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Abstract

People like having options when choosing, but having too many options can lead to negative decision-related consequences. The present study focused on how social-relational factors—common aspects of daily life—can maintain or attenuate the appeal of choice. Study 1 examined the effect of a supportive- or nonsupportive-relationship prime on the decision to pay for having more options in choosing a consumer product. People who thought of supportive relationships, compared with those who thought of nonsupportive ones (and control participants), were less willing to pay for a larger choice set. Study 2 showed that the activation of thoughts of security and calmness in participants recalling supportive relationships (compared with participants recalling nonsupportive relationships) mediated the appeal of choice. This finding offers one possible explanation for the reduced desire for options when people are reminded of supportive relationships.

Keywords

decision making, relationship quality, social cognition, problem solving

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You are in the market for a new durable good, such as a car or a phone. Would you rather have fewer or more options when choosing? If you are like a lot of people, you will want more options; studies have consistently shown that people prefer to have many options and much variety when choosing (e.g., Iyengar & Lepper, 2000; Kahn, 1995)—so much so that they will even pay money to keep their options open (Shin & Ariely, 2004). It is not surprising that retailers—ranging from Wal-Mart to local grocery stores—accommodate consumers' preference for choice, as evidenced by the number of offerings within product categories (e.g., cereal types).

Some researchers view having choices as beneficial because choices help people make better decisions and make them feel better about those decisions (Ariely & Levav, 2000; Hutchinson, 2005; Kahn, 1995). According to rational choice theory (Arrow, 1959), rational decision makers should benefit from having more choice options. All other things being equal, people are more likely to find options that meet their preferences and satisfy their needs in larger choice sets (e.g., Simonson, 1990). Further, variety in choice can help people hedge against shifting preferences in the future (Kahneman & Snell, 1990; McAlister, 1982; Simonson, 1990). Thus, in theory, more choice enables better decision making, in addition to affording people decisional and behavioral flexibility.

Although having many things to choose from may aid decisional flexibility, research on the *paradox of choice* has documented several practical instances in which people suffer from having too much choice (Iyengar, Wells, & Schwartz,

2006; Schwartz, 2004). Having many options to consider, for example, can make choosing cognitively burdensome (e.g., Iyengar & Lepper, 2000), in part because larger choice sets often include attractive options that differ from one another only marginally (Fasolo, Hertwig, Huber, & Ludwig, 2009; Sela, Berger, & Liu, 2009). Also, choosing can highlight positive features of previously unconsidered options and make salient negative features of earlier preferred options. Consequently, too much choice can lead people to take shortcuts, choose default options, delay making decisions, or simply opt not to choose. When confronted with many options, people can feel that they have not chosen optimally, be less confident about their choices (Iyengar et al., 2006; Schwartz, 2004), or experience buyer's remorse or regret (Inman & Zeelenberg, 2002; Tsiros & Mittal, 2000).

Thus, although having more choice appears good in theory, more choice may lead to lower decision quality and less satisfaction with the chosen option. An important question to ask, then, is whether the appeal of choice can be attenuated. We argue that the appeal of choice can fluctuate, not as a function of the decision task per se, but as a result of the decision maker's social and relational context. In this article, we introduce the concept of relational context to the study of choice.

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The Present Research: A Focus on Relationships

Despite the tendency to conceive of choice and decision making as an individual endeavor, people often make decisions in the context of other people. Well-known findings show that making decisions in groups, for example, can influence decisions in myriad ways (Janis, 1982; Moscovici & Zavalloni, 1969; Sherif, 1937). In the present research, however, we focused on the role of personal relationships rather than group decision making. People regularly come into contact with others; some relationships provide security and are supportive, whereas others are not supportive, do not provide security, and may even be threatening. Broadening the scope of research on decision making to consider this aspect of the social ecology—a quotidian feature of life—we examined how relationships can influence choice behavior, especially given the costs associated with too much choice.

Benefits of Social Connections and How Social Connections Can Influence Choice

Interdependent relationships with others add to people's instrumental and emotional resources (e.g., Cacioppo & Hawkley, 2009; Cohen & Wills, 1985; Ybarra et al., 2008). Studies indicate that social ties help distribute information to people in social networks, even indirectly, and that such networks can serve as the basis for creative problem solving and discovery of opportunities (e.g., Granovetter, 1973; Ruef, 2002). In this sense, social connections can increase a person's knowledge pool. Social connections can also positively influence people's ability to process available information, as recent research on cognitive functioning has shown (Ybarra et al., 2008; Ybarra, Winkelman, Yeh, Burnstein, & Kavanagh, 2011). In addition to providing such cognitive benefits, supportive social connections provide benefits that revolve around feelings of security (e.g., Ainsworth, 1989; Crockenberg, 1981). Research indicates that supportive relationships help alleviate anxiety and reassure people in uncertain situations (Gump & Kulik, 1997; Haslam, Jetten, O'Brien, & Jacobs, 2004).

In contrast, relationships that are not supportive may provide minimal or no cognitive and social-emotional basis from which people can approach decision making. People who are lacking social ties can remain isolated on knowledge islands (Ruef, 2002). Further, a person who does not (or cannot) rely on others might see a greater need to be flexible in dealing with the environment and making decisions. In this regard, preference for choice and variety, although it occurs widely (Ariely & Levav, 2000; Iyengar & Lepper, 2000; Kahn, 1995; Simonson, 1990), has strong conceptual linkages to being independent of other people. As Schwartz (2000, 2004) theorized, part of choice-seeking behavior is based on what people acting as individual agents want. Consistent with this theory, research suggests that people with chronic independent (as opposed to interdependent) mind-sets place great value on

choice (Iyengar & Lepper, 1999; Kim & Drolet, 2003; Markus & Kitayama, 1991). Moreover, several economic perspectives treat having choice as important for decisional and behavioral flexibility (Kahneman & Snell, 1990; McAlister, 1982; Simonson, 1990).

Tying together these lines of reasoning, we propose that supportive relationships increase feelings of security and calmness, which lessen the appeal of choice and striving for flexibility in choosing. In contrast, nonsupportive relationships provide little or no basis for security, leading people to separate themselves from others, thus elevating their need to be flexible when making decisions. Because choice and options afford flexibility, a consequence of these processes is that people should prefer less choice when they feel more secure and calm in their relationships. Assuming that the appeal of choice corresponds to a type of exploratory behavior, we can place this prediction in even greater relief by considering an alternative hypothesis suggesting that people would be more likely to explore options when they have a secure social base (e.g., Fredrickson, 2001).

We tested these hypotheses with two experiments. Study 1 examined the prediction that thinking about supportive relationships, compared with nonsupportive relationships or objects (control condition), would make people prefer fewer options in a choice set. Study 2 expanded the investigation by examining a different choice context and tested a possible explanation for this reduced desire for options.

Study 1

In this study, we assessed the appeal of choice. We randomly assigned participants to write about a relationship that was supportive, a relationship that was nonsupportive, or an object (control condition). Following this writing task, participants performed a filler task. We then measured preference for options in a choice task in which participants had to pay money for more choice. Study 1 had three goals. First, we tested the hypothesis that people generally want choice or options (control condition). Second, we examined whether decisions made by participants in the nonsupportive-relationship condition differed from decisions made by participants in the control condition. Finally, and of greater interest, we tested the hypothesis that participants who thought of a supportive relationship would show less preference for choice than would participants in the other two groups combined.

Method

Participants and design. We randomly assigned 138 participants (78 women, 59 men, 1 participant whose gender was unreported; age range = 18–23 years) to the three conditions: control, supportive relationship, and nonsupportive relationship. Five participants (2 in the supportive-relationship condition, 1 in the nonsupportive-relationship condition, and 2 in the control condition) failed to complete the task, which left a total of 133

participants for the analysis (supportive-relationship condition: $n = 48$; nonsupportive-relationship condition: $n = 42$; control condition: $n = 43$).

Experimental manipulations. The experimenter told participants that on the computer they would be completing a compilation of different tasks for future use by our laboratory. Participants in the supportive-relationship condition were instructed to think about

a relationship you have had in which you felt you were close to the other person and you felt comfortable depending on the other person. In this relationship you didn't often worry about being abandoned by the other person.

Participants in the nonsupportive-relationship condition were asked to think about

a person that you know with whom you feel (or have felt) very uncomfortable. You have felt as if this other person either hates you or harbors other negative feelings towards you. This person might wish for your failure or attempt to sabotage your progress.

Participants in those two conditions were then asked to write down the person's initials and to describe their thoughts and feelings regarding the individual. Participants in the control condition were asked to think and write about

an object that you own, but one that is not important to you. This is likely to be an object that you do not use very often.

To dissociate the recollection and choice tasks, we embedded a filler task between the two; participants indicated how many times they had engaged in different behaviors in the past week (e.g., checking e-mail, going to the library).

Outcome measure: phone-shopping scenario. Following the manipulation and filler tasks, participants completed the decision task, consisting of a scenario in which they imagined themselves being in the market for a new cell phone and being presented with an opportunity to choose a new one. Specifically, they could choose from a different number of available options (three, six, or nine models) or take a default phone offered by the company. The focus was not on how participants made a decision, but on the appeal of choice itself. Hence, we required participants to pay more money for more options. After reading the preface to the decision task, participants were presented with the following information:

You ask the store manager about the available models and he tells you that there are 9 models that are similar in price but vary slightly in color, size, features, and

capabilities. However, depending on your preferences, you can choose among few or all of the models.

Then, participants selected one of the four following options, with later options providing larger choice sets at greater cost:

Option A: You do not have to make a decision on which phone to get. The company decides for you.

Option B: For a \$5 fee, you can view and select from 3 of the 9 available models.

Option C: For a \$10 fee, you can view and select from 6 of the 9 available models.

Option D: For a \$15 fee, you can view and select from 9 of the 9 available models.

Control variables: affect and executive functioning.

Although our focus was on the effect that the security and calmness induced by supportive relationships have on choice behavior, we collected additional variables to deal with potential alternative explanations. Because the different relationships participants thought about could activate different levels of positive affect and negative affect, we controlled for them with the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988). Participants rated the degree to which their feelings were described by 20 emotion adjectives (10 positive: e.g., "excited" and "interested," $\alpha = .86$; 10 negative: e.g., "upset" and "distressed," $\alpha = .80$), using scales ranging from 1 (*not at all*) to 5 (*extremely*). Separate scores were created for positive and negative affect, with higher scores representing higher degrees of affect. We also measured individual differences in executive functioning (index of cognitive resources), because research indicates that how people deal with choice contexts can be influenced by cognitive load (e.g., Shiv & Fedorikhin, 1999). We used two well-known measures, the Trail Making Test from the Hastead-Reitan Neuropsychological Test Battery (Reitan & Wolfson, 2001) and the Letter-Number Sequencing subtest from the third edition of the Wechsler Adult Intelligence Scale (Wechsler, 1997). Standard scoring was used for both the Trail Making Test and the Letter-Number Sequencing subtest. After completing the measures, participants received course credit and were debriefed.

Results and discussion

To test whether wanting more choice is the default, we focused on the control condition. We tallied the number of control participants who selected the greatest-choice option, Option D. The results indicated that control participants more frequently chose Option D ($n = 28$) than the fewer-options choices, B and C ($n = 14$), $p = .04$ (exact binomial test). Only 1 control participant selected Option A. Thus, the default in this paradigm was for people to want more choice, although this preference

was more costly economically. This finding is consistent with the results of previous research (e.g., Iyengar & Lepper, 2000; Shin & Ariely, 2004).

We then tested for any differences in preference for choice between participants in the control and nonsupportive-relationship conditions. In this case, we used a proportional-odds model to test the ordinal regression, with higher scores representing preference for larger choice sets. The first planned contrast indicated no difference between participants in the nonsupportive-relationship condition (60% chose Option D) and control participants (65% chose Option D), $t(128) = -0.47$, $p = .64$. Both groups generally wanted more choice in making their decisions (Option D), even if they had to pay for it (see Table 1 for the percentage of participants who chose each option in each condition).

The third goal of this study was to compare the supportive-relationship condition with the nonsupportive-relationship and control conditions combined. The planned contrast indicated that participants in the supportive-relationship condition (48% chose Option D) preferred less choice than did participants in the two other conditions, $t(128) = -2.04$, $p < .043$. These results are consistent with our hypothesis.

To test for potential alternative explanations, we first examined the number of words in participants' essays. There were no differences across conditions in how much participants wrote (means ranged from 37.40 to 38.81 words), $F(1, 135) < 1.00$, and controlling for word count did not alter the results. We also assessed positive and negative affect and level of executive functioning across conditions. Overall, participants experienced more positive affect ($M = 2.41$, $SD = 0.83$) than negative affect ($M = 1.59$, $SD = 0.67$), but there were no differences across conditions in positive affect, $F(2, 135) = 1.20$, $p = .30$, or negative affect, $F(2, 135) < 1.00$. Controlling for these scores did not alter the ordinal regression results for the dependent variable (i.e., the choice set that was preferred). Finally, there were no differences across conditions in executive function as measured with the Trail Making Test ($M = 20.74$ s, $SD = 12.07$ s), $F(2, 135) < 1.00$, or the Letter-Number Sequencing subtest ($M = 13.55$, $SD = 3.80$), $F(2, 135) = 1.26$, $p = .29$. Controlling for executive functioning did not alter the ordinal regression results.

In Study 1, reminders of supportive relationships attenuated the appeal of choice compared with reminders of nonsupportive relationships or control objects. Further, controlling for various covariates did not affect the results. In Study 2, we aimed to replicate the effects observed in Study 1 with a

different product and a different set of options, and to extend the findings by examining the posited mediating mechanism: greater feelings of security and calmness in the supportive-relationship condition compared with the nonsupportive-relationship condition.

Study 2

Method

Fifty undergraduates (32 women, 18 men; age range = 17–30 years) were approached around campus and invited to participate. This study had two conditions: Participants were assigned to write about either a supportive relationship ($n = 30$) or a nonsupportive relationship ($n = 20$). The general procedure of Study 2 was based on that of Study 1. We embedded a filler task to dissociate the recollection and choice tasks.

In Study 2, we used a different product (i.e., hiking boots) to examine choice-seeking behavior. Participants were to choose among four stores (Options A–D) that carried different numbers of styles of hiking boots (Option A = 5 styles; Option B = 9 styles; Option C = 14 styles; Option D = 20 styles). Thus, participants contemplated a product for which they had less familiarity compared with a cell phone (Study 1). Further, the cost associated with the different stores was not monetary but had to do with the amount of time required to visit the stores (Option A = 11 min; Option B = 19 min; Option C = 29 min; Option D = 41 min; thus, stores with larger selections required more time investment). Using time investment allowed us to address alternative explanations suggesting that participants who focused on a supportive relationship in Study 1 might have given less weight to money and spending than other participants did (see Vohs, Mead, & Goode, 2006). Finally, the lowest-choice option, Option A, did not involve having an outside agent make a decision for the participant in this study.

In addition to examining the appeal of choice, we had participants judge how important the choice was, their confidence in the decision, how confident they were that they would find the best pair of boots, how much they trusted that the store would have their style, and the extent of their knowledge about and familiarity with hiking boots and shopping for them. These questions were answered on 5-point scales ranging from 0 (*none, or not at all*) to 4 (*a lot, very, or very much*). After participants made their judgments, they were debriefed and compensated.

Table 1. Study 1 Results: Percentage of Participants in Each Condition Who Chose Each Option

Condition	Option A	Option B	Option C	Option D
Supportive relationship ($n = 48$)	17	23	12	48
Nonsupportive relationship ($n = 42$)	14	2	24	60
Control ($n = 43$)	2	21	12	65

To test for the proposed mediation, we had two independent coders who were blind to experimental condition rate participants' descriptions of their relationships. The coders received explicit instructions to code the extent to which participants indicated feeling secure and calm in the relationship they wrote about (scale from -2 , *very anxious/insecure*, to 2 , *very calm/secure*). Two participants in the supportive-relationship condition produced too little text to be rated by the coders. Interrater reliability between the coders was high ($r = .95$), so we averaged the scores.

The coders also coded for other potentially relevant themes in the essays (e.g., reports of receiving support, feelings of control, trust in the other person); interrater reliability (r) ranged from .56 to .89.

Results and discussion

Supportive social relationships attenuate the appeal of options. We tested the choice data using a proportional-odds model, which yielded a significant effect of condition, $t(46) = 2.14$, $p = .038$ (see Table 2 for the percentage of participants who chose each option in each condition). Three percent of the participants in the supportive-relationship condition chose Option D, whereas 20% of participants in the nonsupportive-relationship condition chose Option D. Parallel effects were found across the other three decision categories (e.g., 90% of the participants in the supportive-relationship condition selected either Option A or Option B, whereas 65% of the participants in the nonsupportive-relationship condition selected one of those two options). Overall, the results replicated Study 1, showing that participants who were reminded of a supportive relationship preferred less choice than those who were reminded of a nonsupportive relationship.

Mediation analysis: security and calmness stemming from relationship primes. We tested whether relationship condition had an effect on the ratings of participants' thoughts of security and calmness. Consistent with predictions, the results indicated that people in the supportive-relationship condition ($M = 0.65$, $SD = 0.77$) described themselves as being more secure and calm in their relationship compared with people in the nonsupportive-relationship condition ($M = -0.59$, $SD = 0.76$), $F(1, 46) = 30.48$, $p < .0001$, $d = 1.62$.

We tested the mediation model using a proportional-odds regression for the dependent variable (preferred size of the choice set) and a normally distributed model (implemented in

Mplus) for the mediator (greater feelings of security and calmness). The results already discussed point to two antecedent conditions for mediation: The condition variable led to both a significant direct effect on the choice variable and a significant direct effect on the feelings variable (security, calmness). In the mediation model, we coded the supportive-relationship condition as 2 and the nonsupportive-relationship condition as 1. The Sobel test statistic for the product of the a path (treatment to mediator) and the b path (mediator to dependent variable, controlling for treatment) was 0.60, $z = 2.67$, $p = .007$; the bias-corrected, bootstrap 95% confidence interval, [0.16, 1.03], did not include zero, which indicated a significant mediation effect.

The other potentially relevant themes in the essays (e.g., reports of receiving support, feelings of control, trust in the other person) and the judgment variables following choice (e.g., decision importance, confidence in decision, knowledge of product) were examined. None met the product-rule criterion for mediation, and most did not vary by condition. For example, participants in the two conditions did not differ significantly in the importance they attributed to the decision (supportive-relationship condition: $M = 2.60$; nonsupportive-relationship condition: $M = 2.45$), $F < 1.00$, and were equally confident (supportive-relationship condition: $M = 3.90$; nonsupportive-relationship condition: $M = 3.90$), $F = 0$.

These results support the mediational role of the posited mind-set: Supportive relationships were more likely than nonsupportive ones to activate thoughts of security and calmness, and thereby to decrease the appeal of choice. The covariation pattern is consistent with a model in which thoughts of security and calmness are a mediator between relationship type and the appeal of choice.

General Discussion

We investigated the role of relationships in choice-seeking behavior. Study 1 demonstrated that thinking about supportive relationships, compared with nonsupportive relationships or control objects, reduced preference for larger choice sets. Study 2 replicated the finding with a different choice scenario, examined and excluded alternative explanations, and extended the findings by showing that thoughts of security and calmness mediated the effect that primed relationships had on choice-seeking behavior.

As discussed earlier, supportive social ties can provide people with diverse sources of information (Granovetter, 1973), in

Table 2. Study 2 Results: Percentage of Participants in Each Condition Who Chose Each Option

Condition	Option A	Option B	Option C	Option D
Supportive relationship ($n = 30$)	43	47	7	3
Nonsupportive relationship ($n = 20$)	25	40	15	20

addition to augmenting cognitive functioning (Ybarra et al., 2008; Ybarra et al., 2011). But just as important, if not more, is the fact that supportive relationships help quell anxiety and reassure people, helping them feel more secure and calm (e.g., Ainsworth, 1989; Crockenberg, 1981; Gump & Kulik, 1997). This should reduce the need for control and choice. In contrast, when a person is not secure in a relationship (i.e., disconnected from the other person and acting as an individual agent), he or she seeks choice and behavioral flexibility (cf. Schwartz, 2000, 2004), which are facilitated by options. Thus, the presence of, or reminders of, supportive relationships should reduce the desire for greater choice, whereas nonsupportive relationships, by highlighting one's separateness from others, may induce a need to be flexible and exert greater control over one's decisions, for instance, through seeking more options.

Culture and choice

People acting as individual agents want more choice than do people who are more interdependent (Schwartz, 2000, 2004). Research has found cultural differences in the appeal of choice, with Westerners (relatively more independent) preferring more choice than East Asians (Iyengar & Lepper, 1999; Kim & Drolet, 2003; Markus & Kitayama, 1991). If researchers can assume that people from more interdependent cultures are more likely to structure their behavior with regard to supportive others, such as family and friends, our findings may help explain the relative importance of choice across cultures. We emphasize that social relationships are important for all people regardless of culture, and that is why we refer to relative, rather than absolute, differences.

Limitations and implications

Although the effect of social relationships on the appeal of choice was replicated across two studies, it would be useful to study other choice tasks in the lab or field to measure the appeal of options as a function of social relationships. Also, extending the measures to include variables such as amount of time spent before making a decision could further help researchers understand the processes (e.g., motivation, cognition) involved in deciding among different choice sets.

Finally, the availability of options is consistent with and supports the idea of decisional and behavioral flexibility (e.g., Kahneman & Snell, 1990). The need for such flexibility, though, should also be linked to the propitiousness of the current situation. People are at times dissatisfied when they have to choose from large choice sets. Because options are the raw resources of behavioral flexibility (e.g., Baker & Nelson, 2005), people may exploit those resources even if the situation does not call for them, that is, when a straightforward decision would do. Conversely, having fewer options need not lead to more satisfaction with the eventual decision, especially when the situation is not propitious, and acting flexibly might give rise to novel and effective solutions. Such considerations of

decision and task context strike us as raising important questions for future research.

Conclusions

People receive many benefits from supportive relationships. Thus, people who view their relationships as secure may have less need to consider many options when making choices, because options facilitate behavioral flexibility, which is more likely needed when individuals act as independent agents. The fact that level of security can vary as a function of social cues suggests that how people deal with options and their eventual decisions may be open to twists and turns that depend on whom they spend time with or recall, although the consequences may also depend on the current environment, its propitiousness, and the need to be flexible.

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Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

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