



Contents lists available at SciVerse ScienceDirect

Organizational Behavior and Human Decision Processes

journal homepage: www.elsevier.com/locate/obhdp

Is it sometimes better to receive than to give? Preferences for receiver roles over proposer roles in consumer behavior ultimatums

Donald E. Conlon^{a,*}, Catherine H. Tinsley^b, Samuel J. Birk^c, Stephen E. Humphrey^d, Aleksander P.J. Ellis^c

^a Michigan State University, Department of Management, Eli Broad Graduate School of Management, East Lansing, MI 48824-1122, United States

^b Georgetown University, McDonough School of Business, Washington, DC 20057, United States

^c University of Arizona, Department of Management and Organizations, Eller College of Management, Tucson, AZ 85721-0108, United States

^d Pennsylvania State University, Department of Management and Organization, Smeal College of Business, University Park, PA 16802, United States

ARTICLE INFO

Article history:

Received 11 April 2008

Accepted 15 May 2012

Available online xxxx

Accepted by Maurice Schweitzer

Keywords:

Ultimatum bargaining

Negotiation

Offers

Role effects

Internet

On-line

ABSTRACT

In the context of purchasing ultimatums, consumers may dislike the freedom of choice that comes with proposing offers due to their awareness that the other party may have better information than they do and the fact that the attractiveness of outside alternatives is uncertain. Indeed, across three studies, we find that people prefer to receive rather than propose offers. In Study 1, proposers reached fewer agreements and experienced less favorable attitudes (e.g., satisfaction, fairness, recommendation intentions), particularly when their offers were rejected. In Study 2, proposers experienced more uncertainty and cognitive depletion as compared to receivers, again particularly if the proposed offer was rejected. In Study 3, role preferences were explained by the existence of higher regret in the proposer role, particularly if the proposed offer was rejected. We conclude with a consideration of the theoretical and practical implications of our research for scholars, customers, and service providers.

© 2012 Elsevier Inc. All rights reserved.

Introduction

As the Internet has come to saturate all aspects of society and the economy, online intermediaries that give buyers access to third party products and services have also become commonplace. For example, sites such as Ticketmaster and Stubhub link fans hoping to procure tickets to concerts and games with the venues where the events are held. Similarly, travel websites such as Expedia and Travelocity connect customers with airlines, hotels, and car rental agencies. These systems offer an opportunity to study how people make, receive, and respond to offers across a variety of parameters inherent in these environments. For example, Ticketmaster and Expedia provide customers with some degree of certainty about what they are getting for their financial investment (e.g., what airline they are flying and how well their hotel is rated). However, other websites present customers with more ambiguity. For instance, “discount” intermediaries such as Priceline and Hotwire require the customer to accept a degree of uncertainty before they make an offer, such as which hotel they will stay at or exactly how much it will cost per night. By studying consumer behavior in these electronically mediated exchanges, we can capitalize on real-world variations in exchange procedures to examine how varying structures (customer as proposer versus receiver, large versus

small price range) impact offer behavior and reactions, particularly satisfaction.

Transactions between customers and electronic intermediaries can be viewed as variants of ultimatum bargaining games (Ellis, Humphrey, Conlon, & Tinsley, 2006; Humphrey, Ellis, Conlon, & Tinsley, 2004). An ultimatum bargaining game is characterized by one party (the proposer) making a single offer (e.g., a division of a sum of money or an offer of a hotel room at a specific price) to another party (the receiver). If the receiver agrees to the offer, the transaction is completed and resources are distributed/exchanged according to the agreement. If the offer is refused, no exchange takes place (e.g., Croson, Boles, & Murnighan, 2003; Güth, Schmittberger, & Schwarz, 1982; Pillutla & Murnighan, 1995).

In an initial investigation of ultimatum games with online intermediaries, Humphrey et al. (2004) found that non-monetary features such as response time (long rather than short) and offer rejection (high rather than low) influenced attitudes and intentions toward these systems. In a follow-up study, Ellis et al. (2006) sought to identify ways to improve reactions and found people were generally more positive when the intermediary provided explanations for rejected bids. Although these two studies provide initial insights into customer reactions, they focused only on a structure where participants made offers. Yet, because the traditional ultimatum-bargaining research has shown that a player's role influences his or her reactions (for reviews, see Roth, 1995;

* Corresponding author. Fax: +1 517 432 1111.

E-mail address: Conlon@msu.edu (D.E. Conlon).

Thaler, 1988), it is likely that people will have different reactions depending on whether they are in the role of proposer or receiver. Specifically, the extant literature on ultimatum games has suggested that people are generally risk averse and therefore react more favorably to the certainty afforded by the proposer role (Hoffman, McCabe, Shachat, & Smith, 1994). Ultimatum games with online intermediaries introduce a context in which the proposer role may expose customers to more uncertainty, leading to less favorable reactions.

Overview of studies

Examining people's reactions to different online sales structures can produce new insights as to how and why people react to making versus receiving offers. Across three studies, which vary parameters such as commodity and level at which a deal can be made, we find robust support for our hypotheses. Study 1 offers our initial test, in which participants interact with a discount intermediary selling hotel rooms. The results show that participants have a strong preference for the receiver role; that this role is associated with more agreements, satisfaction, fairness, and recommendations; and that completion rates have a stronger impact on those who propose offers than those who receive them. Study 2, which examines the task of buying a used car, tests arguments about uncertainty and cognitive depletion, and confirms that the proposer role has higher levels of both and that completion rates again have a greater impact on proposers as compared to receivers. Returning participants to the task of making and receiving offers on hotel rooms, Study 3 finds regret to be an important mediator of why people are more satisfied in the receiver role and why proposers who fail to complete exchanges are particularly dissatisfied. We conclude with theoretical implications for understanding offer behavior and practical implications for people and organizations engaged in these bargaining exchanges.

Preference for the receiver role

Prior research on ultimatum bargaining finds that people prefer the role of proposer to the role of receiver (e.g., Pillutla & Murnighan, 1995). In addition, proposers typically extract more value from the exchange than receivers do (see Oosterbeek, Sloof, & Van de Kuilen, 2004 for a meta-analysis).¹ A proposer's initial division of money may anchor what is considered to be an acceptable division, giving proposers the advantage conferred on first movers in purely distributive (i.e., fixed pie) negotiations (Galinsky & Mussweiler, 2001). Moreover, in studies where players compete for a role, they accept that the higher performer "earns" the proposer role (Hoffman et al., 1994), signaling that both parties view this role as more desirable. Yet, we believe that customers in our context will often prefer the opposite role—that of receiver.

Important differences exist between our customer-focused ultimatum structures and those of classic ultimatum-bargaining games drawn from the experimental economics literature. For instance, if the receiver rejects the proposal in a classic ultimatum game, the game is over and the money disappears. Ultimatums in customer service settings somewhat share this "disappearing" quality. For example, Hotwire.com offers customers select hotels

at a discount without revealing the brand or location of the hotel. If a potential customer rejects a hotel room, that room becomes unsold to the customer for that night(s) and possibly to the intermediary and hotel. Yet, all parties have outside alternatives to completing the exchange, such as other customers or other ways to purchase the hotel room. Thus, an incomplete exchange can lead to more searching and bargaining. The availability of outside options means that customers can gain additional (but always incomplete) information regarding the pricing of similar items. This uncertainty about the value of outside options should make customers less certain about whether or not their deal is a good one, relative to parties in a traditional ultimatum where the size of the pie is usually known (and, for traditional proposers, always known (c.f., Croson, 1996; Kagel, Kim, & Moser, 1996; Straub & Murnighan, 1995). In addition, in certain online structures, the customer also has uncertainty about the commodity (such as the specific hotel room or airline) he or she is obtaining, contributing again to the challenge of determining the value of the deal.

The contextual differences noted above highlight the uncertainty for online customers in customer-focused ultimatum structures. Uncertainty refers to a gap in one's information that makes it difficult to calculate the probability that an event will occur (Knight, 1921). Customers in our context also face an information asymmetry, meaning the other party in the exchange has more or better information than they do (Akerloff, 1970). That is, customers will generally know less about market conditions (i.e., the discount price at which a commodity such as a four-star hotel room is likely to be purchased) than does the intermediary, which collects volumes of historical data. Thus, relative to the intermediary, customers are more uncertain regarding their alternatives and the ultimate outcome (price and quality of hotel) they will experience if they are unable to complete an agreement with the intermediary.

Returning to a traditional ultimatum context, recall that proposers know the amount to be divided, whereas receivers may or may not know this information. Hence, to the extent that there is any information asymmetry, it is the proposer who has more information and thus less uncertainty. Although proposers do face the uncertainty of whether their monetary division will be accepted or not, they can decrease this uncertainty by making a proposal of greater value to the other party. Those who are more risk averse can offer more to the receiver to reduce the uncertainty surrounding the receiver's decision to accept or reject. Receivers, however, cannot regulate their reply, as it is a binomial accept or reject. Thus, the certainty of knowing how one's offer compares to what one is keeping and the freedom to modulate one's offer likely contribute to the traditional preference for the proposer role in classic ultimatum games. In contrast, the information asymmetry disadvantaging the customer and uncertainty about the number and value of alternatives will create a context for customer ultimatums that favors the receiver role. Because of this information asymmetry and the uncertainty regarding the value of one's deal relative to outside options, the proposer's freedom to modulate offers may be less attractive.

Prior research has demonstrated that negotiators with uncertain or unknown alternatives are particularly likely to view such alternatives optimistically (Bazerman & Neale, 1982; Farber & Bazerman, 1986, 1989; Larrick & Boles, 1995; Neale & Bazerman, 1985). Anchoring on these overly optimistic alternatives, parties who are proposing an offer may convince themselves that their offer is reasonable and will be honored by the other party (c.f. Neale & Bazerman, 1985). Because uncertain alternatives frequently lead to overly optimistic offers (Bazerman & Neale, 1982; Farber & Bazerman, 1986, 1989; Larrick & Boles, 1995; Neale & Bazerman, 1985), parties as proposers may incur high impasse rates. On the other hand, uncertain alternatives can highlight the risk associated

¹ Although theories about maximizing utility, particularly game theory's sub-game perfect equilibrium models (Selten, 1965), would predict that proposers walk away with the lion's share of the value because receivers should accept any division that leaves them better off than their alternative (of \$0), divisions are usually somewhere between this game-theoretic solution and a 50/50 split (see, for example, Camerer & Thaler, 1995; Handgraaf, Van Dijk, & De Cremer, 2003). Nonetheless, this implies that proposers garner, on the whole, either rewards equal to or greater than those of the receiver.

with impasse in a manner that lowers reservation prices (Fobian, Shafir, Farber, & Babcock, 1994; Fobian & Christensen-Szalanski, 1993), or the value at which negotiators are indifferent as to whether they complete the exchange or pursue an alternative (Raiffa, 1982). Although proposers are influenced by how uncertain alternatives impact *opening offers*, receivers (who are trying to decide whether or not to accept or reject) should be influenced by how uncertain alternatives impact *reservation prices*; subsequently, receivers of offers may experience few impasses. Taken together, these findings suggest:

H1. There will be more agreements when customers are in the receiver role than when customers are in the proposer role.

As noted above, participants in customer ultimatums face more uncertainty than those in traditional contexts; moreover, we believe customers who propose offers will likely experience more uncertainty than those who receive offers. Customers in the receiver role are presented with a straightforward choice: accept the price proposed by the intermediary and acquire the hotel room, or reject the price and forego the hotel room. Customers in the proposer role, however, are given less information before determining an offer and should feel less aware of the price that maximizes their utility in regard to obtaining the hotel room at the lowest possible price. Thus, proposers' freedom to modulate offers may simply lead to more uncertainty. Moreover, individuals generally prefer being presented with choices that have certain rather than uncertain outcomes (Bell, 1983; Larrick & Boles, 1995), and receivers are presented with two certain outcomes (accept or reject), whereas proposers must make an offer with uncertain consequences. Prior studies show that people in bargaining situations prefer *reduced uncertainty*—for example, by avoiding situations where outcomes cannot be determined in advance (“uncertain” situations) (Conlon, Moon, & Ng, 2002). Hence, the greater uncertainty of the proposer role should make it less attractive than the receiver role.

Further, the conflicting values of obtaining the hotel room and spending the smallest amount of money possible may cause proposers to experience a relatively high level of cognitive load. Practitioners recommend reducing the cognitive load of the user in order to improve general satisfaction with user interfaces (Mandel, 1997; Shneiderman, 1998), and Schmutz and colleagues have empirically demonstrated that cognitively demanding websites decrease user satisfaction with the site (Schmutz, Heinz, Métrailler, & Opwis, 2009). Thus, the cognitive load associated with the proposer role may also make it less attractive than the receiver role.

We argue that this depletion and uncertainty is in part due to the prominence of alternative choices that remain available to proposers as compared to receivers. As we expound in Study 3, the prominence of alternatives can increase regret (Bell, 1982; Loomes & Sugden, 1982) because more alternatives implies more foregone outcomes. Thus, the increased salience of alternative choices in the proposer role should lead to a higher probability of experiencing regret relative to the receiver role, particularly given that proposers may be more anchored on their optimistic opening offer and receivers on their more conservative reservation price.

In addition, absent the existence of any discount anchors, receivers are likely to assume the offer they get from the discount intermediary is the market-competitive price; otherwise, the service provider would not be able to retain customers due to minimal switching costs (e.g., a customer could easily switch from Hotwire to Priceline). Therefore, an offer price received should be judged as a relatively fair offer (i.e., customers should perceive high outcome or distributive fairness; Lind & Tyler, 1988). On the other hand, people who propose offers can only hope that their price is acceptable, and though they have the power to set that price, their

uncertainty as to whether it is market-competitive may increase feelings of regret, leading to decreased feelings of outcome fairness and satisfaction. The fact that the customer has less information when proposing an offer than when receiving an offer could also impact more distal outcomes, such as customer willingness to re-use the intermediary or to make positive recommendations to others about the intermediary, as some prior work has linked satisfaction and fairness to these consumer behaviors (Wilson, Conlon, & Koopman, 2011).

H2. Customers in the receiver role will experience (a) more intermediary satisfaction and (b) more outcome fairness, and they will be (c) more likely to make positive recommendations to others, relative to customers in the proposer role.

Proposers who fail to reach agreement should feel particularly dissatisfied. First, rejected proposers suffer the negative consequences of having put in some amount of cognitive effort but not having completed a transaction. Second, rejected proposers continue to be uncertain about the price they need to propose to complete an exchange. On the other hand, proposers who succeed in reaching an agreement might feel particularly positive about the exchange because (despite the information asymmetry, uncertainty, and task difficulty) they were able to put in effort that was rewarded with a successful transaction. Thus, we propose an interaction between intermediary structures (i.e., whether the customer is proposer or receiver) and offer acceptance on perceptions of satisfaction, fairness, and willingness to recommend to others. In particular, we expect that when exchanges are completed, people (regardless of role) will have more favorable reactions than when exchanges are incomplete; however, the differences brought on by agreement should be more acute for those who propose offers as compared to those who receive offers.

H3. There will be an interaction between ultimatum structure and completed exchange such that levels of (a) intermediary satisfaction, (b) outcome fairness, and (c) willingness to recommend the intermediary to others will be lower for those who do not complete exchanges, and these differences should be more pronounced for proposers than receivers.

In summary, we expect our context of information asymmetry and uncertain outside alternatives to be one where the receiver role is perceived as more favorable than the proposer role. The logic for this preference stems from the receiver role being associated with more certainty, less regret, less cognitive effort, and more completed agreements.

H4. Customers will prefer the receiver role to the proposer role.

Method: Study 1

Participants, research design, and procedure

Undergraduate business students ($N = 257$; 53.6% male) participated in this study. A 2×2 within-and-between subjects factorial design varied a within-subjects factor, *role in transaction* (proposer versus receiver), and a between-subjects factors, *role order* (proposer role first followed by receiver role, or receiver role first followed by proposer role). Participants completed all aspects of this study online.

The experimental procedure was similar to that employed by Humphrey et al. (2004) and Ellis et al. (2006). Participants were told they would be helping to evaluate an online travel service company that was almost ready to begin operating nationally.

Participants also were told that the researchers had been asked to evaluate the system so the company could better understand how customers make decisions about purchasing goods and services over the Internet. In particular, the company was examining hotel bids that people make for rooms in different U.S. cities. Participants were asked to imagine that they would be taking an important trip to San Diego and that they needed to procure a four-star hotel room. Participants were told they had \$500 in spending money for their expenses, including two nights at the hotel (travel to San Diego was already paid for). Thus, their goal was to acquire a hotel room for their trip at a cost of less than \$500. They were told that all leftover money could be spent on incidental expenses during their trip but that they would have to use their own credit card, which carried a 21% interest rate, to cover costs over \$500. Participants were also given actual normative information (from a real travel website) that indicated the average retail price for a four-star hotel room in San Diego was between \$189 and \$249.

Following this introduction, participants received instructions consistent with their role as proposer or receiver and performed the first transaction. After attempting to get a hotel room in the first transaction, the participants completed a questionnaire assessing their satisfaction, fairness, and future intentions. Next, participants were told that they would be evaluating a second on-line travel service company. Once again, participants were asked to assume that they had an important trip to make to San Diego and that they needed to procure a four-star hotel room. They were also provided the same normative information about prices. This time, however, participants were presented with a different transaction structure (see below), and they once again sought to procure a hotel room. Following this second transaction, the same set of dependent measures as in the first transaction was assessed, followed by an additional measure asking about preferences for one structure over the other. Participants were then thanked for their involvement in the study.

Independent variables

Role in transaction

Participants encountered two different intermediaries for the two travel service companies they ostensibly evaluated in the study. One intermediary was structured such that participants were proposers and thus made an offer for a hotel room. After making this proposal, the intermediary determined whether the proposal was accepted or rejected based on the value of the proposal. The acceptable proposal level was set at \$130, the mean level of previous proposals for this problem in prior studies (Ellis et al., 2006; Humphrey et al., 2004). The other intermediary was structured such that participants were receivers and thus received an offer to procure a hotel room at a specific price (\$130). In this structure, the participants were tasked with accepting or rejecting the ultimatum offer.

Order of presentation

All participants encountered both intermediary structures during their participation in the study. Order of presentation represents whether participants experienced the proposer structure or the receiver structure first. Participants randomly encountered one of the two possible orderings of the two structures.

Dependent variables

Satisfaction with the intermediary

Satisfaction with the intermediary (i.e., the different transaction structures experienced by participants) was measured with two questions developed for the present study ($\alpha = .70$ and $.67$ for the proposer and receiver role, respectively). These questions were “I

think [name of intermediary] did a good job in making their decision” and “I don’t think I could have done a better job than [name of intermediary] did.”

Fairness

Outcome fairness was measured using the scale developed by Colquitt (2001). We measured outcome (distributive) fairness with five items referencing the fairness of the hotel procurement outcome ($\alpha = .91$ and $.91$ for the proposer role and the receiver role, respectively).

Positive recommendations

Positive recommendations ($\alpha = .93$ and $.92$ for the proposer and receiver role, respectively) were measured via two items adapted from prior consumer complaint research (Blodgett, Granbois, & Walters, 1993; Blodgett, Hill, & Tax, 1997) and prior research on similar ultimatum structures (Ellis et al., 2006; Humphrey et al., 2004). Items were “I would encourage friends and relatives to use [name of intermediary]” and “After this transaction I would have no problem saying positive things about [name of intermediary] to others.”

Preference for receiver or proposer role

After experiencing both roles, participants were asked “Which service did you prefer using in this study?” Participants chose whether they preferred the structure that placed them in the receiver role or the proposer role.

Results

Table 1 presents the means, standard deviations, and correlations among the variables of interest. All of the constructs are measured with five-point scales (anchored by strongly disagree–strongly agree) with the exception of the value of the offer made when the participant was the proposer, which is measured in dollars.

Hypothesis related to offer behavior

When participants were in the proposer role, they reached agreements (i.e., completed exchanges) 44% of the time (in 113 of 254 instances), whereas when they were in the receiver role, they reached agreements 77% of the time (196 of 254 instances). The difference in these agreement rates is statistically significant, $t(253) = 9.48$, $p < .001$, and the higher agreement rate in the receiver role supports our Hypothesis 1. The order in which participants experienced the two structures also influenced agreement rates. Proposers were more likely to make an agreement when they were in the proposer role first (agreements in 74 of 127 instances, 58%) rather than second (39 out of 127 instances, 31%), $X^2_{(1, N=254)} = 18.98$, $p < .001$. Not surprisingly, receivers were more likely to make an agreement when they were in the receiver role second (in 110 of 127 instances, 87%) rather than first (in 86 of 127 instances, 68%), $X^2_{(1, N=254)} = 12.87$, $p < .001$. Thus, the proposer–receiver order collectively reached more agreements ($N = 184$) than the receiver–proposer order ($N = 125$).

Satisfaction, fairness, and recommendations

A within-subjects MANOVA revealed that the intermediary satisfaction measure was the only hypothesized measure influenced by the order in which the structures were experienced (i.e., a role by order effect, $F[1, 249] = 5.97$, $p < .01$; $\eta^2 = .02$). Intermediary satisfaction ratings in the proposer structure were higher when participants were in the proposer role first ($M = 2.85$, $SD = 0.95$) as opposed to second ($M = 2.71$, $SD = 0.97$). For the receiver role, intermediary satisfaction ratings were lower when participants

Table 1
Means, standard deviations, and correlations – Study 1.

		Mean	SD	1	2	3	4	5	6	7	8
1	Value of offer when proposer	130.28	38.10								
2	Proposer outcome fairness	3.09	0.93	.35**							
3	Proposer intermediary satisfaction	2.79	0.97	.34**	.53**						
4	Recommend proposer role to others	2.88	1.08	.32**	.55**	.72**					
5	Order of presentation	0.51	0.50	.28**	.08	.08	.12				
6	Preference for receiver or proposer role	1.67	0.47	-.01	-.08	-.19**	-.25**	.14*			
7	Receiver outcome fairness	3.29	0.89	.07	.30**	.12	.13*	.02	.26**		
8	Receiver intermediary satisfaction	3.16	0.93	.20**	.16**	.34**	.21**	.18**	.40**	.49**	
9	Recommend receiver role to others	3.32	1.00	.12	.20**	.20**	.30**	.11	.41**	.57**	.74**

Note: $N = 254$.

* $p < .01$.

** $p < .001$.

were in the receiver role first ($M = 2.99$, $SD = 0.89$) as opposed to second ($M = 3.32$, $SD = 0.94$). There were no other order effects.

Test of Hypotheses 2–4. We predicted that when participants were in the role of receivers, they would experience (H2a) more intermediary satisfaction and (H2b) more outcome fairness, and (H2c) would be more likely to make positive recommendations to others about the intermediary as compared to when they were in the role of proposers. The MANOVA results indicate that all three of these hypotheses are supported. When participants were in the receiver role, they reported more intermediary satisfaction ($M = 3.16$, $SD = 0.93$ versus $M = 2.78$, $SD = 0.96$, $F[1, 249] = 29.08$, $p < .001$; $\eta^2 = .11$), more outcome fairness ($M = 3.29$, $SD = 0.89$ versus $M = 3.08$, $SD = 0.93$, $F[1, 249] = 7.99$, $p < .001$; $\eta^2 = .03$), and more positive recommendation intentions ($M = 3.32$, $SD = 1.00$ versus $M = 2.88$, $SD = 1.07$, $F[1, 249] = 30.29$, $p < .001$; $\eta^2 = .11$) as compared to when they were in the proposer role, confirming Hypothesis 2a–c.

The next set of hypotheses predicted an interaction between role and completed exchange. Specifically, we predicted that proposers who completed exchanges would report (H3a) more satisfaction and (H3b) more outcome fairness, and (H3c) would be more likely to make positive recommendations to others as compared to proposers who did not complete exchanges, and that this completion effect would be more pronounced for proposers than for receivers. The MANOVA results reveal significant role by completed exchange interactions for all three variables (for the three measures, minimum $F[1, 249] = 19.37$, $p < .001$; minimum $\eta^2 = .07$). Scheffe's post hoc tests showed that when exchanges were completed, positive evaluations emerged, whereas when exchanges were not completed, receivers were still satisfied, but proposers were not. The intermediary satisfaction means for proposers who completed exchanges ($M = 3.30$, $SD = 0.86$) were significantly higher than for proposers who did not ($M = 2.38$, $SD = 0.83$). For receivers, the differences were not significant ($M = 3.38$, $SD = 0.93$ for completed exchanges; $M = 2.89$, $SD = 0.89$ for non-completed exchanges). The exact same pattern of results was seen for reports of outcome fairness (for proposers: $M = 3.56$, $SD = 0.82$ for completed exchanges, $M = 2.71$, $SD = 0.84$ for incomplete exchanges; for receivers: $M = 3.36$, $SD = 0.91$ for completed exchanges, $M = 3.23$, $SD = 0.87$ for non-completed exchanges) and willingness to recommend the system to others (for proposers: $M = 3.39$, $SD = 0.96$ for completed exchanges, $M = 2.47$, $SD = 0.98$ for incomplete exchanges; for receivers: $M = 3.46$, $SD = 1.00$ for completed exchanges, $M = 3.20$, $SD = 0.99$ for incomplete exchanges). These patterns support Hypothesis 3a–c.

Although our support for the prior hypotheses indicates that participants viewed the role of receiver to be more favorable than the role of proposer, we also captured participant preferences after experiencing both roles through their answers to the question

“Which service did you prefer using in this study?” Two-thirds (168 of 254, 66%) of the respondents reported that they preferred the structure in which they were the receiver; one third (86 of 254, 34%) preferred the structure in which they were the proposer. The order in which participants experienced the two structures also influenced preferences, $\chi^2_{(1, N=254)} = 4.17$, $p < .05$. When participants experienced the receiver role first, they ultimately indicated that they preferred the receiver role in 76 of 127 instances (60%); when participants experienced the receiver role second, they indicated that they preferred the receiver role in 92 of 127 instances (72%). Thus, as predicted by our Hypothesis 4, participants preferred the receiver role over the proposer role, and the preference for the receiver role is even stronger when participants were in the receiver role last rather than first.

Discussion

Contrary to the prior literature on ultimatum bargaining, the results of our study suggest that people will sometimes favor a structure that places them in the role of receiver rather than proposer. In Study 1, participants experienced greater intermediary satisfaction, more outcome fairness, and greater willingness to recommend the intermediary to others when they were receivers as compared to when they were proposers. And by almost a 2-to-1 margin, they reported a preference for the receiver role over the proposer role.

Study 2

The results of Study 1 suggest that bargaining parties prefer to receive rather than make offers in some ultimatum structures. However, our first study did not directly investigate the underlying mechanisms responsible for this finding. We argued that in the context of unknown alternatives, the proposer (who has a greater ability to modulate the offer) would experience more uncertainty and more cognitive effort. We test these hypotheses in Study 2 by measuring both perceived uncertainty and cognitive depletion.

A “cognitive resources expended” argument may also explain the role-by-completed-exchange interaction effects found in Study 1 (Hypothesis 3a–c). Although completed exchanges lead to satisfaction, not reaching a deal produces unpleasantness and frustration. The negative effects are most likely when one experiences the heightened uncertainty and demands of the proposer role and subsequently makes a proposal, which is then rejected. Rejection should be more exhausting in this role than in the less cognitively demanding receiver role because the freedom to make any number of possible offers also implies an increase in the number of forgone outcomes. That is, receivers, whose decision is binary (accept or reject), likely only consider the one alternative, while proposers can consider a variety of alternative bids that they could

have made to achieve agreement. Finally, recall that proposers whose offers are rejected are still uncertain of what they need to bid for their offer to be accepted. Although this is also technically true of proposers whose offers are accepted, they at least know some level at which offers are accepted (the offer they made). Thus, we expect both a main effect of role on our self-report measure of uncertainty and our behavioral measures of cognitive depletion, with the proposer role being more uncertain and more depleting than the receiver role. In addition, we predict that role and completed exchange will interact such that for proposers, the levels of uncertainty and depletion will be greater for those who do not complete exchanges, whereas for receivers, the completed exchange differences will be less pronounced. In essence, just as for H3a-c above, we expect greater variation in the proposer role.

H5a. Proposers will experience more uncertainty and more cognitive depletion than receivers.

H5b. There will be an interaction between ultimatum structure and completed exchange such that for proposers, the levels of uncertainty and depletion will be greater for those who do not complete exchanges, whereas for receivers, the completed exchange differences will be less pronounced.

The other purpose of Study 2 is to test for some potential boundary conditions to Study 1 results. First, we note that one reason why customers might have preferred the receiver role could stem from the greater success they have (compared to proposers) in procuring what they want. If we could design a situation where the agreement rates would be increased for proposers, we could see whether the preference for the receiver role was eliminated. Thus, Study 2 eliminated the “discount intermediary” context and simply manipulated whether the price for the item was at a relatively low or relatively high level (but always within the expected price range for the item rather than below it).

Another potential consequence of using a discount intermediary is that proposers may have had a difficult time determining what offer to make because of the wide range of prices to consider. In Study 1, participants were given information about the typical price range for a four-star hotel (\$189–\$249) but were also told that the likely price they had to pay was outside that range because they were buying through a discount intermediary. It may be that the Study 1 finding of more agreements reached in the receiver role holds only when there is a wide range within which the price of the resource might fall. Thus, in Study 2 we manipulated whether the price for an item was within a narrow or wide price range.

Method

Participants, research design, and procedure

Undergraduate business students ($N = 390$; 64.9% male) participated in this study. A $2 \times 2 \times 2$ between-subjects factorial design varied participant *role in transaction* (proposer versus receiver), the *price range* for the asset under consideration (narrow or wide range) and the *acceptable price* leading to a completed exchange (low or high). Participants completed all aspects of this study online. We eliminated 24 participants who in the course of the study could not recall key elements of the simulation (e.g., what car they were purchasing, suggesting inattention to the study parameters). This produced a final sample of 364 participants, with cell sizes ranging from 40 to 49.

In the instructions, participants were told that they would be participating in an online simulation that involved the purchase

of a unique, hard-to-find automobile. Participants were further told that the researchers had been asked to evaluate the online purchasing system so the company serving as intermediary could better understand how customers make decisions about purchasing goods and services over the Internet. Participants were told to try their best to feel and act the way they would if they were actually purchasing a car. Participants were then informed about the specific purchasing situation. They were told that after conducting extensive research, they had decided that they would like to purchase a white 1990 Jaguar XJS convertible with a V12 engine. Participants were informed that this was indeed a hard-to-find car and that in one recent year, only 362 of the cars were imported into the United States. They were also told other characteristics related to the car (e.g., “The V12 engine will get poor gas mileage, but you will not be driving it great distances and the poor gas mileage has helped reduce the price of this classic automobile into a price range that you can afford.”). Participants were then able to go to the website and view numerous photos of the car. Finally, all participants were told that they had \$15,000 in their bank account, which should be enough money to purchase the car, though obviously the less they had to spend, the better.

Following this introduction, participants received information about the price range in which the car was expected to sell and about their role as proposer or receiver in the simulation. Depending on their role, participants then either made an offer for the vehicle or received an offer to purchase the vehicle at a specific price. Following their offer proposal or response to the offer received, the result of the transaction was presented. Participants then completed a questionnaire assessing transactional assessments, justice perceptions, and outcomes (including the self-report measure of depletion). All participants then completed a variation of the Stroop test (Stroop, 1935). The test presents participants with words for various colors (e.g., “green” or “yellow”), but the font color for each word may not match the meaning of the word (e.g., presenting the word “green” in a red font color). Participants were instructed to disregard the interference information provided by the meaning of the word and identify the correct font color as quickly as they could. The task has been used in prior work on cognition and attention (e.g., MacLeod, 1991). After completing the Stroop task, participants were thanked and excused.

Independent variables

Role in transaction

Participants in the role of proposer were told that they would be making an offer for the automobile, which would subsequently be accepted or rejected by the intermediary on behalf of the seller. Participants in the role of receiver were told that they would receive an offer from the intermediary on behalf of the seller and that they could accept or reject the offer. Both proposers and receivers were reminded that there were no “second chances” and that they would have only one opportunity to complete the transaction: If an offer was rejected, then there was no deal, and they would not get the car.

Price range

All participants were told that they had collected information about this model of car from a variety of sources, including Edmunds and Kelly Blue Book (two real online sources of car price information). Participants in the narrow price range were told that, based on this information, they should expect the car to be sold at a price between \$10,100 and \$12,400. Participants in the wide-price-range condition were told that, based on this information, they should expect the car to be sold at a price between \$8100 and \$14,400. Note that in both cases, the midpoint of the range is the same (\$11,250); it is merely the size of the range that varied.

Table 2
Means, standard deviations, and correlations – Study 2.

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1 Role (0 = proposer, 1 = receiver)	0.50	0.50										
2 Price Range (0 = narrow, 1 = wide)	0.49	0.50	-.03									
3 Offer or limit low or high (0 = low, 1 = high)	0.51	0.50	.03	-.00								
4 Completed exchange (0 = no, 1 = yes)	0.66	0.48	.02	-.20**	-.09							
5 Outcome fairness	3.16	0.81	-.07	-.00	-.08	.16**						
6 Intermediary satisfaction	2.58	1.01	-.15**	-.05	-.06	.26**	.41**					
7 Recommend system to others	2.37	1.11	-.06	-.05	.00	.21**	.31**	.80**				
8 Uncertainty	2.13	0.74	-.12*	.14**	.03	-.19**	-.07	-.08	-.03			
9 Stroop items correct	39.00	1.44	.12	-.04	.07	.12*	-.01	-.07	-.02	-.07		
10 Time – correct Stroop items	1.10	0.22	-.24**	.04	-.04	-.09	.10	.20**	.22**	.14**	-.12*	
11 Time – incorrect Stroop items	1.42	0.40	-.18**	.06	-.08	-.11*	.08	.17**	.17**	.14**	-.20**	.66**

Note: $N = 362$.

* $p < .01$.

** $p < .001$.

Acceptable price

The price at which a transaction would be completed between the participant (always the buyer) and the seller was our final manipulated factor. Proposers in the low (high) price condition had a value set at \$10,200 (\$12,300), meaning that as long as they proposed an offer of at least \$10,200 (\$12,300), their offer was accepted. Receivers in the low (high) price condition received an offer of \$10,200 (\$12,300) from the intermediary on behalf of the seller and subsequently chose to accept or reject the offer they received.

Dependent Variables

Satisfaction with intermediary

Satisfaction with the intermediary was measured with five questions ($\alpha = .89$). Sample questions included (1) "I am satisfied with this online system's performance," (2) "Overall, I am satisfied with this online bidding system," and (3) "In general, I liked this online bidding system." Some of these questions were also used in Study 1.

Fairness and positive recommendations

Both of these constructs were measured with the same items as in the first study ($\alpha = .80$ and $.91$, respectively).

Uncertainty

Perceived uncertainty was measured with four questions ($\alpha = .70$) developed for this study. Questions included items tapping participants' beliefs that (1) they did not have enough information, (2) they were unsure of what to do in the car purchase task, and (3) they spent a lot of time thinking about what to do in the car purchase task.

Cognitive depletion

We measured depletion with the results from the Stroop test. We used three measures from this test: (1) Number of questions correct out of 40, and the average time taken when they made a (2) correct or (3) incorrect answer.

Results

Table 2 presents the means, standard deviations, and correlations among the variables of interest. When participants were in the proposer role, they reached agreements (i.e., completed exchanges) 65.5% of the time (in 118 of 183 instances), whereas when they were in the receiver role, they reached agreements 66.7% of the time (120 of 180 instances), a nonsignificant difference. However, the manipulation of price range interacted with role to influence agreement rates. When there was a narrow price

range, completed exchanges were more common among proposers (in 76 of 90 instances, 84.4%) than among receivers (in 62 of 94 instances, 66%), $X^2_{(1, N=184)} = 8.38, p < .01$. However, when there was a wide range, the patterns reverse: In this case, completed exchanges were less common among proposers (in 42 of 93 instances, 45%) than among receivers (in 58 of 86 instances, 67.4%), $X^2_{(1, N=179)} = 9.00, p < .01$. This suggests that our Hypothesis 1 (that receivers would complete more agreements than proposers), confirmed in Study 1, is replicated in Study 2, but only when there is a wide price range for the item (i.e., when there was more uncertainty regarding what one might have to pay).

The manipulations of price range and acceptable price also interacted to influence completed transactions. Completed exchanges were more common when participants had a low acceptable price (\$10,200) and a narrow price range was presented (79 of 124 instances, 63.7%) than when a wide range was presented (45 of 124 instances, 36.3%), whereas completed exchanges were equally likely when participants had a high acceptable price (\$12,300) and a narrow range (59 of 114 instances, 51.8%) or a wide range (55 of 114 instances, 48.2%) was presented, $X^2_{(1, N=238)} = 3.49, p < .06$. In other words, only in the narrow price range does the acceptable price level influence transaction completion.

Satisfaction, fairness, recommendations, and uncertainty

A $2 \times 2 \times 2 \times 2$ MANOVA (consisting of the three manipulated factors plus a factor representing whether transactions were completed or not) on the dependent measures revealed significant multivariate effects for role (Multivariate $F[7, 339] = 7.21, p < .001, \text{partial } \eta^2 = .13$), completed exchange (Multivariate $F[7, 339] = 7.28, p < .001, \text{partial } \eta^2 = .13$), role by acceptable price interaction (Multivariate $F[7, 339] = 2.57, p < .01, \text{partial } \eta^2 = .05$), role by completed exchange (Multivariate $F[7, 339] = 3.05, p < .01, \text{partial } \eta^2 = .06$), range by completed exchange (Multivariate $F[7, 339] = 3.06, p < .01, \text{partial } \eta^2 = .06$), and role by range by acceptable price (Multivariate $F[7, 339] = 2.60, p < .01, \text{partial } \eta^2 = .05$). Univariate F statistics showed that only the role by completed exchange interaction was driven by our primary variables of interest.² Table 3 presents the cell means for this hypothesized interaction as well as a series of contrast tests related to some hypotheses.

Test of Hypotheses 2–3. Recall that our Hypothesis 2 predicted that when participants were in the role of receivers, they would experience (H2a) more satisfaction and (H2b) more outcome fairness and (H2c) be more likely to make positive recommendations

² The other interactions that showed significance at the multivariate level were primarily driven by univariate effects on Stroop time variables; details are available upon request.

Table 3
Results for the role by completed exchange interaction—Study 2.

	Proposer		Receiver		Contrast tests			
	Exchange not completed	Exchange completed	Exchange not completed	Exchange completed	Proposers versus receivers	Proposers only: exchange not completed versus exchange completed	Proposer-exchange not completed versus all other conditions	Proposer-exchange completed versus all other conditions
Intermediary satisfaction	2.34 (.20)	2.93 (.09)	1.98 (.13)	2.63 (.09)	$t_{(359)} = 3.30^{***}$	$t_{(359)} = -3.09^{**}$	$t_{(359)} = -0.55$	$t_{(359)} = 4.93^{***}$
Outcome fairness	2.67 (.16)	3.40 (.08)	3.05 (.11)	3.10 (.07)	$t_{(359)} = 0.71$	$t_{(359)} = -3.74^{***}$	$t_{(359)} = -2.41^*$	$t_{(359)} = 3.84^{***}$
Recommend to others	1.92 (.22)	2.61 (.11)	1.96 (.15)	2.47 (.10)	$t_{(359)} = 1.26$	$t_{(359)} = -2.73^{**}$	$t_{(359)} = -1.38$	$t_{(359)} = 3.27^{***}$
Uncertainty	2.49 (.15)	2.14 (.07)	2.26 (.10)	1.98 (.07)	$t_{(359)} = 2.31^*$	$t_{(359)} = 2.85^{**}$	$t_{(359)} = -3.35^{***}$	$t_{(359)} = -1.08$
Stroop correct	38.24 (.29)	38.95 (.14)	38.91 (.19)	39.25 (.13)	$t_{(359)} = -2.41^*$	$t_{(359)} = -2.34^*$	$t_{(359)} = -3.02^{**}$	$t_{(359)} = 0.57$
Time – Stroop correct	1.24 (.04)	1.15 (.02)	1.06 (.03)	1.05 (.02)	$t_{(359)} = 4.79^{***}$	$t_{(359)} = 2.09^*$	$t_{(359)} = 4.12^{***}$	$t_{(359)} = 1.20$
Time – Stroop incorrect	1.74 (.08)	1.46 (.04)	1.36 (.05)	1.34 (.04)	$t_{(359)} = 3.71^{***}$	$t_{(359)} = 2.31^*$	$t_{(359)} = 3.69^{***}$	$t_{(359)} = 0.31$
N	65	118	60	120				

* $p < .05$.

** $p < .01$.

*** $p < .001$.

to others about the intermediary as compared to when they were in the role of proposers. The first three rows of Table 3 present the cell means for these three measures as a function of both role and completed exchange, as well as four contrast tests (the last four columns on the right half of the Table). The relevant contrast test for H2 (comparing proposers and receivers) can be found in column 6 of the table. The contrast results indicate no support for H2a–c, as reactions of proposers and receivers are not significantly different for reports of outcome fairness and willingness to recommend the system; in fact, intermediary satisfaction was actually higher for proposers than for receivers. As we explain next, this lack of support for H2a–c was actually driven by the pattern of data that supports H3a–c.

Hypothesis H3a–c predicted that proposers who complete exchanges would report (H3a) more intermediary satisfaction and (H3b) more outcome fairness and (H3c) be more likely to make positive recommendations to others as compared to proposers who did not complete an exchange, and that these completion effects would be more pronounced in the proposer role than in the receiver role. The relevant means can again be found in the first three rows of the table, and the relevant contrast tests are presented in the last two columns in Table 3. In the last column, consistent with our hypothesis, we see that proposers who completed exchanges report significantly higher ratings of satisfaction, fairness, and positive recommendations than did proposers who did not complete exchanges or receivers who both completed and did not complete exchanges. In the next-to-last column, we also see that proposers who did not complete exchanges had significantly lower ratings of outcome fairness than all other participants. As Table 3 shows, the means for intermediary satisfaction and positive recommendation evince the same pattern, although this second contrast test does not reach significance. Nonetheless, the relationships proposed in H3a–c are mostly supported. Moreover, as the contrast tests in the last column demonstrate, the reason Hypothesis H2a–c (that receivers would report more favorable reactions) is not supported is that proposers who completed exchanges in this study had such a positive response as compared to any of the other participants.

Test of Hypothesis 5. Our new hypotheses in this study related to the idea that the proposer role engendered more uncertainty and was more cognitively effortful than the receiver role. Our Hypothesis 5a predicted that proposers would judge the task to have higher uncertainty and to be more cognitively depleting than would receivers. Hypothesis 5b predicted a role by completed exchange interaction such that proposers who did not complete exchanges would perceive more uncertainty and experience more cognitive

depletion than proposers who completed exchanges and that this completion effect would be more pronounced for proposers than for receivers. The data and contrast tests presented in the bottom half of Table 3 provide strong support for both the main effect of role and the interaction specified in the hypothesis. In terms of role main effects (H5a), the contrast test (6th column of Table 3) reveal that proposers reported higher levels of uncertainty than receivers. In terms of Stroop test performance, proposers performed less well in terms of the number of items correct and also took longer when they answered the questions (both correctly and incorrectly), relative to receivers.

Support for H5b can be found in the next-to-last column of Table 3. Here we see that proposers who did not complete exchanges reported higher levels of uncertainty, performed less well on the Stroop test, and took longer to answer correct and incorrect questions than did proposers who completed exchanges or than did any of the receivers. Moreover, as a contrast test involving only proposers (see the 7th column of Table 3) clarifies, proposers who did not complete exchanges experienced more uncertainty and cognitive exhaustion than did proposers who completed exchanges.

Discussion

This study informs our understanding of why the receiver role might be preferred over the proposer role. We found that people who proposed offers experienced more uncertainty and more cognitive depletion (as seen behaviorally with three different Stroop tests) than people who received offers.³ The role-by-completed-exchange interaction also documented the challenge that proposers face: those who failed to complete exchanges not only were more exhausted (across all depletion measures) than all other participants, but they were even more exhausted (again, across all of our depletion measures) than their fellow proposers who completed exchanges. Thus, the combination of (1) being uncertain when you make an offer, followed by (2) failing to complete an exchange, appears to be highly dysfunctional. However, our study also showed that when a proposer's offer is accepted, this success can have a large uplifting effect. Here, proposers who completed exchanges reported higher satisfaction, fairness, and willingness to recommend the intermediary relative to any of the other participants.

³ It is important to note that although we propose and find that making proposals, on average, is depleting, there is reason to suspect that there is predictable inter-individual variation on this effect. The need-for-completion literature (see Cacioppo, Petty, Feinstein, & Jarvis, 1996) has found that many people choose to engage in and enjoy cognitive activity, which can have long-term positive effects on outcomes such as job satisfaction (Humphrey, Nahrgang, & Morgeson, 2007). Future research should investigate need for cognition in conjunction with the depletion effect.

Finally, Study 2 demonstrated a boundary condition for the effect of role on agreement rates found in Study 1. Completed exchanges were more likely for receivers than proposers only when there was a wide, rather than narrow, range of likely prices. This result supports our theoretical arguments for H1. Compared to wide ranges, narrow ranges decrease the number of outside alternatives so that proposers should be less optimistic in making offers and receivers should be less risk averse in evaluating offers in narrow as opposed to wider range contexts, closing the gap in impasse rates across these two roles. Moreover, because completed exchanges are so critical to proposer reactions and given that proposers are just as likely to complete agreements when there is a narrow range of prices, enthusiasm for the receiver role may be limited to contexts where price ranges are wide rather than narrow.

Study 3

Our first two studies highlight how challenges inherent in the proposer role compel acute differences in subjective valuations (satisfaction, fairness, and recommendations) based on whether or not proposers are successful in their deal making. In both studies, we find a significant role-by-agreement interaction, such that proposers are particularly satisfied when they reach agreements and particularly dissatisfied when they do not, whereas receiver reactions were less variable. In Study 3, we build upon this finding. In particular, we aim to better understand the variation in satisfaction that is evident in our role-by-completed-exchange interactions in Studies 1 and 2. Specifically, we introduce regret as an important mediator of this process that captures aspects of both the cognitive depletion and uncertainty illustrated in Study 2. In addition, we control for participant preference. Specifically, we explain both structures to participants and ask them to indicate their preference for one structure over the other prior to role assignment. Participants are still randomly assigned to structures, but this change allows us to control for whether they engaged in their preferred structure or not.

The role of regret

In Study 2, we found that proposers who have more freedom to modulate their deals relative to receivers also experience more depletion and uncertainty with regard to their decisions as compared to receivers. We argued that this depletion and uncertainty was in part due to the prominence of alternatives that remain available to proposers compared to receivers. As noted in our discussion preceding Hypothesis 2, prominence of alternatives can increase regret. According to Bell's (1982) and Loomes and Sugden's (1982) regret theories, decisions made under uncertainty frequently trigger questions about what would have happened if another choice had been made. Such questions mirror research on counterfactual thinking and its relationship to satisfaction and fairness (e.g., Kahneman & Miller, 1986; Nicklin, Greenbaum, McNall, Folger, & Williams, 2011). If the foregone outcome is considered better than the experienced outcome, the individual regrets his/her decision. In the case of ultimatum games, receivers have more focused attention on a single reference point than proposers because receivers are presented with a specific, single alternative (the offer). On the other hand, proposers, who must construct an offer, have multiple alternative choices, which are likely to become particularly salient if their constructed offer is rejected.

As suggested earlier, both receivers who accept offers and those who reject offers walk away with the certainty of knowing what amount would have allowed them to complete the transaction. Proposers, on the other hand, have a more diffuse set of alterna-

tives under active consideration. Those who are rejected are left to wonder whether an offer of a dollar more would have been accepted or not, or whether an offer 5%, 10%, or 15% more would have been accepted or rejected. Even those who reach agreements are left to wonder if an offer of a dollar less would have been accepted, or if an offer of 5%, 10%, or 15% less would have been accepted. Thus, the increased salience of alternative choices in the proposer role should lead to a higher probability of experiencing regret relative to the receiver role.

H6. Proposers will experience more regret than receivers.

Furthermore, whether or not the exchange is completed should moderate the relationship between role and regret. Earlier we argued that uncertain alternatives lead to both overly optimistic perceptions of one's alternatives to a negotiated agreement as well as risk-averse reservation prices. The open-ended structure of the proposer role in these contexts was expected to lead to overconfident (lower) proposals, while the binomial choice structure of the receiver role was said to lead to risk-averse decisions—namely, acceptance of relatively high offer prices from the intermediary. Thus, proposer offers are generally based on the low end of what the negotiator would consider to be an acceptable price to secure the hotel, while receiver decisions to accept or reject are generally based on the high end of what would be considered an acceptable price. However, accepted proposers are less likely to regret not offering a lower price because they achieved the hotel at a price they were willing to pay. Similarly, receivers that reject offers are less likely to regret their decision because they determined in foresight that pursuing a relatively risky (uncertain) alternative would be better than paying the price offered by the intermediary. Thus, the relationship between the interaction of role and whether the exchange is completed on regret should be the strongest when the exchange is not completed.

H7. There will be an interaction between ultimatum structure and completed exchange on perceptions of regret, whereby proposers who do not complete exchanges should experience more regret than those in all other conditions, while receivers who do not complete exchanges should experience less regret than those in all other conditions.

Discovering that an alternative choice could have led to a better outcome than the chosen course is an unfavorable experience (Kahneman & Miller, 1986; Landman, 1987). This relationship between regret and satisfaction has been supported in the consumer sciences literature. For example, Taylor (1997) found in two studies that satisfaction with a movie was largely influenced by the expected quality of non-chosen movies (i.e., a proxy for regret). Specifically, the higher perceived quality of the non-chosen movie led to lower ratings of satisfaction with regard to the chosen movie. These results have been replicated in other studies (e.g., Tsiros, 1998; Tsiros & Mittal, 2000). Considering this evidence and the arguments for similar influences of the interaction between role and completed exchange on regret and satisfaction, we hypothesize that the relationship between the interaction and our customer reactions will be mediated by regret.

H8. The interaction between role and completed exchange on (a) satisfaction, (b) fairness, and (c) recommendations will be mediated by perceptions of regret.

To summarize, Study 3 allows us to retest Hypotheses 1–4 along with several new hypotheses related to the mediating role of regret.

Method

Participants, research design, and procedure

Undergraduate business students ($N = 206$; 71.4% male) participated in this study. Participants were assigned to either the proposer role or the receiver role (the *role in transaction manipulation*). Participants completed all aspects of this study (instructions, experimental manipulations, and questionnaires) online.

Experimental procedures were similar to those employed in Study 1 and to those employed by Humphrey et al. (2004) and Ellis et al. (2006). Participants were told that they would be helping to evaluate an online travel service company that was almost ready to begin operating nationally. As in Study 1, they were further told to assume that (a) they were making an important trip for which they needed to stay in a four-star hotel for two nights and (b) they had \$500 in spending money to cover expenses, including hotel costs, and that extra costs would be placed on their credit card. Participants were then given definitions of the two different structures they could use at this travel website (i.e., the proposer and receiver ultimatum structures) and then asked to make foresight judgments with regard to their preference to interact with the site as a receiver or a proposer. Following the result of their attempt to get a hotel room, the participants completed a questionnaire assessing perceptions and outcomes regarding the transaction and interaction with the site. Participants were then thanked and dismissed.

Independent variable

Role in transaction

Participants encountered one of two versions of the intermediary. One intermediary was structured such that participants were able to make a proposal for a hotel room (i.e., they were the proposers in the ultimatum structure). After making this proposal, the intermediary determined whether the proposal was accepted or rejected based on the value of the proposal. The acceptable proposal level in Study 3 was set at \$189, as this offer level was well above the prior level set in Study 1, and we wanted to ensure that our previous hypotheses were not the result of a low threshold price. The other intermediary was structured such that participants received an offer for a hotel room at a specific price (\$189). In this ultimatum structure, the participants (i.e., the receivers) were tasked with accepting or rejecting the ultimatum offer.

Dependent variables

Role preference

Role preference was assessed by four items ($\alpha = .90$) assessing preference for the receiver or proposer role (e.g., "I believe I will prefer the proposer role to the receiver role when interacting with the intermediary").

Fairness, satisfaction, and recommendations

All three of these scales were measured with the same items used in Study 1 ($\alpha = .85, .85,$ and $.91$ for the fairness, satisfaction, and recommendation scales, respectively).

Regret

Regret was assessed by three items ($\alpha = .78$) assessing one's assessment of their decision (i.e., "It was the right decision"; "I would go for the same choice if I had to do it over again"; "The decision was a wise one").

Preferred structure and completed exchange

Two other dichotomous variables were included as factors in our analyses. Recall that participants indicated prior to experiencing a structure whether they preferred the proposer role or the receiver role. We coded whether or not participants were assigned to their preferred structure or not (0 = no, 1 = yes). We also coded for whether participants successfully completed their transaction, which allows us to examine Hypothesis 3a–c.

Results

Means, standard deviations, and correlations are presented in Table 4. When participants were in the proposer role, they reached agreements (i.e., completed exchanges) 16% of the time (in 16 of 100 instances), whereas when they were in the receiver role, they reached agreements 71% of the time (75 of 105 instances). The difference in these agreement rates is statistically significant, $t_{(204)} = 9.64, p < .01$, and the higher agreement rate in the receiver role supports our Hypothesis 1.

A 2×2 MANOVA on the dependent measures (i.e., satisfaction, outcome fairness, recommendation intentions, and regret), controlling for whether or not the participant interacted with the intermediary in their preferred role, revealed significant multivariate effects for role (Multivariate $F[4,200] = 2.43, p < .05$, partial $\eta^2 = .05$), completed exchange (Multivariate $F[4,200] = 11.30, p < .001$, partial $\eta^2 = .19$), and the role by completed exchange interaction (Multivariate $F[4,200] = 4.12, p < .01$, partial $\eta^2 = .08$). Further, the effect of interacting with the intermediary in one's preferred role was not significant (Multivariate $F[4,200] = 1.61, p > .10$, partial $\eta^2 = .03$). Table 5 presents the cell means for the hypothesized interaction as well as a series of contrast tests related to some of our hypotheses, articulated below.

Satisfaction, fairness, and recommendations

Hypothesis 2 predicted that when participants were in the role of receivers, they would experience (H2a) more intermediary satisfaction and (H2b) more outcome fairness and (H2c) be more likely to make positive recommendations to others about the intermediary as compared to when they were in the role of proposers. The first three rows of Table 5 present the cell means for these three measures as a function of both role and completed exchange, as well as four contrast tests (the last four columns on the right half of the table). The relevant contrast test for H2 (comparing proposers and receivers) can be found in column 6 of the table. The contrast results indicate complete support for H2a–c, as receivers expressed more intermediary satisfaction and more outcome fairness, and intended to make more positive recommendations than proposers.

Hypothesis H3a–c predicted that proposers who complete exchanges would report more satisfaction, fairness, and more positive recommendations as compared to proposers who did not complete an exchange and that these completion effects would be more pronounced in the proposer role than in the receiver role. The relevant means are again in the first three rows of the table, with the relevant contrast tests in the last two columns in Table 5. In the last column, consistent with our hypothesis, we see that proposers who completed exchanges report significantly higher ratings of intermediary satisfaction and outcome fairness than proposers who did not complete exchanges or than receivers who both completed and did not complete exchanges (the contrast test for recommendations approached but did not reach significance). In the next-to-last column, we also see that proposers who did not complete exchanges had significantly lower ratings of satisfaction, outcome fairness, and recommendations relative to any of the other participants. Thus, the relationships proposed in H3a–c garnered broad support.

Table 4
Means, Standard Deviations, and Correlations – Study 3.

	Mean	SD	1	2	3	4	5	6	7	8
1 Role (0 = proposer, 1 = receiver)	0.51	0.50								
2 Completed exchange (0 = no, 1 = yes)	0.44	0.50	.56**							
3 Outcome fairness	2.98	0.94	.16*	.32**						
4 Intermediary satisfaction	2.88	0.94	.35**	.46**	.60**					
5 Recommend system to others	2.87	1.01	.22**	.33**	.59**	.80**				
6 Received preferred role (n = 205)	0.54	0.50	.32**	.25**	.10	.23**	.18**			
7 Role preference (0 = proposer; 1 = receiver)	3.31	1.06	.06	.07	.02	.02	.01	-.03		
8 Regret	2.59	0.89	-.24**	-.09	-.28**	-.35**	-.22**	-.19**	.16**	-.05

Note: N = 206. One person displayed no role preference.

* p < .01.

** p < .001.

Table 5
Results for the role by completed exchange interaction—Study 3.

	Proposer		Receiver		Contrast tests			
	Exchange not completed	Exchange completed	Exchange not completed	Exchange completed	Proposers versus receivers	Proposers only: exchange not completed versus exchange completed	Proposer-exchange not completed versus all other conditions	Proposer-exchange completed versus all other conditions
Intermediary satisfaction	2.36 (.77)	3.49 (.81)	2.86 (.80)	3.34 (.89)	$t_{(204)} = 5.39^{**}$	$t_{(204)} = -5.35^{***}$	$t_{(204)} = -7.43^{***}$	$t_{(204)} = 2.76^{**}$
Outcome fairness	2.63 (.89)	3.85 (.80)	2.96 (.89)	3.19 (.87)	$t_{(204)} = 2.36^*$	$t_{(204)} = -5.17^{***}$	$t_{(204)} = -4.32^{***}$	$t_{(204)} = 4.07^{***}$
Recommend to others	2.52 (.98)	3.31 (.81)	2.73 (.88)	3.23 (.99)	$t_{(204)} = 3.17^{**}$	$t_{(204)} = -3.01^{**}$	$t_{(204)} = -4.73^{***}$	$t_{(204)} = 1.83$
Regret	2.84 (.88)	2.63 (.98)	2.14 (.68)	2.66 (.88)	$t_{(205)} = -3.57^{**}$	$t_{(205)} = 1.90^\dagger$	$t_{(205)} = 3.54^{**}$	$t_{(205)} = -.15$
N	85	16	30	75				

† p < .10.

* p < .05.

** p < .01.

*** p < .001.

Recall that for this study, we had participants indicate whether they would prefer the proposer structure or the receiver structure before being randomly assigned a role in the study. Specifically, 135 participants indicated a preference for the receiver role, and 70 indicated a preference for the proposer role (one indicated no preference and was therefore excluded from the analysis of H2 and H3, controlling for preference). This preference rate is similar to the preference data found in Study 1, where such preferences were measured after performing both roles. This preference also means that more receivers were placed into the role they preferred (n = 73) than were proposers (n = 38). Recall that our Hypothesis 4 suggested that customers would generally prefer the receiver role prior to interaction with the intermediary. A one-sample t-test on role preference indicated that, consistent with H4, participants were significantly more likely to express a greater preference for the receiver role as compared to the proposer role [$t_{(204)} = 4.27$, $p < .01$].

Hypotheses related to regret

Turning to our new hypotheses, we predicted that interacting with the intermediary in the more uncertain and cognitively demanding proposer role would lead to more regret as compared to the receiver role. As can be seen in column six of Table 5 and in support of Hypothesis 6, participants in the proposer role experienced significantly more regret than did participants in the receiver role. Hypothesis 7 predicted that the relationship between role and regret would be moderated by whether or not the exchange was completed. We conducted a two-way ANOVA to assess the main effects and the interaction of role and completed exchange on regret. The results revealed the significant main effect of role discussed previously ($F[1,202] = 8.10$, $p < .01$) and a marginally sig-

nificant role by completed exchange interaction ($F[1,202] = 3.51$, $p = .06$). As can be seen by evaluating the contrast test results in the next-to-last column of Table 5, proposers who did not complete exchanges experienced more regret than did all other participants. Additionally, though not a contrast presented in the table, receivers who did not complete exchanges experience significantly less regret as compared to all other participants ($t_{(205)} = 3.07$, $p < .001$). These patterns support our Hypothesis 7.

Hypothesis 8 predicted that the role-by-completed-exchange interaction on (a) satisfaction, (b) fairness, and (c) recommendations would be mediated by perceptions of regret. This represents what Edwards and Lambert (2007) refer to as a first-stage moderation hypothesis. Moderated mediation occurs when the strength of an indirect effect depends on the level of some variable. Our hypothesis suggests that the relationship between our independent variable (i.e., role) and our mediator (i.e., regret) will be moderated by whether or not the exchange is completed. The results of the analyses related to H7 demonstrated that the role-by-completed-exchange interaction influences regret. Next, we used bootstrap procedures to draw 1000 random samples with replacement from the full sample in order to create bias-corrected confidence intervals at $\alpha = .05$ (Edwards & Lambert, 2007). The confidence intervals exclude zero for the indirect effects of the interaction between role and whether or not the exchange was completed on satisfaction with the intermediary through regret ($\beta = -.17$; $SE = .11$; 95% CI: $-.464, -.001$). Similarly, we found that the confidence intervals excluded zero for the indirect effect of the interaction between role and whether or not the exchange was completed on both fairness ($\beta = -.15$; $SE = .11$; 95% CI: $-.432, -.001$) and intermediary recommendation intentions ($\beta = -.12$; $SE = .10$; 95% CI: $-.423, -.001$), again through regret. These patterns support H8a through H8c. Table 6 presents the direct effect of role on each

Table 6
Moderated mediation analysis of conditional effects – Study 3.

	Direct effects			Indirect effects via regret		
	Intermediary satisfaction	Outcome fairness	Recommendation to others	Intermediary satisfaction	Outcome fairness	Recommendation to others
Non-completed exchange	.28 (.17) [<i>t</i> = 1.65]	.15 (.19) [<i>t</i> = .78]	.06 (.21) [<i>t</i> = .28]	.22 (.08) [CI: .09–.41]	.19 (.08) [CI: .06–.38]	.15 (.08) [CI: .01–.34]
Completed exchange	–.20 (.22) [<i>t</i> = –.91]	–.71 (.23) [<i>t</i> = –3.03*]	–.11 (.26) [<i>t</i> = –.45]	.04 (.09) [CI: –.12 to .24]	.04 (.08) [CI: –.09 to .21]	.03 (.07) [CI: –.08 to .23]

of our dependent measures and the indirect effects of role on each measure for each level of completed exchange (i.e., completed and not completed). Only the overall effect is necessary to conclude that there is an indirect effect of the interaction on the focal measures via regret; we present the conditionals in the table merely to aid interpretation.

General discussion

Our studies suggest that in the context of information asymmetry (when the other party has more information) and uncertain alternatives, the freedom to make an offer is not always attractive. Selecting from several alternative offers that one might make carries with it the cost of foregoing the alternative offers that one did not make. Hence, this freedom endows proposers with more experienced uncertainty (Study 2), cognitive depletion (Study 2), and regret (Study 3) than receivers experience. The presence of outside but uncertain alternatives also created a context that led to more impasses for proposers than receivers (Studies 1, 3, and 2 with the wide bargaining zone). Participants may have anticipated these findings, as they preferred to receive offers not only after having experienced both roles (Study 1) but also if they simply had both roles explained to them (Study 3). Moreover, proposers' greater uncertainty and number of alternative choices meant that completion rate was much more important for proposers' satisfaction and recommendations than it was for receivers (Studies 1–3), and this role by completed exchange interaction was mediated by rejected proposers' higher levels of regret (Study 3).

Implications for theory and future research

By studying how customers respond to different ultimatum-like structures, we can make some inferences about how people make and respond to offers. Under conditions of information asymmetry (with the intermediary having more market-based information than the customer), customers who are proposers of offers feel more uncertainty than customers who are receivers, and the process of determining exactly what offer to propose requires more cognitive resources than does merely receiving an offer. Moreover, when a potential price range for a deal is wide rather than narrow, it exacerbates these uncertainty and cognitive depletion effects (there are even more possible offers a proposer must consider). This tends to put proposers of offers at a disadvantage relative to receivers, meaning that proposers either overbid for the commodity or fail to make successful bid, ending up either way with what might be considered an outcome of lower value than receivers accept. These results were seen in Studies 1 and 3 as well as for the wide price range of Study 2. Future research should test whether these results also extend to more traditional negotiation contexts. For example, prior research finds that it is better to be a proposer in purely distributive negotiations (Galinsky & Mussweiler, 2001), as proposers claim the lion's share of value. Yet, their first-offer results may be limited to conditions of low rather than high uncertainty, where the perceived range of viable offers is narrow rather

than wide (noting that most negotiation exercises using scoreable tasks inherently limit the range of possible offers).

The challenges inherent in the proposer role drove Study 1 participants, who played both roles, to prefer the receiver role. In Study 3, merely describing the two structures (prior to using either structure) also led more people to prefer the receiver role. Perhaps this preference to receive offers may also be limited to situations where there is some inherent trust that the other party will not exploit their information advantage. In our context, there is some logic to support a belief that electronic intermediaries will not exploit their superior information position (because it might cause them to lose customers). When reputation information or other sources suggest the other party may not be trustworthy (e.g., Tinsley, O'Connor, & Sullivan, 2002), we might see fewer completed exchanges (more impasses) when participants receive rather than propose offers, due to reactive devaluation effects (Ross & Stillingner, 1991) by receivers in response to the other party's offer. Moreover, we might expect that if participants in our study were under less time pressure to secure their commodity or if they had much more price information as reference points, proposers may not have found this exercise to create more uncertainty and to be more depleting than receivers did, which may attenuate any preference for receiver roles. Nonetheless, in the context of perceived uncertainty, the freedom of choice appears to be unattractive, leading to higher regret, particularly if one is not successful. Our findings here are quite consistent with recent research on the "tyranny of choice" (Irons & Hepburn, 2007).

Implications for practice: service providers, customers, and intermediaries

On the whole, many of our results suggest that making customers the receivers of ultimatum offers might hold benefits for both sides. First, making customers receivers can generate goodwill. We found the receiver role either leads to more agreements (Studies 1 and 3) or as many agreements (in Study 2) as compared to the proposer role. Agreements are intrinsically satisfying and communicate success and competency to negotiators. Second, the receiver role creates less uncertainty and less regret and is less cognitively taxing than the proposer role. Third, placing the customer in the receiver role may also pay long-term dividends. Higher agreement rates translate into more available resources (in this case, hotel rooms) being used, which can help the service provider cover fixed costs and satisfy customers demand for completed agreements. In addition, customers using services may also purchase other ancillary services (e.g., those staying at a hotel may have meals onsite, view pay-per-view movies in their rooms, etc.), thereby providing additional resources to the service provider. Finally, as customers who reach agreements are more likely to recommend the structure to others, completed exchanges may serve as a contagion to insure greater numbers of customers in the future for the service provider, as well as repatronage of the focal customer.

Given the structure of the receiver role, it is a logical truism that average prices of completed transactions are always lower in this role than in the proposer structure. (In Study 1, *M*s = \$130 versus

\$164, respectively; in Study 2, $M_s = \$11,180$ versus $\$12,693$, respectively; in Study 3, $M_s = \$189$ versus $\$222$, respectively.) However, the gross revenues are typically higher for the receiver role because this role often generates a significantly higher agreement rate. (Across our three studies, agreement rates for receivers ranged from 67% to 77%; agreement rates for proposers ranged from 16% to 66%.) From a practical standpoint, the differential agreement rates generated by the two structures provide useful diagnostic information that intermediaries might consider when deciding which ultimatum structure to offer customers depending on the availability of the resource. From the intermediary's perspective, if the resource in question is munificent (i.e., numerous hotel rooms, as in Study 1), the structure that places the customer in the role of receiver might be preferable, as the higher agreement rates will ensure a high level of resource utilization. Moreover, the lower average price for completed exchanges in this role also helps the customer. However, if the resource in question is very scarce (as in the case of the classic car used in Study 2), the intermediary might benefit from offering the resource by using a structure that places customers in the proposer role, as this structure generates a higher price for the single item under consideration.

Finally, from the perspective of the market as a whole, our results suggest that a transaction structure that places the customer in the role of a receiver may be a more market-efficient structure. If the intermediary has better information about the "true" market price of a hotel room, using the intermediary's price results in more exchanges at the market-efficient price. That is, there is not as much over-paying for the commodity—an implication that is good for customers.

Finally, we note that while our three studies helped further our understanding of a heretofore understudied role in customer-focused ultimatums (i.e., the role of receivers), another role remains unexamined. In the present and prior work, no participants have been placed in the role of the intermediary who is representing the resource provider. Future work should investigate the implications of performing these ultimatums in the role of intermediary. Perhaps the agency theory literature (e.g., Jensen & Meckling, 1976) may serve as a useful theoretical foundation upon which to make predictions about intermediary behavior. For example, will intermediary willingness to accept offers proposed by customers be influenced by whether they receive a fixed fee per completed exchange versus a percentage of the offer per transaction?

Conclusion

Although two prior studies have examined customer-focused ultimatums (Ellis et al., 2006; Humphrey et al., 2004), both used only a structure where customers were in the proposer role and thus could not address how people make and respond to offers. We find that people often like to receive offers, as doing so attenuates uncertainty, regret, and cognitive effort, and this role leads to more completed exchanges. Completed exchanges are critical to offer reactions, enhancing people's perceptions of fairness and satisfaction and their willingness to recommend others enter the bargaining game. And although completed exchanges increase positive reactions, this is much more important for those who make offers rather than receive them. Hence, sometimes it is better to receive offers rather than to make them, although these results may be limited to conditions of perceived information asymmetry, uncertainty, and wide bargaining zones.

References

Akerloff, G. (1970). The market for lemons. *Quarterly Journal of Economics*, 89, 488–500.

- Bazerman, M. H., & Neale, M. A. (1982). Improving negotiation effectiveness under final offer arbitration: The role of selection and training. *Journal of Applied Psychology*, 67, 543–548.
- Bell, D. E. (1982). Regret in decision making under uncertainty. *Operations Research*, 30, 961–981.
- Bell, D. E. (1983). Risk premiums for decision regret. *Management Science*, 29, 1156–1166.
- Blodgett, J. G., Granbois, D. H., & Walters, R. G. (1993). The effects of perceived justice on complainants' negative word-of-mouth behavior and repatronage intentions. *Journal of Retailing*, 69, 399–428.
- Blodgett, J. G., Hill, D. J., & Tax, S. S. (1997). The effects of distributive, procedural, and interactional justice on postcomplaint behavior. *Journal of Retailing*, 73, 185–210.
- Cacioppo, J. T., Petty, R. E., Feinstein, J. A., & Jarvis, B. G. (1996). Dispositional differences in cognitive motivation: The life and times of individuals varying in need for cognition. *Psychological Bulletin*, 119, 197–253.
- Camerer, C., & Thaler, R. H. (1995). Ultimatums, dictators, and manners. *Journal of Economic Perspectives*, 9, 209–219.
- Colquitt, J. A. (2001). On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology*, 86, 386–400.
- Conlon, D. E., Moon, H., & Ng, K. Y. (2002). Putting the cart before the horse: The unexpected benefits of arbitrating before mediating. *Journal of Applied Psychology*, 87, 978–984.
- Crosen, R. (1996). Information in ultimatum games: An experimental study. *Journal of Economic Behavior and Organization*, 30, 197–212.
- Crosen, R., Boles, T., & Murnighan, J. K. (2003). Cheap talk in bargaining experiments: Lying and threats in ultimatum games. *Journal of Economic Behavior and Organization*, 51, 143–159.
- Edwards, J. R., & Lambert, L. S. (2007). Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods*, 12, 1–22.
- Ellis, A. P., Humphrey, S. E., Conlon, D. E., & Tinsley, C. H. (2006). Improving customer reactions to electronic brokered ultimatums: The benefits of prior experience and explanations. *Journal of Applied Social Psychology*, 36, 2293–2324.
- Farber, H. S., & Bazerman, M. H. (1986). The general basis of arbitrator behavior: An empirical analysis of conventional and final offer arbitration. *Econometrica*, 54, 1503–1528.
- Farber, H. S., & Bazerman, M. H. (1989). Divergent expectations as a cause of disagreement in bargaining: Evidence from a comparison of arbitration schemes. *Quarterly Journal of Economics*, 104, 99–120.
- Fobian, C. S., & Christensen-Szalanski, J. J. (1993). Ambiguity and liability negotiations: The effects of the negotiator's role and the sensitivity zone. *Organizational Behavior and Human Decision Processes*, 54, 277–298.
- Fobian, C. S., Shafir, E., Farber, H. S., & Babcock, L. (1994). Forming beliefs about adjudicated outcomes: Risk attitudes, uncertainty, and reservation values. *International Review of Law and Economics*, 15, 289–303.
- Galinsky, A. D., & Mussweiler, T. (2001). First offers as anchors: The role of perspective-taking and negotiator focus. *Journal of Personality and Social Psychology*, 81(4), 657–669.
- Güth, W., Schmittberger, R., & Schwarz, B. (1982). An experimental analysis of ultimatum bargaining. *Journal of Economic Behavior and Organization*, 3, 367–388.
- Handgraaf, M. J. J., Van Dijk, E., & De Cremer, D. (2003). Social utility in ultimatum bargaining. *Social Justice Research*, 16, 263–283.
- Hoffman, E., McCabe, K., Shachat, K., & Smith, V. L. (1994). Preferences, property rights, and anonymity in bargaining games. *Games and Economic Behavior*, 7, 346–380.
- Humphrey, S. E., Ellis, A. P. J., Conlon, D. E., & Tinsley, C. H. (2004). Understanding customer reactions to brokered ultimatums: Applying negotiation and justice theory. *Journal of Applied Psychology*, 89, 466–482.
- Humphrey, S. E., Nahrgang, J. D., & Morgeson, F. P. (2007). Integrating motivational, social, and contextual work design features: A meta-analytic summary and theoretical extension of the work design literature. *Journal of Applied Psychology*, 92, 1332–1356.
- Irons, B., & Hepburn, C. (2007). Regret Theory and the Tyranny of Choice. *The Economic Record*, 83(261), 191–203.
- Jensen, M. C., & Meckling, W. H. (1976). Agency theory. *Journal of Financial Economics*, 3, 305–360.
- Kagel, J. H., Kim, C., & Moser, D. (1996). Fairness in ultimatum games with asymmetric information and asymmetric payoffs. *Games and Economic Behavior*, 13, 100–110.
- Kahneman, D., & Miller, D. T. (1986). Norm theory: Comparing reality to its alternatives. *Psychological Review*, 92, 136–153.
- Knight, F. H. (1921). *Risk, uncertainty, and profit*. Boston, MA: Hart, Schaffner & Marx; Houghton Mifflin Company.
- Landman, J. (1987). Regret: A theoretical and conceptual analysis. *Journal for the Theory of Social Behaviour*, 17, 135–160.
- Larrick, R. P., & Boles, T. L. (1995). Avoiding regret in decisions with feedback: A negotiation example. *Organizational Behavior and Human Decision Processes*, 63, 87–97.
- Lind, E. A., & Tyler, T. R. (1988). *The social psychology of procedural justice*. New York: Plenum.
- Loomes, G., & Sugden, R. (1982). Regret theory: An alternative theory of rational choice under uncertainty. *Economic Journal*, 92, 805–824.

- MacLeod, C. M. (1991). Half a century of research on the Stroop effect: An integrative review. *Psychological Bulletin*, 109, 163–203.
- Mandel, T. (1997). *The elements of the user interface design*. New York: John Wiley.
- Neale, M. A., & Bazerman, M. H. (1985). The effects of framing and negotiator overconfidence on bargaining behaviors and outcomes. *Academy of Management Journal*, 28, 34–49.
- Nicklin, J. M., Greenbaum, R., McNall, L. A., Folger, R., & Williams, K. J. (2011). The importance of contextual variables when judging fairness: An examination of counterfactual thoughts and fairness theory. *Organizational Behavior and Human Decision Processes*, 114, 127–141.
- Oosterbeek, H., Sloof, R., & Van de Kuilen, G. (2004). Cultural differences in ultimatum game experiments: Evidence from a meta-analysis. *Experimental Economics*, 7, 171–188.
- Pillutla, M. M., & Murnighan, J. K. (1995). Being fair or appearing fair: Strategic behavior in ultimatum bargaining. *Academy of Management Journal*, 38, 1408–1426.
- Raiffa, H. (1982). *The art and science of negotiation*. Cambridge, MA: Harvard University Press.
- Ross, L., & Stillinger, C. (1991). Barriers to conflict resolution. *Negotiation Journal*, 7, 389–404.
- Roth, A. E. (1995). Bargaining Experiments. In J. H. Kagel & A. E. Roth (Eds.), *Handbook of Experimental Economics* (vol. 3, pp. 5–9).
- Schmutz, P., Heinz, S., Métrailler, Y., & Opwis, K. (2009). Cognitive load in eCommerce applications – Measurement and effects on user satisfaction. *Advances in Human Computer Interaction*, 2009, 1–9.
- Selten, R. (1965). Spieltheoretische behandlung eines oligopolmodells mit nach fragetraheit [A game theoretic treatment of oligopoly models with demand inertia]. *Zeitschrift für Gesamte Staatswissenschaft*, 121, 301–324.
- Shneiderman, B. (1998). *Designing the user interface*. Boston: Addison-Wesley.
- Straub, P., & Murnighan, J. K. (1995). An experimental investigation of ultimatum games: Information, fairness, expectations, and lowest acceptable offers. *Journal of Economic Behavior and Organization*, 27, 345–364.
- Stroop, J. R. (1935). Studies of interference in serial verbal reactions. *Journal of Experimental Psychology*, 18, 643–662.
- Taylor, K. A. (1997). A regret theory approach to assessing consumer satisfaction. *Marketing Letters*, 8, 229–238.
- Thaler, R. H. (1988). Anomalies: The ultimatum game. *Journal of Economic Perspectives*, 2, 195–206.
- Tinsley, C. H., O' Connor, K. M., & Sullivan, B. A. (2002). Tough guys finish last: The perils of a distributive reputation. *Organizational Behavior and Human Decision Processes*, 88, 621–642.
- Tsiros, M. (1998). Effect of regret on post-choice valuation: The case of more than two alternatives. *Organizational Behavior and Human Decision Processes*, 76, 48–69.
- Tsiros, M., & Mittal, V. (2000). Regret: A model of its antecedents and consequences in consumer decision making. *Journal of Consumer Research*, 26, 401–417.
- Wilson, K. S., Conlon, D. E., & Koopman, J. (2011). Fairness and consumer behavior: A WWJD (What Would Justice Do) analysis. In M. A. Rahim (Ed.), *Current Topics in Management* (Vol. 15, pp. 63–91). New Brunswick, NJ: Transaction Publishers.