

Pressed For Time?

Goal Conflict Shapes How Time is Perceived, Spent, and Valued

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Consumers often feel pressed for time, but why? This research provides a novel answer to this question: subjective perceptions of goal conflict. We show that beyond the number of goals competing for their time, perceived conflict between goals makes consumers feel that they have less time. Five experiments demonstrate that perceiving greater conflict between goals makes people feel time constrained, driven by increased stress and anxiety. These effects, which generalize across a variety of goals and types of conflict both related and unrelated to demands on time, impact how consumers spend time as well as how much they are willing to pay to save time. We identify two simple interventions that can help consumers mitigate goal conflict's negative effects: slow breathing and anxiety reappraisal. Together our findings shed light on what drives how consumers see, spend, and value their time.

Consumers rarely feel that they have enough time. Yet, despite growing interest in the consequences of feeling time constrained (Darley and Batson 1973; Mogilner, Chance, and Norton 2012; Robinson and Godbey 1998; Roxburgh 2004; Rudd, Vohs, and Aaker 2012; Van Boven and Gilovich 2003), little is known about what affects people's subjective sense of time in the first place. This raises three important questions: (1) Why do people feel so pressed for time? (2) What consequences might this have for how consumers spend and value their time? (3) What, if anything, can be done to alleviate these detrimental effects?

In this research, we propose that consumers' perceptions of goal conflict shape how time constrained they feel. We argue that, aside from the number of goals that people pursue and the objective amount of time required to pursue these goals, simply *perceiving* greater conflict between goals should make people feel that they have less time.

Five experiments support this prediction and shed light on why the effect occurs: Perceiving more goal conflict – both related and unrelated to demands on time - leads to heightened stress and anxiety, which subsequently makes people feel more time constrained. Further, the experiments demonstrate the consequences of this effect for how consumers spend and value their time. By making people feel that they have less time, perceiving more goal conflict decreases willingness to wait for a product and increases willingness to pay to save time. Finally, we identify two simple interventions that reduce the negative effects of perceived goal conflict by targeting the underlying stress and anxiety. Encouraging consumers to breathe slowly, or to reappraise their goal conflict-induced anxiety as excitement, both restore subjective time perceptions.

Together, our findings highlight the importance of perceiving conflict between goals in shaping how consumers see, spend, and value their time. We conclude the paper with a discussion of the work's contributions and implications for both marketers and consumers.

### *THE PSYCHOLOGY OF GOALS AND TIME*

Consumers exist in a complex social environment that often activates multiple goals at the same time. People may simultaneously have goals to be successful at work and a good parent at home, save money for retirement and buy nice things, or be healthy and indulge in tasty treats. Further, consumers' multiple goals are often interdependent. Success at work, for instance, may affect the quality of one's parenting, and saving money may limit what one can buy. When consumers feel that pursuing one of their goals interferes with others, they experience goal conflict (Fishbach and Ferguson 2007; Kruglanski et al. 2002; Riediger and Freund 2004).

Although some goals naturally conflict more than others (Emmons and King 1988; Hofmann, Vohs, and Baumeister 2012), goal conflict is a largely subjective experience. For example, while consumers often experience conflict between goals to do well at work and be a good parent, they may differ in how much conflict they perceive between those goals. Some people may chronically perceive high conflict between goals to succeed at work and at home, whereas others may perceive less conflict between them. Further, for the same person, goal conflict may seem higher on some occasions than others. When missing dinner to stay late at the office, for example, one may feel more conflict between goals to succeed at work and be a good parent than when working from home. Thus, people may perceive more or less conflict between the same goals, depending on the individual and the situation.

### *Goal Conflict and Subjective Time Perceptions*

We propose that subjective perceptions of goal conflict impact how much time consumers feel that they have, and that this effect is driven by increased stress and anxiety. This prediction is based on the idea that perceiving greater conflict between goals has an impact on experienced emotions. In support, preliminary correlational evidence shows that goal conflict increases with stress and anxiety (Riediger and Freund 2004). Further, anxiety is higher when people believe that succeeding at one goal pursuit would harm others (Emmons and King 1988). Given the close association between goal conflict and stress and anxiety (Lazarus and Folkman 1984), we posit that perceiving more conflict between goals should increase how much stress and anxiety consumers feel.

We argue that these increased feelings of stress and anxiety should make consumers feel that they have less time on their hands. Two distinct streams of research support this premise. First, a burgeoning literature has shown that, when people feel time constrained, they often feel enhanced levels of stress (Robinson and Godbey 1998; Roxburgh 2004). Zuzanek (2004), for example, reports a robust positive relationship between subjective time pressure and experienced stress: Individuals who report feeling more time constrained also tend to experience more stress. Indeed, classic definitions of time scarcity often evoke notions of stress and anxiety, using terms such as “frantic,” “rushed,” and even “stressed” itself (Hinkle 1973; Perlow 1999; Roxburgh 2004). Although these prior findings do not specify causality, they do suggest that stress and time pressure are often experienced together.

Second, findings from the decision-making literature demonstrate that time pressure increases how hurried and stressed individuals feel when making a decision (Payne, Bettman, and Luce 1996), and that deciding under time pressure leads people to process information at a

faster, more hurried, pace (Ben-Zur and Breznitz 1981; Payne, Bettman, and Johnson 1988).

Although this prior work examined a different question (i.e., how time constraints influence goal pursuit), the results also suggest that time pressure and stress are linked.

Building on these two streams of research, we propose that when people experience heightened stress and anxiety, they should see their time as more limited. Therefore, by increasing stress and anxiety, we predict that perceiving more conflict between goals should make people feel pressed for time (figure 1).

*H1:* Perceiving more conflict between goals makes consumers feel pressed for time.

*H2:* The basic effect (hypotheses 1) is driven by increased stress and anxiety.

Note that if the effect of goal conflict on perceived time scarcity is driven by stress and anxiety, as we suggest, then this effect should generalize across multiple types of goal conflict. Indeed, goal conflict often arises because goals compete for time (e.g., goals to have a successful career and also be a present involved parent), but can also arise for reasons unrelated to time - such as those related to money (e.g., goals to save money and also buy nice things) or for non-resource related reasons (e.g., goals to be healthy and also indulge in tasty foods). While intuitively it makes sense that perceiving more conflict between time-competing goals would make people feel time constrained, it is less obvious why perceiving more conflict between goals that do not compete for time would have a similar effect. In both cases, however, we expect that greater perceptions of goal conflict should lead to greater stress and anxiety. For example, perceiving more conflict between goals to save money and buy nice things should increase stress and anxiety, as should perceiving more conflict between goals to do well at work and be an involved parent. We thus predict that greater perceptions of goal conflict – both related and unrelated to demands on time – should make consumers feel that they have less time.

### *Consequences for Spending and Valuing Time*

Our theorizing has important implications for consumer behavior. First, we predict that perceiving more conflict between goals will impact how consumers spend their time. Feeling time constrained makes people impatient (DeVoe and Pfeffer 2011). Consequently, they tend to spend less time on subsequent activities, including ones related to leisure, personal growth, social connection, and physical fitness (Kasser and Sheldon 2009; Mannell and Zuzanek 1991). For instance, DeVoe and Pfeffer (2011) find that time pressure reduces how long people spend reading an article (see also Zhong and DeVoe 2010).

Building on these findings, we expect that feeling time constrained should decrease consumers' willingness to wait. Many consumption situations require waiting: for example, standing in queues, contacting customer service, and ordering items online (e.g., Koo and Fishbach 2010; Malkoc and Zauberan 2006; Carmon, Shanthikumar, and Carmon 1995). Importantly, waiting requires time, which time constrained consumers are less willing to spend. Consequently, if goal conflict affects subjective time perceptions as we suggest, perceiving greater goal conflict should make people less willing to wait.

*H3a:* Perceiving greater goal conflict makes consumers less willing to wait.

In addition, we predict that perceived conflict between goals will impact how much consumers value their time. People often evaluate time in terms of money, placing a dollar value on how much their time is worth. Equating time with money encourages consumers to view these resources as interchangeable (DeVoe and Pfeffer 2007), increasing concerns with wasting time, saving time, and using time profitably (DeVoe and House 2012).

Extending these findings, we suggest that feeling time constrained should make consumers more highly value their time. As a result, they should be willing to pay more to save

time. In support, DeVoe and Pfeffer (2011) provides correlational evidence demonstrating a positive association between the economic value of time and perceived time pressure. Relatedly, Zhong and DeVoe (2010) shows that consumers are willing to pay more for time-saving products when they feel more time constrained. Consequently, if goal conflict affects subjective time perceptions as we expect, perceiving more conflict between goals should lead individuals to pay more money to save time.

*H3b:* Perceiving greater goal conflict makes consumers more willing to pay to save time.

In sum, we predict that subjective perceptions of goal conflict will affect how much stress and anxiety consumers feel, thereby shaping how they see, spend, and value their time. When people perceive more goal conflict, they should feel more time constrained, be less willing to wait, and be more willing to pay to save time.

Five experiments test these predictions. We first examine how perceiving more conflict between goals, both related and unrelated to time, affects consumers' subjective sense of time (experiment 1). We then reveal the proposed underlying process driving this effect, and test whether this mechanism holds across a variety of goals and different types of conflict (experiment 2). Next, we examine the impact of goal conflict on time scarcity through choice, and illuminate the downstream consequences for how long people are willing to wait (experiment 3). Finally, we identify two simple interventions that can help consumers mitigate goal conflict's negative effects (experiments 4 and 5), and investigate consequences for how much people are willing to pay to save time (experiment 5). Together, our findings identify a novel reason for why people feel pressed for time, demonstrate the reason for this effect, reveal

its consequences for spending and valuing time, and provide two simple ways to restore people's subjective sense of time.

*EXPERIMENT 1: GOAL CONFLICT MAKES PEOPLE FEEL PRESSED FOR TIME*

In experiment 1, we examine whether perceiving more conflict between goals makes consumers feel pressed for time. All participants listed two goals they were currently pursuing: Half listed two personal goals that competed for their time, whereas the other half listed two goals with no specific relationship. We predicted that considering goals that competed for time would make participants feel more time constrained compared to the control (hypothesis 1).

Further, experiment 1 provides an initial test of the proposed process (hypothesis 2) and addresses a potential alternative explanation. One could argue that perceiving more conflict between goals makes people feel that they have less time because conflicting goals require more time to pursue. However, if increased demands on time underlie the effect, it should only emerge when goals compete for time, whereas if stress and anxiety play the underlying roles we suggest, perceiving more goal conflict of multiple types - both related and unrelated to time - should reduce subjective time perceptions. We examine both accounts by including two additional conditions. In one, participants considered two personal goals that competed for their money, and in the other, participants considered two goals that conflicted more generally. Finding that people feel more time constrained in these non-time based conflict conditions compared to the control would support our theory, but not the alternative account.

### *Design and Method*

One hundred and twenty-five Mechanical Turk panelists (mean age = 29.56 years, 34.1% female) participated in the study in exchange for a small payment. Two individuals failed to complete the study and were excluded from the analyses ( $N = 123$ ). Participants were randomly assigned to one of four goal conflict conditions: time conflict, money conflict, general conflict, or control.

First, we manipulated perceptions of goal conflict. Participants read that people often have multiple goals they wish to pursue, and were asked to list two of their goals. The specific instructions for this goals-listing task varied across conditions. In the time conflict condition, participants read: “Please list two of your goals that you feel are in conflict with one another because they compete for your time.” In the control condition, participants simply listed two of their goals. Further, in the additional money conflict condition, participants read: “Please list two of your goals that you feel are in conflict with one another because they compete for your money.” In the general conflict condition, participants were asked to list conflicting goals but received no specific instructions regarding conflict type: “Please list two of your goals that you feel are in conflict with one another.”

Second, we measured subjective time perceptions. Participants reported their perception that time was expanded, boundless, and constricted (reverse-scored), that they were in a rush/hurry (reverse-scored), and that they don’t have enough time (reverse-scored) all on 7-point scales (1 = *Not at all*, 7 = *Very much*; adapted from Rudd et al. 2012; see also Kasser and Sheldon 2009). These measures were combined to form a time perceptions index ( $\alpha = .89$ ).

Third, as a manipulation check, we measured goal conflict perceptions. Participants were asked: “How much conflict do you feel between your two goals?” (1 = *Very little conflict*, 7 = *A*

*lot of conflict*). As intended, all three conflict conditions raised goal conflict perceptions compared to the control. Compared to the control ( $M = 2.29$ ), participants perceived greater goal conflict in the time ( $M = 5.15$ ;  $F(1, 119) = 81.73$ ,  $p < .001$ ), money ( $M = 5.34$ ;  $F(1, 119) = 107.04$ ,  $p < .001$ ), and general conflict conditions ( $M = 5.15$ ;  $F(1, 119) = 80.31$ ,  $p < .001$ ).

See Web Appendix for more detail on this and subsequent experimental procedures.

### *Results*

As predicted, a one-way ANOVA on subjective time perceptions showed that perceiving more conflict between goals made people feel more pressed for time ( $F(3, 119) = 4.42$ ,  $p < .05$ ,  $\eta_p^2 = .100$ ; figure 2). Further, as expected, this effect emerged regardless of whether the conflicting goals competed for time, money, or conflicted in a more general sense. Compared to the control condition ( $M = 3.94$ ), participants felt that they had less time after listing two goals that competed for their time ( $M = 2.70$ ;  $F(1, 119) = 12.66$ ,  $p < .001$ ,  $\eta_p^2 = .096$ ), for their money ( $M = 3.22$ ;  $F(1, 119) = 4.90$ ,  $p < .05$ ,  $\eta_p^2 = .040$ ), and that conflicted more generally ( $M = 3.20$ ;  $F(1, 119) = 4.37$ ,  $p < .05$ ,  $\eta_p^2 = .035$ ). Subjective time perceptions did not significantly differ between goal conflict conditions ( $p$ 's  $> .13$ ).

### *Discussion*

Results of experiment 1 support our first hypothesis. Participants who were led to perceive more conflict between their goals subsequently felt more pressed for time. Further, consistent with the proposed underlying mechanism, this effect emerged for goal conflict both related and unrelated to demands on time. Considering goals that competed for time made participants feel time constrained, as did considering goals that competed for money, and goals

that conflicted more generally. The effect of goal conflict on subjective time perceptions thus generalizes across a variety of goals and types of goal conflict.

Importantly, that multiple types of goal conflict make people feel time constrained rules out the possibility that increased objective time demands alone can explain the results. Although greater demands on time may potentially contribute to why seeing more conflict between time-competing goals makes people feel that they have less time, it cannot explain why the same pattern emerges for goal conflict unrelated to time. Increased stress and anxiety, however, can explain the full pattern of results (hypothesis 2). Next, experiment 2 directly tests this underlying mechanism.

#### *EXPERIMENT 2: THE UNDERLYING ROLES OF STRESS AND ANXIETY*

Experiment 2 has three main objectives. First, it directly tests the underlying roles of stress and anxiety (hypothesis 2). After manipulating perceived conflict between goals, we measure experienced stress and anxiety, and examine whether they mediate the effect.

Second, experiment 2 casts further doubt on potential alternative explanations for our findings. As in experiment 1, we vary goal conflict type, considering whether seeing more conflict between goals has the same effect on subjective time perceptions in each case, driven by increased stress and anxiety. In addition, experiment 2 addresses a second alternative explanation for our findings. One could argue that because time and money are often considered interchangeably (DeVoe and House 2012; DeVoe and Pfeffer 2007), perceived scarcity on one resource (i.e., time) could carry over to influence perceived scarcity on the other (i.e., money). Thus, even when goals compete for money, it could be that perceiving greater goal conflict

makes resources seem scarcer in general, and in turn people feel that they have less time. To test this possibility, we examine whether goal conflict's effect on subjective time perceptions extends to goals that do not compete for resources at all. Goals to be healthy and eat tasty foods, for example, cause conflict not because they compete for time or money, but because taking action consistent with one goal directly detracts from pursuing the other. If manipulating perceptions of non-resource based conflict has the same effect as manipulating time or money-based conflict, this would cast doubt on the alternative resource scarcity account.

Third, experiment 2 manipulates perceptions of goal conflict in a different way. We varied whether the same conflict type (time, money, or non-resource based) seemed high or low by asking participants to recall a time when they did versus did not experience that type of goal conflict. Replicating our previous findings with this manipulation would show the effects are not driven by objective differences in conflict between goals.

### *Design and Method*

Two hundred and seventy Mechanical Turk panelists (mean age = 25.8 years, 44.6% female) participated in this study in exchange for a small payment. Twelve individuals failed to complete the study and were excluded from the analyses ( $N = 258$ ). Participants were randomly assigned to one condition of a 2 (conflict level: high, low) X 3 (conflict type: time, money, non-resource) between-subjects design.

First, we manipulated goal conflict type. Participants read that people often have multiple goals they wish to pursue, and were given two examples of typical goals. In the time conflict condition, the goals were to “do well at work” and “spend time with loved ones.” In the money

conflict condition, the goals were to “save money” and “buy nice things.” In the non-resource conflict condition, the goals were to “be healthy” and “eat tasty foods.”

Second, we manipulated perceptions of goal conflict. In the high conflict condition, participants described a time when they felt conflict between the two previously mentioned goals (to do well at work and spend time with loved ones, to save money and buy nice things, or to be healthy and eat tasty foods, depending on condition). In the low conflict condition, participants described a time when they did not feel conflict between these goals.

Third, we measured feelings of stress and anxiety. Participants reported: “How much stress do you currently feel?” and “How much anxiety do you currently feel?” both on 7-point scales (1 = *Very little*, 7 = *A lot*). These measures were highly correlated ( $r = .81$ ) and combined.

Fourth, after several filler measures, we measured subjective time perceptions. To increase the generalizability of our findings, we used different questions from those in experiment 1. Participants indicated their agreement with four statements (Rudd et al. 2012): “I have a lot of available time,” “I have a lot of time in which I can get things done,” “Time is slipping away” (reverse-scored), “I am pressed for time” (reverse-scored). All items were measured on 7-point scales (1 = *Strongly disagree*, 7 = *Strongly agree*) and combined to form a time perceptions index ( $\alpha = .89$ ).

Fifth, as a manipulation check, we measured goal conflict perceptions. Participants were asked: “How much conflict do you feel between your two goals?” (1 = *Very little conflict*, 7 = *A lot of conflict*). As intended, perceived conflict between goals was higher in the high (vs. low) conflict condition for each conflict type, and there was no interaction. Compared to the low conflict condition ( $M = 3.26$ ), participants perceived more goal conflict in the high condition ( $M = 4.62$ ), an effect that held for goals that competed for time ( $M_{\text{high}} = 4.59$  vs.  $M_{\text{low}} = 3.15$ ;  $F(1,$

252) = 19.07,  $p < .001$ ) and for money ( $M_{\text{high}} = 4.93$  vs.  $M_{\text{low}} = 3.76$ ;  $F(1, 252) = 46.72$ ,  $p = .001$ ), as well as goals that did not compete for resources ( $M_{\text{high}} = 4.34$  vs.  $M_{\text{low}} = 2.80$ ;  $F(1, 252) = 16.51$ ,  $p < .001$ ).

## Results

*Time perceptions.* A 2 (perceived conflict) X 3 (conflict type) ANOVA on subjective time perceptions revealed only the predicted main effect of conflict level ( $F(1, 252) = 12.52$ ,  $p < .001$ ,  $\eta_p^2 = .047$ ), and no interaction with conflict type ( $F < 1$ ; see figure 3a). Overall, participants felt that they had less time after describing an instance where they felt conflict between their goals ( $M = 3.34$ ) than one they did not ( $M = 3.98$ ). As in experiment 1, this effect emerged for goals that competed for time ( $M_{\text{high}} = 3.34$  vs.  $M_{\text{low}} = 3.98$ ;  $F(1, 252) = 3.74$ ,  $p = .05$ ,  $\eta_p^2 = .015$ ) and for money ( $M_{\text{high}} = 3.20$  vs.  $M_{\text{low}} = 3.88$ ;  $F(1, 252) = 4.35$ ,  $p < .05$ ,  $\eta_p^2 = .017$ ). Further, as expected, the effect also emerged for goals that competed for non-resource based reasons ( $M_{\text{high}} = 3.40$  vs.  $M_{\text{low}} = 4.10$ ;  $F(1, 252) = 4.45$ ,  $p < .05$ ,  $\eta_p^2 = .017$ ).

*Stress and anxiety.* A 2 (perceived conflict) X 3 (conflict type) ANOVA on stress and anxiety revealed the predicted main effect of conflict level ( $F(1, 252) = 11.52$ ,  $p = .001$ ,  $\eta_p^2 = .044$ ), and no interaction with conflict type ( $F < 1$ ; see figure 3b). Overall, participants reported greater stress and anxiety when asked to describe a time they felt conflict between their goals ( $M = 3.92$ ) than a time they did not ( $M = 3.18$ ). As expected, this effect emerged for goals that competed for time ( $M_{\text{high}} = 4.28$  vs.  $M_{\text{low}} = 3.54$ ;  $F(1, 252) = 3.97$ ,  $p < .05$ ,  $\eta_p^2 = .016$ ), for money ( $M_{\text{high}} = 3.83$  vs.  $M_{\text{low}} = 3.10$ ;  $F(1, 252) = 3.93$ ,  $p < .05$ ,  $\eta_p^2 = .015$ ), and goals that did not compete for resources ( $M_{\text{high}} = 3.65$  vs.  $M_{\text{low}} = 2.94$ ;  $F(1, 252) = 3.62$ ,  $p < .06$ ,  $\eta_p^2 = .014$ ).

*Mediation.* To test the proposed underlying process, we used bias-corrected bootstrapping to generate a 95% confidence interval around the indirect effect of stress and anxiety, where mediation occurs if the confidence interval excludes zero (Hayes 2009). The analysis revealed a significant indirect effect ( $ab = -.28$ ; 95% CI:  $-.48$  to  $-.13$ ). As predicted, greater perceptions of goal conflict increased stress and anxiety, which subsequently made participants feel more pressed for time. This significant indirect effect of stress and anxiety emerged in each conflict condition: for time conflict ( $ab = -.31$ ; 95% CI:  $-.69$  to  $-.02$ ), for money conflict ( $ab = -.20$ ; 95% CI:  $-.54$  to  $-.02$ ), and for non-resource based conflict ( $ab = -.32$ ; 95% CI:  $-.73$  to  $-.004$ ). Further, three conditional process models (Hayes 2013) revealed no moderation by conflict type ( $ab$  values  $< .02$  and CI's for all interactions included 0). Perceiving more conflict between goals, whether due to time, money, or non-resource based reasons, made people feel that they had less time by increasing stress and anxiety.

### *Discussion*

Experiment 2 provides further evidence for the predicted effect of goal conflict on feeling pressed for time. When led to perceive more conflict between their goals, participants subsequently felt that they had less time (hypothesis 1). Further, as in experiment 1, this effect generalized across multiple types of conflict. We obtained the same results when manipulating perceived conflict between goals that competed for time (goals to do well at work and spend time with loved ones), goals that competed for money (goals to save money and buy nice things), and goals that did not compete for resources (goals to be healthy and eat tasty foods). In each case, perceiving more goal conflict made participants feel more time constrained.

Ancillary data demonstrates that these findings extend to situations where consumers consider their own idiosyncratic goals. In a follow-up study ( $N = 109$ ), we simply asked participants to list two current goals that were (vs. were not) in conflict with each other, similar to experiment 1. Consistent with our prior findings, participants felt more time constrained when they considered two conflicting goals ( $M = 3.00$ ) versus two non-conflicting goals ( $M = 3.63$ ;  $F(1, 107) = 6.56, p < .05$ ), mediated by increased stress and anxiety ( $ab = -.20$ ; 95% CI:  $-.52$  to  $-.02$ ). Underscoring the generalizability of our findings across a variety of goals and goal conflict types, we find the same results when participants consider their personal conflicting goals.

This experiment also provides direct support for the underlying roles of stress and anxiety. Perceiving more conflict between goals reduced participants' subjective sense of time by increasing how much stress and anxiety they felt (hypothesis 2). Again, this effect emerged regardless of whether goals competed for time or reasons unrelated to time (i.e., money or non-resource based conflict). Even when goal conflict did not impact objective time demands, perceiving more goal conflict increased stress and anxiety, which made people feel that they had less time.

In revealing the underlying roles of stress and anxiety, these results also cast doubt on potential alternative explanations. One could argue that greater perceptions of goal conflict reduce subjective time perceptions by increasing demands on time, or by activating resource scarcity concerns more generally. Neither idea, however, can explain why perceiving more conflict between goals to be healthy and eat tasty foods – which do not impose higher demands on time or money resources – made consumers feel that they had less time. In contrast, and consistent with our predictions, increased feelings of stress and anxiety can account for why the effect emerged across all three conflict types.

*EXPERIMENT 3: CHOICE BETWEEN CONFLICTING GOALS AND CONSEQUENCES FOR  
SPENDING TIME*

Experiment 3 builds on the prior experiments in three ways. First, we use a different goal conflict manipulation. Rather than reporting their current (experiment 1) or recent (experiment 2) experiences, participants made a choice that evoked more or less conflict between valued goals. Leveraging a paradigm from prior work (Luce 1998), we asked participants to choose a car, varying whether the goal-related attributes (occupant safety and pollution caused) were negatively correlated (i.e., participants had to make tradeoffs between them). Consistent with our prior findings, when participants experienced more goal conflict (i.e., when the choice attributes were negatively correlated), we expected they would feel more time constrained.

Second, experiment 3 bolsters support for the underlying role of stress and anxiety in two ways. First, following the car choice, we measure these feelings and test whether they mediate the effect on subjective time perceptions. Second, we also measure perceived money affluence. Demonstrating that goal conflict does not impact people's sense of having money would underscore the unique relationship between goal conflict and perceived time scarcity, driven by stress and anxiety.

Third, experiment 3 begins to explore consequences of our prior findings. In particular, we examine whether perceiving more conflict between goals makes consumers less willing to wait (hypothesis 3a). After choosing a car, participants were told their choice was not readily available and asked how long they were willing to wait for it to arrive. We expected that participants who experienced more goal conflict when making their initial choice would be willing to wait for less time.

### *Design and Method*

Fifty-two individuals recruited at an East Coast university (mean age = 25 years, 52% female) participated in this study in exchange for a small payment. Participants were randomly assigned to the high versus low goal conflict condition.

First, we manipulated perceptions of goal conflict. All participants viewed a series of four car options and were asked to choose between them. These four options were described in terms of the following attributes: price, occupant survival, styling, and pollution caused (adapted from Luce 1998; see Appendix). Prior work has identified occupant survival and pollution caused as linked to consumers' personal goals (i.e., to be safe and ecofriendly; Luce 1998). To manipulate goal conflict, we thus varied whether the choice set required participants to make tradeoffs between these attributes. In the high conflict condition, the car option with the best rating on occupant survival (Car A) had the worst rating on pollution caused, and the car option with the best rating on pollution caused (Car C) had the worst rating on occupant survival. In the low conflict condition, there was a single car option (Car A) that dominated the others on both occupant survival and pollution caused.

Second, using the same measures as in experiment 2, participants reported their current feelings of stress and anxiety ( $r = .74$ ), and subjective time perceptions ( $\alpha = .85$ ).

Third, we measured consequences of perceiving more conflict between goals for consumers' willingness to wait. Participants read that their chosen car was not immediately available, and that they would have to wait for the car to arrive at the dealership before they could take it home. They were asked how many days they were willing to wait to receive this car. This open-ended measure was log-transformed to stabilize for non-normality in its distribution (Kolmogorov-Smirnov test statistic = .34,  $p < .001$ ).

Fourth, to bolster the unique link between goal conflict and subjective time perceptions, participants reported their agreement (1 = *Strongly Disagree*, 7 = *Strongly Agree*) with the eight-item money affluence scale from Kasser and Sheldon (2009). Sample items include: “I have had enough money to buy the things that are important to me,” “There has not been enough money to go around” (reverse-scored), and “I have been able to buy what I want” ( $\alpha = .88$ ).

Sixth, as a manipulation check, we asked participants: “To what extent did this choice make you feel conflict between your personal goals?” (1 = *Not at all*, 7 = *Very much*). As intended, participants experienced more goal conflict when choosing required goal-related attribute tradeoffs ( $M_{\text{high}} = 3.87$  vs.  $M_{\text{low}} = 2.41$ ;  $F(1, 50) = 9.73$ ,  $p < .01$ ).

## *Results*

*Time perceptions.* A one-way ANOVA on subjective time perceptions revealed the predicted effect ( $F(1, 50) = 4.70$ ,  $p < .05$ ,  $\eta_p^2 = .086$ ). Participants felt that they had less time after choosing between options that evoked more ( $M = 3.72$ ) versus less goal conflict ( $M = 4.60$ ).

*Stress and anxiety.* A one-way ANOVA on stress and anxiety revealed the predicted effect ( $F(1, 50) = 4.19$ ,  $p < .05$ ,  $\eta_p^2 = .077$ ). Participants felt more stress and anxiety when they experienced more ( $M = 2.57$ ) versus less goal conflict ( $M = 1.83$ ).

*Mediation.* As in experiment 2, we used bias-corrected bootstrapping to generate a 95% confidence interval around the indirect effect of stress and anxiety. This analysis revealed a significant indirect effect ( $ab = -.27$ ; 95% CI:  $-.85$  to  $-.005$ ). As expected, experiencing more goal conflict increased stress and anxiety, which made participants feel more time constrained.

*Consequences for spending time.* A one-way ANOVA on the log-transformed number of days participants were willing to wait for their chosen car revealed the predicted effect ( $F(1, 50)$

= 2.83,  $p < .10$ ,  $\eta_p^2 = .054$ ). Participants were willing to wait fewer days after choosing between options that evoked more ( $M = 1.21$ ) versus less goal conflict ( $M = 1.36$ ).

*Money perceptions.* In contrast to its effect on subjective time perceptions, experiencing more goal conflict did not affect participants' sense of having money ( $M_{\text{high}} = 3.38$  vs.  $M_{\text{low}} = 3.84$ ;  $F(1, 50) = 1.44$ ,  $p > .23$ ).

### *Discussion*

Experiment 3 bolsters our predictions with a different manipulation of goal conflict. When choosing evoked more conflict between valued goals, participants experienced more stress and anxiety, which subsequently made them feel that they had less time. Experiment 3 also demonstrates the consequences of goal conflict for how consumers spend their time. Experiencing more conflict between goals decreased how long participants were willing to wait for a chosen product to arrive. Whereas one could argue that participants who experienced less goal conflict were more willing to wait for their chosen car because it was objectively better (i.e., it dominated the other choice options), this argument cannot explain the effects on stress and anxiety, nor subjective time perceptions. Consequently, in addition to shaping how people see their time, goal conflict also affects how they spend it.

The findings also cast further doubt on potential alternative explanations. We found that perceiving more conflict between goals made people feel that they had less time, but not less money. The notion that goal conflict activates resource scarcity concerns thus cannot explain our results. In addition, that we did not find an effect on perceived money affluence also rules out diminished affect as an alternative explanation. One may wonder whether experiencing more goal conflict increases negative affect, leading to more negative evaluations on all of our dependent measures. If negative affect drove the results, however, goal conflict should then

detract from all subsequent evaluations, whereas we find that goal conflict uniquely affects subjective time perceptions.

#### *EXPERIMENT 4: MANIPULATING THE UNDERLYING PROCESS*

Experiment 4 further explores the underlying roles of stress and anxiety by directly manipulating these feelings. If greater perceptions of goal conflict make people feel time constrained by increasing stress and anxiety, as we argue, then manipulating stress and anxiety should attenuate the effect. Prior work suggests one way to do this is to take slow, deep breaths (Conrad et al. 2007; Wilhelm, Gevirtz, and Roth 2001). Thus, after manipulating perceived conflict between goals, we asked half of participants to breathe slowly and deeply, prior to measuring how much time they felt that they had. We predicted that when goal conflict seems high, this slow breathing task would reduce stress, restoring participants' sense of time.

#### *Design and Method*

One hundred and ten individuals recruited at a West Coast university (mean age = 25.96 years, 69.6% female) participated in this study in exchange for a small payment. Participants were randomly assigned to one condition of a 2 (goal conflict: conflict vs. control) X 2 (breathing speed: slow vs. control) between-subjects design.

First, we manipulated perceptions of goal conflict. As in experiment 1, participants were asked to list two goals they currently had. In the conflict condition, participants read: "Please list two of your goals that you feel are in conflict with one another." In the control condition, participants simply listed two of their goals.

Second, we manipulated breathing speed. In the slow breathing condition, participants read the following instructions (adapted from Mogilner, Kamvar, and Aaker 2011; Rudd 2013):

“Before beginning this breathing exercise, please uncross your arms and legs. Make sure you are sitting in a comfortable up-right position. Now, please breathe so that each complete breath (inhale plus exhale) lasts 11 counts. The inhale should last 5 counts (i.e., 1-2-3-4-5) and the exhale should last 6 counts (i.e., 6-7-8-9-10-11). Please complete 10 of these 11 count breaths now.”

We anticipated that performing this slow breathing task would reduce participants’ stress and anxiety, thereby attenuating the resultant decrease in subjective time perceptions. In the control condition, participants completed a comparable task, but one unrelated to feelings of stress and anxiety. They read the following instructions:

“Before beginning this counting exercise, please uncross your arms and legs. Make sure you are sitting in a comfortable up-right position. Now, please count to 11 (i.e., 1-2-3-4-5-6-7-8-9-10-11) 10 times. Start from 1 and count to 11 each time. Begin counting now.”

Because this task did not target stress and anxiety, we expected that goal conflict would continue to make participants feel more time constrained in this case.

Third, using the same measures as in experiments 2 and 3, participants reported their feelings of stress and anxiety ( $r = .81$ ), followed by subjective time perceptions ( $\alpha = .82$ ).

## *Results*

*Time perceptions.* A 2 (goal conflict) X 2 (breathing) ANOVA on subjective time perceptions revealed only the predicted interaction ( $F(1, 106) = 4.83, p < .05, \eta_p^2 = .044$ ; figure 4a). In the control breathing condition, we replicated our key effect. Compared to simply listing

two goals ( $M = 4.23$ ), considering two conflicting goals made participants feel that they had less time ( $M = 3.47$ ;  $F(1, 106) = 4.08, p < .05, \eta_p^2 = .037$ ). Breathing slowly, however, attenuated this effect. There was no longer a difference in subjective time perceptions across goal conflict conditions ( $M_{\text{control}} = 3.84$  vs.  $M_{\text{conflict}} = 4.23$ ;  $F < 1$ ).

Further, as intended, when participants felt their goals were in conflict, breathing slowly significantly increased their subjective sense of time ( $M_{\text{slow}} = 4.23$  vs.  $M_{\text{control}} = 3.47$ ;  $F(1, 106) = 4.05, p < .05, \eta_p^2 = .037$ ). There was no corresponding effect, however, in the control condition ( $M_{\text{slow}} = 3.84$  vs.  $M_{\text{control}} = 4.23$ ;  $F < 1$ ).

*Stress and anxiety.* A 2 (goal conflict) X 2 (breathing) ANOVA on stress and anxiety revealed a main effect of conflict condition ( $F(1, 106) = 5.35, p < .05, \eta_p^2 = .048$ ), qualified by the predicted interaction ( $F(1, 106) = 4.23, p < .05, \eta_p^2 = .038$ ; figure 4b). In the control breathing condition, the results were consistent with our previous findings. Compared to simply listing two goals ( $M = 2.62$ ), considering two conflicting goals increased stress and anxiety ( $M = 3.87$ ;  $F(1, 106) = 9.17, p < .01, \eta_p^2 = .080$ ). Breathing slowly, however, attenuated this effect ( $M_{\text{control}} = 2.94$  vs.  $M_{\text{conflict}} = 3.02$ ;  $F < 1$ ).

Further, as intended, when participants felt their goals were in conflict, breathing slowly reduced stress and anxiety ( $M_{\text{slow}} = 3.02$  vs.  $M_{\text{control}} = 3.87$ ;  $F(1, 106) = 4.31, p < .05, \eta_p^2 = .039$ ). There was no corresponding effect, however, in the control condition ( $M_{\text{slow}} = 2.94$  vs.  $M_{\text{control}} = 2.62$ ;  $F < 1$ ).

*Mediation.* Similar to experiments 2 and 3, we used bias-corrected bootstrapping to generate 95% confidence intervals around the indirect effect of stress and anxiety in each breathing condition. Results support our predictions, revealing a significant overall moderated mediation effect ( $\beta = .39$  [.04 to .93]). In the control condition, the indirect effect was significant

( $ab = -.42$  [-.84 to -.14]), indicating that goal conflict made participants feel more time constrained by increasing stress and anxiety. In the slow breathing condition, however, this indirect effect was not significant ( $ab = -.02$  [-.32 to .26]), indicating that slow breathing moderated the effect.

### *Discussion*

Experiment 4 provides further evidence for the underlying roles of stress and anxiety by experimentally manipulating these feelings. Encouraging participants who perceived more conflict between their goals to take slow, deep breaths – an activity shown to decrease stress (Conrad et al. 2007; Wilhelm et al. 2001) – made them feel less stress and anxiety, which attenuated goal conflict's effect on subjective time perceptions. Importantly, participants' sense of time was only restored when the intervening task targeted stress and anxiety; engaging in an unrelated activity of equal length had no impact. When goal conflict seems high, breathing slowly and deeply may thus be one simple way to restore people's sense of time.

### *EXPERIMENT 5: MANIPULATING THE UNDERLYING PROCESS AND CONSEQUENCES FOR VALUING TIME*

Experiment 5 has two main objectives. First, it manipulates feelings of stress and anxiety in a different way. Instead of prompting participants to breathe slowly and deeply, we ask them to reappraise their stress and anxiety as excitement. Prior research finds that reappraising anxiety is a more effective means to reduce its negative effects than trying to suppress it (Gross and Levenson 1993; Hofmann et al. 2009), and reappraising anxiety as excitement, as compared to

calmness, is particularly impactful (Brooks 2014). Based on these findings, we reasoned that encouraging participants to reappraise their goal conflict-induced anxiety as excitement might restore their sense of time. To test this idea, we compared subjective time perceptions following excitement reappraisal with two control conditions. We predicted that when goal conflict seems high, reappraising anxiety as excitement would restore people's sense of time.

Second, we consider a different downstream consequence of perceiving conflict between goals: how much consumers value their time (hypothesis 3b). Leveraging a task from prior work (Malkoc and Zauberan 2006), participants were asked how much they were willing to pay to expedite shipping on a recent purchase. We predicted that perceiving more conflict between goals would increase participants' willingness to pay for expedited shipping, moderated by excitement reappraisal.

### *Design and Method*

Two hundred and thirty-four Mechanical Turk panelists (mean age = 29.93 years, 24.4% female) participated in this study in exchange for a small payment. Nineteen individuals indicated having previously completed a similar study and were excluded from the analyses ( $N = 215$ ). Participants were randomly assigned to one condition of a 2 (goal conflict: high vs. low) X 3 (reappraisal: excitement, matched, none) between-subjects design.

First, we manipulated perceptions of goal conflict. Participants read that people often have multiple goals they wish to pursue and were asked to list two of their goals. In the high conflict condition, they described a time when those goals conflicted. In the low conflict condition, they described a time when those goals did not conflict.

Second, participants completed the reappraisal task. In the excitement reappraisal condition, participants received the following instructions (from Brooks 2014):

“Please read the following statement out loud: ‘I AM EXCITED!’ Repeat the statement three times before moving on to the next page. Try to believe what you are saying.”

In the matched reappraisal condition, participants were simply asked to repeat the statement “my name is [their name]” three times. As in experiment 4, this task was designed to take the same amount of time as the excitement reappraisal task, but be unrelated to feelings of stress and anxiety. In the no reappraisal condition, participants proceeded directly to the next part of the study.

Third, we measured how much participants valued their time. They read the following scenario (adapted from Malkoc and Zauberan 2006):

“Imagine that you have purchased a DVD from Amazon.com. Now, you need to decide about the DVD’s delivery. Currently, the DVD is scheduled to be delivered at a future date. However, you have the option to pay more to have it delivered sooner. How much extra would you pay for shipping (in \$) to expedite the delivery to a sooner date?”

This willingness to pay measure was log-transformed to stabilize for non-normality in its distribution (Kolmogorov-Smirnov test statistic = .20,  $p < .001$ ).

Fourth, using the same scale as in experiments 2-4, participants reported their subjective time perceptions ( $\alpha = .89$ ). Fifth, as a manipulation check, they reported their perceptions of goal conflict (1 = *Very little conflict*, 7 = *A lot of conflict*). As intended, participants felt more goal conflict after describing a time their goals did ( $M = 4.12$ ) versus did not conflict ( $M = 2.81$ ;  $F(1, 209) = 25.00, p < .001$ ) conflict condition.

## Results

As expected, the goal conflict manipulation had the same impact on subjective time perceptions and willingness to pay for expedited shipping in both the matched appraisal and no appraisal conditions (i.e., there were no interactions,  $F$ 's  $< 1$ ; see figures 5a and 5b). We thus combined these conditions in subsequent analyses, which utilized a 2 (goal conflict: high vs. low) X 2 (reappraisal: excitement vs. control) design.

*Time perceptions.* A 2 (goal conflict) X 2 (reappraisal) ANOVA on subjective time perceptions revealed the predicted interaction ( $F(1, 211) = 6.07, p < .05, \eta_p^2 = .028$ ; figure 5a). In the control appraisal condition, we replicated the key effect. Compared to reflecting on a time when their goals did not conflict ( $M = 4.22$ ), participants felt more time constrained after reflecting on a time when their goals conflicted ( $M = 3.25; F(1, 211) = 14.46, p < .001, \eta_p^2 = .064$ ). Reappraising anxiety as excitement, however, attenuated the effect. In this case, there was no difference in how much time participants felt that they had across goal conflict conditions ( $M_{\text{high}} = 4.20$  vs.  $M_{\text{low}} = 4.06; F < 1$ ).

Further, as intended, when goal conflict seemed high, excitement reappraisal increased participants' sense of time ( $M_{\text{reappraisal}} = 4.20$  vs.  $M_{\text{control}} = 3.25; F(1, 211) = 9.34, p < .01, \eta_p^2 = .042$ ). There was no corresponding effect, however, in the control condition ( $M_{\text{reappraisal}} = 4.06$  vs.  $M_{\text{control}} = 4.22; F < 1$ ).

*Consequences for valuing time.* To examine consequences for how much participants value their time, we ran a 2 (goal conflict) X 2 (reappraisal) ANOVA on willingness to pay to expedite shipping. Results revealed only the predicted interaction ( $F(1, 211) = 5.23, p < .05, \eta_p^2 = .024$ ; figure 5b). Supporting hypothesis 3b, participants in the control reappraisal condition were willing to pay more to expedite shipping when they perceived more ( $M = .48, SD = .30$ )

versus less goal conflict ( $M = .36$ ,  $SD = .30$ ;  $F(1, 211) = 5.67$ ,  $p < .05$ ,  $\eta_p^2 = .026$ ). Reappraising anxiety as excitement, however, attenuated the effect. In this case, there was no longer a difference in how much participants were willing to pay to expedite shipping across conflict conditions ( $M_{\text{high}} = .37$ ,  $SD_{\text{high}} = .35$  vs.  $M_{\text{low}} = .45$ ,  $SD_{\text{low}} = .32$ ;  $F(1, 211) = 1.28$ ,  $p > .25$ ).

Further, when goal conflict seemed high, excitement reappraisal marginally reduced willingness to spend money to save time ( $M_{\text{reappraisal}} = .37$  vs.  $M_{\text{control}} = .48$ ;  $F(1, 211) = 3.20$ ,  $p < .10$ ,  $\eta_p^2 = .015$ ). There was no corresponding effect, however, in the control condition ( $M_{\text{reappraisal}} = .45$  vs.  $M_{\text{control}} = .36$ ;  $F(1, 211) = 2.15$ ,  $p > .14$ ).

### *Discussion*

Experiment 5 underscores the proposed roles of stress and anxiety by manipulating these feelings in a different way. Perceiving more conflict between goals made participants feel more time constrained, but encouraging them to reappraise anxiety as excitement attenuated the effect. Further, as in experiment 4, consumers' sense of time was only restored when the intervening task targeted stress and anxiety; engaging in an unrelated activity of equal length had no impact. These results thus provide further evidence that stress and anxiety drive how perceived conflict between goals impacts subjective time perceptions. In doing so, they also identify a second simple way to help consumers feel less pressed for time: reappraising anxiety as excitement.

Further, experiment 5 also demonstrates that goal conflict has consequences for how much consumers value their time. Perceiving more conflict between goals increased participants' willingness to pay to expedite shipping. Goal conflict, by influencing how time constrained consumers feel, thus affects how much money they are willing to spend to save time.

## *GENERAL DISCUSSION*

Despite advances in time-saving technologies, consumers report being more pressed for time than ever. Indeed, in a recent poll of over 1,000 Americans, nearly half reported having insufficient time to meet their needs (Carroll 2008). Yet whereas prior research sheds light on the negative consequences of feeling time constrained, little work has examined what drives people's sense of time in the first place. Five experiments hone in on one critical factor: the perception of conflict between goals. We show that perceiving greater goal conflict makes consumers feel more pressed for time, an effect driven by increased stress and anxiety. We provide support for this mechanism by demonstrating meditational evidence and by directly manipulating feelings of stress and anxiety. When goal conflict seems high, interventions that reduce stress and anxiety attenuate its impact on subjective time perceptions and downstream consequences. The effect is robust across a range of goals and multiple types of goal conflict, and importantly, does not extend to perceptions of other types of resources, such as money affluence.

The experiments cast doubt on several potential alternative explanations for the effect. Whereas one might wonder whether increased objective demands on time or general resource scarcity concerns could explain the findings, these explanations cannot explain why the effect generalizes to non-time based goal conflicts (experiments 1-3) and persists for goal conflict unrelated to resource competition (e.g., conflict between goals to be healthy and indulge in tasty foods; experiment 2). Increased stress and anxiety offers the most parsimonious explanation for why goal conflict makes people feel pressed for time.

Finally, the experiments highlight important downstream consequences for consumer behavior. Perceiving more conflict between goals affects how consumers spend their time (e.g., the number of days they are willing to wait; experiment 3), as well as how much they value their time (e.g., willingness to pay to expedite shipping; experiment 5). How much conflict consumers perceive between their goals thus shapes how they see, spend, and value their time.

### *Theoretical Contributions*

This research makes four main contributions. First, while there has been speculation that goal conflict and time are related, research has yet to empirically test this relationship. Past correlational evidence has supported relationships between stress, anxiety, and time perceptions (Hinkle 1973; Roxburgh 2004; Zuzanek 2004), as well as between goal conflict and stress (Emmons and King 1988; Lazarus and Folkman 1984), but the causal nature of these relationships, as well as a direct link between goal conflict and subjective time beliefs, has not been shown. To the best of our knowledge, our research is the first to demonstrate a unique causal relationship between goal conflict and subjective time perceptions.

Second, whereas prior time perceptions research has primarily explored consequences of time affluence for wellbeing (e.g., Kasser and Sheldon 2009; Menzies 2005; Mogilner et al. 2012; Neumark-Sztainer et al. 2003; Robinson and Godbey 1998; Roxburgh 2004; Rudd et al. 2012), less is known about what affects consumers' subjective time perceptions in the first place. The present research begins to address this question by identifying a novel factor – perceived conflict between goals - that affects how people see, spend, and value their time.

Third, our research demonstrates that multiple types of goal conflict exert similar effects on consumers' time perceptions and related behaviors. Whereas intuitively, perceiving more

conflict between time-competing goals should make consumers feel that they have less time, that non-time based conflicts lead to similar results is more surprising. Our findings explain why this is the case: perceiving more conflict between goals – whether related to demands on time or not – increases stress and anxiety. This common underlying mechanism leads both time-related and unrelated types of goal conflict to make people feel more time constrained.

Fourth, our findings further understanding of how goal conflict impacts goal pursuit. Previous research shows that goal conflict detracts from consumers' ability to successfully pursue their goals (Riediger and Freund 2004; Shah, Friedman, and Kruglanski 2002), but little work has investigated why. By showing that greater goal conflict perceptions make people feel more time constrained, the present investigation sheds light on why goal conflict may make goal pursuit more difficult: by making consumers feel more pressed for time.

Relatedly, our findings provide a complementary perspective to extant work on multi-attribute decision-making under time pressure (Ben-Zur and Breznitz 1981; Payne et al. 1988; Payne et al. 1996). Whereas this prior work examined how time pressure influences goal pursuit (i.e., people narrow focus on a more limited number of goals), our research investigates the reverse causal pathway: namely, how perceived conflict between goals influences subjective time beliefs. Together, these findings suggest that how we pursue goals and how we experience time are interactive processes that may influence one another.

### *Implications for Marketers and Consumers*

The present findings offer several interesting insights to marketing practitioners. First, perceiving more conflict between their goals should increase how much consumers are willing to pay to have things done faster. In experiment 5, for example, participants who perceived more

goal conflict were willing to pay about a 30% shipping premium to receive their order sooner. Consumers may thus value time-saving products and services (expedited shipping, washing and drying machines with faster cycles, etc.) more highly, and be willing to pay more to receive them faster, when they see their goals as conflicting.

Second, our findings demonstrate that perceiving greater goal conflict affects how consumers spend time. Experiment 3, for instance, demonstrated that when choosing made people feel more goal conflict, they were willing to wait fewer days for their chosen item to arrive. This finding is particularly noteworthy given how many situations require consumers to wait: for example, standing in queues, contacting customer service, and ordering items online. When consumers feel more goal conflict, they should be less willing to wait in such situations, and feel less satisfied with the experience if required to do so.

We further speculate that perceiving more conflict between goals may decrease consumers' willingness to spend time on other activities. Consumers may spend less time in-store on shopping trips, for example, be less willing to travel far to run errands, or utilize online shopping outlets to a greater degree when goal conflict seems high. Relatedly, consumers' perceptions of goal conflict may also affect their behavior with respect to new product releases. Perceiving more conflict between goals may decrease how long consumers are willing to wait for upgrades (e.g., computer software) or new versions of current products (e.g., smart phones). Managing these individuals' perceptions of wait time might thus be particularly important to retain them as customers.

This research also has important implications for consumers. Feeling pressed for time has many detrimental consequences for consumer wellbeing, such as lower life satisfaction (Robinson and Godbey 1998; Roxburgh 2004) and poorer health outcomes (e.g., trouble

sleeping, unhealthy eating, and depression; Neumark-Sztainer et al. 2003; Roxburgh 2004). Fortunately, experiments 4 and 5 demonstrate two simple yet effective ways to restore subjective time perceptions: breathing slowly and deeply (experiment 4) and reappraising anxiety as excitement (experiment 5). When goal conflict seemed high, both interventions made participants feel they had as much time as when goal conflict seemed low. Marketers may foster such reappraisals by encouraging people to “take a deep breath,” or by labeling situations that might evoke anxiety as exciting (e.g., “buying a new car is exciting!”).

### *Directions for Future Research*

Our findings point to several avenues for future research. First, future work could examine consequences of goal conflict for prosocial behavior. Prior research shows that feeling pressed for time makes people less willing to help others (Darley and Batson 1973; Levine 1998; Mogilner et al. 2012; Rudd et al. 2012). Consequently, by making people feel that they have less time, goal conflict may decrease consumers’ willingness to give time to others. Indeed, ancillary data provides preliminary support for this idea. We found that perceiving more goal conflict decreased the number of hours participants were willing to donate to a charity, and further, that slow breathing attenuated this effect. Future work may explore how goal conflict affects other time-consuming prosocial behaviors.

Second, future work is needed to explore individual differences that moderate the present findings. For example, some people may naturally experience more stress and anxiety than others. Whereas these individuals may chronically feel more pressed for time, they may also be less influenced by variation in goal conflict perceptions. Individual differences in self-efficacy may also play a role. People who naturally feel more capable may be less prone to experiencing

stress and anxiety, and as a result, goal conflict may have less of an effect on their sense of time. Assessing these and other individual differences might provide additional insight into when and why people feel pressed for time. Further, this route might help identify other interventions (e.g., bolstering self-efficacy) that may mitigate goal conflict's detrimental effects.

Finally, future research could also examine consequences of the relationship between goal conflict and subjective time perceptions for how consumers pursue their conflicting goals. If perceiving more conflict between goals makes people feel that they have less time, would that encourage consumers to prioritize pursuit of some goals over others? If so, would people focus on goals that seem to require more time, or less time, to pursue? Connecting goal conflict's effect on subjective time perceptions to how consumers pursue multiple goals raises many interesting questions worth exploring.

### *Conclusion*

Despite trends documenting an increase in time pressure, little is known about what makes consumers feel pressed for time. This research demonstrates a novel pathway – perceived conflict between goals – that makes consumers feel that they have less time and affects how they spend and value their time. Fortunately, our findings show that restoring people's sense of time can be relatively simple. Encouraging consumers to take slow deep breaths, or reappraise their anxiety as excitement, can significantly reduce goal conflict's detrimental effects.

FIGURE 1

*THEORETICAL FRAMEWORK: THE EFFECT OF GOAL CONFLICT ON SUBJECTIVE TIME*

*PERCEPTIONS*

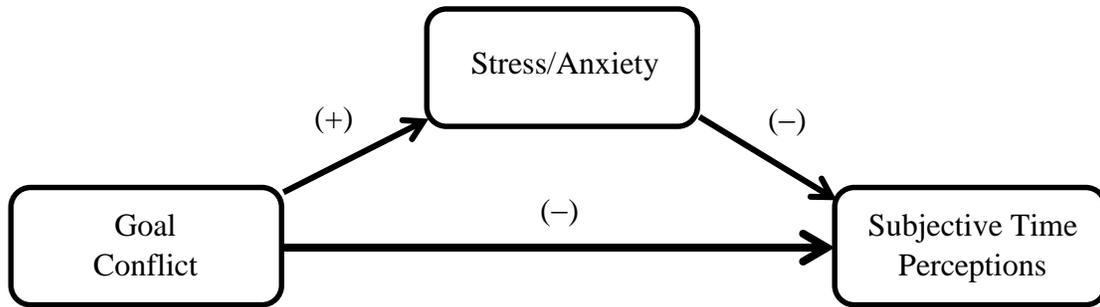


FIGURE 2

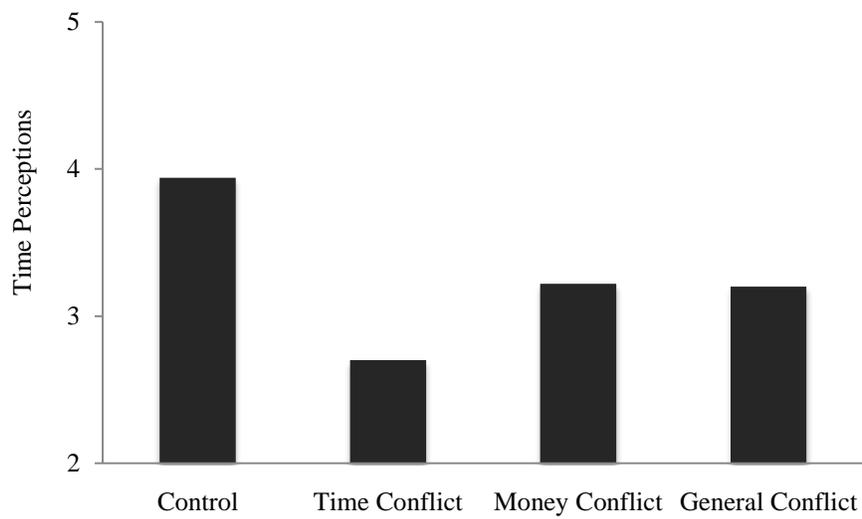
*GOAL CONFLICT REDUCES SUBJECTIVE TIME PERCEPTIONS**(EXPERIMENT 1)*

FIGURE 3A

## GOAL CONFLICT REDUCES SUBJECTIVE TIME PERCEPTIONS

(EXPERIMENT 2)

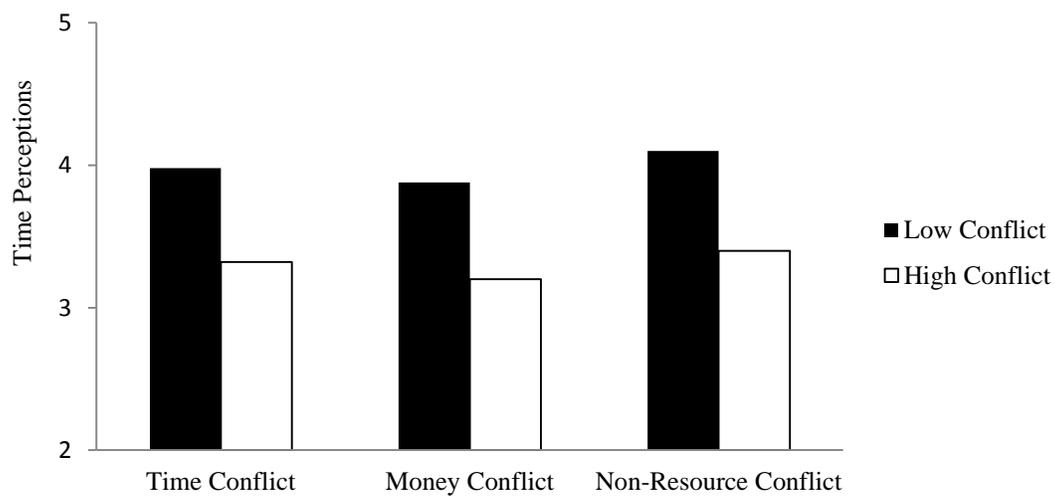


FIGURE 3B

## GOAL CONFLICT INCREASES STRESS AND ANXIETY

(EXPERIMENT 2)

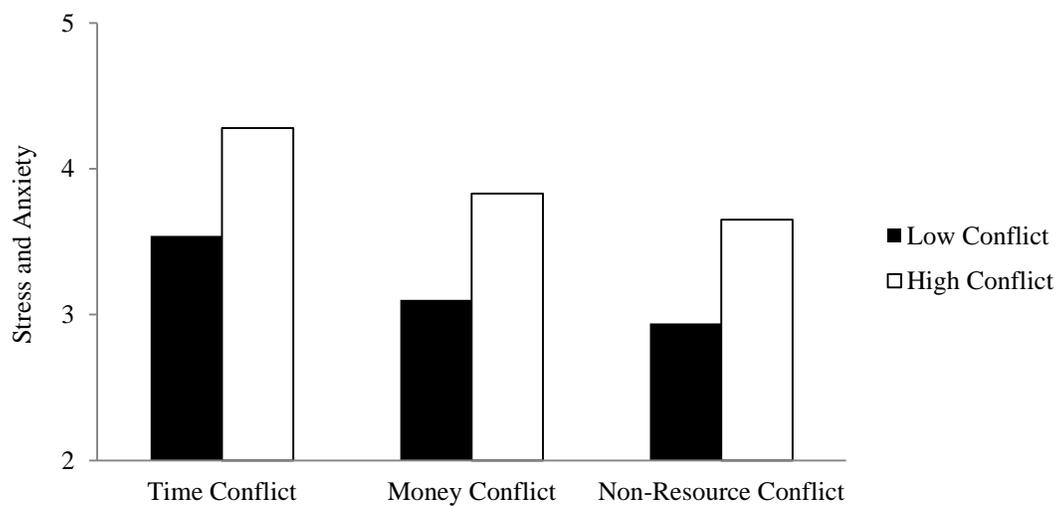


FIGURE 4A

SLOW BREATHING MODERATES EFFECT ON SUBJECTIVE TIME PERCEPTIONS

(EXPERIMENT 4)

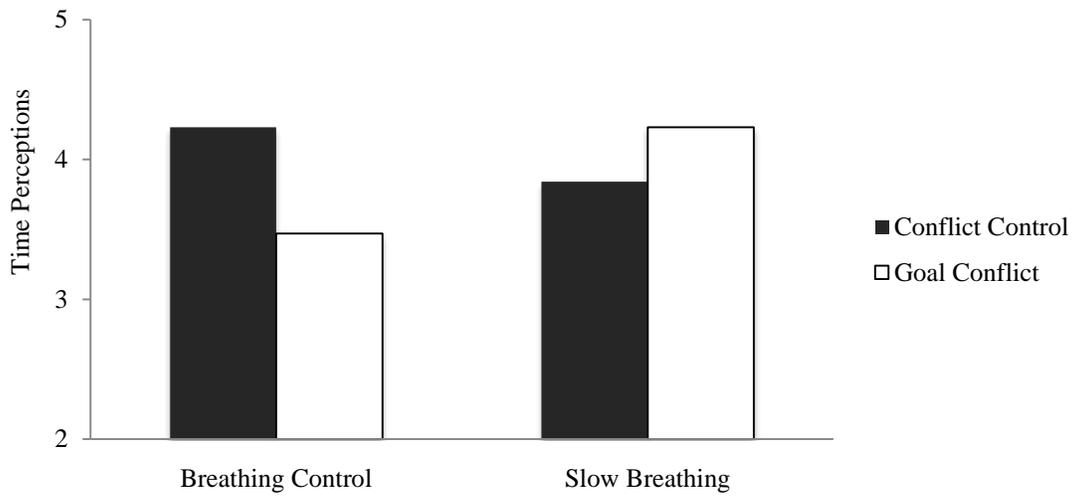


FIGURE 4B

SLOW BREATHING MODERATES EFFECT ON STRESS AND ANXIETY

(EXPERIMENT 4)

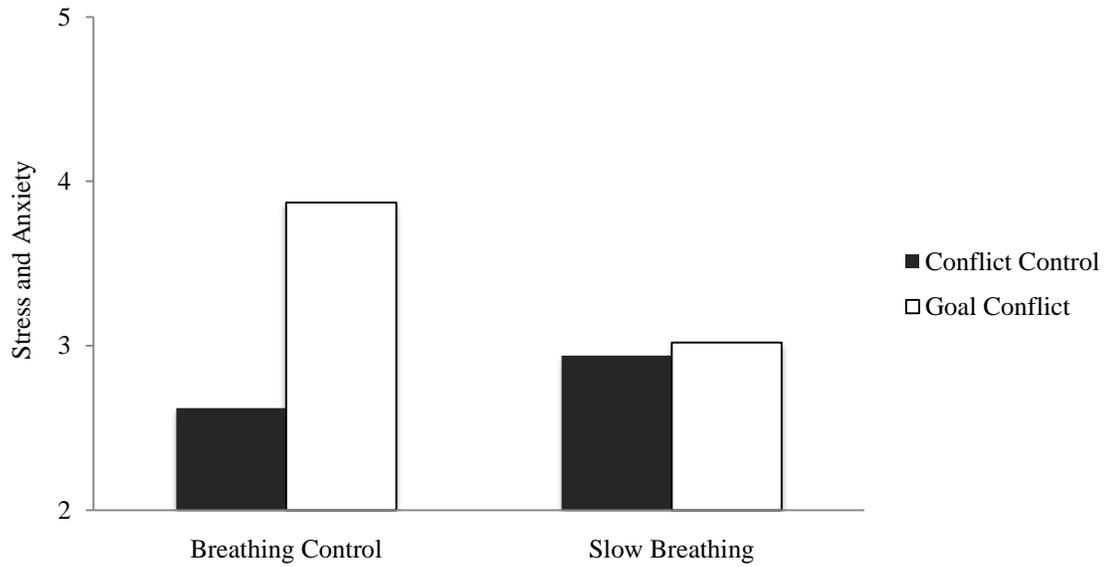


FIGURE 5A

EXCITEMENT REAPPRAISAL MODERATES EFFECT ON SUBJECTIVE TIME

PERCEPTIONS

(EXPERIMENT 5)

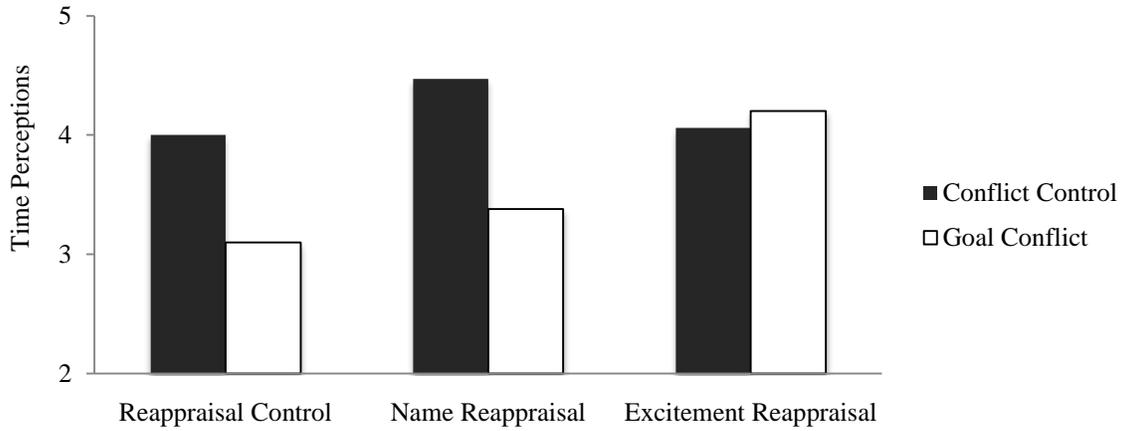
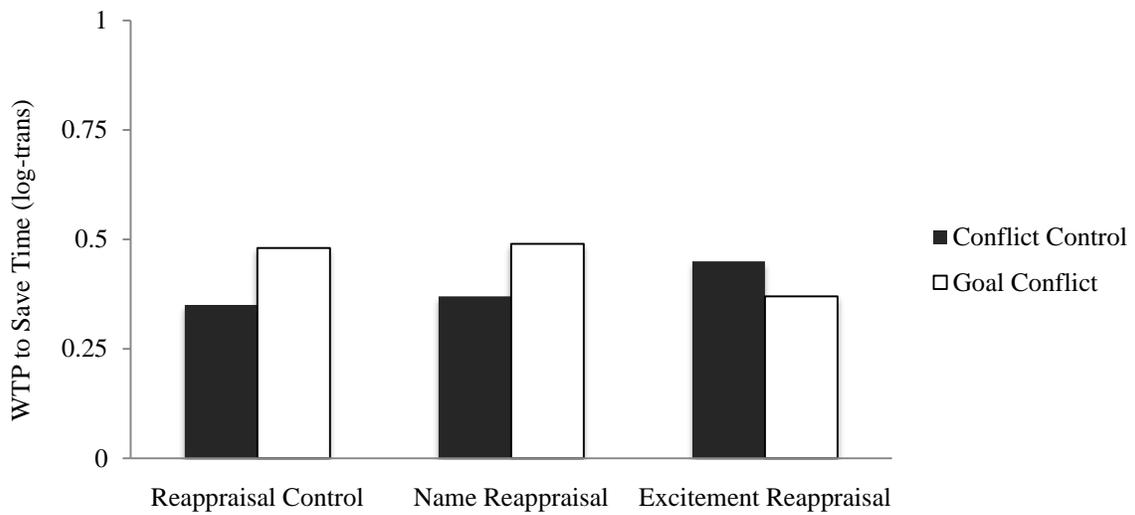


FIGURE 5B

EXCITEMENT REAPPRAISAL MODERATES EFFECT ON MONETARY VALUE OF TIME

(EXPERIMENT 5)



*APPENDIX: CHOICE STIMULI*

*(EXPERIMENT 3)*

High Conflict Condition:

	Price	Occupant Survival	Styling	Pollution Caused
Car A	Very good	Excellent	Very good	Very poor
Car B	Average	Poor	Average	Poor
Car C	Very good	Very poor	Very good	Excellent
Car D	Poor	Average	Very good	Very poor

Low Conflict Condition:

	Price	Occupant Survival	Styling	Pollution Caused
Car A	Very good	Excellent	Very good	Excellent
Car B	Average	Poor	Average	Poor
Car C	Very good	Very poor	Very good	Average
Car D	Poor	Average	Very good	Very poor

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