

ABSTRACT

Title of Document: THE INFLUENCE OF CONSUMER
MOTIVATIONS ON CONSUMPTION
INTENTIONS AND BEHAVIOR

Francine da Silveira Espinoza,
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Co-Directed By: Professor Dr. Rebecca Hamilton and
Professor Dr. Joydeep Srivastava,
Department of Marketing

This Dissertation comprises two essays that investigate how consumers' different motivations affect their cognitive responses and consumption behavior.

Essay 1 shows that consumers' motivation to rely on their own opinion and correct their judgments for the influence of a product recommendation moderates source credibility effects on judgment certainty and behavioral intentions. Building upon earlier research showing that correction may decrease judgment certainty, we propose that, contrary to this unidirectional effect, correction has a bidirectional effect on judgment certainty and behavioral intentions, depending on the initial recommendation credibility. In a series of three studies, we provide support for the bidirectional effect of correction and show that when consumers correct for the influence of a high credibility recommendation, their judgment certainty and

behavioral intentions decrease, but when they correct for the influence of a low credibility recommendation, their judgment certainty and behavioral intentions increase.

Essay 2 examines the influence of consumers' motivations on product valuation and proposes that while buyers are intrinsically motivated to minimize what they are giving up, sellers are intrinsically motivated to maximize what they are getting. These differential goals lead to a discrepancy in product valuation of buyers relative to sellers. In a series of five studies, we provide support for the motivated valuation explanation for the disparity between buying and selling prices and show that altering the goal pursuit of buyers and sellers moderates the price disparity effect.

THE INFLUENCE OF CONSUMER MOTIVATIONS ON CONSUMPTION
INTENTIONS AND BEHAVIOR

By

Francine da Silveira Espinoza

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Advisory Committee:

Associate Professor Rebecca W. Hamilton, Co-Chair

Associate Professor Joydeep Srivastava, Co-Chair

Professor Amna Kirmani

Professor Arie Kruglanski

Associate Professor Rebecca Ratner

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Overview

This Dissertation comprises two essays that investigate how consumer's motivations affect their consumption behavior, such as purchase intentions and product valuation.

Motivation is a predisposition to behave in a certain way. Motives are a motor for action, stimulating behavior that helps individuals achieve their goals (Fiske 2008). Contemporary motivation theory (e.g., Fitzsimons and Bargh 2004; Kruglanski et al. 2002) assumes two important characteristics of motives and goals that are fundamental for this proposal. First, motives and goals are mentally represented in the same way as are other cognitive constructs. Motives and goals correspond to internal knowledge structures containing information such as possible means and behavioral procedures for attaining a goal. Second, this motivation-as-cognition approach implies that motivation is dynamic and that it can be primed and automatically activated by diverse environmental features, that is, by the mere presence of situational cues associated with those goals.

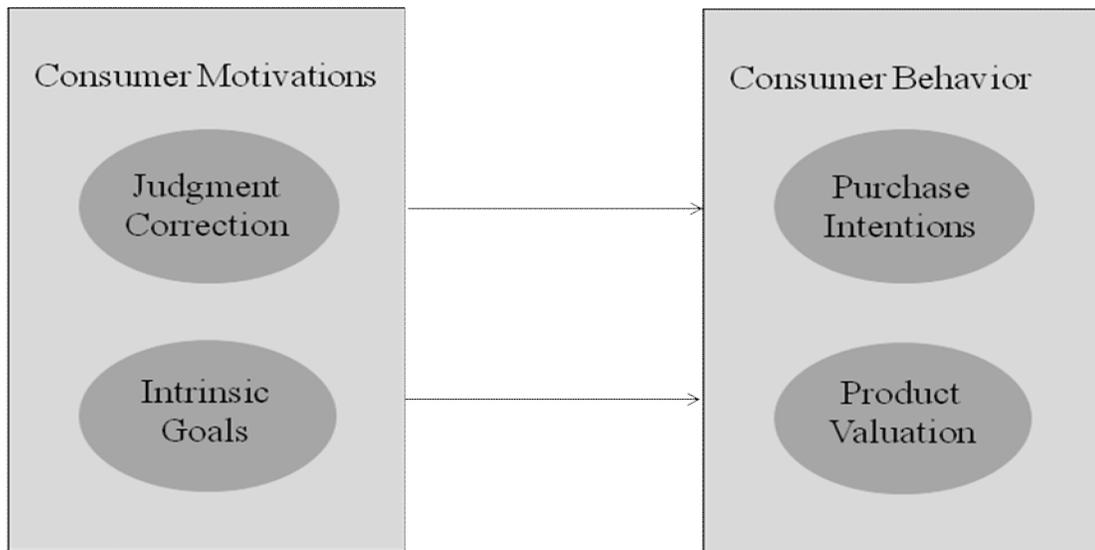
Motivation, rather than being stable and individual, is a dynamic process because it can be activated from various different sources, because it can be activated without intervening conscious choice, and because the same stimulus can activate different motivations depending on the person or the situation. Operating motivations, consciously or non-consciously, influence consumers' thoughts, feelings, and behavior. This dissertation proposal investigates the interplay of several motives and goals, which are activated in different ways, and how they affect consumer behavior.

Essay 1 investigates consumers' motivation to correct their judgments for the influence of a recommendation. Consumers may initially comply with or resist product recommendations, depending on the perceived credibility of the recommender. At times, however, consumers may be motivated to avoid this external influence and simply rely on their own opinion (Wegener et al. 2004). We propose that asking consumers to correct their judgments will affect their judgment certainty and behavioral intentions toward the recommended product differently. Specifically, when consumers initially receive a high credibility recommendation favoring a product (e.g., from a consumer protection agency), correction will decrease their judgment certainty and behavioral intentions. Conversely, when consumers initially receive a low credibility recommendation (e.g., from the manufacturer of the product), correction will increase their judgment certainty and behavioral intentions. Ironically, then, consumers' compliance with a low credibility recommendation may increase after correction. Results from study 1 support these predictions and show that the interactive effect of recommendation credibility and correction on behavioral intentions is mediated by judgment certainty. Study 2 examines the case of a recommendation opposing a product, a situation in which the relationship between judgment certainty and behavioral intentions should be negative rather than positive. Finally, study 3 examines the role of certainty more closely, showing that recommendations associated with greater certainty produce more positive behavioral intentions, but correction decreases behavioral intentions when initial certainty is high and increases behavioral intentions when initial certainty is low.

Essay 2 examines the influence of consumers' motivations on their product valuation. It is well known that often sellers overvalue products relative to buyers (Kahneman, Knetsch, and Thaler 1990; Thaler 1980). We propose that buyers and sellers value products in a way that satisfies their intrinsic motivations. When consumers adopt the social role of buyers and sellers, they behave accordingly to best achieve these goals. We test the extent to which buyers' motivation to minimize what they are giving up and sellers' motivation to maximize what they are getting affects their product valuation and can account for the price disparity effect. In a series of five studies, we apply principles of goal theory (Kruglanski et al. 2002; Shah and Kruglanski 2008) to support the motivated valuation explanation and show that altering the goal pursuit of negotiators moderates the price disparity effect. Study 1 explores the psychological factors underlying the price disparity and shows that buyers and sellers approach a transaction with a mindset of "giving up money" or "getting money," respectively. In studies 2 and 3 we provide support for the motivated valuation explanation by measuring buyers' and sellers' goal activation via reaction time to goal-related words (study 2) and by priming the proposed goals of buyers and sellers to neutral traders and conceptually replicating the price disparity effect (study 3). Studies 4 and 5 investigate conditions under which goal pursuit of buyers and sellers might change and, therefore, their valuation change as well. In study 4 we prime alternative goals, and in study 5 we manipulate goal fluency, each of which should facilitate or inhibit goal pursuit/ achievement, thereby moderating the price disparity effect.

Figure 1 summarizes the main constructs we examine in the two essays that follow.

Figure 1 - Dissertation Conceptual Framework



Chapter 1: Essay 1 – The Bidirectional Effect of Correction on Judgment Certainty and Behavioral Intentions

Introduction

Consumers are often bombarded with persuasive messages recommending products. At times, consumers may be motivated to rely on their own opinions and avoid the influence of such messages on their judgments. Correction processes can be instigated in several ways such as via explicit instructions to correct (Wegener and Petty 1995), disclaimers that may call consumers' attention to specific information (Johar and Simmons 2000), or messages incorporated in advertising. For example, General Motors recently ran an ad in which they described the benefits of their new Pontiac and then suggested "Don't take our word for it, ... discover for yourself."

We examine one mechanism through which correction processes operate to influence consumer behavior. Specifically, we show that correction affects the certainty with which consumers hold their judgments about a recommended product, in turn influencing their behavioral intentions. Judgment certainty is defined as a sense of confidence about one's judgments (Gross, Holtz, and Miller 1995), and judgment certainty has been found to change as a consequence of consumers observing their reactions to persuasive attempts (Tormala, Clarkson and Petty 2006).

Although previous work suggests that correction tends to decrease consumers' certainty about their judgments (Tormala, DeSensi, and Petty 2007), we challenge the notion that correction will always have a unidirectional effect on consumers'

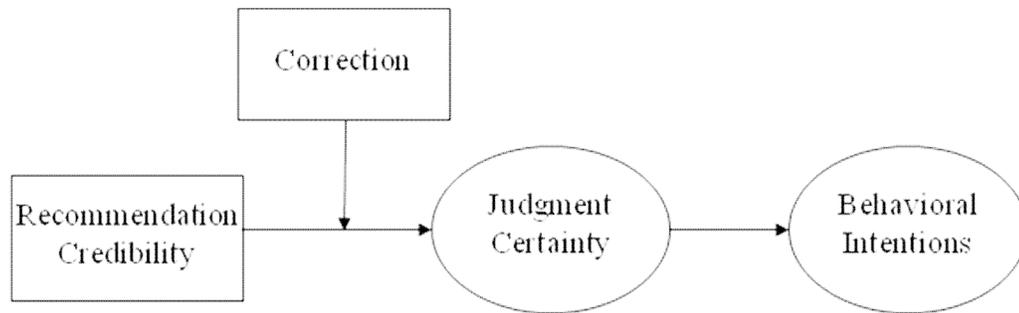
certainty. Previous work suggests that reminding consumers to correct their judgments highlights potentially inappropriate influences on their judgments. If their judgments were influenced inappropriately, judgment certainty should decrease, and consumers should become consistently less likely to comply with a product recommendation (Tormala et al. 2007). Another possibility, however, is that consumers may lose or gain certainty in their judgments about the recommended product depending on how they appraise the initial persuasion attempt. Building on the correction and persuasion literature (Wegener and Petty 1995; Wegener et al. 2004), we propose that correction will have a bidirectional effect on judgment certainty and behavioral intentions, such that certainty will decrease when the persuasion attempt is perceived to have high credibility but will increase when the persuasion attempt is perceived to have low credibility.

Understanding the impact of correction on judgment certainty is important because judgment certainty influences consumer behavior (Tormala and Petty 2004b). For example, attitude certainty increases the predictive power of consumer attitudes such that when consumers are more certain of their attitudes, they are more likely to act on their attitudes (Tormala and Petty 2002). We go one step further and show that the certainty with which consumers hold their judgments can directly influence consumers' compliance with a product recommendation and, therefore, their behavioral intentions. The possibility that certainty may affect behavioral intentions directly has been theoretically considered and empirical tests have been encouraged (Tormala and Petty 2004b).

In a series of three studies, we demonstrate the bidirectional effect of correction on judgment certainty and behavioral intentions. In our first study, we show that a low credibility recommendation, such as a manufacturer recommending its own product, produces low judgment certainty. Ironically, asking consumers to correct for the influence of this low credibility recommendation makes them more certain about their product judgments and more likely to comply with the recommendation and purchase the product. In our second study, we provide additional support for our hypotheses by examining the effect of recommendation credibility and correction on compliance with a negative rather than a positive recommendation, when the relationship between judgment certainty and behavioral intentions should be negative rather than positive. In the third study, we examine the role of certainty more closely by manipulating certainty subliminally and showing that correction increases compliance with a recommendation when certainty is initially low but decreases compliance with a recommendation when certainty is initially high.

By showing that correction has a bidirectional effect on judgment certainty and that certainty directly influences behavioral intentions, our research contributes to the literature in at least three ways. First, we show that correction can either decrease or increase judgment certainty, rather than consistently decreasing it. Second, we show that in the context of recommendations, judgment certainty can influence behavioral intentions directly, beyond strengthening the relationship between attitudes and behavioral intentions. Third, we demonstrate that in addition to lay theories of influence (Wegener and Petty 1995), certainty is an important part of the correction process. Figure 2 illustrates our theoretical framework.

Figure 2 - Chapter 1 Theoretical Framework



Theoretical Background

A variety of source characteristics have been found to influence consumers' responses to persuasion attempts (Wilson and Sherrell 1993). Source credibility, the degree to which a source is believed to be expert and trustworthy in communicating accurate and truthful information (Hovland, Janis and Kelley 1953), is of particular importance in marketing due to its managerial relevance (Petty and Wegener 1998; Briñol, Petty and Tormala 2004). Source credibility often serves as a simple acceptance/rejection heuristic (Chaiken and Maheswaran 1994). Indeed, previous research has shown that individuals are likely to unthinkingly accept information presented by high credibility endorsers as valid and, consequently, be more willing to comply with the message (Priester and Petty 2003). On the other hand, when consumers perceive a recommender to be low in credibility, they may downplay the recommendation and be less willing to comply with it (Campbell and Kirmani 2008;

Hamilton 2003). Based on this previous work, we expect that consumers will be more willing to comply with a recommendation when the recommendation comes from a high credibility source than when it comes from a low credibility source. Because the primary goal of product recommendations is to motivate consumers to comply with the recommendation and purchase the product (Bodapati 2008), we focus on the effect of recommendations on behavioral intentions, which are the best predictor of actual behavior (Fishbein and Ajzen 1975).

In addition to influencing compliance with a recommendation, source credibility serves as relevant evidence for validating consumers' judgments (Kruglanski and Thompson 1999, Kruglanski and Chun 2008). Specifically, high source credibility may increase the certainty with which consumers hold their judgments about the product being recommended. Trustworthiness, one component of source credibility, has been found to positively influence perceived certainty (Sorrentino et al. 1995). Similarly, high source credibility increases the confidence consumers have in their thoughts about an advertised product (Briñol et al. 2004). When product recommendations are perceived to be credible, they usually increase the confidence associated with a decision (Fitzsimons and Lehmann 2004; Häubl and Trifts 2000). Thus, we propose that a high credibility recommendation should produce product judgments held with greater certainty, while a low credibility recommendation should produce judgments held with less certainty.

H1a: High credibility recommendations will produce greater judgment certainty than low credibility recommendations.

H1b: High credibility recommendations will produce greater compliance than low credibility recommendations.

Although the goal of product recommendations is to influence consumer behavior, under some circumstances consumers may be motivated to make their decisions based on their own opinions and not let external factors influence them. For example, consumers may be warned by family members or friends to avoid the influence of salespeople while shopping for a car, or they may see a sign posted by a consumer protection agency alerting them to scams used by pushy home improvement contractors. In such cases, consumers may attempt to update or “correct” for the influence of these sources on their judgments.

Correction processes are based on the implicit theories people hold about their own cognitive processes (Jost, Kruglanski, and Nelson 1998; Wegener, Petty, and Dunn 1998). Because people make corrections based on how they believe a given factor influences their judgments, engaging in correction can potentially produce the opposite effect of that initially intended (Rucker and Petty 2006; Wegener et al. 2004). For example, Petty, Wegener, and White (1998) found that while a liked source may produce more positive judgments than a disliked source, correcting for the perceived influence of a liked source can make judgments less positive, and correcting for the perceived influence of a disliked source can make judgments more positive. These bidirectional effects of correction on judgments can eliminate or even reverse a source likeability effect (Petty et al. 1998).

Previous research has not explicitly examined the effect of correction on judgment certainty. However, it has been suggested that correction motivates consumers to observe their reactions to a persuasive attempt (Briñol et al. 2004), and judgment certainty has been found to change as a consequence of consumers observing their reactions to persuasive attempts (Tormala, Clarkson, and Petty 2006). For example, Tormala, DeSensi and Petty (2007) investigate a situation in which individuals perceive an external influence on their judgments and, rather than changing their attitudes, they lose certainty. The authors suggest that under these conditions, correction decreases judgment certainty.

Building upon the judgment correction literature (Wegener and Petty 1995) we predict that correction may not always decrease judgment certainty, but will affect judgment certainty differently depending on how consumers appraise the situation. Previous research on correction processes suggests that if consumers realize they have been influenced by a persuasive attempt and they are motivated to correct their judgments, they will correct their judgments in the direction opposite to which they believe they were influenced (Wegener and Petty 1995; Wegener et al. 2004). We propose that the bidirectional adjustments prompted by correction will hold not only for compliance (behavioral intentions), but also for judgment certainty. Specifically, high credibility sources are perceived as having the consumer's best interests at heart, so when a consumer corrects after processing a message from a high credibility source, some ambivalence may result and judgment certainty may decrease (Tormala and Petty 2004b). Thus, we predict that when consumers receive a high credibility recommendation, correction will motivate consumers to reappraise their initial

compliance with the recommendation, and the certainty with which they hold their product judgments will decrease (Tormala, Clarkson, and Petty 2006). On the other hand, if consumers receive a low credibility recommendation, correction instructions should motivate consumers to reappraise the persuasion attempt and realize their initial resistance to the recommendation (Tormala and Petty 2002; Tormala and Petty 2004b). As a consequence, judgment certainty will increase.

In summary, consistent with the correction literature (Petty and Wegener 1995; Petty, Wegener, and White 1998), we expect that the effect of recommendation credibility on both certainty and compliance with a recommendation will be moderated by correction.

H2: Correction instructions will decrease judgment certainty when a recommendation is high in credibility, but will increase judgment certainty when a recommendation is low in credibility.

H3: Correction instructions will decrease compliance with a recommendation when a recommendation is high in credibility, but will increase compliance when a recommendation is low in credibility.

The literature on certainty and persuasion suggests that even when consumers do not change their overall attitudes in response to a persuasive message, accompanying changes in certainty may have important implications for behavior (Rucker and Petty 2006; Tormala and Petty 2002, 2004a, 2004b). Attitude certainty, for instance, has been found to strengthen attitudes. Specifically, the higher the certainty of one's attitude, the better that attitude predicts behavior (Tormala and Rucker 2007).

Although this literature has shown an increase in attitude-behavior correspondence when certainty increases, changes in behavioral intentions have not yet been directly linked to changes in certainty. The possibility that certainty may produce changes in the level of behavioral intentions has been theoretically considered (Tormala and Petty 2004b) but prior research has not examined conditions under which behavioral intentions change directly as a consequence of certainty.

We argue that the certainty with which consumers hold their judgments will directly influence the extent to which consumers comply with a product recommendation. A recommendation from a high credibility source should make consumers feel certain about their judgments and create behavioral intentions that are consistent with the recommendation. For example, a recommendation from a government agency recommending that consumers use a certain product is likely to be perceived as a high credibility recommendation, producing high judgment certainty and favorable behavioral intentions toward the recommended product. In contrast, a recommendation from a low credibility source, such as the product's manufacturer, should make consumers feel uncertain and less likely to comply with the recommendation. In other words, we expect that the judgment certainty produced by high or low credibility recommendations will directly influence compliance with the recommendation.

H4: Judgment certainty will mediate the interactive effect of recommendation credibility and correction on compliance with the recommendation (mediated moderation).

Study 1: The Bidirectional Effect of Correction

In study 1, we manipulate recommendation credibility and correction, and we expect that these manipulations will interact to influence judgment certainty and behavioral intentions. We manipulate recommendation credibility by varying the trustworthiness of the recommender and we include a control condition to investigate the locus of movement prompted by the correction process.

Method

Study 1 employed a 3 recommendation credibility (high credibility vs. control vs. low credibility) x 2 correction (no correction vs. correction) design. Participants were 267 university students who voluntarily agreed to take part in a consumer behavior survey at the student union or behavioral lab in exchange for a candy bar, financial compensation, or course credit.

Participants were told that they would be taking part in a survey about their opinions of a product, phosphate detergent. This product was unfamiliar to most of the participants, increasing the likelihood that participants' attitudes would be influenced by the information they learned during the study (Bettman, Luce and Payne 2008). To generate a positive attitude toward the product, all participants read a pamphlet with strong arguments favoring phosphate detergent (for stimuli adapted from Tormala, Briñol and Petty 2006, see appendix A). To ensure that participants

would form a judgment about the product, they were asked to write at least six sentences describing their thoughts about phosphate detergent.

Recommendation Credibility Manipulation. To manipulate recommendation credibility, we varied the trustworthiness of the recommender using a manipulation adapted from Tormala, Briñol and Petty (2006). Participants in the high credibility condition learned that the information they had just read was “taken from a pamphlet produced by a federal agency that investigates consumer products and strongly recommends consumers to use phosphate detergents.” Participants in the low credibility condition read that the information they had just read was “taken from a pamphlet produced by a major soap and detergent company that makes phosphate detergents and strongly recommends consumers to use them.” Participants in the control condition read that the information they had just read was “taken from a pamphlet that strongly recommends consumers to use phosphate detergents.”

Correction Manipulation. In the no correction condition, participants answered the manipulation check items and dependent variables immediately after reading the trustworthiness manipulation. In the correction condition, participants responded to the certainty manipulation checks and then read the correction manipulation on the following page: “In the next section, you will be asked to answer several questions about these detergents. It is very important that your answers be based on your own opinion of the detergents, rather than anyone else’s opinion,” and then continued to

answer the remaining questions. The correction manipulation was adapted from Wegener and Petty (1995).

Measures. Trustworthiness of the recommender was measured with two items (“How much do you trust the producer of the pamphlet you have read?” and “To what extent do you think the producer of the pamphlet you have read is being sincere?”).

The primary dependent measures were judgment certainty and behavioral intentions. Judgment certainty was captured with two items ranging from one (not at all certain) to seven (very certain): “How certain are you about which detergent is better?” and “How certain are you about your preference for one of the detergents?” Behavioral intentions were measured using two relative items ranging from one to seven. Scale end points for the first item were “I would be more willing to buy standard/phosphate detergent,” and scale end points for the second item were “I prefer standard/phosphate detergent.”

To insure that positive attitudes toward phosphate detergent had been created by our stimuli, we measured attitudes using a relative scale ranging from one to seven, with end points “I like standard/ phosphate detergent more.” We also ran a confirmatory factor analysis to assess whether attitudes and behavioral intentions were distinct measures. The attitude and behavioral intentions items loaded on different factors with over 93% of the variance explained.

Results

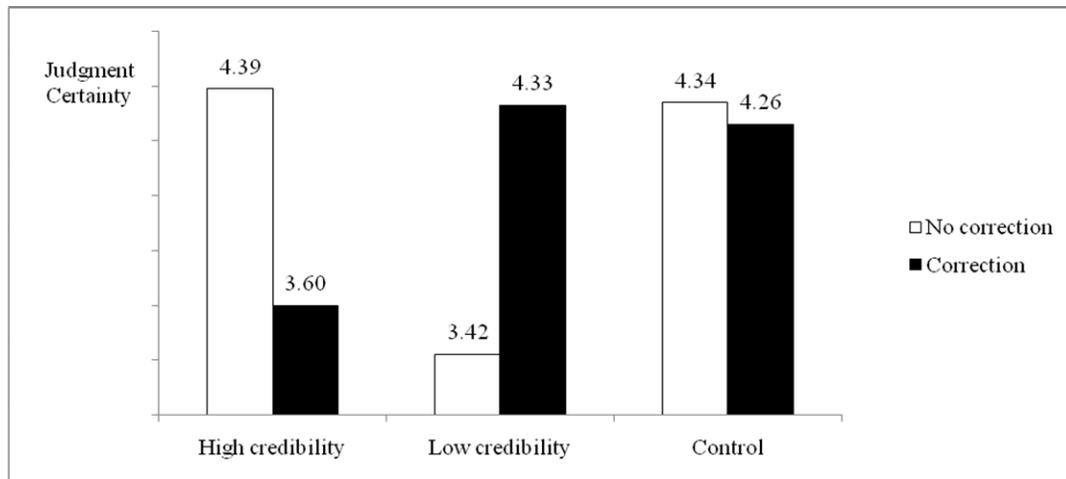
Manipulation Checks. Suggesting that our manipulations indeed influenced perceived recommendation credibility, we found a main effect of the manipulation on the trustworthiness index ($\alpha = .86$) in a 3 (recommendation credibility) x 2 (correction) ANOVA ($F(2, 259) = 6.70, p < .001; \eta^2 = .05$). As predicted, participants perceived the federal agency to be more trustworthy than the manufacturer ($M_{\text{high credibility}} = 3.94, M_{\text{control}} = 3.48, M_{\text{low credibility}} = 3.19$). No further effects were significant in these analyses (all $p > .21$). Table 1.1 reports the means by condition.

Judgment Certainty. As predicted, a 3 (recommendation credibility) x 2 (correction) ANOVA with the judgment certainty index ($\alpha = .90$) as the dependent variable revealed an interaction between recommendation credibility and correction ($F(2, 259) = 5.43, p < .01; \eta^2 = .04$). Supporting H1a, planned contrasts indicate that the effect of recommendation credibility on judgment certainty was significant when no correction instruction was given ($M_{\text{high credibility}} = 4.39, M_{\text{control}} = 4.34, M_{\text{low credibility}} = 3.42; F(2, 259) = 4.04, p < .02; \eta^2 = .03$). Consistent with H2, correction eliminated the effect of recommendation credibility ($M_{\text{high credibility}} = 3.60, M_{\text{control}} = 4.26, M_{\text{low credibility}} = 4.33; F(2, 259) = 2.26, p > .10$).

Providing support for the bidirectional effect of correction on judgment certainty (H2), correction decreased certainty in the high credibility recommendation condition ($F(1, 259) = 4.66, p < .05; \eta^2 = .02$), increased certainty in the low credibility

recommendation condition ($F(1, 259) = 6.20, p < .05; \eta^2 = .02$), and did not affect certainty in the control condition ($F(1, 259) = .03, p > .86; \eta^2 = .00$, see figure 3).

Figure 3 - Certainty of Judgments about Recommended Product



Behavioral Intentions. A 3 (recommendation credibility) x 2 (correction) ANOVA revealed the predicted interaction between recommendation credibility and correction on behavioral intentions ($\alpha = .88; F(2, 259) = 4.13, p < .02; \eta^2 = .03$). Supporting H1b, the effect of recommendation credibility on behavioral intentions was significant when no correction instruction was given ($M_{\text{high credibility}} = 5.16, M_{\text{control}} = 5.02, M_{\text{low credibility}} = 4.35; F(2, 259) = 4.58, p < .01; \eta^2 = .03$). However, the effect of recommendation credibility was not significant when participants were asked to correct their judgments ($M_{\text{high credibility}} = 4.59, M_{\text{control}} = 5.17, M_{\text{low credibility}} = 4.90; F(2, 259) = 1.57, p > .21$).

Providing support for the bidirectional effect of correction on behavioral intentions (H3), planned contrasts indicate that correction decreased compliance with

the high credibility recommendation ($F(1, 259) = 4.24, p < .05; \eta^2 = .02$), increased compliance with the low credibility recommendation ($F(1, 259) = 3.89, p < .05; \eta^2 = .02$), and did not affect compliance with the recommendation in the control condition ($F(1, 259) = .15, p > .70$).

Attitudes. As expected, attitudes toward phosphate detergent were positive ($M = 4.78$) and significantly higher than the scale midpoint ($F(1, 263) = 68.66, p < .01$). A 3 (recommendation validity) x 2 (correction) ANOVA with attitudes as the dependent variable revealed only a main effect of recommendation credibility ($F(1, 258) = 3.94, p < .02; \eta^2 = .03$). Notably, the interaction between recommendation credibility and correction was not significant for the attitudes measure ($F(1, 258) = 1.81, p > .17$). Thus, although attitudes and behavioral intentions are highly correlated ($r = .80, p < .001$), changes in attitudes cannot explain the changes in behavioral intentions due to correction.

Table 1.1 - Dependent Measures as a Function of Recommendation Credibility and Correction when Recommendation is Positive

Dependent measure	No-correction			Correction		
	High credibility	Control	Low credibility	High credibility	Control	Low credibility
Trustworthiness	4.11 (1.46)	3.55 (1.68)	3.01 (1.45)	3.77 (1.58)	3.41 (1.31)	3.38 (1.43)
Judgment certainty	4.39 (1.93)	4.34 (2.15)	3.42 (1.72)	3.60 (1.85)	4.26 (2.03)	4.33 (1.75)
Behavioral intentions	5.16 (1.30)	5.02 (1.65)	4.35 (1.06)	4.59 (1.61)	5.17 (1.38)	4.90 (1.51)
Attitudes	5.09 (1.40)	5.11 (1.73)	4.26 (1.26)	4.71 (1.53)	5.11 (1.45)	4.67 (1.68)
<i>N</i>	54	28	51	51	27	54

Mediation Analysis. Our framework suggests that correction has a bidirectional effect on judgment certainty and that certainty influences behavioral intentions. To provide support for this framework, we conducted a series of regressions to perform a mediated moderation analysis using the technique recommended by Muller, Judd, and Yzerbyt (2005). In each regression equation, we considered the effect of each contrast-coded independent variable as well as the appropriate interactive effect. In the first regression, recommendation credibility, correction, and the interaction between recommendation credibility and correction were included as predictors of behavioral intentions. Only the interaction between recommendation credibility and correction affected the dependent variable ($\beta = .277$, $SE = .09$, $t = 2.83$, $p < .005$). In the second regression, the same variables were included as predictors of the mediating variable judgment certainty. Only the interaction between recommendation credibility and correction affected judgment certainty ($\beta = .423$, $SE = .13$, $t = 3.27$, $p < .001$). In the third regression, recommendation credibility, correction, judgment certainty, the interaction between recommendation credibility and correction, and the interaction between certainty and correction were included as predictors of behavioral intentions. We found that the mediator variable judgment certainty affected behavioral intentions ($\beta = .255$, $SE = .05$, $t = 5.77$, $p < .001$) and that the interaction between recommendation credibility and correction became only marginally significant ($\beta = .169$, $SE = .09$, $t = 1.79$, $p = .08$). Providing support for H4, a Sobel test confirms that mediation by judgment certainty is significant ($z = 2.41$, $p < .01$).

Discussion

The results of study 1 are consistent with our predictions and provide support for the bidirectional effect of correction on judgment certainty and for the direct impact of judgment certainty on behavioral intentions. Study 1 fully supports hypotheses 1-4. We show that without correction, a high (low) credibility recommendation produces greater (lower) judgment certainty, making consumers more (less) likely to comply with a recommendation. Supporting the predicted bidirectional effect of correction, correcting for the influence of a high credibility recommendation reduces judgment certainty, while correcting for the influence of a low credibility recommendation increases judgment certainty. A similar pattern of results is found for behavioral intentions and, as expected, judgment certainty mediates the effect of recommendation credibility and correction on behavioral intentions. These results provide evidence that correction processes can operate by changing consumers' judgment certainty.

One limitation of study 1 is that we have examined the effects of correction only when a recommendation leads to positive attitudes toward the product. In study 2, we examine the same process when consumers receive a negative recommendation. Moreover, to examine the robustness of the credibility construct and increase the generalizability of our findings, we manipulate credibility via the expertise of the recommender.

Study 2: Reversing the Relationship between Judgment Certainty and Behavioral Intentions

In study 2 we provide additional support for the bidirectional effect of correction on judgment certainty and behavioral intentions by examining a situation in which the relationship between certainty and behavioral intentions should be negative rather than positive. In study 1, the positive recommendation of the product encouraged participants to form a positive attitude toward the product. Thus, greater compliance was indicated by more favorable behavioral intentions toward phosphate detergents relative to standard detergents and judgment certainty had a positive impact on behavioral intentions. In study 2, a negative recommendation of the product will encourage participants to form a negative attitude toward the product. Thus, greater compliance will be indicated by *less* favorable behavioral intentions. If participants receive a negative recommendation about a product, the more certain they will be (that the product is bad) and the less favorable their behavioral intentions will be. In study 2, we also test the robustness of our results by using a different manipulation of source credibility. Instead of manipulating the trustworthiness of the recommender as in study 1, we manipulate the expertise of the recommender.

Method

Study 2 employed a 2 recommendation credibility (high credibility vs. low credibility) x 2 correction (no correction vs. correction) design. Participants were 246

university students who participated in the computer-based study during a one-hour research session in exchange for course credit.

Participants were told that they would be taking part in a survey concerning their opinions about an issue that had been receiving media attention. A report about phosphate detergent was adapted from study 1 to argue unambiguously against phosphate detergents (appendix B). After examining the report, participants were asked to list the thoughts they had about the product, and then they learned about the source of the report. This procedure ensured that participants in the high credibility and low credibility conditions formed the same overall negative opinion about the product, which was then validated or invalidated by the source credibility information.

Recommendation Credibility Manipulation. In this study, we varied the expertise of the recommender to manipulate recommendation credibility, adapting a manipulation used by Tormala, Briñol and Petty (2006). Participants in the high credibility recommendation condition learned that the information they had just read was “taken from a research report produced by an established federal research institution that investigates consumer products.” Participants in the low credibility recommendation condition read that the information they had just read was “taken from a class report written by a local high-school freshman (age 14) who did not know anything about detergents before he was assigned to this topic. He wrote it the night before it was due, without checking a lot of references or the validity of his sources.”

Correction Manipulation. We used the same correction manipulation as in study 1. In the no correction condition, participants answered the questions immediately after reading the expertise manipulation. In the correction condition, participants responded to the manipulation checks and then read the correction manipulation on the following screen: “In the next section, you will be asked to answer several questions about these detergents. It is very important that your answers be based on your own opinion of the detergents, rather than anyone else’s opinion,” and then continued the study.

Measures. The perceived expertise of the recommender was measured using two items: “How much expertise do you think the producer of the report has on the topic?,” with scale end points ranging from one (the producer of the report is not an expert at all) to seven (the producer of the report is an expert), and “How much knowledge does the producer of the report have about phosphate detergent?,” with scale end points ranging from one (the producer of the report does not know anything about it) to seven (the producer of the report knows a lot about it).

We used the same items as in study 1 to measure judgment certainty and behavioral intentions as well as attitudes. Again, we ran a confirmatory factor analysis to assess whether attitudes and behavioral intentions were distinct measures. The attitude and behavioral intentions items loaded on different factors with over 92% of the variance explained.

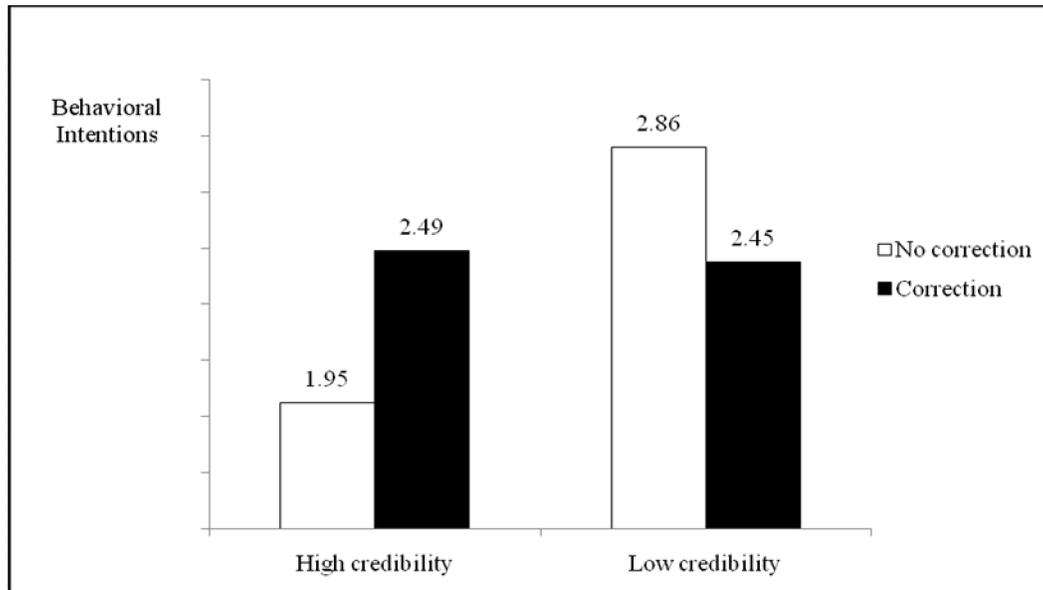
Results

Manipulation Checks. Suggesting that our expertise manipulation indeed induced recommendation credibility, only the main effect of the manipulation on the expertise index ($\alpha = .95$) was significant in a 2 (recommendation credibility) x 2 (correction) ANOVA ($F(1, 242) = 490.78, p < .001; \eta^2 = .67$). As predicted, participants perceived the research institution to have more expertise than the high-school student ($M_{\text{high credibility}} = 4.92, M_{\text{low credibility}} = 1.86$). Table 1.2 reports the means by condition.

Judgment Certainty. A 2 (recommendation credibility) x 2 (correction) ANOVA with the judgment certainty index ($\alpha = .74$) as the dependent variable revealed a main effect of recommendation credibility ($F(1, 242) = 101.95, p < .001; \eta^2 = .30$). Supporting H1a, participants were more certain of their judgments when they received the high credibility recommendation than when they received the low credibility recommendation ($M_{\text{high credibility}} = 5.69, M_{\text{low credibility}} = 2.91$). Consistent with H2, this main effect was qualified by the predicted interaction between recommendation credibility and correction ($F(1, 242) = 9.93, p < .01; \eta^2 = .04$). Providing support for the bidirectional effect of correction on judgment certainty, planned contrasts show that correction decreased certainty in the high credibility recommendation condition ($M_{\text{high credibility}} = 5.01, M_{\text{low credibility}} = 4.37; F(1, 242) = 6.18, p < .01; \eta^2 = .03$), and increased certainty in the low credibility recommendation condition ($M_{\text{high credibility}} = 2.67, M_{\text{low credibility}} = 3.15; F(1, 242) = 3.84, p < .05; \eta^2 = .02$).

Behavioral Intentions. A 2 (recommendation credibility) x 2 (correction) ANOVA with behavioral intentions ($\alpha = .86$) as the dependent variable revealed a main effect of recommendation credibility ($F(1, 242) = 9.72, p < .01; \eta^2 = .04$). Supporting H1b, participants complied with the recommendation more and had *less* favorable behavioral intentions toward phosphate detergents when they received the high credibility recommendation than when they received the low credibility recommendation ($M_{\text{high credibility}} = 2.22, M_{\text{low credibility}} = 2.65$). More importantly, and consistent with H3, this main effect was qualified by the predicted interaction between recommendation credibility and correction on behavioral intentions ($F(1, 242) = 11.75, p < .01; \eta^2 = .05$). Planned contrasts indicate that correction increased behavioral intentions toward phosphate detergents when participants received the high credibility recommendation ($M_{\text{high credibility}} = 1.95, M_{\text{low credibility}} = 2.49; F(1, 242) = 7.35, p < .01; \eta^2 = .03$) but decreased behavioral intentions toward phosphate detergents when participants received the low credibility recommendation ($M_{\text{high credibility}} = 2.86, M_{\text{low credibility}} = 2.45; F(1, 242) = 4.52, p < .05; \eta^2 = .02$, see figure 4).

Figure 4 - Behavioral Intentions toward Recommended Product (Negative Recommendation)



Attitudes. As expected, attitudes toward phosphate detergent were negative ($M = 2.56$) and significantly lower than the scale midpoint ($F(1, 245) = 319.34, p < .01$). A 2 (recommendation credibility) \times 2 (correction) ANOVA with attitudes as the dependent variable revealed a main effect of credibility ($F(1, 242) = 4.53, p < .05; \eta^2 = .02$) and an interaction between recommendation credibility and correction ($F(1, 242) = 7.67, p < .01; \eta^2 = .03$). The pattern of this interaction is consistent with the effects of recommendation credibility and correction on behavioral intentions. Contrasts indicate that attitudes increased in the high credibility condition ($F(1, 242) = 4.06, p < .05; \eta^2 = .02$) and marginally decreased in the low credibility condition ($F(1, 242) = 3.61, p < .06; \eta^2 = .02$). In the next section, we discuss the relationships among attitudes, certainty and behavioral intentions in this study.

Table 1.2 - Means (and Standard Deviations) of Dependent Measures as a Function of Source Credibility and Correction when Recommendation is Negative

Dependent measure	No-correction		Correction	
	Mean (SD)		Mean (SD)	
	High credibility	Low credibility	High Credibility	Low credibility
Expertise	5.02 (1.29)	1.99 (1.17)	4.82 (1.06)	1.72 (.78)
Judgment certainty	5.01 (1.35)	2.67 (1.34)	4.37 (1.55)	3.15 (1.29)
Behavioral intentions	1.95 (.91)	2.86 (1.15)	2.49 (1.17)	2.45 (1.10)
Attitudes	2.16 (1.17)	2.93 (1.27)	2.62 (1.33)	2.51 (1.20)
<i>N</i>	58	60	60	68

Mediation Analysis. In study 1, we showed that when the recommendation is positive, judgment certainty has a positive impact on behavioral intentions. In this study, judgment certainty should equally mediate the relationship between recommendation credibility and behavioral intentions, but the relationship between judgment certainty and behavioral intentions should be negative. Following the same procedure we used in study 1 (Muller, Judd, and Yzerbyt 2005), in the first regression we included recommendation credibility, correction, and the interaction between recommendation credibility and correction as predictors of behavioral intentions, and both recommendation credibility ($\beta = -.217$, $SE = .070$, $t = -3.12$, $p < .01$) and the interaction between recommendation credibility and correction affected the dependent variable ($\beta = .238$, $SE = .070$, $t = 3.43$, $p < .01$). In the second regression, the same independent variables were included as predictors of the mediating variable judgment certainty. We found that recommendation credibility ($\beta = .892$, $SE = .088$, $t = 10.09$,

$p < .001$) and the interaction between recommendation credibility and correction affected judgment certainty ($\beta = -.279$, $SE = .088$, $t = -3.15$, $p < .005$). In the third regression, recommendation credibility, correction, judgment certainty, the interaction between recommendation credibility and correction, and the interaction between certainty and correction were included as predictors of behavioral intentions. We found that the mediator variable judgment certainty affected behavioral intentions negatively ($\beta = -.400$, $SE = .044$, $t = -9.09$, $p < .001$) and that the effect of the interaction between recommendation credibility and correction became non significant ($\beta = .11$, $SE = .073$, $t = 1.55$, $p > .12$). The effect of recommendation credibility became marginal ($\beta = .14$, $SE = .073$, $t = 1.96$, $p > .05$) and, as expected by the mediated moderation hypothesis, the effect of the interaction between certainty and correction was non-significant ($p > .73$). Supporting H4, a Sobel test provides support for the mediation by judgment certainty ($z = 2.98$, $p < .001$).

To account for the effect of attitudes, we conducted one additional regression including attitude in the model. We found that judgment certainty remained a significant predictor of behavioral intentions ($\beta = -.153$, $SE = .035$, $t = -4.37$, $p < .01$), even when attitude is included in the model ($\beta = .59$, $SE = .039$, $t = 15.46$, $p < .01$). Thus, judgment certainty seems to have a direct effect on behavioral intentions over and above the effect of attitudes on compliance with the recommendation.

Discussion

The results of study 2 provide additional support for the bidirectional effect of correction on judgment certainty and behavioral intentions. We replicated the results of study 1 with two important changes in the stimuli, namely a manipulation of recommendation credibility via source expertise and a negative recommendation about the product. Study 2 provides additional support for the direct impact of judgment certainty on compliance with a recommendation by showing that when attitudes toward a product are negative, judgment certainty mediates the interactive effect of recommendation credibility and correction on behavioral intentions.

Studies 1 and 2 both provide support for the process mechanism of certainty by showing that judgment certainty significantly mediates the effect of recommendation credibility and correction on behavioral intentions. However, it is possible that our manipulations of recommendation credibility, which were designed to create either a high or low level of judgment certainty (H1a), are also affecting other constructs such as source likeability. In study 3, we control for source characteristics by manipulating participants' initial level of certainty directly via subliminal priming, ruling out source perceptions as an explanation for our results.

Study 3: Direct Manipulation of Certainty

The primary goal of study 3 is to provide further insight into the role of certainty in our framework. In studies 1 and 2, we show that recommendation credibility

influences judgment certainty, which, in turn, influences behavioral intentions. In study 3, we directly manipulate participants' initial level of certainty by subliminally priming either certainty or uncertainty while holding the description of the recommender constant. Based on previous research, we assume that if everything else is held constant and participants are not aware of the cause of the feeling, primed feelings of (un)certainly should carry over to their judgments (Clore and Parrot 1994). Consistent with our framework, a positive recommendation associated with certainty should produce greater compliance than the same positive recommendation associated with uncertainty. Thus, we predict that in the no correction condition, behavioral intentions will be more positive when participants are primed with certainty (vs. uncertainty).

However, if correction prompts bidirectional adjustments based on how the recommendation makes participants feel, those who are initially certain should become less certain, but those who are initially uncertain should become more certain after correction. This should be true even if participants are not consciously aware of how certain the recommendation made them feel, and this should be reflected on participants' compliance with the recommendation. Therefore, we expect an interaction between initial certainty and correction on behavioral intentions.

H5: Correction instructions will decrease compliance with a recommendation when initial certainty is high, but will increase compliance when initial certainty is low.

Method

Study 3 employed a 2 initial certainty (certain vs. uncertain) x 2 correction (no-correction vs. correction) between-subjects design. We manipulated initial certainty by priming participants with certainty or uncertainty-related words during a lexical decision task. Notably, the product category used in this study, rental apartments, was more familiar to our participants than the phosphate detergent that was recommended in studies 1 and 2. Greater familiarity should reduce the degree to which participants are influenced by product information learned during the study (Bettman, Luce and Payne 2008).

One hundred sixty-seven marketing students participated in the experiment as part of a one-hour session in which they completed several studies in exchange for extra credit. After removing subjects who had an exceptionally high error rate on the lexical decision task (five mistakes across the 32 trials; Fazio 1990; Puntoni and Tavassoli 2007; Ratcliff 1993) and the remaining cases with latencies faster than 300 ms or slower than 2000 ms (Bargh and Chartrand 2000), our final sample was one hundred twenty-three marketing students. Neither the error rate ($\chi^2 = .19, p > .4$) nor the latencies beyond acceptable speed ($\chi^2 = 5.00, p > .2$) were related to participants' assigned conditions, meaning that the removed cases were well distributed across conditions.

Certainty Manipulation. To manipulate initial certainty, we subliminally exposed participants to certainty or uncertainty-related words. Participants were led to believe

that they were participating in two unrelated studies. The first task, consisting of the certainty manipulation, was a lexical decision task in which they had to identify as quickly and accurately as possible whether a stimulus presented on a desktop computer was a word or a non-word (using the “z” and the “/” keys). Before the actual task, participants completed six practice trials with no prime (Fazio 1990). At the beginning of each trial, a fixation point (“****”) appeared at the center of a white screen for 2 seconds to show participants where to focus their attention. The fixation point was replaced by a 16-point-black-font prime word. Primes consisted of certainty or uncertainty-related words and were presented in randomized order for each participant. Certainty-related words were: confident, sure, convinced, certain, positive, definite, correct, and decisive. Uncertainty-related words were: insecure, unsure, doubtful, uncertain, hesitant, vague, wrong, ambivalent.

The primes were presented for 50 ms and then were replaced by a masking letter string (xvxvxvxv) that did not convey any additional meaning and was at least equal in length to the prime to ensure that the prime would not reach the threshold of conscious perception. The backward mask was then replaced by the target word, which appeared in the same location after a very brief delay varying randomly in duration (from 250 to 750 ms) to avoid participants anticipating the target’s appearance. Targets were neutral words (e.g., house, planet, carpet, river, building, hat, window, ranch) or non-words (e.g., blater, campure, dight, lench, measing, nesion, poit, reesy). Targets appeared until participants registered their response. A combination of two blocks, eight primes, four words and four non-words yielded 32

trials (each prime was presented twice, once with a word and once with a non-word). After each target, a blank screen was presented for 1500 ms.

A pretest was conducted to test the efficacy of the priming ($N = 32$). Because certainty was induced subliminally, we did not expect to capture its effect in reported measures, though we expected to capture its effect in our dependent measure of behavioral intentions. This prediction is based on empirical evidence that feelings can be elicited subliminally, not be captured with reported measures, and still influence behavior (Winkielman and Berridge 2004). Therefore, to test whether the certainty primes were effective, we looked at participants' reaction times in the lexical decision task. Previous research indicates that certainty is related to faster responses (Bargh 1989; Gross et al. 1995). Indeed, we found that participants primed with certainty (vs. uncertainty)-related words responded marginally faster in the lexical decision task ($M_{\text{certainty}} = 780.00$ ms, $SD = 270.46$ vs. $M_{\text{uncertainty}} = 1021.07$ ms, $SD = 344.85$; $F(1, 24) = 3.83$, $p < .06$), after removing outliers with an excessive number of error rates (Fazio 1990) and cases with latencies faster than 300 ms or slower than 2000 ms (Bargh and Chartrand 2000). As an awareness check, we presented five of the subliminal stimuli again at the end of the pretest, told participants that words were being presented, and asked them to guess what those words were (Bargh and Chartrand 2000). None of the participants could identify any of the primed words, indicating that the subliminal priming was indeed subliminal.

After exposure to the certainty primes, participants proceeded to the next task and read a scenario in which they were looking for an apartment to rent. They were told that they had narrowed their options down to two apartments and that a realtor

had recommended the nicer but more expensive apartment. The scenario can be found in appendix C.

Correction Manipulation. In the no correction condition, participants responded to the dependent measures immediately after reading the scenario; in the correction condition, participants read an instruction adapted from Wegener and Petty (1995) before responding to the dependent measures: “In the next section, please be sure that the realtor’s opinion will not influence your own opinion. It is very important that your answers be based on your own opinion of the apartments.”

Measures. The primary dependent measure was behavioral intentions, captured with a relative measure of preference ranging from one to seven (“I prefer apartment 1/apartment 2”). We also measured overall attitude with the same relative item we used in studies 1 and 2.

We did not measure judgment certainty for two reasons. First, we did not expect an effect on a reported measure (Winkielman and Berridge 2004). Second, measuring certainty might affect the nature of the judgment process and create a demand for participants to respond according to their certainty judgments (Petrušic and Baranski 2003). If participants must be aware of their certainty for its effects on behavioral intentions to emerge, the generalizability of the findings would be limited. By manipulating recommendation certainty subliminally and not including a reported measure of judgment certainty, study 3 provides a compelling test of the effect with a clean manipulation of recommendation certainty.

Finally, to help rule out participants' mood as an alternative explanation, we included mood measures adapted from the Positive Affect Negative Affect Scales (Watson et al. 1988). Participants read thirteen words describing emotions and were asked to rate the extent to which each of those words described their feelings at that moment. Scales ranged from 1 ("Does not describe my current feeling at all") to 7 ("Describes my current feelings very well").

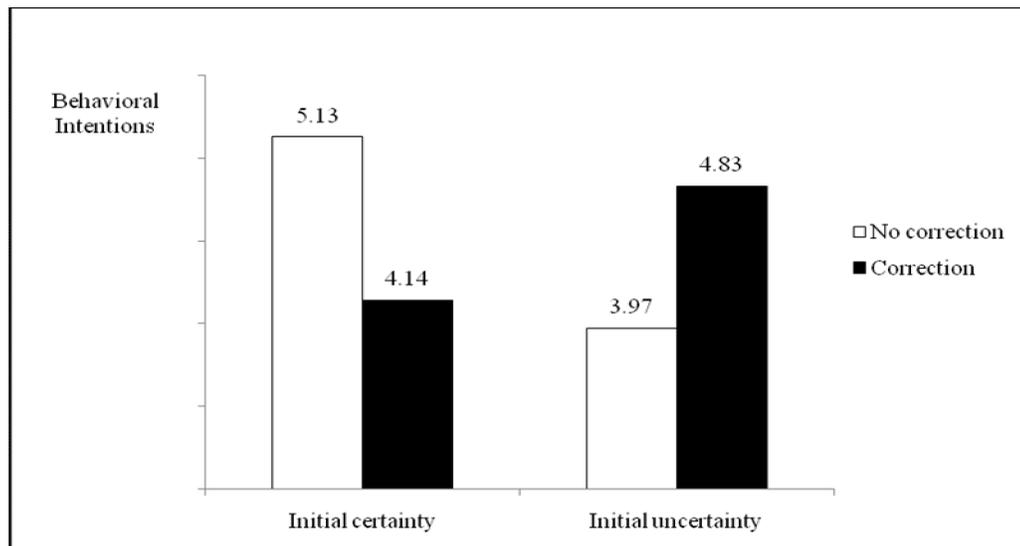
Results

Manipulation Check. Consistent with the pretest and confirming the efficacy of the certainty manipulation, a one-way (certainty vs. uncertainty) ANOVA shows that participants primed with certainty-related words responded marginally faster to the lexical decision task than participants primed with uncertainty-related words ($M_{\text{certainty}} = 816.71$ ms, $SD = 221.73$ and $M_{\text{uncertainty}} = 902.07$ ms, $SD = 276.20$; $F(1, 121) = 3.60$, $p < .06$; $\eta^2 = .029$).

Behavioral Intentions. Participants' behavioral intentions were analyzed with a 2 (recommendation validity) x 2 (correction) ANOVA. Supporting H5, we found a significant interaction between initial certainty and correction ($F(1, 119) = 11.83$, $p < .001$; $\eta^2 = .09$). In the no correction condition participants in the certainty condition had more favorable behavioral intentions towards the recommended apartment than participants in the uncertainty condition ($M_{\text{certainty}} = 5.13$ and $M_{\text{uncertainty}} = 3.97$; $F(1, 119) = 9.64$, $p < .01$; $\eta^2 = .08$). However, this effect was marginally reversed when participants were instructed to correct ($M_{\text{certainty}} = 4.14$ and $M_{\text{uncertainty}} = 4.83$; $F(1,$

119) = 3.19, $p < .07$; $\eta^2 = .03$). Providing support for the bidirectional effect of correction on behavioral intentions depending on the initial level of certainty associated with the recommendation, planned contrasts show that preferences for the recommended apartment decreased when initial certainty was high ($F(1, 119) = 6.53$, $p < .01$; $\eta^2 = .05$) and increased when initial certainty was low ($F(1, 119) = 5.31$, $p < .02$; $\eta^2 = .04$; see figure 5). Table 1.3 reports the means by condition.

Figure 5 - Behavioral Intentions toward Recommended Product (Positive Recommendation)



Attitudes and Mood. A 2 (recommendation certainty) x 2 (correction) ANOVA with attitudes toward the product as the dependent variable revealed a marginal interaction ($F(1, 119) = 3.63$, $p < .06$; $\eta^2 = .03$). Contrasts suggest that this marginal interaction was primarily driven by a decrease in attitudes after correction in the certainty condition ($F(1, 119) = 5.06$, $p < .05$; $\eta^2 = .04$). Attitudes did not differ significantly across correction in either uncertainty condition ($p > .68$). This suggests,

consistent with the previous studies, that changes in attitude cannot fully explain the effect of certainty on behavioral intentions and is consistent with the notion that recommendations affect primarily consumers' preferences rather than consumers' opinions about the product. To analyze the effect of attitude more closely, we conducted regression analyses to examine whether the effect of correction on behavioral intentions was mediated by attitude, following the same method used in studies 1 and 2 (Muller et al. 2005). In the first regression, the effect of the interaction between initial certainty and correction was significant on behavioral intentions ($\beta = .465$, $SE = .13$; $t = 3.44$, $p < .001$). In the second regression, the effect of the interaction was marginally significant on attitudes ($\beta = 1.207$, $SE = .63$; $t = 1.91$, $p < .06$). In the third regression and not surprisingly (Fishbein and Ajzen 1975), the effect of attitudes was significant on behavioral intentions ($\beta = .566$, $SE = .06$; $t = 9.34$, $p < .001$), but because the effect of the interaction between initial certainty and correction was still significant ($\beta = 1.187$, $SE = .42$; $t = 2.84$, $p < .005$), we cannot conclude that attitudes fully mediate the effect of the certainty primes on behavioral intentions.

To examine the role of mood, we ran a factor analysis with the 13 affect items and found support for three factors. We created indices of positive mood ($\alpha = .86$; happy, enthusiastic, excited, and proud), negative mood ($\alpha = .84$; afraid, sad, depressed, upset, and irritable), and anxiety ($\alpha = .83$; anxious, tense, distressed, and nervous). None of these indices showed significant effects (all $p > .47$) when entered as dependent variables in a 2 (source) x 2 (correction) ANOVA. Therefore, participants' mood does not seem to provide an alternative explanation for our effects.

Table 1.3 - Means (and Standard Deviations) of Dependent Measures as a Function of Certainty and Correction

Dependent measure	No-correction		Correction	
	Mean (SD)		Mean (SD)	
	Certainty	Uncertainty	Certainty	Uncertainty
Behavioral intentions	5.13 (1.50)	3.97 (1.71)	4.14 (1.38)	4.83 (1.32)
Attitudes	4.23 (1.72)	3.35 (1.70)	3.21 (1.57)	3.53 (1.99)
<i>N</i>	30	34	29	30

Discussion

The results of study 3 provide insight into the role of certainty. By looking at certainty in isolation from other source factors that may also influence compliance and confound the results, we provide additional support for the notion that correction processes may operate via consumers' certainty. First, we showed that certainty influences behavioral intentions directly. Although all participants received the same supraliminal recommendation, the subliminal certainty primes successfully influenced participants' behavioral intentions toward the recommended product. Participants indicated more positive behavioral intentions towards the recommended apartment when they were primed with certainty-related words than when they were primed with uncertainty-related words. Supporting H5, when participants corrected for the influence of the recommendation, compliance with the recommendation decreased when initial certainty was high, but increased when initial certainty was low. These results suggest that the bidirectional adjustments prompted by correction can emerge simply based on how certain a recommendation makes consumers feel, rather than

based on (conscious) lay theories of how the persuasion attempt influences consumers.

General Discussion

In this paper, we demonstrate that correction has a bidirectional effect on certainty and behavioral intentions. The effect holds across two different product categories with conceptually different levels of familiarity and involvement, phosphate detergents (studies 1 and 2) and apartments (study 3). We also demonstrate the generality of the effect by varying the source of the recommendation across studies. In study 1, the recommenders were a federal consumer agency and a manufacturer, in study 2, the recommenders were a research institution and a high-school student, and, in study 3, the recommender was a realtor. In studies 1 and 2, we manipulated judgment certainty indirectly by manipulating source credibility as source trustworthiness in study 1 and as source expertise in study 2. In both of these studies, we showed that judgment certainty mediated the effect of source credibility and correction on behavioral intentions. In study 3, we manipulated certainty directly using subliminal priming and found the same bidirectional effect of correction on behavioral intentions.

Theoretical Implications

The first contribution of this research is showing that correction can have different effects on judgment certainty depending on how consumers appraise the persuasion attempt. Previous research has suggested that correction may decrease certainty (Tormala et al. 2007), but we provide support for a bidirectional effect. Specifically, when consumers receive a high credibility recommendation, creating a high level of initial certainty about the recommendation, reminding them to correct their judgments makes them less certain about their judgments. In contrast, when consumers receive a low credibility recommendation, creating a low level of initial certainty about their judgments, the effect of correction is reversed and they become more certain about their judgments.

Integrating the correction and certainty literatures, we propose that this bidirectional effect of correction on judgment certainty happens because correction motivates consumers to observe their reactions to a persuasive attempt (Briñol et al. 2004), and consumers correct their judgments based on how they perceive they were influenced (Wegener and Petty 1995). Thus, they may lose certainty (Tormala et al. 2006, 2007) or gain certainty (Tormala and Petty 2002) depending upon the credibility of the recommendation and their initial reactions to it. Our theory is consistent with Tormala and colleagues' results (2007) by showing that correction can decrease certainty when consumers rely on a high credibility recommendation, and it also extends their work by showing that when a recommendation is low in credibility, correction may increase certainty.

The second contribution of this research is showing that changes in certainty can directly influence consumers' behavioral intentions. While previous research has

focused on how certainty can strengthen or weaken the relationship between attitudes and behavioral intentions (Tormala and Petty 2002, 2004b), we go one step further and show that in the context of compliance with product recommendations, behavioral intentions can change directly as a function of judgment certainty, which contributes to persuasion research (Tormala and Petty, 2002, 2004a, 2004b; Tormala et al. 2006).

Third, this research contributes to the judgment correction literature (Wegener and Petty 1995) by suggesting a new process mechanism through which correction operates to influence judgments. We show that when consumers are asked to correct, correction may not change their perceptions about the recommendation or the recommender, but changes in judgment certainty resulting from correction are an important predictor of behavioral intentions. It is possible that at least some of the research done on judgment correction can be explained in terms of certainty. In studies testing the flexible correction model, Wegener and Petty encouraged participants to form a naïve theory of either assimilation or contrast regarding how the context would influence their judgments. For example, participants were asked to think about the weather in Hawaii and rate either people's job satisfaction in Hawaii (which should produce assimilation) or the desirability of the weather in Midwestern cities such as Indianapolis (which should produce contrast). As another example, participants were asked to think about attractive models and rate either the desirability of products endorsed by these attractive women (assimilation) or their perceptions of an average-looking woman (contrast). Wegener and Petty show that participants corrected in the direction opposite to their lay theories. It is possible that lay theories

of assimilation induce greater certainty than lay theories of contrast. According to Martin's (1986) set/reset model, assimilation is the default response to social influence, and Pelham and Wachsmuth (1995) have shown that social assimilation occurs when individuals are highly certain about their perceptions. If this is the case, an effect of correction on certainty may have been found if measures of certainty had been included in these studies. Our results show that judgment certainty is one of the mechanisms through which correction operates, so it would be interesting for future research to investigate other situations in which judgment certainty mediates correction processes.

Limitations and Future Research

The manipulation and timing of correction. One limitation of this research is that all of our studies used explicit instructions to manipulate correction. While these correction manipulations were successful in changing judgment certainty and behavioral intentions, it would be interesting to examine whether these variables could be changed by a different manipulation of correction. For example, other situational or chronic variables such as activation of persuasion knowledge (Campbell and Kirmani 2008) also motivate consumers to observe their reactions to persuasive attempts, and may have similar effects on judgment certainty and behavioral intentions. Nevertheless, based on previous research, we would expect that other manipulations of correction or discount information would produce the same results (Wegener and Petty 1997).

In our studies, instructions to correct were given after participants had formed judgments about the product. It is reasonable to consider whether the effect of correction might have been different if instructions to correct were given before judgments about the product had been formed. That is, if giving instructions to correct judgments before message exposure motivates consumers to be less susceptible to persuasion attempts (Wood and Quinn 2003), correction might make consumer judgments less vulnerable to change.

Other Manipulations of Certainty. While studies 1 and 2 show that the credibility of the recommender influences consumers' judgment certainty and behavioral intentions, study 3 manipulates certainty directly and shows an effect on behavioral intentions. Based on these results, we may expect other manipulations of certainty to have similar effects on behavioral intentions. For example, emotions that carry the appraisal of certainty (e.g., anger) or uncertainty (e.g., fear) could potentially influence behavioral intentions differently following a product recommendation (Tiedens and Linton 2001). As another example, there is evidence that the number of repeated recommendations influences consumers' certainty (Thomas and Menon 2007). Specifically, if a product being sold on a website receives multiple peer recommendations, consumers should be more certain of their judgments about the product than if the product shows only one peer recommendation. Therefore, increasing the number of recommendations on a website may be another way to influence consumers' judgment certainty and behavioral intentions.

Another interesting situation is when the recommendation conflicts with initial impressions. In the present research, we induced a positive or negative attitude towards the products within the studies so that the recommendations were always consistent with the judgments about the product. However, if a recommendation is inconsistent with consumers' initial opinions (e.g., if a recommendation favors a product that the consumer does not like), the recommendation may be perceived as invalid and may produce uncertainty. Fitzsimons and Lehmann (2004) have shown that when a recommendation is inconsistent with consumers' initial opinions, consumers not only ignore the recommendation but will select alternatives that contradict the recommendation.

Boundary Conditions. Individual differences may moderate the effects we have shown here. For example, research suggests that consumers high in need for closure (Webster and Kruglanski 1994) rely more on heuristic cues such as the characteristics of the source. Additionally, when reminded to correct their judgments, these consumers may correct to a greater extent than low need for closure consumers to make sure that they will account for the influence of the recommendation. Thus, we may expect stronger effects of both recommendation credibility and correction for high need for closure consumers. It would be interesting to examine the effect of need for closure and other individual difference variables that may affect correction processes such as the level of elaboration or desire for control in future research.

Managerial Implications

By showing that when consumers correct for external influences on their judgments, they may actually comply with a recommendation they initially resisted (e.g., a recommendation delivered by a low credibility source), we raise the intriguing possibility that correction might be used by marketers to increase consumers' willingness to follow their recommendations. In theory, it should not matter how consumers' correction processes are activated: by the experimenter's instructions in a lab setting (as in our studies), by cues in the environment (e.g., a posted reminder to consumers from the Federal Trade Commission not to be influenced by salespeople), or by advertising delivered by the recommender such as in our opening example. Therefore, the "don't take our word for it" advertising might make consumers more confident of their judgments and subtly increase the likelihood that they will comply with a recommendation from a low credibility recommender like a manufacturer. Our results suggest that correction may be a useful tactic for increasing compliance with recommendations delivered by low credibility agents or by sources associated with uncertainty. One caveat, however, is that we have not explored the effects of managing consumers' certainty over a series of repeated transactions or in the context of long-term marketing relationships. Thus, we suggest caution before generalizing our findings to contexts in which repeated transactions are important.

Chapter 2: Essay 2 – Motivated Valuation: A Motivational Perspective on the Disparity between Buying and Selling Prices

Introduction

It is well known that selling prices are often larger than buying prices for the same product. The disparity between buying and selling prices, also known as the endowment effect (Thaler 1980), refers to the finding that individuals tend to ask for a higher price when they are giving up an item as opposed to when they are acquiring it. This effect has been widely investigated in economics (e.g., Kahneman, Knetsch, and Thaler 1990), psychology (e.g., Van Boven, Dunning, and Loewenstein 2000), and marketing (for a recent review, see Ariely, Huber, and Wertenbroch 2005). The disparity between buying and selling prices is seen as an “economic anomaly” because the amount the consumer is willing to exchange for a good should reflect the value for the consumer on having that item, and therefore, controlling for economic factors such as transaction costs or income effects, the normative prediction is that buying and selling prices should be equal (Willig 1976). Because buying and selling prices are commonly used as measures of value and the disparity is in conflict with standard economic theory (Horowitz, McConnell, and Quiggin 1999), it is important to understand the factors affecting buying and selling prices and thereby the disparity between the two.

Loss aversion is perhaps the most accepted psychological explanation for the effect (Ariely et al. 2005; Brenner et al. 2007). The notion of loss aversion derives from prospect theory's value function which, being steeper in the loss domain, suggests that the pain of a loss is greater than the pleasure of an equivalent gain (Kahneman and Tversky 1979). Consequently, the amount of pain due to giving up (selling) an item is greater than the amount of pleasure experienced in gaining it (buying), and this increases the value of the object for an individual who owns it. This overvaluation of the same object by the sellers leads to a discrepancy in buying and selling prices or the endowment effect (Kahneman, Knetsch, and Thaler 1990). Loss aversion has been extended to embrace buyers' loss aversion as well and suggests that both sellers and buyers are loss averse and focus on what they are giving up. While sellers are giving up the product, buyers are giving up the money that they have to pay to acquire the new item (Carmon and Ariely 2000).

However, in a recent meta-analysis, the disparity between buying and selling prices was found to be reduced, but not eliminated, when the cognitive foci of buyers and sellers was salient to all participants or when the buying and selling tasks were framed as a gain (Sayman and Öncüler 2005). Further, in many situations the economic explanation based on substitutability has been shown to be a better explanation than loss aversion (Horowitz et al. 1999). As such, while loss aversion is the dominant explanation for the disparity in buying and selling prices, it does not capture all factors because the focus is only on what is being foregone or given up, while what one is getting seems to be of less importance.

In this paper, we examine an alternative explanation for the price disparity effect by proposing that buyers and sellers differ in their intrinsic motivations and these different motivations leads to the disparity in buying and selling prices. When adopting the role of a buyer or a seller, individuals adopt the respective socially ingrained task goals such that they are motivated to do their best in the transaction and are pre-disposed to behave accordingly (Buss 1995; Friedman 2005). We argue that as a consequence of their respective intrinsic goals, buyers and sellers have different motivations regarding the aspects of the transaction that they may focus on. Specifically, we suggest that in many transactions, buyers are predominantly concerned with what they are giving up whereas sellers are predominantly concerned with what they are getting (note that while loss aversion may also be conceived of as a goal, loss aversion would account for the buyers but not for the sellers as per our conceptualization). As such, buyers' primary motivation is to minimize what they give up whereas sellers' primary motivation is to maximize what they are getting.

Since most modern transactions involve money, our conceptualization suggests that while buyers will be motivated to minimize the money they are willing to give up, sellers will be motivated to maximize the money they are willing to get. This idea gains more traction when one recognizes that while the product side of the transaction is generally not mutable (even if product perceptions may be biased), the money side of the transaction is mutable. Notwithstanding most transactions that involve money, our basic argument is that when individuals adopt social roles, goals and goal-congruent cognition and behavior are automatically activated (Ferguson, Hassin, and Bargh 2008) and that buyers are primarily concerned with what they are

giving up and thus are motivated to minimize that, whereas sellers are primarily concerned with what they are getting and thus are motivated to maximize that.

Providing evidence for the different motivations as a function of the social role of a buyer or seller adds to previous research on the price disparity effect (e.g., Carmon and Ariely 2000; Kahneman et al. 1990; Nayakankuppam and Mishra 2005) in at least two ways. First, we show that buyers are concerned with what they are giving up, whereas sellers are concerned with what they are getting. While the current explanations based on loss aversion can account for buyers' motivation to minimize what they are giving up, they cannot fully account for sellers' motivation to maximize what they are getting. Second, we show that the different motivations of buyers and sellers, beyond their mere cognitive focus on aspects related to the transaction, lead to a disparity in buying and selling prices. Besides accounting for the disparity between buying and selling prices, the motivated valuation explanation suggests that altering the motivations of buyers and sellers should influence their product valuation in systematic and predictable ways. To test the motivated valuation hypothesis, we build upon goal theory to investigate the intrinsic motivations of buyers and sellers. In sum, our prediction is that for a given transaction, buyers are motivated to minimize what they are giving up whereas sellers are motivated to maximize what they are getting.

We adopt a motivation-as-cognition approach (e.g., Kruglanski et al. 2002), which treats motivation as a dynamic construct and, consequently, allows us to alter the goal pursuit of buyers and sellers. In a series of 5 studies, we provide support for the motivated valuation explanation. Study 1 shows that buyers and sellers approach the transaction with different motivational mindsets and that loss aversion cannot

fully account for all of the findings. Study 2 shows that the role of a buyer activates the goal of minimization and the role of a seller activates the goal of maximization. Study 3 shows that priming “give up” or “get” to neutral traders conceptually reproduces the price disparity effect. Studies 4 and 5 investigate factors that moderate goal pursuit. In study 4 we manipulate alternative goals and in study 5 we manipulate goal fluency, each of which should facilitate or inhibit goal pursuit, and reproduce or eliminate the price disparity effect.

Theoretical Background

The Price Disparity Effect

The discrepancy in buying and selling prices is one of the most robust economic anomalies. It has been found with unimportant items such as mugs (Thaler 1980) or items that are more relevant to consumers (Carmon and Ariely 2000). It has been found when consumers actually possess the item (Thaler 1980), when they are asked to look at the object (Lin, Chuang, and Kung 2006), when they are asked to imagine they have the object (Carmon and Ariely 2000), or when they simply develop a mental endowment (Carmon, Wertenbroch, and Zeelenberg 2003). The effect is also externally valid, as it has been shown that consumers buying and selling stocks tend to ask for a higher price when they are selling the stocks, even if they are aware of the market price (Furche and Johnstone 2006).

Although other psychological explanations for the price disparity effect have been proposed (for a review, see Sayman and Öncüler 2005)¹, loss aversion is perhaps the most accepted explanation for the effect (Brenner et al. 2007). Because the loss incurred by parting with something (the pain of a loss) exceeds the gain of acquiring it (the pleasure of an equivalent gain), it is natural to demand more to compensate the loss (Thaler 1980). This approach suggests that the discrepancy in buying and selling prices is primarily driven by an increase in *selling* prices due to the experience of loss aversion when sellers are endowed with the object (Kahneman, Knetsch, and Thaler 1990). Importantly, though, neither ownership nor out-of-pocket payments are necessary for this price disparity to emerge (Carmon and Ariely 2000; Sayman and Öncüler 2005).

Current interpretations of loss aversion in the price disparity effect build on the notion that individuals are generally more concerned with the loss rather than the gain consequences of their actions, and it is their motivation to minimize losses rather than their motivation to maximize gains that is responsible for the discrepancy (Zhang and Fishbach 2005). Specifically, it is buyers' concern with losing their money and sellers' concern with losing an object that is responsible for the effect. Loss aversion has been found to lead to differences in information processing (Carmon and Ariely 2000; Nayakankuppam and Mishra 2005), and anticipated negative affect (Zhang and Fishbach 2005). While loss aversion *explains* why items perceived as a loss are given more or less value, factors such as emotional attachment to an object (Carmon et al.

¹ Alternative psychological explanations for the effect include uncertainty of the value of the good and irreversibility of transactions (Zhao and Kling 2001), participants' misconceptions of experimental tasks (Plott and Zeiler 2005), or bargaining habits that can induce participants to understate their willingness to pay and overstate their willingness to accept (Knez, Smith, and Williams 1985).

2003; Peters, Slovic, and Gregory 2003), attractiveness of the item (Brenner et al. 2007), associated negative emotions (Lerner, Small and Loewenstein 2004), ownership history (Strahilevitz and Loewenstein 1998), arbitrary or non-arbitrary reference prices (Nunes and Boatwright 2004; Simonson and Drolet 2004) and intention to trade (Novemsky and Kahneman 2005) are thought to *moderate* loss aversion by altering the degree to which giving up an item is perceived as a loss (Ariely et al. 2005).

One important explanation for the price disparity effect, changes in cognitive perspective, is an evolution of the loss aversion framework. The cognitive perspective account proposes that the price disparity effect can be explained by different cognitive foci adopted by buyers and sellers. Carmon and Ariely (2000) propose that both buyers and sellers focus on what they are “losing” in the transaction. Buyers naturally focus on the money that they are giving up, and sellers naturally focus on the product that they are giving up. For example, they found that fans buying basketball tickets generated more thoughts on alternative uses for their money, while fans selling tickets generated more thoughts on the benefits of the game experience. According to the authors, these different cognitive foci result in buying-selling price disparities. A similar theory also building on different cognitive foci by buyers and sellers is proposed by Nayakankuppam and Mishra (2005). They advance the biased-cognitive-perspective explanation by showing that while buyers attend more to negative aspects of the product being traded, sellers attend more to positive aspects.

Motivated Valuation

We extend this line of research by proposing that, in many situations, while buyers are primarily concerned with what they are giving up in a transaction, sellers are primarily concerned with what they are getting in a transaction. We build on the economic assumption that behavior can best be predicted by assuming that individuals behave in a goal-driven manner (Friedman 2005) to offer a parsimonious explanation of why selling prices are often greater than buying prices. We propose that buyers and sellers have different motivations and these lead to a discrepancy in product valuation. Economic theories assume that individuals have goals, but these theories do not specify what those goals are (Friedman 2005). We assume that consumers adopt social roles that have the function of solving a problem, and these goals drive them in these social roles to generate solutions for these problems (Buss 1995). It is not necessary that people be aware of either the underlying psychological mechanisms or the ultimate functions of goal pursuit, but these different motivations lead to different behaviors simply because they have different functions (Buss 1995; Chartrand, Dalton, and Cheng 2008). By proposing that the goals of buyers and sellers affect their product valuation, we extend the understanding of the psychological process leading to buying and selling prices disparities. We propose that different goals are intrinsically related to the social roles of buyers and sellers. On the one hand, buyers are motivated to minimize what they are giving up. On the other hand, sellers are motivated to maximize what they are getting. We propose that

these are the intrinsic motivations that are activated by the mere adoption of the social role of buyer or seller, respectively.

Contemporary goal theory considers motivation as a type of cognition (Kruglanski et al. 2002). This incorporates dynamism into our understanding of motivation and is more realistic because motivation often fluctuates from moment to moment as individuals succumb to distractions, temptations, and digressions. Three properties of goal theory will help us test our hypothesis: Goal activation, the pursuit of multiple goals, and goal fluency. We applied these principles to test our hypothesis that buyers have the goal of minimizing what they are giving up and sellers have the goal of maximizing what they are getting and that these fundamentally different motivations of buyers and sellers can account for the disparity between buying and selling prices.

Goal activation is a dynamic process because it can be triggered by external environmental cues or by people's innermost motivations (Kruglanski et al. 2002). Exposing people to a cue related to a goal will activate that goal and increase its impact on subsequent behavior (Van Osselaer et al. 2005). Goals relevant to a social role can be automatically activated by cues inherent to the role or its physical or social environment (Ferguson, Hassin, and Bargh 2008). Activated goals operate based on a variety of mechanisms that allow people to adapt their goal pursuit to changing external environments (Fergusson et al. 2008). We propose that the mere adoption of the social roles of buyers and sellers will activate different goals and, consequently, trigger different product valuations. This notion is investigated in studies 1-3.

Two factors that have been found to moderate goal pursuit are the pursuit of multiple goals (Shah et al. 2002) and goal fluency (Labroo and Lee 2006). Each of these factors should facilitate or hinder pursuit of a focal goal. Individuals are often pursuing several goals concurrently that reflect their current motivations, cognitions, and capacities (Shah and Kruglanski 2008). Goals within a context may vary on the degree to which they facilitate or hinder other goals, and may also affect how vigorously individuals pursue any particular goal or how much effort they put in the pursuit of a particular goal. For example, activating an alternative *conflicting* goal to a currently pursued focal goal generally leads to sharing of the resources allocated to the focal goal and, consequently, poorer performance, lower commitment, slower progress, weaker emotional reactions, or development of fewer means to the focal goal (Shah et al. 2002). On the other hand, activating an alternative goal *consistent* with a currently pursued goal generally facilitates goal pursuit. The moderating role of pursuing alternative goals on the focal buying or selling goal is investigated in study 4.

Besides alternative goals, characteristics of the environment may also facilitate or hinder goal pursuit (Shah and Kruglanski 2008). Goal fluency (or fit) refers to increased ease of processing that occurs when a given stimulus or the manner the individual engages in an activity sustains (vs. disrupts) a goal that is highly accessible to individuals (Higgins 2000; Labroo and Lee 2006). When the stimulus matches the consumer's goal or when a person's orientation toward what they are doing is being sustained (e.g., when their decision strategy matches with their regulatory orientation), high fluency is experienced, and when the stimulus conflicts

with the consumer's goal, low fluency is experienced (Higgins 2008; Labroo and Lee 2006). This "feeling right" experience (Kruglanski 2006) increases perceived ease and speed of processing and increases individuals' confidence in their reactions (Avnet and Higgins 2006; Labroo and Lee 2006; Lee and Aaker 2004). Previous research suggests that goal fluency seems to facilitate goal-related behavior and enhances the evaluation of a product (Avnet and Higgins 2006) or attitude towards a brand (Labroo and Lee 2006). The moderating role of goal fluency on pursuit of buying or selling goals is investigated in study 5.

Study 1: Buyers Focus on What They Give Up and Sellers Focus on What They Get

The goal of this study is to explore the factors that buyers and sellers attend to during a transaction and investigate the extent to which cognitive focus based on loss aversion can account for the price disparity effect. The cognitive perspective explanation based on loss aversion suggests that the price disparity effect is due to different foci on what is being given up (Carmon and Ariely 2000) or on different product attributes (Nayakankuppam and Mishra 2005). If focusing on different aspects of the transaction would fully explain the effect, forcing both buyers' and sellers' attention to all of these aspects should eliminate the effect. If, on the other hand, adopting the role of buyers and sellers activates different goals, the price disparity effect should emerge even if both buyers and sellers are aware of the aspects on which both buyers and sellers cognitively focus during a transaction.

To examine the extent to which the cognitive focus due to loss aversion explains the effect, we employed a mixed within-subjects factorial design to make

buyers' and sellers' foci salient to all participants and collected participants' spontaneous thoughts about the transaction. Each participant first elaborated on aspects that are the focus of either buyers or sellers, and immediately after they have given their price in the first stage of the study, they elaborated on the aspects that are the focus of the other party (either sellers or buyers). Therefore, when participants had to state their price in the second stage of the study, the foci of both buyers and sellers was salient to each participant because they were just forced to elaborate on the aspects to which the other party in the transaction attends. Consistent with the findings of a recent meta-analysis, we expect that a within-subjects design will attenuate, but not eliminate, the price disparity effect (Sayman and Öncüler 2005). We argue that the effect will be reduced because participants' goals as buyers or sellers in the second stage will still lead to a discrepancy in prices, even if they are aware of the aspects on which both buyers and sellers focus during a transaction.

Method

We employed a mixed within-subjects factorial design such that all participants played both the role of buyer and seller. Order was a between-subjects factor and role was within-subjects: half of the participants were the buyer first and the seller in the second stage, whereas the other half was the seller first and the buyer second. Therefore, the study employed a 2 order (first vs. second) x 2 role (buyer vs. seller) mixed design. The effect of role was examined in the first stage of the study (when participants played either the role of buyers or sellers), in the second stage

(when participants played the other role), and across stages (to examine differences in price and thoughts when the foci of both buyers and sellers were salient to all participants).

One hundred and thirty two marketing students participated in several studies grouped in a one-hour session in exchange for extra credit. The study was conducted using Medialab[®] on a desktop computer. When participants arrived at the lab, they found a new, black coffee mug at their computer stations. We kept the original price tag but masked the price such that participants could see that the mug was new, but could not read any price or brand information. Participants were assigned the role of buyer [or seller] and read the following instructions: “Please take a moment to look at the coffee mug placed in front of you. It is a new black coffee mug which does not [does] belong to you. However, you have the option of buying it and taking it home with you [selling it for money]. Please indicate the highest price you would be willing to pay for the mug [the lowest price you would be willing to sell the mug]. It is very important that you give us your true assessment as you will actually have the opportunity to buy [sell] the mug at the end of the experimental session. It is in your best interest to indicate the price that you are truly willing to pay for [sell] the mug. Feel free to touch, feel, and examine the mug.” After reading these instructions participants were asked to indicate the price that they would be willing to buy or sell the mug. Following this question, participants were asked to write up to six thoughts they had about that transaction. This elaboration task should make salient to participants the aspects that buyers and sellers focus during the transaction.

After participants completed this first stage of the study, they received similar instructions, but this time they read the following: “Please take a moment again to look at the coffee mug placed in front of you. Now assume that the new black coffee mug does [does not] belong to you. However, you have the option of selling it for money [buying it and taking it home with you].” Participants who were the buyers in the first stage were the sellers in the second stage, and vice-versa. They then indicated the price they would be willing to sell the mug or the price they would be willing to buy the mug and again were asked to write up to six thoughts they had about that transaction. This elaboration task should now make salient the aspects that the other party focuses during the transaction, such that at this stage the aspects on which both buyers and sellers focus during the transaction should be salient to each participant. At the end of the experimental session, participants were thanked and debriefed.

Before analyzing the thoughts, two independent judges blind to the conditions and to the research purpose coded the thoughts about the transaction as related to money (e.g., “how much I have paid for other mugs” or “I do not have a lot of money”), to the product (e.g., “I like the color” or “it is a plain mug”), or to other aspects (e.g., “it is harder to sell an item than it is to buy one” or “I would really like a nice cup of hot tea right now”). Interjudge reliability for thoughts about the transaction was .73. To resolve the inconsistencies, a third independent judge coded the disagreeing thoughts. Next, thoughts identified as related to money were recoded by two different judges as related to the notion of giving up money (e.g., “I’d rather spend my money in other ways”), getting money (e.g., “I want to get the most I can out of it”), or general thoughts about money (e.g., “I thought about how much the

mug would cost in a store”). Reliability for thoughts about money was .71. All thoughts identified as related to the product were recoded as positive (e.g., “I has a nice design”), negative (e.g., “uncomfortable handle”, or neutral (e.g., “the color is black”). Reliability for thoughts about the product was .70. The inconsistencies were resolved by a third judge. These thoughts were counted for each participant, for each stage. Therefore, we have measures of number of thoughts in the first stage of the study (when participants were either sellers or buyers) and measures of number of thoughts in the second stage (when participants played the other role).

Results

Table 2.1 presents the means of the dependent measures for buyers and sellers.

Price Disparity. A 2 order (first vs. second) x 2 role (buyers vs. sellers) repeated measures ANOVA with mug price as the dependent variable reveals a main effect of role ($F(1, 129) = 24.95, p < .0001$) and an interaction between role and order ($F(1, 129) = 12.95, p < .005$). We expected to find a price disparity when comparing buying and selling prices in the first stage of the study. At this stage, only either the focus of buyers or sellers was salient to the participants. As expected, planned contrasts indicate that buying prices (\$ 2.38) are lower than selling prices (\$ 3.88), revealing the price disparity effect ($F(1, 129) = 12.59, p < .001$). When comparing buying and selling prices in the second stage of the study, when both foci of buyers

and sellers were salient to each participant, we expected the effect to be reduced, but not eliminated, as compared to the effect found in the first stage of the study.

Consistent with our prediction and supporting the motivated valuation explanation, a main effect of role ($F(1, 129) = 4.16, p < .05$) suggests that buying prices (\$ 2.01) are still significantly lower than selling prices (\$ 2.68), even when both buyers and sellers are aware of the aspects that both buyers and sellers cognitively focus during a transaction.

Thoughts about Money. A 2 order (first vs. second) x 2 role (buyers vs. sellers) repeated measures ANOVA with number of thoughts about money as the dependent variable reveals only the main effect of role ($F(1, 129) = 16.03, p < .001$). No other effects were significant in this analysis (all $p > .47$). Follow-up contrasts reveal that sellers had more thoughts about money than buyers, both in the first stage ($F(1, 129) = 16.03, p < .01$) and in the second stage of the study ($F(1, 129) = 5.19, p < .05$).

Because the effect of order was non-significant on specific thoughts ($p > .25$), the specific thoughts about money were pooled across the two order conditions. As expected, a 2 role (buyers vs. sellers) x 3 type of thought about money (give up vs. get vs. general) repeated measures ANOVA reveals a significant main effect of role ($F(1, 261) = 12.26, p < .01$), qualified by an interaction between role and type of thought ($F(1, 261) = 8.55, p < .01$). Consistent with the motivated valuation account, planned contrasts suggest that buyers had more thoughts about giving up money than sellers ($F(1, 261) = 9.93, p < .01$) and sellers had more thoughts about getting money

than buyers ($F(1, 261) = 86.75, p < .01$). Buyers and sellers did not differ in terms of thoughts about money in general ($F(1, 261) = .98, p > .32$, see figure 6).

Thoughts about the Product. A 2 order (first vs. second) x 2 role (buyers vs. sellers) repeated measures ANOVA with number of thoughts about the product as dependent variable reveals only a main effect of role ($F(1, 129) = 17.04, p < .001$). No other effects were significant in this analysis (all $p > .12$). Follow-up contrasts suggest that buyers had more thoughts about the product than sellers, both in the first stage ($F(1, 130) = 5.09, p < .05$) and in the second stage of the study ($F(1, 129) = 6.04, p < .05$).

Because the effect of order was non-significant ($p > .93$), the specific thoughts about the product were analyzed by role only (data was pooled across the two order conditions). A 2 role (buyers vs. sellers) x 3 type of thought about product (positive vs. negative vs. neutral) repeated measures ANOVA reveals a significant main effect of role ($F(1, 261) = 11.52, p < .01$), qualified by an interaction between role and type of thought ($F(1, 261) = 8.45, p < .01$). Contrasts suggest that buyers had more negative ($F(1, 261) = 3.81, p < .05$) and more neutral thoughts about the product than sellers ($F(1, 261) = 11.40, p < .01$), and buyers and sellers did not significantly differ in the number of positive thoughts about the product ($p > .69$).

Other Thoughts. A 2 order (first vs. second) x 2 role (buyers vs. sellers) repeated measures ANOVA with number of other thoughts as dependent variable reveals no significant effects ($p > .56$), except for a marginal main effect of order

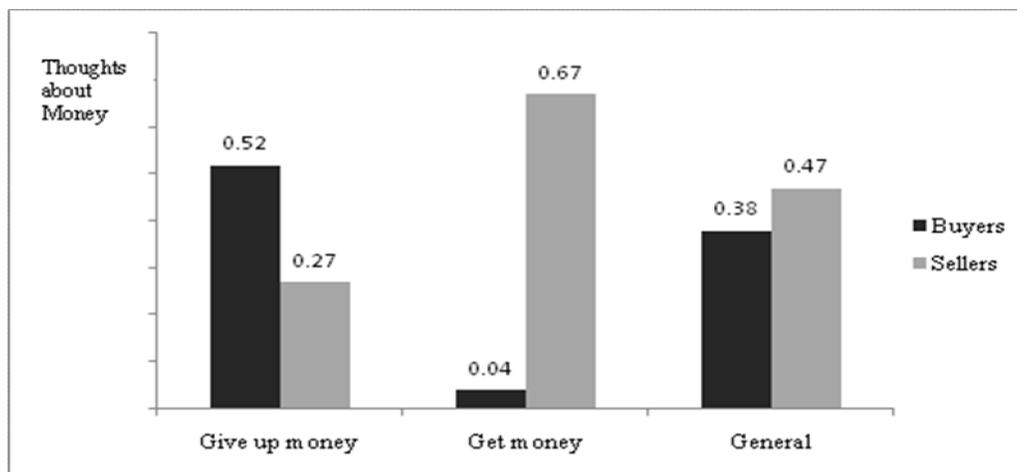
($F(1, 129) = 2.95, p < .10$) suggesting that participants had marginally more “other thoughts” in the second stage of the study ($M_{first} = .81, M_{second} = 1.06$).

Table 2.1 – Price and Thoughts as a Function of Role

	<i>First Stage</i>		<i>Second Stage</i>	
	Buyer	Seller	Buyer	Seller
Price	\$2.38 (1.95)	\$3.88 (2.85)	\$2.01 (1.97)	\$2.68 (1.82)
Thoughts about Money	.96 (.98)	1.51 (1.33)	.94 (1.16)	1.36 (.98)
Give up money	.51 (.76)	.33 (.51)	.53 (.76)	.22 (.45)
Get money	.06 (.24)	.52 (.62)	.02 (.13)	.80 (.83)
Other money thoughts	.39 (.60)	.65 (.97)	.37 (.66)	.30 (.58)
Thoughts about Product	1.51 (1.17)	.98 (1.49)	1.32 (1.50)	.78 (.98)
Positive	.25 (.53)	.19 (.50)	.18 (.59)	.29 (.73)
Negative	.54 (.78)	.30 (.80)	.47 (.88)	.33 (.64)
Neutral	.72 (.84)	.49 (1.09)	.68 (1.13)	.16 (.53)
Other Thoughts	.86 (1.02)	1.06 (1.18)	1.08 (1.18)	.77 (.86)
Total Number Thoughts	3.33	3.55	3.34	2.91
N	69	63	63	69

Note: Standard deviations appear between parentheses

Figure 6 - Thoughts about Giving Up Money, Getting Money, or General Thoughts about Money as a Function of Role



Discussion

We predicted that if the price disparity effect is being driven by buyers' and sellers' intrinsic motivation rather than their cognitive foci based on loss aversion, making the foci of both buyers and sellers salient to all participants should reduce, but not eliminate the effect. Previous research suggests that the effect emerges because both buyers and sellers focus on what they are foregoing or giving up. If individuals' foci on specific aspects of the transaction would fully explain the price disparity, elaborating on these aspects should eliminate the effect. If, on the other hand, their intrinsic motivation is playing a role in leading to the effect, making the foci of buyers and sellers salient to all participants should reduce the price disparity, but not eliminate it. Supporting our proposition that the different goals of buyers and sellers affect product valuation and lead to a disparity in buying and selling prices, we found that the disparity in prices was reduced, but not eliminated, when we forced attention to the aspects that both buyers and sellers focus in a transaction. At the very least, these results suggest that cognitive foci due to loss aversion cannot fully explain the effect.

Analysis of the spontaneous thoughts generated by buyers and sellers both in the first and second stages of the study also provides support for the motivated valuation account. Consistent with the motivated valuation proposition, buyers had more thoughts about what they were giving up (i.e., money) and sellers had more thoughts about what they were getting (i.e., money) in both the stages of the study.

Analysis of the thoughts also suggests that loss aversion cannot fully explain the price disparity effect. Loss aversion would predict that sellers would generate more thoughts about the product that they are giving up and buyers would generate more thoughts about the money that they are giving up (Carmon and Ariely 2000). As such, loss aversion only account for the buyers but not the sellers. Moreover, cognitive foci due to loss aversion suggests that sellers would generate more positive thoughts about the product and buyers would generate more negative thoughts about the product (Nayakankuppam and Mishra 2005), but we only found differences consistent with this rationale in the negative and neutral thoughts about the product.

Although the weak support for previous cognitive perspective theories based on loss aversion could have been caused by factors such as the specific questions we asked, the results do suggest that adopting the role of buyers and sellers triggers more than simply different cognitive foci. Analysis of the thoughts about money suggests that, consistent with the motivated valuation explanation, buyers approach the buying task primarily concerned about what they are giving up whereas sellers approach the selling task primarily concerned about what they are getting, even when they played the opposite role immediately before. While this analysis is consistent with our theorizing, we investigate this proposition more directly in the next studies.

In study 2 we provide additional evidence for our proposition by measuring reaction time to goal-related words to investigate the extent to which buyers have the goal of minimizing what they are giving up and sellers have the goal of maximizing what they are getting. One commonly employed method to assess goal activation is to measure response latencies to stimuli that is related to the goal of interest (Shah

2003). When specific goals are activated, experimental participants should be faster in responding to stimuli associated with that goal.

Study 2: Buyer and Seller Roles Activate Different Goals

The goal of study 2 is to examine the extent to which the role of buyers is associated with the goal of minimizing what they are giving up and the role of sellers is associated with the goal of maximizing what they are getting. To do so, we assigned participants the role of buyers or sellers and then measured their response latency to words related to minimization or maximization. The study used Medialab[®] and Direct RT[®] in a desktop computer.

Method

The study employed a one-factor, between-subjects design with two conditions (buyers vs. sellers) and 49 marketing students participated in several studies grouped in a one-hour session in exchange for extra credit. When participants arrived at the lab, they found a new, black coffee mug in their computer stations. Following a procedure similar to the one employed in study 1, participants were either assigned the role of buyer or seller and were asked to indicate the highest price they would be willing to buy the mug or the lowest price they would be willing to sell the mug. Participants then completed a supposedly unrelated task. The second task in

this study was a lexical decision task in which participants had to identify as quickly and accurately as possible whether a stimulus presented in a desktop computer was a word or a non-word (using the “/” and the “z” keys). Participants were asked to fix their attention to three asterisks (“***”). This fixation point was followed by a meaningless mask (“xvxvxvxv”), which was then replaced by the target word. The target words appeared in the same location after a very brief delay that varied randomly in duration (from 250 to 750 ms) to avoid participants anticipating the target’s appearance.

Targets were words related to buyers’ goal of minimizing what they are giving up (minimize, decrease, reduce), words related to sellers’ goal of maximizing what they are getting (maximize, enlarge, enhance), neutral words (ranch, shampoo, staple), and non-words (e.g., douse, roises, svonu, bught, gorbit, lupaso, troit, fangen, zelote). A combination of 3 minimize-related words, 3 maximize-related words, 3 neutral words, and 9 non-words yielded 18 trials. After six practice trials with different neutral words, response time to participants’ decision of whether the target was a word or a non-word was measured. We expected that buyers would be faster in identifying words related to the goal of minimizing, and sellers would be faster in identifying words related to the goal of maximizing.

Results

Price. An ANOVA with role as a factor and the mug prices as dependent variable indicates that buying prices (\$ 1.97) are lower than selling prices (\$ 3.17), revealing the expected price disparity effect ($F(1, 47) = 5.67, p < .02$).

Reaction Time to Goal-Related Words. To analyze the latencies, we removed the trials faster than 300ms and slower than 2000ms (Bargh and Chartrand 2000) and performed analysis on response latencies for correct responses (Shah 2003). The removed trials (5.89%) were well distributed across conditions ($\chi^2(2) = 0.54, p > .76$). Minimize-related words, maximize-related words, and neutral words were averaged in respective indices. Table 2.2 shows the reaction times to words related to minimize, maximize and neutral words for buyers and sellers. One-way ANOVAs with role as a factor (buyers vs. sellers) and reaction times to minimize, maximize or neutral words as dependent variables suggest that buyers responded faster to minimize-related words than sellers ($M_{\text{buyers}} = 627.03$ ms, $M_{\text{sellers}} = 733.49$ ms, $F(1, 47) = 4.36, p < .05$) and sellers responded faster to maximize-related words than buyers ($M_{\text{buyers}} = 732.81$ ms, $M_{\text{sellers}} = 613.55$ ms, $F(1, 47) = 4.85, p < .05$). Buyers and sellers did not differ on how fast they responded to neutral words ($M_{\text{buyers}} = 696.38$ ms, $M_{\text{sellers}} = 680.15$ ms, $F(1, 47) = .11, p > .74$).

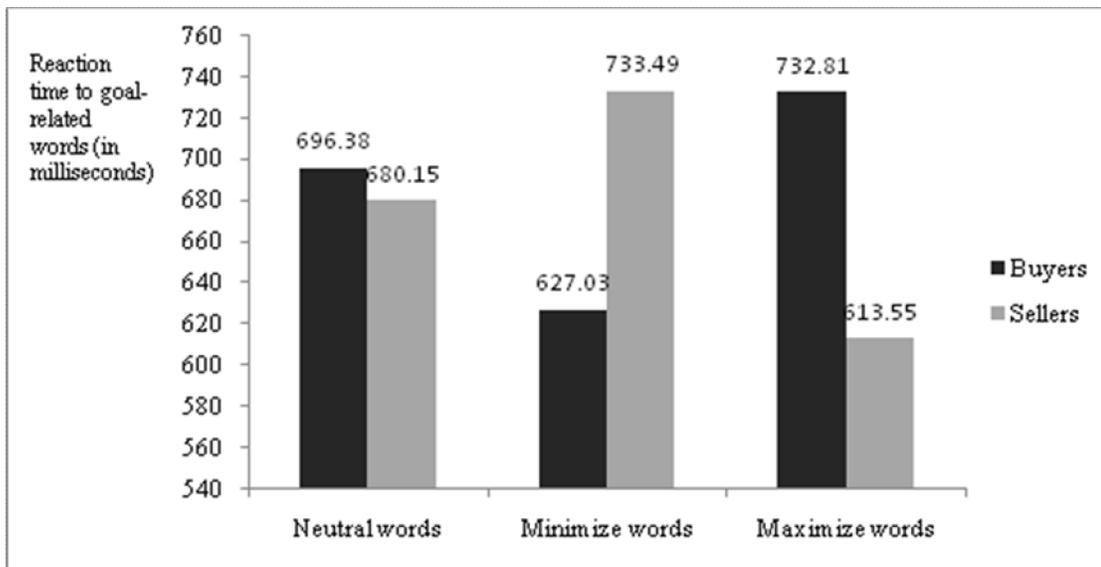
A within role analysis conducted with a 2 role (buyers vs. sellers) x 3 target type (minimize vs. maximize vs. neutral) repeated measures ANOVA reveals a significant interaction ($F(2, 92) = 8.41, p < .01$). Planned contrasts suggest that buyers responded faster to minimize-related words than to maximize-related words ($F(1, 92) = 8.71, p < .01$), and faster to minimize-related words than to neutral words

($F(1, 92) = 3.74, p = .05$), but with the same speed to maximize-related words and neutral words ($F(1, 92) = 1.03, p > .31$). Sellers responded faster to maximize-related words than to minimize-related words ($F(1, 92) = 8.10, p < .01$), marginally faster to maximize-related words than to neutral words ($F(1, 92) = 2.64, p = .10$), but with the same speed to minimize-related words and neutral words ($F(1, 92) = 2.13, p > .15$).

Table 2.2 - Reaction Time (in Milliseconds) to Words in the Lexical Decision Task as a Function of Role.

	<i>Buyers</i>			<i>Sellers</i>		
	Minimize	Neutral	Maximize	Minimize	Neutral	Maximize
Reaction time	627.03	696.38	732.81	733.49	680.15	613.55
SD	89.99	162.39	190.05	237.96	181.25	184.49
N	25	25	25	24	24	23

Figure 7 - Reaction Time (in Milliseconds) to Goal-Related Words as a Function of Role



Discussion

Study 2 supports our prediction that buyers are faster in identifying words related to minimization, the proposed goal of buyers, and sellers are faster in identifying words related to maximization, the proposed goal of sellers. These results provide support for our proposition that buyers and sellers have different goals activated when valuing a product. Study 2 uses a task that was previously used to investigate the price disparity effect and suggests that the roles of buyer or seller are associated with the notion of minimizing and maximizing, respectively, which provides support for the motivated valuation explanation for the price disparity effect. Loss aversion and the notion of minimizing losses could account for the results found for buyers, but could not account for the results found for sellers.

In study 3 we apply another principle of goal theory to test whether the goal of buyers and sellers influence their product valuation. Specifically, we prime the goals of “give up” or “accept” to neutral traders and examine the extent to which these primes will reproduce the price disparity effect. The goal of buyers is associated with minimizing what they are *giving up* in an exchange whereas the goal of sellers is associated with what they are *getting or accepting* in an exchange. Buyers wish to minimize what they are giving up, while sellers wish to maximize what they are getting. Based on goal theory, we predict that the mere exposure of participants to the words “give up” or “accept” will respectively activate the implicit goal of buying or selling, generating product valuations consistent with those goals and conceptually

reproducing the price disparity effect, even in transactions where money is not involved.

Study 3: Activating Give up and Get Leads to Price Disparity

In study 3 we primed the goals of buyers and sellers to neutral traders by framing the valuation question differently. Rather than assigning participants explicitly to the role of buyers or sellers, all participants received the task of trading a commodity in a “barter game.” The goals of buyers and sellers were primed by asking participants how much of the other commodity they would be willing to give up for one unity of their commodity (priming the goal of a buyer) or how much of the other commodity they would be willing to accept for one unity of their commodity (priming the goal of a seller). Trader was a replicate and goal prime was the factor of interest. If participants assigned to the “give up” condition are motivated to minimize what they are giving up and participants assigned to the “accept” condition are motivated to maximize what they are getting, a main effect of the primes conceptually replicates the disparity between buying and selling prices by activating the goals of buyers and sellers. We expected to find a disparity between the quantity of commodities “given up” and “accepted” in both trading conditions.

Method

We conducted a 2 trader (corn vs. eggs) x 2 prime (give up vs. accept) full

factorial, between subjects design. Participants were 156 college students recruited to participate in the study in exchange for extra credit. First, participants learned that barter is a type of trade in which goods and services are directly exchanged for other goods/services, without the use of money. They learned that although barter is often regarded as an old-fashioned means of exchange, it still counts for a high percentage of trades in rural communities, and that it is growing in popularity today with consumers and businesses realizing that this is a great way to budget and a creative way to lower expenses.

Manipulations. Participants learned that two individuals would play a barter game, and that while one individual would be randomly assigned the role of a corn farmer and would trade corn, the other would be assigned the role of an animal farmer and would trade eggs. Participants were randomly assigned the role of a trader of corn or a trader of eggs and were told that they would have the opportunity to barter or trade their corn and eggs. In the give up condition, participants were asked to indicate the number of corn (eggs) they would be willing to give up for each egg (corn). In the accept condition, participants were asked to indicate the number of eggs (corn) they would be willing to accept for each corn (egg). Lastly, participants completed goal measures.

Measures. The dependent variable was the quantity (in units) of commodity that the traders would be willing to give up or accept for one unit of the other commodity.

As manipulation checks, we asked participants to indicate what they were giving up (eggs or corn) and what they were accepting (eggs or corn). Goals were measured in two different ways. First, participants were asked to indicate the extent to which their objective was to (1) maximize what they were getting or (7) minimize what they were giving up, and the extent to which it was more important for them to (1) maximize what they were getting or (7) minimize what they were giving up. Second, participants were asked to check the activities that they thought about during the barter game. The options were a) maximize what you are getting and b) minimize what you are giving up.

Results

Three participants indicated a number of their commodity that they would be willing to trade that was higher than 10 standard deviations above the average and were removed from the final analysis. The results were unchanged in terms of significance or direction. Table 2.3 shows the means of the dependent measure by condition.

Manipulation Checks. Given that 94.8% of the traders of corn and 93.4% of the traders of eggs correctly identified that they were giving up corn and eggs, respectively ($\chi^2 = 119.1, p < .001$) and that 90.9% of the traders of corn and 89.5% of the traders of eggs correctly identified that they were getting eggs or corn, respectively ($\chi^2 = 98.9, p < .001$), we can conclude that participants understood the

manipulations.

Because the results were consistent for the goal manipulation check measures, the two items were averaged into a goal index ($r = .64, p < .01$). A 2 trader (corn vs. eggs) x 2 prime (give up vs. accept) ANOVA with participants' goal as the dependent variable reveals the expected main effect of prime ($F(1, 149) = 14.77, p < .001$). This main effect suggests that participants assigned to the give up condition had the goal of minimizing what they were giving up to a greater extent than participants assigned to the accept condition, regardless of whether they were playing the role of a trader of corn ($M_{\text{give up}} = 3.30, M_{\text{accept}} = 2.54$) or a trader of eggs ($M_{\text{give up}} = 3.57, M_{\text{accept}} = 2.22$). No other effects were significant in this analysis (all $p > .28$).

Significantly more participants assigned to the accept condition (53.38%) thought about maximizing what they were getting during the barter game than participants assigned to the give up condition (46.6%, $\chi^2 = 5.21, p < .05$). Conversely, significantly more participants assigned to the give up condition (61.26%) thought about minimizing what they were giving up than participants assigned to the accept condition (38.73%, $\chi^2 = 15.00, p < .01$).

Quantity of Commodity Trading. A 2 trader (corn vs. eggs) x 2 prime (give up vs. accept) ANOVA with the number of commodity that traders would be willing to trade as the dependent variable reveals only the expected main effect of prime ($F(1, 149) = 17.56, p < .001$). Contrasts suggest that the disparity between the number of commodity that participants are willing to give up or accept is significant both when we compare the quantity within traders of corn ($M_{\text{give up corn}} = 1.86, M_{\text{accept corn}} = 2.53$,

$F(1, 149) = 4.13, p < .05$) or within traders of eggs ($M_{\text{give up egg}} = 1.78, M_{\text{accept egg}} = 3.07, F(1, 149) = 15.10, p < .01$), and across traders ($F_{\text{give up corn vs. accept egg}}(1, 149) = 5.03, p < .05; F_{\text{give up egg vs. accept corn}}(1, 149) = 3.51, p < .06$). No other effects were significant in this analysis (all $p > .19$).

Table 2.3 - Means (and Standard Deviations) of Dependent Measures as a Function of Trader and Prime.

	<i>Trader of Corn</i>		<i>Trader of Eggs</i>	
	Give up	Accept	Give up	Accept
Mean quantity	1.86 (1.14)	2.53 (1.41)	1.78 (.96)	3.07 (.205)
Goals	3.30 (1.69)	2.54 (1.36)	3.57 (2.03)	2.22 (1.59)
N	40	37	39	37

Discussion

Consistent with the motivated valuation account, exposing participants to the words “give up” and “accept” activated the goals of buyers and sellers respectively, and produced a disparity in the quantity of commodities given up and accepted that conceptually replicates the disparity between buying and selling prices. Results suggest that, when trading, consumers have the goal of minimizing what they are giving up and maximizing what they are getting, and when these goals differ (e.g., when there is a buyer and a seller), we observe a discrepancy in the valuation of the product.

In study 4 we investigate the moderating role of pursuing multiple goals on pursuit of the focal goal of buying or selling. Research on goal theory suggests that goals can be represented as a cognitive structure and, as such, the activation of a goal should be able to facilitate or hinder the pursuit of related goals (Shah, Friedman, and Kruglanski 2002). Consequently, behavior should depend on the relative activation and inhibition of goals. Shah et al. (2002) propose that the effect of alternative goals on focal goal pursuit depends on the relationship between the alternative goals and the focal goal. Activating *consistent* alternative goals draws resources *toward* the focal goal (i.e., facilitates pursuit of the focal goal), and activating *conflicting* alternative goals pulls resources *away* from the focal goal (i.e., hinders pursuit of the focal goal).

Building upon this theory, we assume that activation of consistent or conflicting alternative goals will change behavior of individuals pursuing the focal goals of buying or selling. In a commercial transaction, it is reasonable to assume that negotiators would behave consistently with their own interests, such that buyers would be motivated to pay a low price and sellers would be motivated to charge a high price (Bazerman 1983, Thompson, Valley, and Kramer 1995). Therefore, activating the alternative goal of competition, which should instigate a desire to have an advantage over the other part in the transaction, should facilitate buyers' and sellers' goal pursuit and enhance the price disparity effect. Conversely, activating the alternative goal of cooperation should instigate a desire to considerate the needs of the other party in the transaction and make negotiators more willing to sacrifice their own outcomes in favor of social welfare. Therefore, the alternative goal of

cooperation should hinder pursuit of the focal goal of buying or selling and weaken the price disparity effect. In sum, priming competition should draw resources toward the focal goal of buying or selling and enhance the price disparity effect. Conversely, priming cooperation should pull resources away from the focal goal of buying or selling and weaken the effect.

Study 4: Pursuing Alternative Goal Moderates the Price Disparity Effect

The purpose of study 4 is to investigate the moderating role of pursuit of alternative goals on pursuit of the buying or selling focal goals. We primed a competition goal or a cooperation goal in buyers and sellers in such a way that the pursuit of the focal goals of buyers and sellers would either be strengthened or weakened.

Method

Ninety-one marketing students participated in a paper-based study in exchange for extra credit. The study employed a 3 goal (cooperation vs. control vs. competition) x 2 role (buyer vs. seller) full factorial, between-subjects design. The goal manipulation adopted in this study has been shown effective in activating goals (Bargh et al. 2001). Participants were led to believe they would complete two independent studies. The first contained two tasks, a word-search puzzle and a scrambled word test that consisted of the cooperation and competition goal

manipulation, and the second contained the role manipulation and the dependent measure. The role manipulation and dependent measure were adapted from Carmon and Ariely (2000). To interview basketball fans who were asked to imagine that they owned (sellers) or did not own (buyers) a ticket for an important college basketball game, students were pre-screened to indicate the degree to which they like basketball in a scale ranging from 1 (I don't like basketball at all) to 9 (I like basketball very much). Only those who reported to like basketball (indicated 5 or more in the scale) participated in the paper-based study.

Alternative Goal Manipulation. In each of the three conditions, participants were presented with a 10 x 10 matrix of letters, below of which there was a list of 13 words that were embedded in the matrix. Words appeared with letters in a straight line either from left to right or from right to left, reading down or reading up, and diagonally reading either down or up. Each list contained the same set of five neutral words to be found (bear, green, staple, lamp, plant), with the remaining eight words relevant to the condition. In the cooperation goal condition, these words were fair, helpful, cooperate, reasonable, supportive, assist, friendly, and share. In the competition goal condition, these words were win, compete, succeed, strive, battle, attain, achieve, and master. In the control condition, these words were ranch, carpet, river, building, shampoo, robin, hat, and window. In the second task participants looked at several scrambled sentences containing 5 words each and were asked to use 4 of them to form a coherent sentence. An example of a cooperation sentence is “she helps other people,” an example of a competition sentence is “he was the champion,”

and an example of a control sentence is “the flowers have bloomed.” Participants had about 10 minutes to complete these two tasks.

Role Manipulation. The second part of the study contained the role manipulation and a task that has been used before to investigate discrepancy in buying and selling prices (Carmon and Ariely 2000). Participants were informed that we were interested in the process of product valuation and price setting and that their task was to determine an appropriate price for some items. Participants were asked to imagine that they did or did not have a ticket for an important upcoming college basketball game. All of the participants learned that they would not have the opportunity to negotiate or bargain, and they were encouraged to indicate their true assessments.

Dependent Variable. The price given by buyers and sellers was our dependent variable. Buyers were asked for the highest price they would pay for the ticket, assuming they did not have one. Sellers were asked for the lowest price they would sell the ticket, assuming they had one.

Results

Manipulation Check. The goal manipulation was pretested with 49 students drawn from the same population of the study and was shown to be effective ($F(1, 47) = 5.29, p < .05$). Participants completed the puzzle and the scrambled-word task and

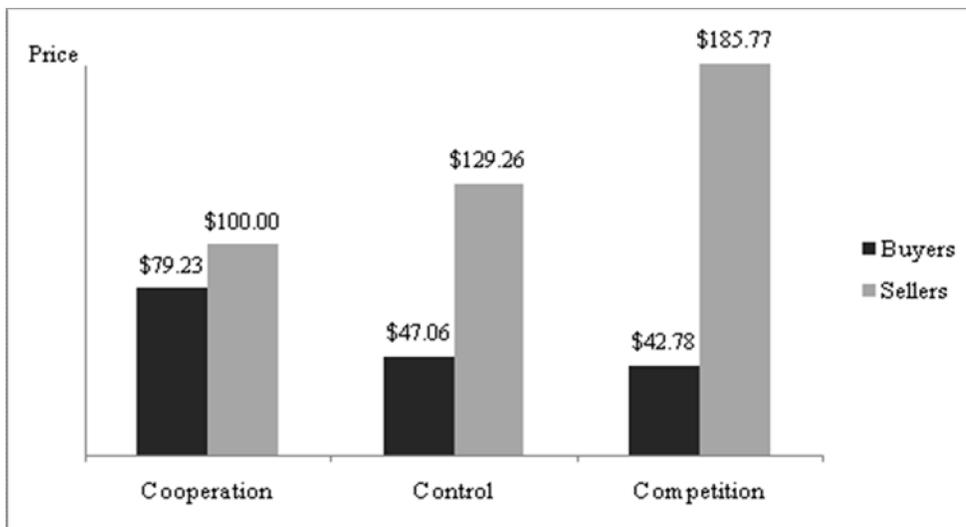
then completed a filler task consisting of a neutral text about Maryland Day. After answering irrelevant questions about the text (e.g., “was the information in the text informative?”), participants indicated the extent to which they think most college students “are collaborative people/competitive people,” “care about other people/care only about themselves,” and “think about their partner when negotiating/think only about themselves when negotiating.” Using these three measures ($\alpha = .69$) with scale points ranging from -4 to 4, participants assigned to the cooperation condition were found to be in a more cooperative mindset than participants assigned to the competition condition ($M_{\text{cooperation}} = .17, M_{\text{competition}} = 1.16$).

Price. Table 2.4 shows the means of the dependent variable by condition. A 2 role (buyer vs. seller) x 3 goal (cooperation vs. control vs. competition) ANOVA with price as dependent variable revealed a main effect of role ($F(1, 85) = 27.41, p < .001$), qualified by the predicted interaction between goal and role ($F(2, 85) = 5.10, p < .01$). These results suggest a significant downward linear trend for buying prices as participants’ goals shift from cooperation to competition ($F(1, 45) = 4.84, p < .05$), and a significant upward linear trend for selling prices as participants’ goals shift from cooperation to competition ($F(1, 40) = 5.84, p < .05$). Planned contrasts suggest that, as predicted, the price disparity effect was non-significant in the cooperation condition ($M_{\text{buyers}} = 79.23, M_{\text{sellors}} = 100.00, F(1, 85) = .58, p > .44$), significant in the control condition ($M_{\text{buyers}} = 47.06, M_{\text{sellors}} = 129.23, F(1, 85) = 9.11, p < .01$), and significant and stronger in the competition condition ($M_{\text{buyers}} = 42.78, M_{\text{sellors}} = 185.77, F(1, 85) = 28.25, p < .001$). The results are illustrated in Figure 8.

Table 2.4 - Means (and Standard Deviations) of Price as a Function of Role and Goal.

	<i>Buyers</i>			<i>Sellers</i>		
	Cooperation	Control	Competition	Cooperation	Control	Competition
Price	79.23 (73.08)	47.06 (24.24)	42.78 (34.13)	100.00 (69.60)	129.23 (92.08)	185.77 (126.42)
N	13	17	18	17	13	13

Figure 8 - Buying and Selling Prices Under Competition and Cooperation



Discussion

As predicted, pursuing alternative goals facilitates or hinders pursuit of the focal goal of buying or selling, providing support for the motivated valuation account that product valuation is a consequence of buyers and sellers pursuing the goals associated with their social roles. When participants were primed with cooperation, which is an alternative goal that conflicts with the focal goal of buying or selling and

therefore pulls resources away from the focal goal, the price disparity effect was eliminated. Conversely, when participants were primed with competition, which is an alternative goal that is consistent with the focal goal of buying or selling and therefore pulls resources towards the focal goal, the price disparity effect was enhanced. The significant effect of pursuing alternative goals on the pursuit of the focal goal of buying or selling provides support for the motivated valuation hypothesis by showing that the behavior of buyers and sellers changes systematically following principles of goal theory. If the buying or selling tasks were independent from motivation and were simply a function of attention to different aspects of the transaction, activating alternative goals should not affect the product valuation of buyers and sellers.

Similarly to the pursuit of multiple goals, another factor that may facilitate or hinder pursuit of the focal goal is goal fluency (or fit). Therefore, goal fluency should also moderate the price disparity effect and provide additional evidence that buyers and sellers are pursuing different goals. When the context is congruent with participants' goals, high goal fluency is experienced and participants decide on an acceptable price more quickly, more easily, and with greater confidence. On the other hand, when the context is incongruent with participants' goals, low goal fluency is experienced and participants decide on an acceptable price more slowly, with greater difficulty and with less confidence. We also predict that fluency will affect the outcome of goal pursuit. The high fluency experienced will facilitate goal pursuit and buyers will be able to come up with a lower price and sellers will be able to come up with a higher price, leading to the price disparity effect. On the other hand, low fluency will hurt goal pursuit, so buyers will not be able to come up with such low

price and sellers will not be able to come up with such high price, leading to elimination of the price disparity effect. Therefore, when the valuation question fits with the goal participants are pursuing, they will experience fluency, and this ease of processing will facilitate goal congruent behavior, allowing participants to sell for a high price or buy for a low price. Conversely, when the valuation question does not fit with participants' goal, the difficulty of processing that they will experience will hurt goal congruent behavior, eliminating the price disparity effect.

Study 5: Goal Fluency Moderates the Price Disparity Effect

The goal of study 5 is to examine the moderating role of goal fluency on the price disparity effect. We expect an interaction between role and fluency such that when fluency is high (i.e., when the valuation question matches the goal of buyers and sellers), the goal pursuit of buyers and sellers will be facilitated and buyers and sellers will come up with lower and higher prices, respectively, leading to the price disparity effect. However, when fluency is low (i.e., when the valuation question conflicts with the goal of buyers and sellers), the goal pursuit of buyers and sellers will be hindered and the price disparity effect will not be observed.

Method

We conducted a 2 role (buyer vs. seller) x 2 fluency (high fluency vs. low

fluency) full factorial, between-subjects design. Participants were 138 college students who were recruited to participate in the study in exchange for extra credit. When they arrived at the lab, participants found a new, black pen on their computer stations.

Manipulations. Role was manipulated by assigning participants to either the role of a buyer or a seller of the pen. Fluency was manipulated by the way we framed the valuation question. In the high fluency condition, we asked buyers to specify the maximum price that they would pay to buy the pen (and take it home), and sellers to specify the minimum price that they would accept to sell the pen (and give it away). In the low fluency condition we asked buyers to specify the minimum price that they would reject to buy the pen (and return it), and sellers to specify the maximum price that they would reject to sell the pen (and take it home). The first valuation question is the natural way to which buyers and sellers approach a transaction and, therefore, participants should experience high fluency. The second valuation question, although what it is asking is exactly the same, is an unnatural way to approach a transaction and, consequently, participants should experience low fluency.

Measures. The dependent variables were the price at which participants valued the pen and participants' response times to the price question (in milliseconds).

We measured perceived fluency with three items capturing the perceived speed of response to the price question (“not at all fast-very fast,” “it was slow-it was

quick,” and “it took much time-it took little time”), three items capturing ease of processing of the information presented in the task (“easy to process-difficult to process,” “easy to understand-difficult to understand,” and “effortless to process-effortful to process”), and one item capturing participant’s confidence in their response (“not at all confident-very confident), all adapted from Labroo and Lee (2006) and Lee and Aaker (2004). Finally, we measured participants’ goals with 3 items (“my objective was to maximize acceptable price to me-minimize acceptable price to me,” “it was more important to me to maximize acceptable price to me-minimize acceptable price to me,” and “my goal was to maximize what I was getting-minimize what I was getting). All fluency and goal items ranged from one to seven.

Results

Table 2.5 shows the means of the variables by condition.

Manipulation Checks. A 2 (role) x 2 (fluency) ANOVA with perceived speed ($\alpha = .91$) as the dependent variable shows the predicted main effect of fluency ($F(1, 134) = 8.35, p < .01$). Participants perceived their response to the price question as faster in the high fluency condition ($M_{\text{high fluency}} = 5.54, M_{\text{low fluency}} = 4.91$). A 2 (role) x 2 (fluency) ANOVA with perceived ease ($\alpha = .90$) as the dependent variable shows the predicted main effect of fluency ($F(1, 134) = 7.57, p < .01$). Participants perceived the information presented in the task as easier to process in the high fluency condition ($M_{\text{high fluency}} = 1.58, M_{\text{low fluency}} = 2.07$). A 2 (role) x 2 (fluency) ANOVA

with confidence as the dependent variable also shows the predicted main effect of fluency ($F(1, 134) = 4.49, p < .05$). Participants were more confident that they came up with a price that was acceptable for them in the high fluency condition ($M_{\text{high fluency}} = 5.99, M_{\text{low fluency}} = 5.55$).

A 2 (role) x 2 (fluency) ANOVA with goal ($\alpha = .83$) as the dependent variable shows the predicted main effect of role ($F(1, 134) = 58.55, p < .01$). Buyers tended to minimize the price/what they were giving up ($M_{\text{buyers}} = 4.98$) and sellers tended to maximize the price/what they were getting ($M_{\text{sellers}} = 2.82$).

Price. A 2 (role) x 2 (fluency) ANOVA with price as the dependent variable shows a main effect of fluency ($F(1, 134) = 8.59, p < .01$) that was qualified by the predicted interaction between role and fluency ($F(1, 134) = 4.38, p < .05$). Planned contrasts suggest that the price disparity effect was significant in the high fluency condition ($F(1, 134) = 6.91, p < .01$), but buying and selling prices did not differ in the low fluency condition ($F(1, 134) = .17, p > .67$).

A 2 (role) x 2 (fluency) ANOVA with the response time to the price question as the dependent variable shows a main effect of role ($F(1, 134) = 5.48, p < .05$) and, more importantly, a main effect of fluency ($F(1, 134) = 19.80, p < .001$). Participants decided on an acceptable price for them more quickly in the high fluency condition ($M_{\text{high fluency}} = 24,806, M_{\text{low fluency}} = 33,839$).

Table 2.5 - Means (and Standard Deviations) of Dependent Measures as a Function of Role and Fluency.

	<i>Buyers</i>		<i>Sellers</i>	
	High fluency	Low fluency	High fluency	Low fluency
Price	.76 (.54)	1.45 (1.04)	1.25 (.72)	1.36 (.84)
Goal	4.97 (1.81)	4.99 (1.56)	2.84 (1.66)	2.81 (1.51)
Response time	23,950 (10,229)	29,988 (9,715)	25,662 (10,689)	37,889 (15,710)
Perceived speed	5.82 (1.37)	4.98 (1.37)	5.31 (1.36)	4.85 (1.49)
Perceived ease	1.41 (.62)	1.93 (1.20)	1.72 (.93)	2.17 (1.27)
Confidence	6.15 (.97)	5.57 (1.48)	5.85 (.99)	5.53 (1.50)
N	33	28	41	36

Discussion

Study 5 provides additional support for the motivated valuation hypothesis by showing that goal fluency moderates the price disparity effect. Goal fluency leads participants not only to come up with an acceptable price for them more quickly, but also to perceive their responses as quicker, easier, and held with greater confidence. More importantly, when the context does not fit with the goal that buyers and sellers are pursuing, goal pursuit is hindered and while the price disparity is significant when fluency is high, it becomes non-significant when fluency is low. Study 5 provides additional evidence for the motivated valuation hypothesis and for the idea that the price disparity effect is a function of the goals of buyers and sellers by showing that a factor that affects goal pursuit moderates the price disparity effect.

The fluency manipulation was designed to help or hinder goal pursuit and, therefore, provide support for the idea that buyers and sellers' product valuation is a consequence of buyers and sellers pursuing their intrinsic goals of minimizing what they are giving up and maximizing what they are getting, respectively. There are no

theoretical reasons to believe that the fluency manipulation would affect the degree of buyers' and sellers' loss aversion, making loss aversion an unlikely explanation for these results. A second alternative explanation for our results is the possibility that participants did not understand the task they had to complete in the low fluency condition. However, the mean of the measure of ease of processing, which includes difficulty, is significantly lower than the midpoint of the scale ($F(1, 137) = 593.89, p < .001$). Thus, we believe that participants understood the task that they had to complete.

General Discussion

In a series of five studies we provide support for a motivated valuation explanation for the price disparity effect. We show that adopting the social role of buyers or sellers activates different goals that lead to different product valuation. Specifically, buyers are primarily concerned with what they are giving up in a transaction and are thus motivated to minimize it (e.g., money in most transactions) and sellers are primarily concerned with what they are getting in a transaction and are thus motivated to maximize it (e.g., money in most transactions). Drawing from goal theory, we show that altering the dynamics of goal pursuit produces systematic and predictable changes in product valuation, reproducing or eliminating the price disparity effect. By supporting the motivated valuation explanation and showing that buyers' and sellers' goals influence their product valuation, the present work contributes to research on the price disparity effect, and more specifically to our

understanding of the factors leading to this disparity. Our results also contribute to practice by showing that certain frames of mind that negotiators bring to a transaction may affect the price that is acceptable for them.

Explanations based on loss aversion are highly popular (Ariely et al. 2005; Brenner et al. 2007; Carmon and Ariely 2000; Nayakankuppan and Mishra 2005; Zhang and Fishbach 2005). We do not attempt to rule out loss aversion as playing a role in the price disparity effect, but we argue that beyond loss aversion, buyers' and sellers' intrinsic goals to "make the best deal" motivate them to value an item in opposite directions, leading to a product valuation disparity. By providing support for this explanation we offer a more parsimonious view of the price disparity effect, and also explore ways to alter the process of goal pursuit and, consequently, the observed outcome in the form of different product valuation.

Our motivated valuation explanation can account for emphatic gaps that have been found between buyers and sellers. Van Boven and colleagues (2000) have shown that people mispredict what their own valuation would be if they were in the other role. They explain that people usually have difficulty in setting aside their own perspective when estimating the perspective of someone else, and as a result, buyers and sellers usually overestimate the similarity between their valuation and the valuation of the other party. When individuals assume the social roles of buyers or sellers and pursue the goals intrinsically associated with these roles, they may not be completely aware of the intrinsic goals that they are pursuing or of the effect of these goals on their behavior, and this would lead to a mistaken estimation of how the other party would value the same item.

It would be interesting to examine the process by which factors such as pursuit of multiple goals or goal fluency affects goal pursuit and, therefore, goal achievement. It is expected that moderating factors would change what lays between the goal and the outcome, that is, the means of achieving a goal. It would also be interesting to examine the means that buyers and sellers use to achieve their goals and how changing those means affects product valuation. It would also be interesting to investigate in future research how other variables may moderate the effect. We argue that the price disparity effect emerges due to a social motivation of buyers and sellers to minimize what they are giving up and maximize what they are getting, respectively. A “social” motivation is inherent to the social environment consumers live and may vary from place to place. Therefore, cultural factors are likely to moderate the effect, changing these intrinsic motivations or the intensity with which they are pursued.

Finally, buying and selling prices are based on two fundamental factors: the “intrinsic” valuation of the item and the influence of perceived market conditions (Simonson and Drolet 2004). We focus on the first and examine conditions under which intrinsic valuation may change. It would be interesting to examine the interplay of traders’ goals and perceived market conditions such as the incidence of arbitrary or non arbitrary reference prices on product valuation (Lin, Chuang, and Kung 2006; Nunes and Boatwright 2004; Simonson and Drolet 2004). Would reliance on reference prices be stronger depending on the goal(s) negotiators are pursuing, on their goal commitment, or on perceived ease of achieving those goals?

Appendices

Appendix 1 – Stimuli Used in Essay 1, Study 1

Among the various brands of laundry detergents currently on the market, those containing phosphates are by far the best. Phosphate detergents are vastly superior in cleaning power to other high quality, standard detergents. They clean clothes more thoroughly and leave them smelling much better compared to standard forms of detergent. As a result, they allow clothes to be cleaned less frequently, which extends the life of clothing. Perhaps because phosphate detergents are cheaper to produce and more effective, they have consistently topped the charts in customer satisfaction over the past few years.

More importantly, phosphate detergents are significantly less harmful to the environment than non-phosphate detergents. Indeed, for ordinary household use, it is now widely accepted that phosphate detergents are the cleanest and safest type of detergent on the market. In fact, standard detergents typically contain EDTA, a chemical additive associated with harmful environmental consequences even in small amounts. Thus, it is wisest to use phosphate detergents for household laundry

Appendix 2 – Stimuli Used in Essay 1, Study 2

Among the various brands of laundry detergents currently on the market, those containing phosphates are far from the best. Phosphate detergents are vastly inferior in cleaning power to other high quality, standard detergents. They clean clothes less thoroughly and leave them smelling less fresh compared to standard forms of detergent. As a result, they require clothes to be cleaned more frequently, which decreases the life of clothing.

More importantly, phosphate detergents are significantly more harmful to the environment than non-phosphate detergents. Indeed, for ordinary household use, it is now widely accepted that phosphate detergents are not the cleanest or the safest type of detergent on the market. In fact, phosphate detergents typically contain EDTA, a chemical additive associated with harmful environmental consequences even in small amounts. Thus, it is wisest not to use phosphate detergents for household laundry.

Appendix 3 – Stimuli Used in Essay 1, Study 3

Imagine that you are looking for an apartment to rent. You have looked at a few apartments, but haven't found what you really want. Although you have seen several different apartments, nothing has seemed just right. You head into an apartment rental agency.

Picture yourself walking into the agency and looking at pictures and ads of apartments. There are pictures of different styles of apartments in various sizes and locations. A realtor walks up to you and says, "Hi, my name is Chris. Let me know if I can answer any questions for you."

Imagine that after looking through the pictures of several apartments, you narrow it down to two choices. The first is a nice, fairly standard apartment. The second apartment looks a little nicer, but it costs quite a bit more than the first. You look over the pictures one more time, looking carefully at the floor plans of each apartment. As you look at the picture of the second apartment, the realtor walks up to you and says, "That's a great apartment. I think it's a better option than the other one. Besides, it is very attractive." You look at the pictures and the floor plans one more time, wondering whether you should get the second apartment.

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