

The Limits of Fungibility: Relational Schemata and the Value of Things

A. PETER MCGRAW
PHILIP E. TETLOCK
ORIE V. KRISTEL*

Four experiments test predictions on endowment and mental accounting effects of a theoretical perspective that stresses the symbolic-relational significance for consumer transactions and that posits the placement of qualitative boundaries on fungibility. Although people accepted proposals to buy objects acquired in market-pricing relationships as routine, the same proposals in communal-sharing, authority-ranking, and equality-matching relationships triggered distress and erratically high dollar valuations. Symbolic ownership history also moderated valuations in a purely market setting, and the effects of symbolic-relational source of income extended even to spending decisions. Examination of the model's ordinal predictions revealed stronger effects for equality-matching than for authority-ranking relationships.

Influential reviews of the consumer behavior literature have argued for the foundational significance of empirical work stimulated by prospect theory and the heuristics-and-biases research program (Simonson et al. 2000). This work has led to the discovery of a host of robust and sometimes counterintuitive findings such as the endowment effect and mental accounting. Within the behavioral-decision-theory tradition, the reigning normative standards are rooted in microeconomic theory, which assumes that people treat all values as fungible or translatable to each other on a dollar metric. Deviations from perfect commensurability are taken as presumptive evidence for cognitive shortcomings.

It is a truism of economic theory that, for example, when income effects are small, there should be negligible differences between a person's maximum willingness to pay for a good and the minimum compensation demanded for the same good (willingness to accept). It has, however, been well established experimentally that people often demand much more to give up an object they already possess than

they would be willing to pay to acquire it, the definition of the endowment effect (Kahneman, Knetsch, and Thaler 1990; Thaler 1980). This effect is also closely related to, and may even be a by-product of, the well-known status quo bias (Samuelson and Zeckhauser 1988), a preference for the current state of the world that biases consumers against both buying and selling goods. The most influential explanation for these anomalies invokes an asymmetry of value that Kahneman and Tversky (1984) call loss aversion—the disutility of losing an object is greater than the utility of gaining it. Deviations from microeconomic assumptions, however, can be even more substantial than prospect theory implies. For example, although the endowment effect is generally found to be nearly instantaneous, the magnitude of the effect increases with duration of ownership (Strahilevitz and Loewenstein 1999).

In behavioral economics, mental accounting refers to how people organize, evaluate, and keep track of financial activities. Rather than pooling all assets into a single comprehensive account, in which a dollar is a dollar and perfect fungibility holds, people compartmentalize their resources, even money, into discrete qualitative categories, accounts, or budgets linked to different needs (Heath and Soll 1996; Kahneman and Tversky 1984; Prelec and Loewenstein 1998; Thaler 1985, 1999). Money often does not transfer easily from one mental account to another, and this peculiar lack of transferability can influence both purchasing and trade-in decisions (Okada 2001). Moreover, mental accounting can lead people to overconsume or underconsume depending on the amount of money they allocate to their mental budgets (Heath and Soll 1996).

*A. Peter McGraw (pmcgraw@princeton.edu) is a postdoctoral fellow at the Woodrow Wilson School of Public Policy and Department of Psychology, Princeton University, 321 Wallace Hall, Princeton, NJ 08544. Philip E. Tetlock (tetlock@haas.berkeley.edu) is a professor of organizational behavior at the Haas School of Business, University of California, Berkeley, 545 Student Services #1900, Berkeley, CA 94720. Orie V. Kristel is a senior researcher at The Strategy Team, Ltd., 64 Overbrook Dr., Columbus, OH 43214. This research was supported by National Science Foundation grant BSR9505680. The authors gratefully acknowledge helpful comments by Alan Fiske, Barbara Mellers, and Hal Arkes, and the research assistance of Rachel Szeiter, Megan Berkowitz, Sara Bassett, and Jeannette Poruban. The authors also thank the editor, associate editor, and three reviewers for their detailed and thoughtful comments on earlier drafts.

One example of a mental account would be money set aside for savings (a current asset account), which could in turn be compartmentalized into other accounts for projects of varying priority—from vacations to retirement. Another example would be money that the consumer intends to spend immediately (a current income account). When income is unanticipated (i.e., a windfall), it is more likely to be placed in a current income account and spent more readily (Arkes et al. 1994). People also tend to match the seriousness of the source of a windfall to the seriousness of its use (O'Curry 1997). Mental-accounting effects for windfalls have been attributed to a categorization process in which the category into which money is placed is determined, in part, by the context of the exchange (Henderson and Peterson 1992).

It is sometimes controversial what should be taken as evidence of "error" or "bias" when one places many of these effects in a broader consumer-behavior perspective. For instance, economic models posit source independence—the value of an object or income should not depend on how it was obtained (Loewenstein and Issacharoff 1994). This notion is clearly at odds with the consumer-behavior literature that has moved well beyond utilitarian models of exchange (e.g., Belk and Coon 1993; Fournier 1998) and that clearly recognizes that relationship histories can have profound effects on the symbolic significance of possessions (Belk 1988; Csikszentmihalyi and Rochberg-Halton 1981; Grayson and Shulman 2000; Wallendorf and Arnould 1988).

This article builds on previous work about the effects of relationship history by examining how the relational source of goods and even income influences buying and selling decisions that, from a narrowly decision-theoretic point of view, fall within endowment-effect and mental-accounting frameworks and thus count as deviations from rationality. However, the limits of fungibility can be even more profound than predicted by these purely cognitive accounts, as the frameworks do not consider the influence of social relationships within consumer behavior. We now introduce a social-relational model, Alan Fiske's (1991, 1992) relational theory, and discuss its applications and hypotheses for these phenomena. Furthermore, in our investigation we offer new insights into the model when tested in a consumer context.

FISKE'S TAXONOMY OF RELATIONAL SCHEMATA

Alan Fiske's (1991, 1992) analysis of relational schema, which has yet to be applied to consumer behavior, posits four types of relationships that people use to organize, evaluate, and coordinate most social interactions:

Communal sharing (CS) slices the social world into emotionally charged classes that allow people to differentiate in-groups and out-groups but do not allow distinctions of degree. Everyone in a community—which could be as small as a romantic dyad or as large as a nation-state—shares certain rights and incurs certain duties. Nonmembers may be excluded entirely.

Authority ranking (AR) imposes an ordinal ranking on the social world that permits lexical decision rules. One's location in this ranking scheme determines one's relative status in a collective and the prevailing direction of accountability for decision making. Military ranking serves as the social prototype: majors must answer to colonels, who in turn must answer to generals, with reversals only under exceptional circumstances.

Equality matching (EM) defines socially meaningful intervals that can be added or subtracted to keep score in social interaction. The social prototype is collegial or friendship networks in which reciprocity is a dominant exchange norm regulating the giving and taking of favors—here, it is critical to calibrate degrees of indebtedness.

Market pricing (MP) makes possible ratio comparisons of the values of diverse entities. This structure underlies capitalism and monetary transactions that range in sophistication from simple purchases or loans to financial instruments of such byzantine complexity that they baffle even Nobel laureates.

Within relational theory, there are no transitional forms. Each schema is a qualitatively distinct structure (Fiske 1991). The models, however, may be used in conjunction with one another in interactions with the same person, and it is unusual for a relationship to take only one relational form. For instance, despite their overarching authority-ranking relationship, an advisor and advisee may organize and execute a research project in a tit-for-tat equality-matching manner, or the advisor may hire the advisee for a particular project in a market-pricing exchange. Finally, the advisor may invite the advisee to a holiday dinner in the spirit of communal sharing.

Fiske's (1991, 1992) theory possesses three distinctive explanatory virtues: (a) the model stipulates what constitutes a norm violation and when people will react particularly indignantly to failures to respect the symbolic "source" significance of possessions; (b) the model predicts people's consumer behavior as a function of the relational source of goods, services, or capital; (c) the model has been rather extensively validated in both ethnographic and experimental research (Haslam 2004).

Social Relational Theory, Commensurability, and Taboo Trade-Offs

Social-relational theories, which derive inspiration from political philosophy and cultural anthropology, lead us to expect that people should be extremely resistant to certain types of transactions and trade-offs (Appadurai 1986; Foa and Foa 1974; Schlenker 1985; Veblen 1899). Furthermore, this resistance can be so intense, so categorical, that it is difficult to explain by simply invoking asymmetries between gain and loss functions. This resistance also cannot be fully explained by invoking the familiar incommensurability ob-

jection that people lack pertinent precedents, and thus just do not know how much of x to give up for y when one of the competing dimensions quantifies a good or service that is unacceptable to sell in competitive markets. If incommensurability per se were the obstacle, people would be merely confused by trade-offs that violate relational or normative boundaries and they would be hesitant and diffident in their answers. In fact, people are often morally outraged by the posing of such trade-offs, and many respond by refusing to respond to questions that they deem illegitimate, insulting, or absurd (see Tetlock et al. 2000, but see Medin et al. 1999 for an illustration of mitigating factors).

To explain the cognitively erratic and emotionally volatile reactions to trade-offs that fail to respect normative boundaries, Tetlock, Peterson, and Lerner (1996) advanced a particularly strong version of the incommensurability thesis. Drawing on both modern moral philosophy (Raz 1986) and classic sociological theory (Durkheim [1925] 1976), they argued for the explanatory usefulness of the notion of constitutive incommensurability. Incommensurable trade-offs are cognitively perplexing, but constitutively incommensurable trade-offs are more than that: they are also morally corrosive. Two values are constitutively incommensurable whenever people believe that entering those values into a trade-off calculus subverts or undermines one of the values. In the words of the philosopher Joseph Raz (1986, p. 22): "It is impoverishing to compare the value of a marriage with an increase in salary. Likewise, it diminishes one's potentiality as a human being to put a value on one's friendship in terms of improved living conditions."

We use the explanatory framework proposed by Fiske and Tetlock (1997) for taboo trade-offs as a basis for the model's predictions. A taboo trade-off is any explicit mental comparison or social transaction that violates deeply held intuitions about the integrity, even sanctity, of certain relationships and of the values that animate those relationships. Building on Fiske's (1991) theory, Fiske and Tetlock (p. 256) propose that "people view trade-offs as impermissible and respond with varying degrees of indignation whenever the trade-offs require assessing the value of something governed by the socially meaningful relations and operations of one relational model in terms of a disparate relational model." Parents are not supposed to request payment, nor children to offer it, for Thanksgiving dinner. Political candidates are not supposed to try to buy, nor citizens to sell, votes. Transactions of this sort destabilize social order by delegitimizing it. Tetlock et al. (2000) have shown that people have intense cognitive reactions to taboo trade-offs (including punitive trait attributions to violators of taboos), emotional reactions (including expressions of anger, disgust, and contempt), norm-enforcement reactions (including intentions to censure violators but also to censure those who fail to censure violators), and self-affirmation reactions (including moral-cleansing efforts to "purify" the self after moral contamination).

OVERVIEW

The current set of experiments explores the reactions of American college students to a series of transactions that apply market-pricing rules to possessions that, given the cultural implementation rules of early twenty-first-century American society, fall within the normative orbit of each of the four relational schemata. Applying a market-pricing schema to a possession that has been legally bought or sold in the past and could appropriately be bought or sold in the future should be nonproblematic. Applying a market-pricing schema to possessions that have taken on special symbolic significance due to an existing relationship should be far more controversial and viewed as taboo. Relationship history should also influence the application of a market-pricing schema in purchasing decisions. Although dollar values do not easily map onto the social-emotional significance of objects, the relational value assigned to an object will reflect the consumer's intention to acquire the object. A purchase attempt for a relationally meaningful object can depart radically from what would be expected from a purely market-focused purchase attempt. Additionally, market-pricing principles can even be altered if income is assigned relational source meaning, as indicated by mental accounting decisions.

Study 1 examines interpersonal moderators of the magnitude of endowment effects by testing the hypothesis that the relational source of an object shapes moral reactions and subsequent selling behavior in response to purchase offers. All other things being equal, people should be more resistant to part with possessions that are linked to relationally significant others. Study 2 shifts the focus to purchasing behavior and explores how the meaning that people attach to an object due to its relational ownership history influences its value and resultant purchasing decisions and mental accounting. Study 3 examines the power that social ties to the source of income have on the mental account process and how they shape subsequent spending behavior. The study is the strongest test of Fiske's taxonomy if we are willing to posit that forming socioemotional attachments to monetary transfers is psychologically more challenging than to tangible material objects. Study 4 clarifies an inconsistency in responses found in the first three studies. Specifically, the study examines the relative power of equality-matching and authority-ranking relationships to alter decisions that might superficially look like purely market transactions.

Hypotheses

H1: The directionality hypothesis: When people face explicit trade-offs between distinct relational models, the intensity of the resulting distress, outrage, and confusion should depend on the distance and direction of the move between the two models in the trade-off.

This prediction stems from the unequal moral significance, social value, and motivational strength of the four

relational models. Fiske and Tetlock (1997) posited a general tendency, not an invariant lexical rule, in most cultures for normative rankings of the four models to correspond with the relational complexity, ontogenetic primacy, and phylogenetic depth of those models. Holding all else equal, violations of communal sharing (the simplest, emotionally charged schema that children first master) should trigger sharper reactions than do violations of authority ranking, which in turn should trigger sharper reactions than violations of equality matching, which in turn should trigger sharper reactions than market pricing (the most complex and least intimate schema that requires sophisticated mental operations mastered only in adulthood). The emotional engagement of the people within these models will be at its highest for communal sharing, followed by authority ranking, equality matching, and then market pricing (where minimal affective ties are present). In short, the directionality hypothesis posits a step function in which outrage triggered by boundary violations ratchets down until the domain of goods and services is reached where it is culturally acceptable to buy and sell in competitive markets.

The directionality hypothesis also implies that, oxymoronic though it sounds, even money itself is imperfectly fungible (see Zelizer 1994). People will make decisions about how to spend or save income derived from communal-sharing, authority-ranking, or equality-matching relationships in ways they perceive as consistent with the symbolic meanings of those relationships (and the idiosyncratic circumstances surrounding the transfer from the relational source to the research participants). *Ceteris paribus*, people will be less likely to spend income from communal-sharing, authority-ranking, or equality-matching relationships impulsively or immediately, preferring to save the money for an appropriately symbolic purpose. Moreover, this tendency to save should be most pronounced in communal-sharing relations and display a stepwise decline as we move from authority-ranking to equality-matching and finally to market-pricing relationships (where fungibility should hold).

H2: The erratic-dollar-value hypothesis: The response scale used to capture feelings and desires of participants will influence the variability and predictability of responses. Bounded category scales of the sort used to ordinally measure cognitive and affective reactions will have greater consistency and predictability than the unbounded magnitude scale (without modulus or comparison anchor) typically used in assessments of selling and buying price.

This prediction is consistent with Kahneman, Schkade, and Sunstein's (1998) research that examines the impact of moral outrage and punitive intent on jury awards. It is hypothesized that dollar values should become especially erratic when people are asked to monetize objects that derive social-emotional significance from non-market-pricing relationships.

STUDY 1

We begin by examining possessions that people acquired in their relationships with others as defined by Fiske's taxonomy. We solicit the rational buying price for the object, and we measure predicted reactions to offers to purchase the items and minimum selling prices for the objects.

Participants and Design

Participants were told the purpose of the study was to examine how people acquire objects through social relationships and the value people place on those objects. First, participants read a brief description of a relational model and were given prototypical examples of relationships for the model. They were then asked to think of an object they received in a similar relationship. Next, they predicted responses to a purchase attempt for the object and estimated its objective monetary value. Lastly, participants' willingness to include their object in a mock auction was measured.

Undergraduates at Ohio State University received partial course credit in exchange for their participation. Due to the within-subject design and resulting data analysis, only participants who provided material possessions for all conditions were included in the analyses ($N = 183$). Definitions and examples of relationships were presented in the context of acquiring objects. The definitions given for the Fiskean relationships were designed to elicit prototypical relationships included in the taxonomy:

Communal sharing (CS): Think of your relationships with your fondest family members, or think of someone outside your family with whom you have an extremely close friendship. Think of relationships in which you feel a deep emotional bond to someone else.

Authority ranking (AR): Think of relationships in your life that are marked by clear differences in rankings among you and another person. Differences in rank could be due to prestige, power, experience, or authority. Think of relationships that you are involved in like this. They could be between an employer and an employee, a coach and an athlete, a teacher and a student, etc.

Equality matching (EM): Think of your relationships that are based on an even balance and equivalent give and take, such as in friendships. Each person in the relationship is entitled to the same amount as every other person. Think of the relationships that you are involved in like this. They could be casual friendships or relationships with co-workers or classmates.

Market pricing (MP): Think of your relationships that are based on the principles used in free market economies. In these relationships, money is the typical medium in which transactions occur. Think of relationships in which this is the case, such as salesclerk and customer, and the like.

TABLE 1

MEANS, MINIMUMS, QUANTILES, AND MAXIMUMS OF SELLING-TO-BUYING PRICE RATIOS (WTA/WTP) FOR RELATIONAL CONDITIONS IN STUDY 1

| | Mean | Min. | 25th % | Median | 75th % | Max. |
|-------------------|----------|------|--------|--------|--------|-----------|
| Communal sharing | 4.75E+29 | .00 | 1.05 | 2.07 | 17.50 | 7.50E+31 |
| Authority ranking | 2.00E+35 | .00 | 1.00 | 1.50 | 5.00 | 3.33E+37 |
| Equality matching | 90489.1 | .00 | 1.00 | 1.67 | 5.00 | 1,000,000 |
| Market pricing | 5.75E+33 | .00 | 1.00 | 1.25 | 2.00 | 1.00+E36 |

Measures

Participants were asked to think of an object that they had acquired in a relationship similar to the one defined for them. They were asked to describe the object and the circumstance in which the object was received. Next, participants were asked to estimate the monetary value of the object at the time of purchase (its original purchase price) and currently (the price a rational buyer who was ignorant of the object's origin would pay). They were then prompted to imagine they were asked to sell the object, and they indicated their level of agreement with five statements designed to measure the anticipated distress associated with the offer in terms of their confusion and indignation. These statements were: (a) I would reject the idea as completely inappropriate, (b) I would be happy to sell the object at the right price, (c) I would find the request strange or out of the ordinary, (d) I would be insulted by the offer to buy the object, (e) I would find it difficult to sell the object at the right price. Agreement with each statement was assessed on a seven-point scale from 1 (completely disagree) to 7 (completely agree). Participants were then asked to judge the minimum price they would be willing to accept (selling price) for the object if they absolutely had to sell it.

A final set of questions asked respondents to imagine that an auction would be held for their objects. Their willingness to sell each object at their minimum selling price was assessed on a seven-point scale from 1 (extremely unwilling) to 7 (extremely willing). Participants then could indicate if they would withdraw their object from the auction.

Results

A composite distress measure was first created to gauge participants' predicted reactions to the fictitious purchase attempt (item *b* was reverse scored). The intercorrelations of predicted distress items ranged from .30 to .65 ($M = .44$) and had acceptable reliability (Cronbach's $\alpha = .79$). There was a significant effect of relational source on predicted distress ($F(3, 543) = 52.4, p < .05; \eta^2 = .22$). Differences were noted that offered partial support for the directionality hypothesis. Planned comparisons showed that the participants faced with an offer to purchase an object received in a communal-sharing relationship ($M = 5.2$) predicted significantly more distress than those who thought about an equality-matching relationship ($M = 4.6; F(1, 181) = 52.4, p < .05$). The ranking of the equality

matching and authority ranking are reversed from the predictions of the theory. The differences are slight but significantly different ($M = 4.6$ vs. $M = 4.3$, respectively; $F(1, 181) = 5.6, p < .05$). Predicted distress for the authority-ranking relationship was also significantly higher than for the market-pricing relationship ($M = 3.4; F(1, 181) = 69.2, p < .05$).

Participants judged the minimum price they would be willing to accept (WTA) for the object if they had to sell it. They also provided an objective estimate of how much the object was currently worth (a measure of buying price that reflects depreciation and source independence). A comparison of median values illustrates the effects of relational meaning. The median WTA in the communal-sharing condition was \$300 versus its median objective (or willingness to purchase; WTP) value of \$35. Authority ranking had the next largest difference (\$45 vs. \$12), followed by equality matching (\$40 vs. \$11). Market pricing had the smallest difference (\$50 vs. \$30).

An examination of selling price to buying price ratios was also conducted, which explores the relationship on a scale that helps to control for the current value of the object. Support emerged for the erratic-dollar-value hypothesis that selling-price assessments would exhibit less stability than the category measures used to assess predicted distress. Independent regression models were used to predict ratio dollar values, logarithmic transformations of ratio dollar values, and predicted distress from the experimental conditions. Although a nonsignificant proportion of the variance in ratios can be predicted from the relational instructions ($F(3, 390) = 1.3, p > .25; \eta^2 = .01$), the proportion of variance explained improves to statistical significance when values are transformed using a logarithmic transformation ($F(3, 390) = 7.9, p < .05; \eta^2 = .06$), which reduced the right skew of the data. As predicted, the greatest proportion of variance ($\eta^2 = .22$) is accounted for in the predicted-distress category scale.

Table 1 shows the mean, minimum, quartile, and maximum of ratios for each relational source. The ranking of the median values, which are less influenced by extreme scores than the mean, again partially supports the predicted ordinal relationship of directionality hypothesis. Communal sharing produced the greatest median ratio of WTA to WTP values, followed by equality matching, authority ranking, and market pricing. Because of the skew of the data, planned comparisons of ratios found no differences between conditions.

However, when planned comparisons are conducted on logarithmic transformations, the following pattern emerges: CS > AR ($F(1, 180) = 3.9, p < .05$), AR = EM ($F(1, 180) = 0.7, p > .40$), and EM > MP ($F(1, 180) = 6.6, p < .5$).

Respondents were also asked how willing they were to sell their object in an auction for the selling price they had indicated earlier in the survey. Smaller values indicated greater reluctance to participate in the auction. There was a significant effect for relational frame ($F(3, 543) = 33.1, p < .05; \eta^2 = .16$). Those assigned to the communal-sharing relational frame were significantly less willing to sell their object for their listed selling price ($M = 2.22$) than those assigned to equality matching ($M = 2.69$), authority ranking ($M = 2.95$), and market pricing ($M = 3.55$). Planned comparisons found significant differences between each group as follows: CS > EM ($F(1, 181) = 12.3, p < .05$), EM > AR ($F(1, 181) = 3.9, p < .05$), AR > MP ($F(1, 181) = 16.2, p < .05$).

Finally, participants were asked if they would withdraw their object from the auction. Chi-square analysis of this response as a function of the manipulated relational source revealed a significant difference between each successive condition. Those assigned to the communal-sharing condition were most likely to withdraw their object (71%), followed by those assigned to the equality-matching (58%; $\chi^2(1) = 6.5, p < .05$), authority-ranking (41%; $\chi^2(1) = 11.7, p < .05$), and market-pricing (30%; $\chi^2(1) = 4.3, p < .05$) relational frames.

Discussion

In a study that examines the reactions of owners who are offered to sell their possessions, we found support for Fiske's taxonomy and Fiske and Tetlock's notion of taboo trade-offs. People were resistant to purchase offers, as is robustly shown in the endowment-effect literature, but this resistance is further understood by accounting for the relational history of the object. Objects received in communal-sharing relationships were valued most highly relative to objective prices, people were least likely to part with them—even at their stated willingness to accept prices—and people found purchase offers most distressing. Objects received via market-pricing relationships were valued least in relation to their objective value. Additionally, these objects were most likely to be released into an auction setting where they could be purchased, and people found the purchase offers to be less distressing than the other relational modes. Although authority-ranking and equality-matching conditions fell squarely between communal sharing and market pricing, a significant reversal contrary to the predictions of the directionality hypothesis was found for predictions of distress and willingness to participate in the auction.

We found clear support for the erratic-dollar-value hypothesis. The stability of the monetary value estimates for objects falls short of the categorical scales that were designed to capture confusion and indignation in the distress measure. Moreover, the predictions of monetary value es-

timates improve when values are log transformed to reduce the skew of the data due to the unbounded scale.

Critics could argue that, although relational source may affect decisions to sell possessions, these decisions are quite rare and contrived in the present study. A stronger test of the theory would involve purchasing decisions. Study 2 investigates people's intent to purchase objects that originate within each of the fundamental relational types.

STUDY 2

From a consumer-behavior perspective, relational theory should apply not just to willingness to sell objects that people already feel are part of their endowment but should also predict their willingness to purchase an object that people feel possesses symbolic significance. Accordingly, a scenario was created in which participants bid on an object that symbolizes communal-sharing, authority-ranking, and equality-matching relational modes or on an object that could be evaluated purely on its utilitarian market-pricing value. Measures included the propensity to continue bidding for the object even after one's current income account had been exhausted, and final bidding price.

Participants and Design

Two hundred fifty undergraduates at Ohio State University received partial course credit in exchange for their participation. Groups ranged in size from 55 to 68 in the between-subjects design. Participants were presented with a scenario that described their attendance at an estate auction and asked them to imagine that, although they did not have strong intentions to bid for anything, they happened to recognize a watch that they found appealing. The relational frame manipulation was presented at the end of the statement: "the possessions that are going to be auctioned off at this estate sale belonged to: a relative with whom you had a close relationship [CS]; a teacher who was influential to you in high school [AR]; a co-worker with whom you were friendly and regularly exchanged favors [EM]; someone you did not know [MP]."

Participants were also told that they had \$50 in cash and that they decided to bid for the watch. After bidding back and forth with one other person, the other bidder was described as making a bid of \$50. Participants were then given a choice to stop bidding or to continue and put the money on a credit card with a \$2,000 limit (given they were no longer on a student income and could repay the debt without too much difficulty). The use of a credit card was included in the design so that participants would need to access another mental account to continue bidding.

Respondents indicated whether they would stop bidding at \$50 or continue bidding beyond \$50. If respondents indicated that they would continue bidding, they were asked to judge the maximum amount they would be willing to bid for the watch. Finally, all participants were asked to briefly state why they made their decision.

Results

The percentage of participants who continued bidding by putting the additional cost on their credit card peaked when the watch was owned by a close relative or an influential teacher; 75% and 63% of the participants continued bidding in the communal-sharing and authority-ranking conditions, respectively. When a co-worker had owned the watch in an equality-matching relationship, 44% of the participants continued bidding. Finally, in the strictly market-pricing relationship, in which there was no prior relationship, bidding continued for only 39% of the participants. Chi-square analyses found statistically significant differences between authority ranking and equality matching ($\chi^2(1) = 4.7, p < .05$).

The mean values of the highest bid (WTP) followed the ordering of the directionality hypothesis. Means were \$393, \$135, \$106, and \$84 for CS, AR, EM, and MP, respectively. There was a significant main effect of relational frame on bidding prices ($F(3, 249) = 9.9, p < .5; \eta^2 = .11$). Median values show evidence of the erratic-dollar-value hypothesis as they are less influenced by extreme scores in the data; medians were \$100, \$75, \$50, and \$50 for CS, AR, EM, and MP, respectively. Further, evidence for the erratic-dollar-value hypothesis is illustrated when relational frame is used to predict logarithmic transformations of dollar values, which reduces the positive skew of the data and increases the effect size ($\eta^2 = .14$). Furthermore, mean WTP price for the watch also follows the predicted ordering when those people who stopped bidding are removed from the analysis. Means were \$510, \$185, \$176, and \$132 for CS, AR, EM, and MP, respectively ($F(3, 139) = 6.6, p < .5; \eta^2 = .13$). Planned comparisons found CS exceeded the value of all other conditions ($F(1, 139) = 3.5, p < .5$).

Two judges who were unaware of the study's hypotheses coded the justifications offered by respondents. After independently judging the statements, the judges compared their classification and resolved their disagreements through discussion. The interrater reliability prior to discussions was 86%. Of the CS, AR, and EM respondents who continued to bid in the auction, 49%, 38%, and 17%, respectively, mentioned that the object is symbolic of the relationship. Chi-square analyses found a significant difference between AR and EM ($\chi^2(1) = 4.4, p < .05$). Of the CS, AR, and EM groups that mentioned the symbolic nature of the object, 38%, 41%, and 17% mentioned wanting to acquire it as a remembrance or memento of the person. Some prototypical reasons for the purchase decisions were: "It's a family item that probably means a lot to me. I would want to get it to remember them. A couple of hundred dollars is no problem" (CS; \$200). "Sometimes, the things people do for you cannot be paid back in any way, be it money or wealthy things. In order to show my appreciation for what my teacher did for me in high school, I would like to have a souvenir that can make me remember that person through my lifetime for what that person has done for me" (AR; \$500). "It would be nice to have something to remember a friend by" (EM; \$100). No one in the MP condition mentioned these types of reasons.

Discussion

The social-relational meaning of an object was an important consideration for consumers in an auction (by definition, a pure market-pricing institution). The linkage of a simple personal item to a significant other raised its value for the purchaser. Moreover, people were willing to use future earnings to pursue the symbolic item. The pattern of responses followed the predicted order of the directionality hypothesis, although differences were not always statistically significant. Statistical differences between authority ranking and equality matching that were lacking in study 1 were found in the predicted order for intentions to purchase the watch. There appears to be support for the directionality hypothesis, but the question remains about the strength of the effect with regard to the placement of authority ranking and equality matching along the proposed ordinal continuum due to idiosyncratic manipulation of the relationship.

Having demonstrated the influence of Fiske's taxonomy on an object that people desire to purchase, we now turn to an investigation of the influence of social relationships on the money used in a purchase. Study 3 applies Fiske's taxonomy to the source of income and resulting purchase decisions following a windfall.

STUDY 3

A challenging test of the theory investigates whether the symbolic-relational meaning of windfall income would influence the assignment of money to mental accounts. Specifically, money received from a market-pricing relationship should be more likely to be placed in a current income (i.e., spending) account and spent impulsively, whereas money from equality-matching, authority-ranking, and communal-sharing relationships should be treated with increasing responsibility and saved in a current asset (i.e., savings) account. To test this hypothesis, a scenario was created in which participants imagined they unexpectedly received a sum of money via one of the relational sources and were faced with a decision to either spend or to save the money.

Participants and Design

Three hundred and twenty-seven undergraduates at Ohio State University received partial course credit in exchange for their participation. Participants were presented with scenarios that described themselves as unexpectedly receiving \$75 from a particular relational source, which was manipulated between subjects (groups ranged in size from 73 to 90 participants). In the communal-sharing condition, the money was received from a parent and was accompanied by a note that said, "I just wanted to let you know that we are thinking about you and care very much about you. Thank you for being so special to us!" In the authority-ranking condition, the money was received from the department chair of their major and was accompanied by a note that said, "You have been granted a student of distinction award for the quarter. You have been given the award for your

excellent performance in your major. Keep up the great work!" In the equality-matching condition, the money was received from a friend and was accompanied by a note that said, "I just wanted to let you know that I was thinking about what a good friend you have been to me. Thank you for all of your recent help!" In the market-pricing condition, the money was received from a local business owner and was accompanied by a note that said, "Congratulations, you have won a special prize for being our one millionth customer. Thank you for being our special customer!"

After the description of the scenario, participants were faced with a purchase decision that was based on a scenario used by Arkes et al. (1994) in their investigation of windfall gains. Participants were told that they had been considering the purchase of a portable CD player for a couple of weeks. They were also told that they had seen an advertisement for a small personal CD player priced around \$70 at a local electronics store. The participants were asked whether they would buy the CD player or save the money.

Results

The results partially supported the directionality hypothesis. The money was saved by 60%, 46%, and 47% of the participants in communal-sharing, authority-ranking, and equality-matching frames, respectively, but only 34% of participants in the market-pricing frame saved the money. Chi-square analyses indicated significant differences between communal sharing and authority ranking ($\chi^2(1) = 3.4$, $p < .05$) and between equality matching and market pricing ($\chi^2(1) = 5.7$, $p < .05$), but not between authority ranking and market pricing.

Discussion

The identity of the relational source who bestows a windfall on the consumer influences that consumer's subsequent decisions to save or consume. As expected in the market-pricing condition, there is a strong likelihood of using the windfall as current income to make a purchase. However, the connection of the money to a significant "other" short-circuits the decision to place the money in a current-income account. As predicted, receiving money from a communal-sharing source has the greatest inhibitory effect on spending the money. The effect of authority-ranking and equality-matching sources on purchase decisions is similar in magnitude and falls between communal sharing and market pricing.

Study 4 directly investigates the difficulties the directionality hypothesis had in predicting the order of authority ranking and equality matching in the studies. A possible explanation for the effect is tested by asking people directly which type of relationship is more important to them.

STUDY 4

Expected differences between authority ranking and equality matching have not been consistent in the studies,

thus limiting support for the directionality hypothesis to essentially a three-step function (rather than the predicted four steps). When definitions of the relationships were given in study 1, there was a significant reversal in predicted distress and willingness to participate in the auction. Idiosyncratic manipulations of the relational schema were used in studies 2 and 3, which may have contributed to the instability of the results. Significant differences were found in the predicted direction for study 2 but not for study 3.

The lack of a consistent effect could be explained by two possible factors: (1) equality-matching relations may, in general, be considered more important than authority-ranking relationships and thus have a stronger influence on consumer decisions, or (2) the instability of findings could be attributed to the use of late-adolescent students from the United States as participants. Fiske (1991) does allow exceptions to the taxonomy due to cultural considerations, and this may be one. The participants may be more ambivalent about hierarchical relations than individuals from other age groups or other cultures (see Hofstede 1980). They may find it difficult to differentiate legitimate hierarchy and raw power, and they may not hold authority-ranking relationships in high esteem. Moreover, insofar as the undergraduate culture treats friendships as proxies for familial relations, equality-matching relations may sometimes take on an affective intensity similar to communal sharing relations.

To test the hypotheses, a more heterogeneous sample was asked whether authority-ranking or equality-matching relationships are more important to them. Participants were also asked how meaningful the receipt of an item from a member of each relationship would be, as well as their minimum willingness to accept a price for the item.

Participants and Design

Seventy-one people at a Columbus, Ohio, car wash were surveyed. Participants were approached while they were waiting for their cars. As a comparison group, 94 undergraduates at Ohio State University completed the same survey.

The anonymous survey first asked respondents their age. The survey then presented the definitions of authority ranking and equality matching used in study 1. The order of presentation was counterbalanced between subjects. There were no order effects in the data, so order will not be discussed any further. Respondents were asked to indicate which of the defined relationships was more important in their life. They were then asked to imagine, for each relationship, that they had received a watch (retail value = \$30) from someone that they knew in that type of relationship. They were asked how meaningful each watch would be to them, using a scale from 1 (not at all meaningful) to 9 (extremely meaningful). Finally, respondents were asked the minimum amount of money they would be willing to accept for the watch received via each relationship.

Results

The average age of respondents at the car wash was significantly higher than the age of the university students. The car wash sample ranged in age from 18 to 73 years old ($M = 37$), and the university sample ranged in age from 18 to 41 ($M = 20$; $t(158) = 12.5$, $p < .05$). Only one other significant difference was found between the samples, and that was for the meaningfulness of the watch received from an authority-ranking relationship. Contrary to the age-related prediction, the university sample rated the watch as more meaningful ($M = 5.9$) than did the car wash sample ($M = 5.3$; $t(162) = 2.1$, $p < .05$).

The remaining analyses were collapsed across both samples (total $N = 164$). The equality-matching relationship was ranked as more important than the authority-ranking relationship. Seventy-four percent of the sample favored the equality-matching relationship to the authority-ranking relationship. The meaningfulness of a watch received from an equality-matching relationship was rated significantly higher ($M = 7.1$) than a watch received from an authority-ranking relationship ($M = 5.7$; $t(163) = 6.8$, $p < .05$). The minimum WTA prices followed this trend, with equality matching ($M = \$39.80$) greater than authority ranking ($M = \$29.10$; $t(132) = 2.7$, $p < .05$). The WTA values are likely artificially low because 17% and 10% of the sample did not include dollar values for the equality-matching and authority-ranking questions, respectively. The majority of those missing values were respondents who stated that it was not appropriate to sell the watch.

As was mentioned earlier, the university students assigned greater meaning than the car wash participants to a watch received in an authority-ranking relationship. The relationship was reflected in a correlational analysis conducted on the meaningfulness of the watch and age for the entire sample. Older respondents assigned less meaning than younger respondents for the authority-ranking condition ($r = -0.18$, $p < .05$). No other correlations with age were significantly related to the remaining variables.

Discussion

The results of study 4 suggest that the ordinal relationship of equality matching and authority ranking in the directionality hypothesis is flawed. We find that people indicate that equality-matching relationships are more important to them than authority-ranking relationships. Moreover, age does not have an influence on this ranking. The most revealing result is that the student respondents actually attribute more meaning to an object received from an authority-ranking relationship than do the older respondents. This leads us to believe, not that young people find these relationships threatening or aversive, but rather that despite their preference for equality-matching relationships, they ascribe more meaning to authority-ranking relationships, which helps boost their responses to levels closer to those for equality-matching relationships.

OVERALL DISCUSSION

The studies provide support for key predictions derived from a social-relational perspective on selling and buying behavior. The results consistently indicate that people draw a sharp distinction between “particularistic” and “universalistic” relationships—that is, relationships in which people care very much about the identity of the actors from whom they receive goods and services and relationships in which people are indifferent to the identity of the actors (see Brinberg and Wood 1983; Foa and Foa 1974). Study 1 revealed a surge in distress when people were asked to sell an object whose acquisition was inextricably symbolically linked to a communal-sharing, authority-ranking, or equality-matching relationship. The studies provide support that people draw some, although not as sharp, distinctions among types of particularistic relationships. Distress peaked in response to market-pricing intrusions into the domain of communal sharing (the cognitively simplest, emotionally most fundamental, and ontogenetically primary schema) and fell off for intrusions into authority ranking and equality matching. Transgressions into communal sharing provoked the greatest predicted distress, the most intense resistance to selling the personal possessions, the largest ratios between selling prices and objective estimates of actual worth, and the least interest in auction participation.

Studies 2 and 3 cast people in their more customary role as consumers making choices bearing on the allocation of limited financial resources to competing ends. Both studies demonstrate the influence of relational source on spending decisions. Relational meaning has implications for how appropriate people consider money is to be saved or spent, and, if spent, on which types of goods or services. In study 2, people were most willing to spend money (and take on consumer debt) to obtain an object with a communal-sharing ownership history and progressively less willing as we moved to authority-ranking, equality-matching, and market-pricing histories. In study 3, people were more reluctant to spend money that had been acquired via a communal-sharing relationship. The same trends held, albeit to a lesser degree, for authority-ranking and equality-matching relationships. In each case, the symbolic meaning shaped the consumer’s mental accounting and purchase decisions.

The Erratic-Dollar Hypothesis

The relative instability of the dollar estimates that participants provided for selling prices in studies 1 and 2 merits note. These findings parallel those of Kahneman et al. (1998), who found that the punitive intent and outrage of jurors could be reliably captured by bounded-category-scales measures, but that these subjective states did not map as well onto dollar-denominated, punitive-damage judgments assessed by unbounded magnitude scales. In a similar vein, normative distress and confusion triggered by inappropriate intrusions of market pricing (taboo trade-offs) could be reliably captured, but these subjective states were

of limited use in predicting the high variance in dollar selling prices.

The erratic variance in dollar values of possessions could be a result of mutually reinforcing influences: (1) the lack of pertinent precedents for monetizing symbolic and emotional connections to possessions with non-market-pricing origins; (2) the normative inappropriateness of explicitly assigning a dollar value to possessions with relational significance; (3) the fear of "being caught" assigning an insultingly low dollar valuation that reveals one to be less committed than others of social-symbolic importance; (4) the desire to repel would-be purchasers by assigning absurdly high valuations that should deter any rational economic actor.

The Directionality Hypothesis

Although the ends of the continuum are not in doubt, the directionality hypothesis had difficulty accounting for the pattern of authority-ranking and equality-matching results across the studies. When definitions of the relational modes were provided, as in studies 1 and 4, people showed a preference for equality-matching relationships over authority-ranking relationships. Idiosyncratic manipulations of the relational modes were used in the tests of spending behavior. In study 2, an influential teacher was an important relationship to the respondents, rivaling the influence of the communal-sharing manipulation. However, in study 3, the distinction granted by the department chair was not significantly different than the impact of the gift from a friend. The pattern of results from the manipulations in studies 2 and 3 shows that within each relational structure there is variability in the importance of the relationship that can be controlled by the selection of particular types of relationships within each framework. Finally, the results of study 4 show that, despite their preference for equality-matching relationships over authority-ranking relationships, younger people's apparent status as the subordinate member of the relationship increases the meaning ascribed to the objects received in those relationships. The additional importance helps bring the responses of the two relational structures into greater alignment, which increasingly blurs their distinction and ordinal relationship.

CONCLUSION

In sum, the current article reveals previously undocumented conceptual and empirical connections linking two large research literatures: the work of behavioral decision theorists on the endowment and mental-accounting effects, and the work of experimental social psychologists and anthropologists on Fiske's structural theory of relational schemata. The findings of the four experiments consistently show that the social meanings that people attach to objects and even money moderate the magnitude of the well-established endowment and mental-accounting effects—effects that are usually explained by behavioral-decision theorists in decidedly "asocial" terms such as the concavity or convexity of

gain and loss functions in prospect theory (endowment effect) and overreliance on cognitively economical heuristics (mental accounting). Without denying the value of these seminal research contributions, it is worth noting that reductionism can be a two-way street. Whereas the conventional reductionist approach has been to explain social phenomena as by-products of basic cognitive processes (e.g., psychophysics of utility functions, operations of low-effort heuristics, associative memory networks, and so on), the current article is a reminder that people judge the value of things through the prism of interpersonal relationships, and these effects may extend even to experimental demonstrations of allegedly purely cognitive processes.

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