*, Englewood Cliffs, NJ: Prentice-Hall.

Mitchell, Terence R. (1982), "Expectancy-Value Models in Organizational Psychology," in *Expectancies and Actions: Expectancy-Value Models in Psychology*, ed. N. R. Feather, Hillsdale, NJ: Erlbaum.

Nunes, Joseph C., and Xavier Dréze (2006), "The Endowed Progress Effect: How Artificial Advancement Increases Effort," *Journal of Consumer Research*, 32 (4), 504–12.

Preacher, Kristopher J., Derek D. Rucker, and Andrew F. Hayes (2007), "Addressing Moderated Mediation Hypotheses: Theory, Methods, and Prescriptions," *Multivariate Behavioral Research*, 42 (1), 185–227.

Ronel, Natti (2000), "From Self-Help to Professional Care: An Enhanced Application of the 12-Step Program," *Journal of Applied Behavioral Science*, 36 (1), 108–22.

Schelling, Thomas C. (1984), "Self-Command in Practice, in Policy, and in a Theory of Rational Choice," *American Economic Review*, 74 (2), 1–11.

Shafir, Eldar, Itamar Simonson, and Amos Tversky (1993), "Reason-Based Choice," *Cognition*, 49 (1), 11–36.

Shah, James, and E. Tory Higgins (1997), "Expectancy × Value Effects: Regulatory Focus as Determinant of Magnitude and Direction," *Journal of Personality and Social Psychology*, 73 (3), 447–58.

Soman, Dilip, and Min Zhao (2011), "The Fewer the Better: Number of Goals and Savings Behavior," *Journal of Marketing Research*, 48 (6), 944–57.

Thaler, Richard H., and H. M. Shefrin (1981), "An Economic Theory of Self-Control," *Journal of Political Economy*, 89 (2), 392–406.

Vohs, Kathleen D., Roy F. Baumeister, Brandon J. Schmeichel, Jean M. Twenge, Noelle M. Nelson, and Dianne M. Tice (2008), "Making Choices Impairs Subsequent Self-Control: A Limited-Resource Account of Decision Making, Self-Regulation, and Active Initiative," *Journal of Personality and Social Psychology*, 94 (5), 883–98.

Vroom, Victor H. (1964), *Work and Motivation*, Oxford: Wiley.

Weiner, Bernard (1986), "Attribution, Emotion, and Action," in *Handbook of Motivation and Cognition: Foundations of Social Behavior*, ed. Richard M. Sorrentino and E. Tory Higgins, New York: Guilford, 281–312.

Wertenbroch, Klaus (1998), "Consumption Self-Control by Rationing Purchase Quantities of Virtue and Vice," *Marketing Science*, 17 (4), 317–37.

Zhao, Xinshu, John G. Lynch, and Qimei Chen (2010), "Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis," *Journal of Consumer Research*, 37 (2), 197–206.