The Influence of Collaboration in the New Product Development Process

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The Influence of Collaboration in the New Product Development Process
The Influence of Collaboration in the New Product Development Process

A dissertation submitted in partial fulfillment of the requirement for the degree of Doctor of Philosophy in Business Administration

by

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ABSTRACT

Consumers expect greater involvement in the product and service offerings of firms. In response, the integration of collaboration in the new product development (NPD) process has become of interest to researchers across disciplines. Collaboration can be viewed as a “looking glass” technique, which fosters an enhanced sense of shared identity by promoting a “we” versus an “us-them” orientation. Drawing from social identity and exchange theories, the central purpose of this dissertation is understanding ways that collaboration influences perceptions during the NPD process to help shape consumers’ identity with the firm.

Essay 1 employs a mixed-method approach across three studies to discover the elements and consequences of collaboration that are the most meaningful to consumers; to test how collaboration moderates consumer outcomes with changes in marketing strategy elements; and to identify a significant mechanism underlying trust-building. Essay 2 demonstrates across four experiments how collaboration that is implemented in each stage of the NPD process affects consumers’ cognitive and behavioral responses. Findings indicate that collaboration outcomes differ as a function of consumers’ involvement with the product. Additionally, collaborator-specific (e.g., collaboration motivation) and firm-specific (e.g., brand trust) differences show that, while each form of collaboration along the development timeline may be objectively similar, consumers’ subjective interpretation of each stage varies significantly in favor of collaboration that occurs earlier in the NPD process (e.g., idea generation). Utilizing structural equation modeling methodology, Essay 3 expands upon conceptual models to ascertain how the effects of collaboration are mediated by perceived social distance, while concurrently examining attitudinal and behavioral outcomes. The final structural model explains 57 percent of the variance in consumers’ purchase intentions, and generally suggests collaboration as a favorable way to influence perceptions of trust toward the product, the brand, and the firm.
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The process of getting a Ph.D. has been one of the most challenging yet supremely rewarding experiences of my life. However, I would be foolish to think that it was possible on my own. First, I would like to thank my family. My husband Brian and precious son, Isaac, have been adamant supporters of my academic goals. The decision to apply to a Ph.D. program was eagerly supported but the decision to stay in the program was largely a function of their continuous love and encouragement. Both have sacrificed many things, including a comfortable lifestyle surrounded by friends, to allow me the opportunity to pursue my dream. Patiently, they grew accustomed to new surroundings and to a new lifestyle. With courage and plenty of humor, they found ways to enjoy the experience of living in Arkansas with a grad student wife/mother.

Interestingly, acceptance into the program at the University of Arkansas presented an opportunity for other members of my family as well. My father, sister, and my nephew decided to join us as we left Tennessee and moved to beautiful Fayetteville. During our time in Arkansas, I was able to keep long hours at school (including many nights and weekends) while my family worked together to provide for our needs. As a result, I would be remiss if I didn’t thank my father, sister, and nephew for taking a risk to live in an unconventional manner in order to provide the type of environment that would allow me to complete a demanding degree. Specifically, my father would often provide much-needed counsel after I would return home from school stressed and discouraged. His confidence in my abilities to complete this degree never wavered. Additionally, my sister and nephew offered a constant source of humor and entertainment. As my best friend, my sister would also listen to all of my complaints and calmly remind me about why I had pursued this degree in the first place. Together, I could not have completed my degree or this dissertation without the support of my beloved family.
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DEDICATION

This dissertation is dedicated to my son, Isaac Ross. Born on my birthday, Isaac has been the absolute *joy* of my life and the epitome of life’s perfect gift. He is my primary motivation & ultimate blessing. It is my hope that by finishing this dissertation and completing my Ph.D., I will have given him a gold standard for his academic training and vocation considerations. May he have the surreal and self-sustaining happiness that comes from a career garnered through years of hard work, steadfast determination, calculated risk-taking, and an ever growing passion for learning. Importantly, I believe that a great career begins with the training *higher education* provides. After all, “education is the most powerful weapon we can use to change the world” (*Lighting your way to a better future* by Nelson Mandela in 2003).

Isaac, I love you with all of my heart and I want to thank you for the multitude of reasons why I consider myself lucky to be your mother.
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INTRODUCTION

Overview of Research Context

Favorable consumer perceptions of the firm are more dependent on relational factors (e.g., trust, loyalty intentions) now that expectations exceed the utility that a product or service can provide. In other words and all else equal (i.e., product quality, cost), consumers’ prefer to purchase from firms that utilize relationship marketing (RM) strategies. Indeed, a firm’s efforts to enhance their RM efforts with consumers will often lead to positive increases in trust and commitment. These RM mediators have favorable behavioral outcomes (e.g., purchase intentions, willingness to pay, choice, and seller performance) and a large body of literature provides a wealth of empirical evidence to support this model (Morgan and Hunt 1994; De Wulf, Odekerken-Schröder, and Iacobucci 2001; Sirdeshmukh, Singh, and Sabol 2002; Palmatier et al. 2009). A natural evolution of RM efforts has become the active participation of consumers into a wide range of marketing activities. For example, a growing marketplace phenomenon is the partnership between consumers and the firm to coproduce a product or service (Meuter et al. 2005; Humphreys 2008) and this process is known as consumer collaboration. A consistent outcome here is the expectation of greater involvement in firms’ product and service offerings (i.e., value creation). As Hoyer et al. (2010) describe, collaboration specifically in product development is of critical importance and reiterates the need for additional research in this domain. Together, the interests of firms and consumers provide a favorable environment for scholarly research in this area and will be described in greater detail in later sections.
Overview of Methodology

For Essay 1, a mixed-methods approach was used to qualitatively gain an in-depth understanding of collaboration’s meaningfulness through participants’ unstructured responses (Study 1). Experiments followed to then quantify the extent to which the aforementioned exploratory results held in a variety of conditions. The first experiment (Study 2) in Essay 1 employed a 2 (collaboration: present or absent) X 3 (disclosure blog type: consumer blog; product payment; consumer blog; monetary payment; company-owned blog) between-subjects design. The second experiment (Study 3) added a fourth blog type (disclosure blog type: consumer blog- no disclosure; consumer blog- product payment disclosure; consumer blog- monetary payment disclosure; company-owned blog) and used the same collaboration (present or absent) manipulations.

In Essay 2, the first study (Study 1-A) employed a 2 (product involvement: high involvement, parents; low involvement; non-parents) x 5 (CPD stages: idea provision, idea selection, advanced development, promotion, no collaboration) between-subjects design. The second study (Study 1-B) used the same design with a different conceptualization of involvement (e.g., high involvement, cell phone; low involvement; fruit drink). The next study (Study 2) used a 3 (collaborator motivation: extrinsic, intrinsic, mixed) x 4 (CPD stages: idea provision, idea selection, advanced development, promotion) between-subjects design. The final study used a 2 (CPD Stage: early-stage development or last-stage development) X 2 (collaborator motivation: extrinsic or intrinsic) X 3 (brand trust: trust unknown, trusted, or untrusted) between-subjects experimental design.

Essay 3 develops a new scale to measure the components of consumers’ perceived social distance with the firm. The study establishes the validity of this new operationalization of social
distance by testing its factor structure, convergent, and discriminant validity. Additionally, structural equation methodology is used to expand upon existing conceptual models of consumer-company identification.

**Theoretical Contributions**

This research contributes to our understanding of consumer behavior in several important ways. First, consumer collaboration is an underexplored and new behavioral context for marketing researchers. Exploratory and empirical research in this area, as this dissertation provides, enriches our understanding of this novel method of value creation. Second, the effects of collaboration between the stages of new product development (e.g., early-stage collaboration such as idea provision versus late-stage collaboration such as advertisement co-production) has not been empirically tested until now. Third, the present research proposes and advances the mediating role of a psychological mechanism (social distance) that explains the impact of collaborative product development on firm evaluations and behavioral outcomes. Finally, in this dissertation we gain deeper insight into the nature and direction of collaboration in the new product development process. The results show how consumer and firm-controlled factors (e.g., motivation, brand trust) interact to identify boundary conditions for collaboration’s influence. The findings from this dissertation are relevant to a wide audience including consumer behavior researchers, relationship marketers, public policy makers, and firms interested in collaborative product development. Further description of the specific structure of this research follows.

**Structure of the Dissertation**

Moving forward, the rest of this dissertation will follow a three-essay structure. Essay 1 includes a literature review of the relevant research, a conceptual development and introduction
of hypotheses, and a theoretical framework for all three studies. The first (Study 1) uses participants’ unstructured responses in a series of open-response questions to discover and explore the elements and consequences of collaboration most meaningful to consumers. The next two studies are experiments designed to test how changes in online communication influence trust, attitude, and purchase decisions when collaboration is present or absent (Study 2) and identify and test a significant mechanism underlying trust-building (Study 3).

Essay 2 includes a literature review, an introduction of hypotheses, and a conceptual framework for four experimental studies. The first two studies test how CPD outcomes differ as a function of consumers’ involvement with the product. Involvement is a manipulation of product relevance (Study 1-A) or product category (Study 1-B). Next, differences in information related to the collaborator’s motivation (i.e., intrinsic, extrinsic, or mixed) influence perceptions of credibility, brand trust, user similarity, and willingness to collaborate (Study 2). The last study in this essay manipulates brand trust to test how changes in the combined effects of CPD and collaborator motivation (trust-relevant information) differentially impact consumers’ attitudes and behavioral intentions for trusted, untrusted, and distrusted brands (Study 3).

Essay 3 expands upon and existing conceptualization of consumers’ identification with the firm, known as consumer-company identification (Bhattacharya and Sen 2003), by developing the social distance construct while also examining the collective effects on the final structural model. The study here uses convergent and discriminant validity to triangulate the results from the first two essays using a different methodological lens (structural equation modeling) to test how the effects of collaboration are mediated by consumers’ perceptions of social distance.
REFERENCES


ESSAY 1

REPRESENTATION THROUGH COLLABORATION: REGAINING ONLINE CREDIBILITY IN CONSUMER-TO-CONSUMER COMMUNICATIONS

Abstract

When consumers desire brand and/or product-related information, they rely less on traditional marketing messages and more on the opinions of their peers (Trusov, Bucklin, and Pauwels 2009). To regain control, some firms have adopted surreptitious tactics for influencing online consumer-to-consumer (C2C) conversations (e.g., providing bloggers with free product samples). Given new Federal Trade Commission regulations requiring material-connection disclosures, their effect on consumer attitudes and behavior has diluted and negatively impacted the effectiveness of C2C messages (Ashley and Leonard 2009; Sprott, Martin, and Martin 2012). In response, the present research examines a new relationship-marketing strategy that moderates these effects by improving how consumers identify with the firm. Drawing from social identity theory, a mixed-method (qualitative and quantitative) approach across three studies is used to discover the elements and consequences of collaboration most meaningful to consumers (Pilot Study); to test how changes in online communication influence trust, attitude, and purchase decisions when collaboration is present or absent (Study 1); and to identify a significant mechanism underlying trust-building (Study 2). By using a national online consumer panel, adult participants with children were tested for these differential effects using a real blog designed for parents. The results indicate that involving consumers in a new product’s development (NPD) is a powerful way to regain online credibility. Described as consumer collaboration, this unique method of engaging a small group in NPD is enough to provide favorable effects that extend to a
greater number of consumers. Together, these results have important implications as firms and consumers respond to changes in the regulatory environment for online communications.

**Introduction**

In a world where most consumers’ interaction with a company remains limited to a sales transaction, the idea of engaging consumers through relationship techniques appears promising. Recent research suggests that consumer participation in new product development (NPD) is one strategy that will promote innovation and improve consumer perceptions (Coviello and Joseph 2012; Hoyer et al. 2010; Kristensson, Matthing, and Johansson 2008). However, the feasibility of engaging *every* consumer with this or similar techniques is extremely low. Other practices such as focus groups and group interviews require financial and temporal resources that companies cannot afford to spend across their entire customer base. What, then, can be done to improve consumers’ perceptions of corporate practices? If companies communicated the inclusion of a subset of consumers in their product development process, would that be enough to tangentially engage the rest of the consumer base as a whole? In other words, can the knowledge of consumer collaboration serve as a relationship proxy? Moreover, how might this information be used to overcome negative perceptions experienced in the consumer-to-consumer (C2C) communication domain?

A company’s sustainable competitive advantage fundamentally requires continuous innovation- a resource that is not limited to its employees. Seeking knowledge and creative ideas from consumers is one increasingly popular way to improve processes and performance. Consumers have become involved in marketing functions ranging from NPD to product promotion, yet many of these activities take place outside the company’s reach. For example, Lego Group- a toy company based in Denmark, has been used in several business cases as an
illustration of consumer collaboration. Lego originally used consumer insight to revise an existing line of robotic kits under the Mindstorms brand (Bijmolt 2010). More recently, Lego launched Cuusoo as a platform for consumers to submit their ideas for new products. Ultimately, new product ideas that are supported by 10,000 votes have a chance of being selected to become part of the Lego Group’s product portfolio. The process begins every quarter with a brand fit analysis followed by a business case developed by the Lego review team. The consumers are then invited back into the NPD process during the model design phase. After the final review, a panel of Lego designers, brand managers, and production managers vote on the final project. Finally, the winning prototype is placed into full production and the consumers who have their ideas chosen will earn 1% of the total net sales. By engaging consumers in NPD, Lego has garnered a growing number of loyal consumers eager to interact with and grow the brand. “By working together, you can complement each other’s strength and increase your success. Happy Collaborating!” (Lego 2012). As illustrated, social media has exponentially changed the decision-making environment for consumers. Given the pervasiveness of the internet and the ease of sharing information, companies are motivated now more than ever to enter into this communication domain in a way that maintains credibility and promotes engagement (Hoeffler and Keller 2002). In turn, individuals want to do more than consume: they want to work with companies to share their knowledge and creative ideas.

The recent Marketing Science Institute ranking of 2012 – 2014 research priorities states that “trust between people and their institutions and in social networks” (MSI 2012, p. 5) is of great significance. Of specific concern are the methods companies can implement to build trust in ways that have favorable behavioral (i.e., marketplace) outcomes. Additional research on the role of trusted advisors and decision-making is also requested. Therefore, the present research...
seeks to discover how collaboration can be used for trust-building. Information about collaborative product development will then be experimentally tested in the context of online blogging- a domain where consumers have considerable influence over product and brand discussions.

In this paper, we use a mixed-method (qualitative and quantitative) approach across three studies to discover the elements and consequences of collaboration most important to consumers (Exploratory Study). Two experiments are used to test how changes in online communication affect trust, attitude, and purchase decisions when collaboration is present or absent (Experiment 1) and to identify an important mechanism underlying trust-building (Experiment 2). Using adult participants with children, we test for these differential effects using a real blog designed for parents. Together, the studies demonstrate that consumers’ attitudes, evaluations, and purchase decisions are influenced by a product’s collaborative development. Consumer collaboration has also been identified as a key moderator useful in overcoming the negative effects of a blog’s disclosure (e.g., monetary payment) and source (e.g., company-owned) on evaluations. As suggested by service-dominant logic (SDL) and tested through the lens of social identity theory, a product’s utility can increase even when the consumer is tangentially engaged (Vargo and Lusch 2004). Informing consumers about the collaborative nature of a product’s development is enough to engage them and significantly improve evaluations.

**Consumer Collaboration**

Technological advances have engendered an environment in which information is easily shared across a global pool of influencers. These developments have provided businesses with a new stream of innovative ideas from both current and potential consumers (Coviello and Joseph
A wider range of opinions across multiple market segments combined with faster and easier methods of sharing those ideas has made the producer-consumer dichotomy redundant. Consumers are now invited to participate in the production process in what is commonly referred to as consumer collaboration. Collaboration should be distinguished from a similar concept of co-creation, a term more familiar among marketers and popularized with the advent of S-D logic (Vargo and Lusch 2004).

Originally known as co-production, the premise of co-creation is the one most readily adopted by marketing researchers. “The consumer is always the co-producer” (p. 11). The theory recommends that companies should recognize a product or service’s value as cyclical and integrative. It is no longer appropriate to assume value is delivered to the consumer in a linear fashion. Instead, companies should work with the consumer to create it. In other words, consumers and producers no longer need to be mutually exclusive in the production and provision of goods. However, the distinction between co-creation and collaboration, as Sanders and Simons (2009) note, is that co-creation is a unique form of collaboration where the end result may be unknown. Hereafter, the general term ‘collaboration’ will be used to denote its role in NPD. In the most controlled form of collaboration, the final product is known and reflects equal input from company personnel and consumers.

There are many examples of collaboration where consumers’ ideas and judgments were used to manufacture and market single products or entire product lines. Collaboration, as a continuum, can take many forms. The low end of collaboration, known as crowd-sourcing, involves product development that has been completely outsourced to consumers (Howe 2008). Examples include Threadless apparel, Dell’s IdeaStorm, and the Digg social news site. The next form of collaboration is known as group achievement and involves idea development through
teamwork. Seldom used in product development, group achievement has been primarily used as a promotional tool for businesses (e.g., Groupon), philanthropic endeavors (e.g., Pepsi Refresh), or fund raising (e.g., Kickstarter).

At the far end of the collaboration continuum is the highest expression of collaboration known as co-creation (Prahalad and Ramaswamy 2004). In co-creation, the business works jointly with consumers to create products (e.g., Dew Labs Community and Lego Cuusoo), advertise (e.g., Doritos), or repair a brand’s image (e.g., McDonald’s team of “mommy bloggers”). Again, drawing from the tenets of SDL, co-creation is a consumer’s “participation in the creation of [a business’s] core offering” (Lusch and Vargo 2006, p. 284). While some research has examined the impact of co-creation on consumer behavior (e.g., Payne, Storbacka, and Frow 2008), the focus has primarily been on the effect of a consumer’s direct experience with a firm’s collaboration activities. The present research that examines consumer responses to indirect collaboration offers greater implications for those businesses that want to reap the rewards of collaboration but cannot afford to directly involve each consumer.

**H1**: Compared to when collaboration is absent, information used to describe the product’s collaborative development will have a stronger (i.e., more positive) influence on consumers’ (A) evaluations and (B) purchase decisions.

Collaboration, as a form of value co-creation (Prahalad and Ramaswamy 2004; Vargo and Lusch 2008), is an extension of the customer-centric philosophy of marketing (Kotler 1972) and has a continuum of effects. While the concept of ‘value creation’ began as an internal goal within the confines of a business, it has now extended to include customer involvement. This has interesting implications for NPD and consumer responses. On one hand, products that are self-designed (i.e. customized) have been shown to significantly influence consumer preferences (e.g., Deng and Hutchinson 2009; Franke and Piller 2004) above traditionally produced items
(i.e., “off-the-shelf” consumer goods). However, does this preference translate to products designed by other consumers? If a product is not self-designed (i.e., the result of direct collaboration with the company), would preferences shift back to those products created without customer collaboration?

**C2C Online Communication**

Consumers are influenced by a growing number of family, friends, and peers whose opinions are shared with more people and across greater distances than ever before. This development shows that the Internet has rapidly become the medium of choice for communicating and consuming information in this century. Website-usage patterns reflect the shift away from commercial sites (e.g., company websites) toward sites with consumer-generated content (e.g., blogs and forums). In a four-year study of Internet usage, visits to a company website decreased from 85% in 2008 to only 72% in 2011 (Universal McCann 2012, p. 36). This also highlights the pivotal role social media can have for marketers. In response, the influence of traditional marketing communication strategies such as print and television advertising is waning (Trusov, Bucklin, and Pauwels 2009). Marketing messages can appear impersonal to consumers who value participation. For this growing population, standard marketing communications often appear forced and unresponsive to feedback. Kerr et al. (2012) describes this influence among consumers in the realm of C2C online communication as “consumer power.” The power of consumers to drive and/or change perceptions presents a demarcation in the effectiveness of marketing messages. This shift is especially prevalent in traditional business-to-consumer (B2C) communications (e.g., print ads, websites). However, when brand and products are discussed in
the realm of C2C communications, they must first be viewed as authentic and credible in order to be persuasive.

To benefit from C2C communications and wield control back from the consumer, some marketers have employed stealth marketing tactics. Petty and Andrews (2008) describe stealth marketing as a marketing communication that is masked in 1) commercial message or 2) source. Undisclosed product reviews by consumers who have been paid with money or free product provide one example of stealth marketing. A blog, as one of the most commonly used social media tools, is a forum for a large number of product reviews. However, the commercial nature of many company-controlled blogs is far from transparent. While 61% of marketers use blogs (Stelzner 2012), many consumers are unaware of their corporate source when product reviews are provided.

The potentially negative implications of stealth techniques for marketing managers and other constituencies (such as policy makers) are great and of paramount importance to researchers. For example, when Ashley and Leonard (2009) tested the effects of “unmasked” stealth marketing attempts, the effects on brand commitment and trust were significantly decreased. In an effort to protect and fully inform consumers, the Federal Trade Commission (FTC) recently issued “Guides for the Use of Endorsements and Testimonials in Advertising” (FTC 2009). In these guidelines, product reviewers must disclose any material connection to the seller. For example, if a power blogger\(^1\) posts a product review, he/she must disclose payment from the seller (in the form of money, free product, or product samples). These FTC guidelines apply to blogs, websites, or any social media outlets.

\(^1\) A power blogger is a consumer who has a large number of online followers and publishes new content on a regular basis. As a result, they are extremely influential among consumers.
The provision of NPD collaboration information may prove useful in attenuating the harmful effects companies have experienced when entering C2C communications. For consumers who want a social experience, visiting a site limited primarily to information and distribution— as is the case with most company websites, is undesirable. As discussed, when companies attempt to influence brand/product discussion in the C2C realm by providing bloggers with product or monetary payment (for example), consumers’ evaluations of the site, company, and future intentions significantly decrease once the material connection between the blogger and company is disclosed. In a recent series of experiments, Sprott, Martin, and Martin (2012) measured the effects of endorsement disclosures (product samples, free product, and monetary payment) on consumers’ perceptions of information quality, firm evaluations, and repurchase intentions. As hypothesized, the effects were significant and negative. Information quality, evaluations, and repurchase intentions increased only for C2C endorsement-free blogs. Their results support the FTC’s guidelines and raise important questions for researchers: will firms protect the authenticity that consumers so highly value or will they work harder to disguise their stealth marketing efforts? Collaboration, as a unifying strategy for integrating consumers’ ideas with a company’s resources, may serve as a useful tool for reducing and/or reversing these historically negative effects. More formally,

H2: Consumer collaboration moderates the effect of disclosure blog type on the following consumer perceptions: (A) website evaluations and (B) company evaluations. Specifically, blogs that are more likely to be trusted (i.e., from a consumer) will show a more favorable effect when collaboration information is provided. In other words, (C) when collaboration is present, the effect of disclosure blog type on evaluations will be stronger (weaker) for a consumer (company) blog.

H3: (A) Consumer collaboration moderates the effect of disclosure blog type on purchase decisions (e.g., purchase intentions and price willing to pay). (B) When collaboration is present, the effect of blog type on purchase decisions will be stronger (weaker) for a consumer (company) blog.
The severity of consumers’ distrust of company-influenced product reviews is directly related to the type of compensation the blogger receives. Bloggers may be motivated to write a product review for altruistic reasons while others are driven by profit-seeking motives (i.e. economic reasons). Lawrence, Fournier, and Brunel (2012) show that economic motives in an online product review are generally viewed as less credible than non-economic motives. Thus, we predict that the provision of NPD collaboration information will reduce the negative effects of a disclosure (in general), but the reduction will be strongest for a monetary payment (specifically).

H4: When collaboration is present, the effect of blog type on consumer evaluations and purchase decisions will be greater (weaker) for monetary (product) payment compensation disclosures.

Endorsement disclosures may have a negative effect on consumers’ receptiveness and behavioral outcomes due to an “activation of persuasion knowledge” (Mei-Ling Wei, Fischer, and Main 2008). When consumers discover manipulated attempts to persuade their perceptions, firm evaluations and trust are negatively impacted. Marketing messages as a result of these attempts by the firm are viewed as dishonest and unreliable. The tenets of the elaboration likelihood model (Petty and Cacioppo 1986) suggest that negative influences on persuasion are directly related to the consumer’s level of involvement and the communicator’s credibility. As credibility decreases, so too does persuasion (Kelley 1967). Drawing from attribution theory, consumers may perceive an endorsement as external (i.e. as a result of an FTC regulation), resulting in negative perceptions. However, if information about a product’s collaborative development was provided, would consumers attribute the overall message as internal? In other words, could the historically negative effects of a blog’s endorsement be mitigated by a
company’s strategic use of consumer collaboration in NPD? If this added information is attributed internally, there should be a positive effect on attitudes and behavioral outcomes.

**Social Distance and Company Identification**

To understand the theoretical underpinnings between the interactive effects of collaborative NPD and disclosure blog types, the mechanism between these factors and our dependent measures must be conceptualized. As shown in Figure 1, the conceptual model offered here is largely guided by the overarching concepts of social identity (Brewer 2001; Tajfel and Turner 1986; Tajfel 2010) and organizational identity (Mael and Ashforth 1992; Whetten and Godfrey 1998). The application of an organizational identity approach to consumer behavioral studies is a recent endeavor (Bergami and Bagozzi 2000) that is largely undeveloped. Bhattacharya and Sen (2003) offered a large-scale conceptual model- also grounded in social identity theory, where a consumer’s identity was operationalized as a psychological construct [consumer-company (C-C) identification] that reflects the multidimensional relationships consumers have with companies.

In a seminal article on social exchange and how marketing messages are attributed, Houston and Gassenheimer (1987) introduce the concept of social distance and describe its role in relationship building between a company and its consumers. In an online purchasing scenario, consumers generally experience greater (i.e., less favorable) levels of social distance with the company than peer consumers who recommended the product (Bart et al. 2005). In this context, consumers are likely to personally identify (i.e., smaller social distance) with peer blogs more than they do with blogs owned by companies.

The construct of social distance was originally introduced by Park (1924) as one’s desire for intimacy of an interaction. Its multidimensional nature and connection with self-identity was
highlighted when social distance was articulated as a continuum for perceived similarity (Brewer 1968; Rokeach 1960). Consistent with this view, social distance is conceptualized in the present research as a consumer’s perception of similarity and closeness. This measure reflects the degree to which the consumer perceives his/herself as represented by the company. Social distance represents a motivational state that varies in response to changes in marketing communication methods. Here a state is ‘‘a temporary condition of mentality or mood, transitory level of arousal or drive, and currently evoked activities or processes’’ (Messick 1989, p. 15). Support for social distance as the mechanism underlying the effects of collaboration is also based on the proposition that identification between a company and its consumers is antecedent to the formation of attitudes and evaluations. To support this premise, Bhattacharya and Sen (2003) suggest that C-C identification reflects a psychological substrate where greater identification reduces perceptions of dissimilarity and relate positively to changes in consumer evaluations. This conceptualization supports the intuitive notion that a reduction in social distance is sufficient to connote an increase in perceived identity and similarity. As in the formation of in-group/out-group (we/they) perceptions (Sumner 1982), reductions of social distance should activate differential responses to a firm’s relationship strategies. Companies who utilize collaborative NPD are more likely to be positively evaluated than companies who exclude consumers from the production process. Formally,

**H5**: Consumers’ perceptions of social distance mediates the effect of collaborative NPD such that providing collaborative NPD information will reduce social distance and positively influence (A) evaluations and (B) purchase decisions. (C) The indirect effect of collaborative NPD will vary by blog type [moderated mediation].

Though not explicitly theorized as a test of any identity theories, Thompson and Malaviya (2013) model the effects of collaborative advertisement on ad and brand evaluations through skepticism and identification as two mediators. However, in the present research the
construct of social distance is offered as a more parsimonious manner of explaining the mediated effects of collaboration (in a NPD context) on evaluations and purchase decisions. Greater social distance, then, is conceptualized as the absence of C-C identification and associated feelings of closeness.

Social distance also occurs when the salience of identification is reduced. For example, when a consumer reads a peer consumer blog, identity is initially triggered. In this example, overall identity occurs when the consumer places his/herself in a social group such as “peer consumers.” When the peer blogger discusses a brand or product, the initial trigger of identity can have very favorable effects for the firm (as Sprott, Martin, and Martin 2012 discovered). However, when that peer (i.e., consumer blogger) discloses a material connection with a company (e.g., monetary payment), identity loses its salience. If, then, information regarding a product’s collaborative development is provided (again in the same online context), identity salience should be restored. Additionally, Bhattacharya and Sen (2003) identified “identity attractiveness” as a key antecedent to C-C identification while “identity embeddedness” was suggested as a primary moderator.

In the context of integrative collaborative NPD strategy in the C2C communication domain, the more “upstream” a consumer is in a business process (e.g., moving from WOM during a product launch to offering ideas during the idea generation phase) the greater their “embeddedness” is (see Figure 1). This effect is mediated through consumers’ perceptions of social distance where lower perceived distance reflects greater identification with the company. Alternatively, “identity attractiveness” is based on the communication source and increases as the communication source (i.e., message encoder) becomes more similar to the message decoder (e.g., a peer consumer blogger on his/her own site would have greater identity attractiveness than
consumer blogger on a company-owned site. In this example, messages on a company-owned blog are similarly persuasive as traditional marketing messages (e.g., print advertisements).

Given the proliferation of information about brands and products discussed between consumers online, it is expected that a greater number of companies will employ a variety of strategies to influence the discussion. So far, the ability to exert any control in C2C communications is small and very risky. Currently, “the blogosphere is now so large, it is an accurate barometer of consumer opinion” (Universal McCann 2008, p. 33). Therefore, influence by companies will need to be made in a way that instills trust and positive perceptions among consumers. In response, the present research will examine the following research questions: Without the use of collaboration, will consumer self-evaluations (e.g., social distance) and company evaluations (e.g., attitude and purchase decisions) follow the patterns previously described when a blogger’s material connection to a company is disclosed? Alternatively, is collaboration a potential moderator- useful in reducing and potentially reversing these negative results? Moreover, are perceptions of social identity distance underlying the effects of collaborative NPD? We conducted three studies to address these research questions and to test our hypotheses. In Study 1, a qualitative approach is used to discern the elements and consequences of collaboration most important to consumers. In Studies 2 and 3, which are experiments among adult participants with children, we manipulate the presence of collaborative NPD information and blog disclosure types using a real blog designed for parents.

**Exploratory Study**

**Method**

The purpose of this exploratory study (Pilot Study) was to qualitatively identify factors that drive evaluations of consumer collaboration. These factors will then be used in the
experimental studies to test the effectiveness of collaboration in attenuating the negative effects of material connection disclosures in peer blogs. The present study was an exploratory questionnaire with open-ended and rank-order questions administered to 240 adult consumers obtained through Amazon’s online crowdsourcing market, Mechanical Turk. Since a parent-owned blog stimulus would be provided, all participants were prescreened and only those who are parents of at least one school-aged child (ages 5-18) were asked to participate. The sample had a median income of $40,000-49,999, 53% had at least some college, and nearly one-half of the participants (48%) had a college degree. The majority of the sample was female (65%) and the mean age of the respondents was 35 years.

Results and Discussion

The primary responses of interest for this study were rank-order and open-ended responses regarding the elements, consequences, and interpretation of engagement and consumer collaboration. To familiarize participants with this concept, they were told the following, “The product you are about to see involved a process where consumers’ feedback was utilized during every step of development. This is often called consumer collaboration. The result was a completely new product that reflected equal input from company personnel and the parents who volunteered their time.” To contextualize responses, a blog authored by parents was shown and timed to remain visible for a minimum of 60 seconds. The blog included a product review for an outdoor playhouse created by a fictitious company, Clifton Toys. Next, participants were asked to rank the following elements of consumer collaboration in order of importance: experience, social interaction, active participation, enthusiasm, and communication. The following consequences of collaboration: trust, emotional commitment, word of mouth, brand loyalty,
brand community involvement, and goodwill, were also ranked in order of importance and definitions were provided for each. Each element and consequence was based on recent ethnographic research in the domains of collaboration and consumer engagement (Vivek 2009; Zhao and Rosson 2009). Finally, after each question participants were asked to elaborate about their top choice. For example, “Since you ranked [answer] first as an element of consumer collaboration, please describe what this means to you.”

The qualitative responses were coded using QSR International’s NVivo 9 software program (Richards and Richards 1993; Bazeley and Richards 2000; Gibbs 2002). The NVivo program allows researchers to electronically code consumers’ text responses iteratively as compared with traditional paper and pencil methods. The program allows large amounts of data to be analyzed across participants for common themes. The data were analyzed using this thematic analysis method (Boyatzis 1998) and the themes that resulted from this study were used to design and structure the following two experiments (Studies 1 and 2). As outlined in Table 1, five common themes are evident: (1) consumer involvement; (2) B2C and C2C company-facilitated connections; (3) communication; (4) authenticity; and (5) the importance of listening.

Nearly half of all participants (49.2%) indicated that the most important element of collaboration included the experience of inclusion in the business process. This result is not surprising given the pivotal role experience has in engaging consumers (Vivek 2009). In fact, current views of relationship marketing suggest that the process of co-creation is built primarily upon consumers’ experiences (Prahalad and Ramaswamy 2003; Prahalad and Ramaswamy 2004). It is important to note that experiences are independent of a sales exchange. Again, the S-D paradigm suggests that value often follows a consumer’s experience(s) - it is not always a prerequisite. Participants echo this sentiment and add that the experience of other consumers is
also significant. For example, “I rely on the experience of other consumers with a product to make my buying decisions. Company ads are untrustworthy but an ‘everyday’ person has nothing to lose when rating a product.” Interestingly, only a small percentage (14.2%) indicated that active participation is the most important element of collaboration. This result suggests that collaboration through others may be sufficient to reap the rewards of indirect engagement.

Perhaps the greatest discovery was made when participants were asked to rank the most important consequences of collaboration. The greatest percentage (58.8%) of participants indicated that trust was the primary reward of collaboration. Trust is not only an important factor in driving brand loyalty, but is also a necessary requirement for attracting new customers. If collaboration can be used as a trust-building benefit that extends beyond those consumers directly involved, perhaps this addresses the “research question of great urgency for consumer-oriented relational marketing” (Garbarino and Johnson 1999, p. 91) that has remained elusive to marketers. Substantial research supports the mediating role of trust in brand building (Barnes 2011), the exchange of knowledge (Levin and Cross 2004), loyalty (Vlachos et al. 2009), and behavioral measures such as buying intention (Ha, Swinder, and Muthaly 2010). Trust, as a multidimensional construct, is requisite for relational commitment (Morgan and Hunt 1994). It is, in fact, the “cornerstone [of] the strategic partnership” (Spekman 1988, p. 79) between a business and its consumers. However, in the domain of C2C communication (e.g., online blogs), attempts by a company to influence product or brand discourse is viewed as unreliable and distrustful. Consequently, research that addresses a new technique to favorably introduce businesses to C2C exchanges is highly warranted.

Since the success of online communications generally stems from accessibility—those brands/companies that are top of mind for consumers, we asked consumers to provide, in their
own words, an interpretation of the importance of being engaged by companies. While the study of consumer engagement is still in its infancy, it has generated many preliminary and exploratory studies since 2005. Kahn (1990) was the first academic to study engagement in the organizational behavior literature and described it as an expression of employees’ self-expressions. Since then, psychologists and researchers in the field of information systems have applied the concept to consumers (Erat et al. 2006; Watkins et al. 1991). Vivek (2009) provided the first systematic and empirically tested measure of consumer engagement in the marketing literature. Specifically, she defines consumer engagement as “the intensity of the participation and connection with the firm/brand’s product offerings and/or its organized activities” (p. 95).

As Berger and Schwartz (2011) suggest, immediate and ongoing word-of-mouth (WOM) is the result of accessibility. This premise is contrary to the intuition of marketing managers that WOM is a result of buzz marketing where content must be interesting in order to be prolific. Therefore, engagement is a critical tool for keeping brands accessible in the minds of consumers. As the bottom of Table 2 shows, the most common interpretation of engagement is related to change. Engagement means listening to consumers and taking the next step to integrate consumer feedback. The next theme reflects the communal nature of consumers’ relationships with companies. Engagement is also active and can be facilitated through events or centered on the company’s product offering.

The attitudes and opinions of consumers shared online through blogs, products reviews, and other avenues, can aggregate into powerful information viewed as more credible than traditional marketing messages. Results from our study support this belief. For example, one participant suggests that “for another consumer, [he or she] will be more likely to believe someone like themselves who actually used the product over taking the company’s word for it.”
Therefore, information about a company’s utilization of collaboration may serve as a cue of trustworthiness.

Perhaps the provision of collaboration information offers additional explanatory power in consumers’ attitudes and intentions. To the extent that the most important consequence of collaboration is trust, information provided by a company regarding a product’s collaborative development should increase consumers’ perceptions of trust toward the brand. The first experiment will test this premise in the communication domain with the highest levels of company mistrust- C2C blogs with material connections to a company. While a consumer’s blog disclosure regarding a material connection (i.e., monetary or product payment) to a company traditionally results in decreased perceptions of trust and behavioral intentions, the current experiment will test the role of collaboration as a potential moderator useful in attenuating these negative effects.

**Experiment 1**

The exploratory study shows the importance of experience as a critical element of consumer collaboration. Of greater importance is the benefit of trust in collaborative product development. Because the necessity of active participation ranked low in consumers’ preferences, providing information about a company’s collaboration with others (i.e., indirect participation) should be enough to significantly improve trust, attitude, and purchase decisions. As a result, Study 1 was an experiment designed to investigate the effectiveness of consumer collaboration in improving perceptions across blog disclosure types (e.g., C2C blogs with compensation disclosures versus company-owned blogs). Recent research shows that most consumers (73%) have read a blog, 34% of blog postings discuss brand and products, nearly a
third (32%) of viewers trust a blogger’s opinions on products and services, and an impressive 36% view companies more favorably when they have blogs of their own (Universal McCann 2008). As a result, an online blog was determined to be the most appropriate context for testing the role of collaboration information.

Method

Experimental Design. A 2 (collaboration: present or absent) X 3 (disclosure blog type: consumer blog; product payment; consumer blog; monetary payment; company-owned blog) between-subjects experiment was conducted. More than half of bloggers are parents with school-aged children less than 18 years old (Nielsen 2012a). In response and based on positive perceptions of opinions from like-minded “others” from the exploratory (pilot) study, the context of the present study includes a blog written by a parent. Since 50% of consumers are more likely to purchase toys online (Nielsen 2012a), an electronic learning tablet appropriate for young children was used for the product review across all conditions. In fact, home electronics represented the product category with the largest percentage (75%) of consumers likely to make a purchase decision based on online product reviews (Nielsen 2012b). An example of the blog stimulus is offered in Appendix 1.

Sample and Procedure. Participants were 216 adult consumers obtained through MTurk. Cell sizes ranged from 32 to 40. Participants were first required to answer a qualifier question. Given the category (toys) of the product review included in the blog, only parents of at least one

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² A trailer control condition without an endorsement disclosure was also included as a baseline, but is excluded in the primary analyses for the 2 x 3 design.
child ages 3 – 12 were invited to participate. Most (56.5%) were parents of children ages 3 – 8.

The survey began with an introduction to the concept of consumer collaboration.

“Consumer collaboration typically refers to a process where companies work with consumers to create a brand new product or service together. Companies that collaborate with consumers recognize that customers have more to offer than revenue. They can also offer ideas, feedback, and time. Consumer collaboration includes an ongoing conversation between the company and the customer. As consumers’ opinions change or as ideas form, the company can respond in real time to create a product (or service) with greater value.”

Participants were then asked about the importance of using collaboration in addition to estimating the frequency they felt collaboration was practiced by companies. Next, the survey contained a mock blog product review and measures of interest. Each participant was randomly assigned to one of the six experimental conditions and presented one version of the blog stimuli. Approximately half (49%) were also shown information regarding the collaborative nature of the product’s development. Specifically, they were told the following: “The toy product you are about to see involved a process where the company, Clifton Toys, utilized consumer collaboration during every step of development. The result was a completely new product that reflected equal input from company personnel and parents like you who volunteered their time. In summary, the toy product you are about to view was created solely through the consumer collaboration process.” For those in the non-collaboration condition, this information was withheld from participants. The sample had a median income of $40,000-49,999, and 90% had at least some college. More than one-half of the sample (57%) had a college degree. The majority of the sample was female (66%) and the mean age of the respondents was 33 years.

Measures. The following three sets of measures were addressed: website evaluations; perceptions of trust and brand attitude, and purchase decisions. Website evaluations included a five-item semantic differential measure of trust in the blogger ($\alpha = .84$) drawn from prior research
on online credibility (Shamdasani, Stanaland, and Tan 2001; e.g., “This blogger is: unbelievable/believable”). Source credibility (e.g., Kozup, Creyer, and Burton 2003) included three seven-point scale items ($\alpha = .88$). Examples include “Based on the information provided, I believe the toy company marketing this product is:” (endpoints of “honest” and “dishonest”). Revisit intentions were measured with a single seven-point item. Participants were asked “What is the likelihood that you would revisit this blog again?” (endpoints of “not very likely” to “very likely”).

Company evaluations included a three-item semantic differential measure of trust in the company ($\alpha = .81$) used to determine the degree a company is perceived as reliable and capable (Sirdeshmukh, Singh, and Sabol 2001; e.g., “Overall, I think Clifton Toys is: very untrustworthy/very trustworthy”). For company responsivity, participants were asked to indicate if Clifton Toys was “very unresponsive to customers” or “very responsive to customers” on a single seven-point item. Brand attitude included three seven-point scale items ($\alpha = .91$) adapted from Sengupta and Johar 2002). Example include “I think Clifton Toys is a very good toy company” and “My opinion of CLIFTON TOYS is very favorable” (endpoints of “strongly disagree” to “strongly agree”).

Purchase decisions included purchase intentions and willingness to pay. PI included three seven-point scale items ($\alpha = .93$) drawn from prior research (Cook, Burton, and Howlett 2011; e.g., “How likely would you be to purchase the product, given the information shown?” (endpoints of “very unlikely” to “very likely”). WTP was a single-item measure. Participants were told the following: “Electronic learning tablets sold by other toy companies (of similar quality) sell for an average of $115.00 (in a range of $90 - $140, depending on the brand). Based
on this information, what would you be willing to pay for a learning tablet sold by this specific company given the information shown?” and asked to provide a numeric value.

Studies have shown a strong correlation between consumers’ inclinations to disbelieve marketing messages (e.g., advertisements) and their ability to attend and recall the information provided. Thus, advertising skepticism was included in the study as a control variable. Seven seven-point scale items ($\alpha = .94$) were modified from Obermiller and Spangenberg (1998). Examples include “Advertising is a reliable source of information about the quality and performance of products” (endpoints of “strongly disagree” and “strongly agree”). Finally, all participants were asked if they recognized the product in the blog (yes/no).

Results

**Manipulation & Attention Checks.** Near the end of the survey, after all dependent measures had been collected; participants were given four seven-point scale items adapted from Bhattacharya and Sen (2003) to assess the success of the collaboration manipulation. Examples include “Consumers and Clifton Toys have worked together to produce this product” and “This product, made by Clifton Toys, did not have any input from consumers” [R] (endpoints of “strongly disagree” and “strongly agree”). A pretest with 154 participants drawn from Mechanical Turk shows that when collaborative NPD information is shown, perceptions of collaboration are significantly higher (M = 6.1) than when information regarding traditional NPD is provided (M = 3.2, t = 11.6, df = 152, $p < .001$).

Participants were also shown the aforementioned collaboration information and then responded to the following question, “In the online blog that you saw in this survey, did you see the exact information about consumer collaboration?” When collaboration was absent, 68%
reported that they did not see the information while 55% correctly recalled seeing the information ($\chi^2 = 11.5$, df = 1, $p < .001$). Participants were also asked if the product shown was created in collaboration with consumers with 84% correctly confirming the presence of consumer collaboration. Next, participants were asked about the type of blog (i.e., managed by parents or by the toy company) they viewed. 87% of those shown a company-owned blog correctly identified their experimental condition while 88% correctly reported that they saw a parent-owned blog ($\chi^2 = 104.2$, df = 3, $p < .001$). To evaluate the effectiveness of the ‘payment disclosure’ manipulation, participants were asked about the blogger’s compensation. Crosstab analyses indicate 91% accuracy for those in the ‘product payment’ condition, 76% accuracy for those in the ‘monetary payment’ condition, and 78% accuracy for those in the control condition ($\chi^2 = 152.8$, df = 6, $p < .001$). These results indicate consumer awareness of the blog and collaboration manipulations when they were presented in the blog’s product review.

**Effects on Company, Website, and Consumer Evaluations.** Across all measures, the effect of collaborative NPD information had a favorable effect. As shown in Table 3, this information significantly improved perceptions of trust, source credibility, and brand attitude ($p$’s $< .05$ for each), supporting H1a. However, the main effect of collaborative NPD information was only marginally significant for both purchase decisions ($p < .1$ for both), partially supporting H1b. The second hypothesis predicted an interaction between disclosure blog types and the provision of consumer collaboration information on (1) website evaluations and (B) company evaluations. Table 3 reports the results supporting the prediction that collaboration information and blog types interact to influence several of our dependent measures. Plots for company responsivity and brand attitudes are shown in Figure 1.
As shown in the figure, the effects of a monetary payment disclosure are driving the two-way interaction for company evaluations. Without (with) collaboration there is a negative (positive) effect of the monetary payment disclosure. For perceptions of company responsivity (Panel A), the provision of collaboration information has no effect on the product payment consumer blog. Alternatively, perceptions for the monetary payment consumer blog and company blog significantly increase when collaboration information is provided. As suggested by the plots, contrasts for the differences are significant for the monetary payment condition \( F(1, 148) = 17.8, p < .001; \eta_p^2 = .11 \), and company blog \( F(1, 148) = 4.7, p = .032; \eta_p^2 = .03 \), but not for the product payment condition \( p > .4 \). A similar pattern of results emerge for trust in the company where contrasts of the differences are only significant for the monetary payment condition \( F(1, 148) = 12.9, p < .001; \eta_p^2 = .08 \), and company blog \( F(1, 148) = 3.9, p = .05; \eta_p^2 = .03 \), but not for the product payment condition \( p > .3 \). Contrasts for brand attitude (Panel B) also show significant improvement for the monetary payment condition \( F(1, 148) = 18.0, p < .001; \eta_p^2 = .11 \), and company blog \( F(1, 148) = 4.7, p = .03; \eta_p^2 = .03 \), but no difference for the product payment condition \( p > .6 \).

Website evaluations include perceptions of trust (of the blogger), source credibility, and revisit intentions. The significant main effects of collaboration and blog type were qualified by an interaction only for trust in the blogger \( F(2, 148) = 2.5, p = .08 \). Planned contrast tests show that the provision of collaboration information increases trust in the blogger only for the monetary payment condition \( F(1, 148) = 4.8, p = .03; \eta_p^2 = .03 \). There is no difference in the other conditions \( p’s > .1 \). The result is similar for source credibility where lower levels (i.e., the company is viewed as more credible) are shown when collaboration is present \( M = 2.45 \) than when absent \( M = 3.3; F(1, 148) = 6.3, p = .01, \eta_p^2 = .04 \). To our surprise, there is no difference
in revisit intentions for either consumer blog condition \((p’s > .2)\), yet intentions significantly increase for the company blog: \(M_{\text{coll, present}} = 4.1, M_{\text{coll, absent}} = 2.9; F(1, 148) = 6.8, p = .01, \eta^2_p = .04\). This suggests that collaboration information may be used as an engagement tool that is useful in driving traffic back to a company-managed site. Thus, these results offer full support for H2.

**Effects on Purchase Decisions.** Collaboration was also expected to moderate the effects of disclosure blog types on purchase decisions predicted in H3. An interesting, yet contradictory pattern of results emerge between intention and willingness to pay. For purchase intentions (Panel C), the moderating effect of consumer collaboration is insignificant for the product payment and company blog conditions \((p’s > .1)\). Only in the monetary payment consumer blog do purchase intentions significantly improve when collaboration information is provided: \(M_{\text{coll, present}} = 5.4, M_{\text{coll, absent}} = 4.1; F(1, 148) = 13.9, p < .001, \eta^2_p = .09\). However, an alternative pattern can be seen for willingness to pay (Panel D). In the product payment condition, participants are willing to pay more without collaboration information \((M = $95.75)\) than when collaboration information is present \((M = $83.57)\). As suggested by the plot, this contrast is significant \((F(1, 148) = 4.8, p = .03, \eta^2_p = .03)\). It is important to note that the control condition (consumer blog, no payment disclosure) reflects an identical pattern; \(M_{\text{coll, present}} = $86.69, M_{\text{coll, absent}} = $94.43\). However, the pattern of means support collaboration in the other conditions (monetary payment: \(M_{\text{coll, present}} = $92.44, M_{\text{coll, absent}} = $85.50\); company blog: \(M_{\text{coll, present}} = $91.44, M_{\text{coll, absent}} = $90.14\), though the differences are not significant \((p’s > .3)\). This may suggest WTP as a proxy for trust in the product. Since the products were created with unknown “others,” perhaps participants were not willing to pay as much as they would for products created solely by the company. Together, the results confirm the moderating effect of consumer
collaboration for consumer blogs (with product or monetary payment disclosures) and company blogs. These effects were indeed greater for the consumer blogs [effect sizes\(^3\) ranging from .04 (small) to .11 (large)] on consumer evaluations and purchase decisions- fully supporting H3. As the next hypotheses (H4) suggests, in the “economic motive” conditions where the blogger is compensated with money, contrasts show that the effect of collaboration is greatest \(F(1, 148) = 13.9, p < .001; \eta_p^2 = .09\), but only for purchase intentions. Though smaller, the effect of collaboration on WTP is higher with product payment \(F(1, 148) = 4.8, p = .03; \eta_p^2 = .03\). These results offer partial support for H4.

*Other Results: Effects Relative to the Trailer Control.* We also collected data for a baseline trailer control \((n=30)\) where the consumer blog had no payment disclosure and no mention of consumer collaboration. Bonferroni contrasts between this control and other dependent variables showed a varied pattern of effects across the various dependent variables. Since recent research (e.g., Sprott, Martin, and Martin 2012) has shown *negative* differences between the control (i.e., “authentic blog”) and blogs with product or monetary payment disclosures, the effects of the present research are unexpected. Interestingly, there are *no* differences between the trailer control and the product payment blog disclosure \((p’\text{s} > .2)\). The only exception is for consumer engagement where the difference is marginal \((M_{\text{control}} = 5.2, M_{\text{payment}} = 5.7; p = .08)\). For the monetary payment blog disclosure, differences exist only for company responsivity \((p = .043)\), trust in the company \((p = .04)\), and brand attitude \((p = .011)\). As expected, differences between the control and the company blog are significant \((p \leq .009)\).

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\(^3\) Norms for partial eta-squared \((\eta_p^2)\) effect sizes: small = 0.01; medium = 0.06; large = 0.14.
Values for trust the blogger, revisit likelihood, source credibility, company responsivity, trust in the company, and brand attitude are all lower for the company blog.

Experiment 2

Given the unifying nature of consumer collaboration, Experiment 2 was conducted to test how and why a company’s strategic use of collaborative NPD can result in favorable changes in consumers’ evaluations—especially in the presence of unfavorable blog disclosures. Studies of social preferences and perceived similarity have shown strong correlations with in-group behaviors (e.g., word of mouth) common in C2C communications (Kumar et al. 2010). Since social distance is expected to be antecedent to the formation of attitudes and evaluations, its underlying role in the effects of consumer collaboration are explored here.

Method

Experimental Design. A 2 (collaboration: present or absent) X 4 (disclosure blog type: consumer blog- no disclosure; consumer blog- product payment disclosure; consumer blog- monetary payment disclosure; company-owned blog) between-subjects experiment was conducted. Participants were 215 adult consumers obtained through MTurk. Cell sizes ranged from 26 to 28. Participants were first required to answer a qualifier question. Given the category (toys) of the product review included in the blog, only parents of at least one child ages 3 – 12 were invited to participate. As in Study 2, more than half of the sample (81.4%) were parents of children ages 3 – 8. Participants were then asked about the importance of using collaboration in addition to estimating the frequency they felt collaboration was practiced by companies. Next, the survey contained a mock blog product review and measures of interest. Each participant was randomly assigned to one of the eight experimental conditions and presented one version of the
blog stimuli. The sample had a median income of $50,000-59,999, and 88.4% had at least some college. More than one-half of the sample (61.1%) had a college degree. The majority of the sample was female (66.3%) and the mean age of the respondents was 35 years.

**Measures.** The following three sets of measures used in Study 1 were again addressed in the present study: website evaluations, company evaluations, and purchase decisions. Website evaluations included trust in the blogger (α = .85), source credibility (α = .88) and revisit intentions. Company evaluations included the same measure of trust in the company (α = .91), company responsivity, and brand attitude (α = .92). Purchase decisions included purchase intentions (α = .95) and WTP as a single-item measure. Participants were told the following: “Electronic learning tablets sold by other toy companies (of similar quality) sell for an average of $115.00 (in a range of $90 - $140, depending on the brand). Based on this information, what would you be willing to pay for a learning tablet sold by this specific company given the information shown?” and asked to provide a monetary value.

Given its hypothesized role of mediation, a multi-item scale was included for the current study. Four nine-point items (α = .92) were adapted from the work of Sirgy et al. (Sirgy et al. 1997) on product-user images. Examples include “I can identify with the Clifton Toys company” and “The Clifton Toys company is more like me” (endpoints of “strongly disagree” to “strongly agree”). Social distance also represents the degree of closeness or proximity felt by the consumer. Several items were added similar to the Inclusion of Other in the Self (IOS) scale (Aron, Aron, and Smollan 1992) where participants are asked to describe which pair (self versus other) of overlapping circles best describes a specific relationship. Specifically, participants were shown an illustration of a target with an interval of “1 = smallest distance” and “7 = furthest distance”. They were told the following: “The image shown is an illustration of various levels of
distance between you and others. Distance is a perception of how close you feel with another entity (such as a person or company). “1” represents the smallest possible distance between you and someone else. On the other hand, a “7” represents the largest possible distance between you and someone else.” They were then asked the following: “Think of a person you feel closest to. Examples include a spouse, a girlfriend, a boyfriend, a best friend, or a parent. What is the level of distance you have with this person?” A similar question was asked for a person each participant did not feel close to. Finally, all participants were asked to describe the level of distance they have with the toy company, given the information shown (endpoints of “1 = smallest distance” and “7 = largest distance”).

A measure of engagement was also included to assess consumers’ perceptions of participation and connection with the company. Nine seven-point items (α = .93), from Vivek (2009), were shown to participants. Examples include “This company cares about my ideas” and “Based on the information provided in the blog, I would enjoy sharing my opinions with this company” (endpoints of “strongly disagree” to “strongly agree”).

Results

Awareness Checks. Near the end of the survey, after all dependent measures had been collected, participants were shown the aforementioned collaboration information and then responded to the following question, “Was the product (electronic learning device) shown in this survey created in collaboration with consumers?” When collaboration was absent, 84.6% reported that the product they saw was not collaboratively developed while 67% correctly recalled the collaborative nature of the product in the review ($\chi^2 = 48.5$, df = 1, $p < .001$). Next, participants were asked about the type of blog (i.e., managed by parents or by the toy company)
they viewed. Nearly all participants (91.8%) shown a company-owned blog correctly identified their experimental condition while 99% correctly reported that they saw a parent-owned blog ($\chi^2 = 172.7$, df = 3, $p < .001$). To evaluate the effectiveness of the ‘payment disclosure’

manipulation, participants were also asked about the blogger’s compensation. Crosstab analyses indicate 91.1% accuracy for those in the control ‘no payment’ condition, 73.8% accuracy for those in the ‘product payment’ condition, and complete (100%) accuracy for those in the ‘monetary payment’ condition ($\chi^2 = 184.5$, df = 4, $p < .001$). These results indicate consumer awareness of the blog and collaboration manipulations when they were presented in the blog’s product review.

Effects on Website, Company, and Consumer Evaluations. The results of Study 2 provide additional support for the hypotheses tested in Study 1 and are also supportive of the mediation hypothesis introduced in the current study. As predicted in H2 and H3, collaboration information and blog types interact to influence several of the dependent measures. Plots and ANOVA results are shown in Table 4 and Figure 3.

Website evaluations, which include perceptions of trust in the blogger, source credibility, and site revisit intentions, show a similar pattern where the effects of collaboration (CB) are moderated by the disclosure blog type (DBT) in contradictory ways. The significant main effects of DBT ($p$’s < .001 for each) are qualified by a significant interaction for trust in the blogger ($F(3, 207) = 3.86, p = .01; \eta^2_p = .05$) and source credibility ($F(3, 207) = 2.31, p = .07; \eta^2_p = .03$).

For example, when a blogger receives no compensation (∙ no disclosure) the effects of NPD collaboration are positive ($M_{\text{collab present}} = 4.96$, $M_{\text{collab absent}} = 4.37$) although not significantly different ($F(1, 207) = 2.13, p = .1$). However, contrasts show that when the blogger is compensated with free product the effects of collaboration become significantly unfavorable
(M_{collab present} = 3.93, M_{collab absent} = 5.08; F(1, 207) = 7.86, p = .006). These opposing effects (Panel A) suggest that collaborative product development will have favorable effects when the information provider (i.e., blogger) is not paid with product. Since these measures reflect perceptions of the product reviewer, the effects of collaboration NPD information enhance overall credibility except when product payment already establishes a baseline perception of trust and reliability. For example, without the provision of collaboration information, consumers’ trust in the blogger is significantly greater with a product payment disclosure (M = 5.08) than a monetary payment disclosure (M = 3.85) as shown in an independent samples t-test (t(50) = 3.21, p = .002). A similar pattern emerges where source credibility is higher (i.e., more favorable) when the blogger receives product payment (M = 5.44) than monetary payment (M = 4.51; t(50) = 3.58, p = .001). These results suggest that consumers attribute greater credibility overall to a blogger who received the product he/she is reviewing as compensation (as illustrated in the ‘product payment’ condition shown in the Appendix) more than if he/she simply received monetary compensation (i.e., economic motivation).

Unlike website evaluations, the main effects of collaborative NPD information on company evaluations are positive across all blog types. Evaluations, which include trust in the company, perceptions of company responsivity, and brand attitude, are significantly different for DBT and collaboration information (p’s < .001 for all six main effects). The effects of the control and monetary payment disclosure are driving the two-way interaction for trust in the company (F(3, 207) = 2.94, p = .034; $\eta_p^2 = .04$) and perceptions of company responsivity (F(3, 207) = 3.51, p = .016; $\eta_p^2 = .05$). Without (with) collaboration there is a negative (positive) effect for both conditions. Contrasts show a favorable effect on trust in the company (Panel B) when the collaborative nature of the new product is shared for a blogger who receives no compensation.

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(M_{collab present} = 5.56, M_{collab absent} = 4.92; F(1, 207) = 6.83, p = .01) or receives monetary compensation (M_{collab present} = 5.46, M_{collab absent} = 4.67; F(1, 207) = 10.4, p = .001). A similar pattern of results emerge for company responsivity where contrasts of the differences are only significant for the control condition (F(1, 207) = 6.28, p = .013), and monetary payment disclosure (F(1, 207) = 17.1, p < .001), but not for the product payment condition or company blog (p > .7). Contrasts for brand attitude also show significant improvement when the blogger receives no compensation (F(1, 207) = 6.03, p = .015) or monetary compensation (F(1, 207) = 2.92, p = .09), but no difference for the product payment or company blog conditions (p > .6).

While there are no significant differences in perceptions of social distance or engagement across disclosure blog types, there are significant main effects for the presence (or absence) of collaboration (p ≤ .01 for each). For consumer engagement, these main effects are qualified by a significant interaction (F(3, 207) = 2.98, p = .032; $\eta^2_p = .04$) where participants are more engaged when the blogger receives no compensation (M_{collab present} = 5.62, M_{collab absent} = 3.89) or monetary compensation (M_{collab present} = 5.56, M_{collab absent} = 4.37). As suggested by the plot (Panel C), contrasts confirm these significant differences (p ≤ .002 for both). Results for social distance (Panel D) are similar and reveal dramatically reduced perceptions of social identity distance only when the blogger is not compensated with free product. However, follow-up contrasts show that only differences for the monetary payment condition are significant (F(1, 207) = 4.98, p = .027).

Results for both measures provide favorable implications for companies who compensate product reviewers with money and face harmful effects when these types of material connections are disclosed to other consumers.

**Effects on Purchase Decisions.** Consumers’ predictions of purchase intent are significantly higher when collaboration NPD information is provided (M_{collab present} = 4.78, M_{collab absent} = 4.25; F(1, 207) = 7.62, p = .007).
absent = 4.34; F(3, 207) = 5.12, \( p = .025; \eta^2_p = .02 \). While the difference across disclosure blog types is only marginally significant, the effect size is larger (\( M_{\text{control}} = 4.86, M_{\text{prod payment}} = 4.79, M_{\text{pay}} = 4.31, M_{\text{comp blog}} = 4.29; F(3, 207) = 2.56, p = .056; \eta^2_p = .04 \)). As in Study 2, collaboration was also expected to moderate the effects of disclosure blog types on purchase decisions predicted in H3. For purchase intentions, the moderating effect of consumer collaboration is nonsignificant for all conditions except the control (\( p’s > .2 \)). Only when there is no material disclosure made on a consumer’s blog do purchase intentions significantly improve when collaboration information is provided: \( M_{\text{collab present}} = 5.29, M_{\text{collab absent}} = 4.41; F(1, 207) = 5.35, p = .02 \).

For willingness to pay in the product payment condition, unlike the results shown in Study 2, participants are willing to pay more with collaboration information (\( M_{\text{collab present}} = $96.96 \)) than when collaboration information is absent (\( M = $92.86 \)). However, this main effect is not significant (\( p > .2 \)). Similarly, the main effect for disclosure blog type and the interaction between both manipulations are not significant (\( p > .4 \) for both). While the results from Study 2 suggested a negative effect of collaboration on consumers’ price willing to pay, results from the current study remain inconclusive.

**Mediating Effects of Social Distance.** H5 predicted that consumers’ perceptions of social distance (i.e., an absence of identity) mediates the effects of collaborative NPD on our modeled measures. To test mediation, the Preacher and Hayes’s (2008) bootstrap method (n = 1,000 samples) via Hayes’ (2012) PROCESS SPSS macro (Model 5) was used. In determining trust in the blogger, the direct effect of collaborative NPD was not significant (\( p > .9 \)) but became fully significant when social distance was entered into the model (\( t = 2.74, p = .007 \)), suggestive of indirect only mediation (CI .04 to .27). Generally, bootstrapping is considered superior to the
older methodology of Sobel testing since assumptions of normal distributions become redundant (Preacher and Hayes 2004). As desired in all confidence intervals across all measures, the resulting bootstrap intervals never contain a zero. Similarly, the effects of consumer collaboration on source credibility were mediated by social distance. The direct effect was not significant (\( p > .2 \)), however the indirect effect was significant (\( t = 2.7, p = .006; CI -.29 \) to -.04). The direct effect of collaboration on trust in the company were marginally significant (\( t = 1.86, p = .06 \)) but became fully significant with social distance as a modeled mediator (\( t = 2.75, p = .006; CI .04 \) to .29). As shown in Table 5, a similar pattern of indirect-only mediation was observed for brand attitude (CI .05 to .35), consumer engagement (CI 0.04 to .29), purchase intentions (CI 0.7 to 0.46), and the price consumers were willing to pay (CI $0.59 to $4.44). Results suggest that collaboration works through perceptions of social identity distance to have favorable effects across the measures, as suggested in H5.

**General Discussion**

In a recent survey of nearly 4,000 marketers from around the world, most reported plans to significantly decrease their use of traditional marketing communications (Stelzner 2012). For example, 53% have no plans to use or will decrease the use of print ads (p. 38). A large majority (78%) have no plans to use or will decrease the use of television ads (p. 39). Alternatively, 68% indicate plans to increase the use of blogs (p. 26). This pattern is also reflected for other media channels and suggests a positive response by companies for consumers’ changes in communication preferences. Consumers want information about brands and products to be delivered in a socially interactive manner. While commercial websites fail to meet this need, other online venues (e.g., blogs, forums, and social networks) easily address this issue. This shift
generally results in greater C2C discourse, but new ways of integrating the consumer into value creation has presented an opportunity for better relationship management. Consumer collaboration is a powerful marketing strategy. Its benefits include increased satisfaction, higher levels of brand loyalty, and a more sustainable competitive advantage (Roser and Samson 2009). Of equal significance, as the present research illustrates, is the ability for collaboration to indirectly engage consumers in a way that also promotes positive evaluations and purchase decisions.

Many companies have identical marketing measures of social media success. Unfortunately, these measures create a “one-dimensional social experience” (Universal McCann 2012, p. 13) for consumers. These shallow relationships occur when companies ask their customers to ‘like’ them on Facebook or provide them with a coupon on a blogger’s site. On the other hand, co-creative collaboration represents a very deep relationship used for building or promoting products and brands. Collaborating with every consumer is limited to those firms specializing in customized products. Most companies, though, offer mass-produced products. For these companies, the implications of collaboration information represent critical new ways to credibly (and more persuasively) market products to consumers en masse while efficiently managing resources.

Managerial and Policy Implications

Our results extend previous research by increasing the external validity of our findings with stimuli modeled after actual consumer blogs (i.e. not scenario-based). The role of collaboration information is shown as a useful tool in moderating the negative effects of a blog’s disclosure (e.g., monetary payment) and source (e.g., company-owned) on consumer evaluations.
These results extend to a greater number of companies that are unlikely to utilize direct collaboration for all customers. Together, these results have implications for producers, for consumers, and for policy makers. The significantly positive effect of collaboration information also has important managerial implications. These results are promising for those marketing managers who need to comply with FTC regulations yet want to utilize collaboration to improve brand perceptions and purchase decisions without the use of covert tactics. Other policy implications stem from the current societal view of capitalism that has limited the role of companies in addressing social issues. As Porter and Kramer (2011) note, “the purpose of the corporation must be redefined as creating shared value, not just profit per se. This will drive the next wave of innovation and productivity growth in the global economy. It will also reshape capitalism and its relationship to society. Perhaps most important of all, learning how to create shared value is our best chance to legitimize business again” (page 64). Even if consumers are not directly engaged by companies to co-create products (i.e. shared value), the simple knowledge of collaborative NPD may be enough to strengthen one of the most important factors needed for a strong and long-lasting relationship—trust.

Limitations and Future Research

A few limitations that restrict the generalizability of our findings should be recognized. First, the collaboration tactics studied here represent only the highest end of dual co-creation with consumers (i.e., equal input from consumers and the firm). Since collaboration represents a continuum of consumer involvement, future research could investigate the effects of collaboration information with tactics that involve low (e.g., crowdsourcing) and medium levels (e.g., group achievement). Second, the lack of main or interactive effects for social distance may
reflect its contextual dependence. For example, Study 2 included a low-involvement product (electronic learning tablet toy) where the tendency to engage in effortful processing may be low (Chaiken, Liberman, and Eagly 1989). Future research could incorporate high-involvement products (e.g., cars or prescription drugs) to test the role of social distance when self-relevance and processing effort are higher. Social distance and other measures of psychological distance are also highly correlated with temporal orientation. As a result, temporal orientation and other individual difference factors may have a moderating influence on collaboration information that future research could address.

Next, there was forced exposure to the experimental stimuli and the setting in which responses were obtained may differ from the typical online environment where consumers retrieve information from multiple sources. Other contextual variables (e.g., other posts from the same blogger) and marketing mix factors (e.g., online banner ads) may also influence responses, yet were not accounted for in the present research.

Consistent with the FTC’s legislation requiring the disclosure of any material connection between an online advertiser (such as a blogger) and a company, our objective was to address a concern that is timely and critical to marketing managers, consumers, and policy makers. Given the practical nature of our research objectives, our final limitation is the application of relevant theory (S-D logic) rather than a specific contribution. Therefore, future research could address topics such as utility variety (e.g., time, place) that conceptually enhance S-D logic and relevant theories of relationship marketing. Future research that examines changes in time utility (for example) with direct collaboration (i.e. products created through self-customization) versus indirect collaboration (i.e. products created collaboratively by others) would enrich our theoretical knowledge in addition to helping marketers develop more efficient NPD strategies.
Ultimately, marketers should keep in mind that modern utility is no longer linear. Consumers no longer need to be on the receiving end of value when they can help companies create and grow value for themselves and others.
### TABLE 1.1
Exploratory Study: Themes, Examples, and Frequencies (n = 240)

<table>
<thead>
<tr>
<th>Themes</th>
<th>Example</th>
<th>Frequency (% Total)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product or process improvement</strong></td>
<td>“Involve customers into the process of improving the goods or services provided by a company.”</td>
<td>556 (24.8%)</td>
</tr>
<tr>
<td><strong>Idea implementation</strong></td>
<td>“Listen to the consumer, take their ideas and implement them.”</td>
<td>365 (16.3%)</td>
</tr>
<tr>
<td><strong>Involve</strong></td>
<td><strong>Product development</strong></td>
<td>“Encourage active feedback from customers and actually listen to and incorporate information from that feedback in developing products.”</td>
</tr>
<tr>
<td><strong>C2C Interaction</strong></td>
<td>“Having an active and real, not pandering, social media presence makes a world of difference. Foster an [online] community, encourage interaction not just between company and consumer, but between consumers as well.”</td>
<td>91 (4.1%)</td>
</tr>
<tr>
<td><strong>Connect</strong></td>
<td><strong>Product testing</strong></td>
<td>“Companies need to also send samples to potential consumers in order for them to be able to try the product and get a taste for the quality of it as well.”</td>
</tr>
<tr>
<td><strong>Blogger relationships</strong></td>
<td>“Reach out to bloggers (they are amazingly tied to their readers!) Make the public feel like more than just a sale or dollar amount.”</td>
<td>36 (1.6%)</td>
</tr>
<tr>
<td><strong>Communicate</strong></td>
<td><strong>Share stories</strong></td>
<td>“I like to hear other people’s experiences with that brand.”</td>
</tr>
<tr>
<td><strong>Consumer’s voice</strong></td>
<td>“I want to see what real people say.”</td>
<td>191 (8.5%)</td>
</tr>
<tr>
<td><strong>Authenticity</strong></td>
<td><strong>Feedback from current or potential consumers</strong></td>
<td>“It means a company solicits feedback from people who actually uses or may use the product that is either out in the marketplace or is about to be introduced to the marketplace.”</td>
</tr>
<tr>
<td><strong>Listen</strong></td>
<td><strong>First steps for improvement</strong></td>
<td>“Begin by asking consumers our thoughts which then allows [the company] to better develop products that consumers actually need and will purchase.”</td>
</tr>
</tbody>
</table>

Note: All open-ended textual responses were coded using QSR International’s NVivo 9 software program.
**TABLE 1.2**  
Exploratory Study: Elements, Consequences, and Interpretation of Collaboration

<table>
<thead>
<tr>
<th>Themes</th>
<th>Example</th>
<th>Frequency</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Elements of Collaboration</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experience</td>
<td></td>
<td>118</td>
<td>49.2</td>
</tr>
<tr>
<td>Social Interaction</td>
<td></td>
<td>61</td>
<td>25.4</td>
</tr>
<tr>
<td>Active Participation</td>
<td></td>
<td>34</td>
<td>14.2</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td></td>
<td>17</td>
<td>7.1</td>
</tr>
<tr>
<td>Communication</td>
<td></td>
<td>10</td>
<td>4.1</td>
</tr>
<tr>
<td><strong>Consequences of Collaboration</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td></td>
<td>141</td>
<td>58.8</td>
</tr>
<tr>
<td>Emotional Commitment</td>
<td></td>
<td>64</td>
<td>26.7</td>
</tr>
<tr>
<td>Word of Mouth</td>
<td></td>
<td>20</td>
<td>8.3</td>
</tr>
<tr>
<td>Brand Loyalty</td>
<td></td>
<td>10</td>
<td>4.1</td>
</tr>
<tr>
<td>Brand Community Involvement</td>
<td></td>
<td>4</td>
<td>1.6</td>
</tr>
<tr>
<td>Goodwill</td>
<td></td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Consumers’ Interpretation of Engagement Importance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Changing: educate, enable, integrate, listen, utilize</td>
<td></td>
<td>326</td>
<td>18.1</td>
</tr>
<tr>
<td>Community: blog, communication, educate, forum, speak, understanding</td>
<td></td>
<td>316</td>
<td>17.5</td>
</tr>
<tr>
<td>Events: fun, loyalty, online, presence</td>
<td></td>
<td>264</td>
<td>14.6</td>
</tr>
<tr>
<td>Think: consider, design, research, time</td>
<td></td>
<td>244</td>
<td>13.5</td>
</tr>
<tr>
<td>Active: attention, excite, feedback, impression, proactive, seeking, support</td>
<td></td>
<td>221</td>
<td>12.3</td>
</tr>
<tr>
<td>Concept: brand, part, product, variety</td>
<td></td>
<td>221</td>
<td>12.3</td>
</tr>
<tr>
<td>Product: line, making, profitability</td>
<td></td>
<td>212</td>
<td>11.8</td>
</tr>
</tbody>
</table>

Note: Frequency for the elements and consequences of collaboration are based on responses ranked 1 (= first). Thematic nodes for consumers’ interpretations were initially created using a generalized word frequency cluster analysis.
### TABLE 1.3
Experiment 1: Effects of Consumer Collaboration and Disclosure Blog Types on Website, Company Evaluations, and Purchase Decisions

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Website Evaluations</th>
<th>Company Evaluations</th>
<th>Purchase Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trust in Blogger</td>
<td>Source Credibility</td>
<td>Revisit Intentions</td>
</tr>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disclosure Blog Type</td>
<td>21.8****</td>
<td>7.59****</td>
<td>6.96****</td>
</tr>
<tr>
<td>(DBT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaboration (CB)</td>
<td>2.88*</td>
<td>7.29***</td>
<td>6.40**</td>
</tr>
<tr>
<td><strong>Interaction Effects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DBT x CB</td>
<td>2.48*</td>
<td>.706</td>
<td>1.09</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Company Evaluations</th>
<th>Purchase Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trust in Company</td>
<td>Company Responsivity</td>
</tr>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disclosure Blog Type</td>
<td>5.76***</td>
<td>3.61**</td>
</tr>
<tr>
<td>(DBT)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaboration (CB)</td>
<td>14.6****</td>
<td>10.1***</td>
</tr>
<tr>
<td><strong>Interaction Effects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DBT x CB</td>
<td>1.62</td>
<td>6.39***</td>
</tr>
</tbody>
</table>

With Advertising Skepticism as Covariate

**** $p \leq .001$; *** $p \leq .01$; ** $p \leq .05$; * $p \leq .1$
**TABLE 1.4**  
Experiment 2: Effects of Consumer Collaboration and Disclosure Blog Types on Website, Company, and Consumer Evaluations and Purchase Decisions

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Website Evaluations</th>
<th>Company Evaluations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trust in Blogger</td>
<td>Source Credibility</td>
</tr>
<tr>
<td>Disclosure Blog Type (DBT)</td>
<td>22.5****</td>
<td>8.94****</td>
</tr>
<tr>
<td>Collaboration (CB)</td>
<td>.016</td>
<td>3.54*</td>
</tr>
</tbody>
</table>

**Interaction Effects**

| DBT x CB | 3.86*** | 2.31* | 1.41 | 2.94** | 3.51** | .675 |

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Consumer Evaluations</th>
<th>Purchase Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Social Distance</td>
<td>Engagement</td>
</tr>
<tr>
<td>Disclosure Blog Type (DBT)</td>
<td>1.26</td>
<td>1.79</td>
</tr>
<tr>
<td>Collaboration (CB)</td>
<td>6.92***</td>
<td>24.2****</td>
</tr>
</tbody>
</table>

**Interaction Effects**

| DBT x CB | .841 | 2.98** | .832 | .451 |

With Advertising Skepticism as Covariate  
**** $p \leq .001$; *** $p \leq .01$; ** $p \leq .05$; * $p \leq .1$
TABLE 1.5

Experiment 2: Tests for the Mediating Role of Social Distance on Perceptions of Trust in the Company with Moderated Mediation Analysis

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Model 1 Trust in the Company</th>
<th>Model 2 Social Distance (Mediator)</th>
<th>Model 3 Trust in the Company</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unstdized Coefficient&lt;sup&gt;a&lt;/sup&gt;</td>
<td>T-values</td>
<td>Unstdized Coefficient&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Collaboration (E1)</td>
<td>.18</td>
<td>2.88***</td>
<td>.32</td>
</tr>
<tr>
<td>EC1&lt;sup&gt;d&lt;/sup&gt;</td>
<td>.11</td>
<td>1.03</td>
<td>-.05</td>
</tr>
<tr>
<td>EC2&lt;sup&gt;d&lt;/sup&gt;</td>
<td>.32</td>
<td>3.00***</td>
<td>.37</td>
</tr>
<tr>
<td>EC3&lt;sup&gt;d&lt;/sup&gt;</td>
<td>-.07</td>
<td>-.63</td>
<td>-.02</td>
</tr>
<tr>
<td>E1 x EC1</td>
<td>.14</td>
<td>1.35</td>
<td>.13</td>
</tr>
<tr>
<td>E1 x EC2</td>
<td>-.18</td>
<td>-1.67*</td>
<td>-.28</td>
</tr>
<tr>
<td>E1 x EC3</td>
<td>.22</td>
<td>2.05**</td>
<td>.22</td>
</tr>
<tr>
<td>Social Distance</td>
<td></td>
<td></td>
<td>.27</td>
</tr>
</tbody>
</table>

Note: Model 1 assesses initial effects on consumers’ trust in the company. Models 2 assess effects on the proposed mediator, social distance. Model 3 addresses effects on trust in the company when the proposed mediator (social distance) is also included as predictors (Muller et al. 2005). The confidence intervals associated with 1,000 bootstrap samples for the indirect effect through social distance do not indicate significant mediation (i.e., confidence intervals contained a value of zero; see Zhao et al. 2010; Hayes 2011; 2013). However, there is evidence to suggest that moderation is reduced: |c’| - |c| > 0 for each interaction term.

<sup>a</sup> Mediation C-path (i.e., direct effect).
<sup>b</sup> Mediation A-path.
<sup>c</sup> Mediation C-prime (C’) path.

* p < .10 (two-tailed); ** p < .05; *** p < .01; **** p < .001
Notes: Bhattacharya and Sen (2003) identified “identity attractiveness” as a key antecedent to C-C identification while “identity embeddedness” was suggested as a primary moderator. In the context of integrative collaborative NPD strategy in the C2C communication domain, I propose instead that the more “upstream” a consumer is in a business process (e.g., moving from WOM during a product launch to offering ideas during the idea generation phase) the greater their “embeddedness” is. This effect is mediated through consumers’ perceptions of social distance where lower perceived distance reflect greater identification with the company. Alternatively, “identity attractiveness” is based on the communication source and increases as the communication source (i.e., message encoder) becomes more similar to the message decoder (e.g., a peer consumer blogger on his/her own site would have greater identity attractiveness than consumer blogger on a company-owned site. In this example, messages on a company-owned blog are similarly persuasive as traditional marketing messages (e.g., print advertisements).
FIGURE 1.2
Experiment 1: Plots of the Moderating Role of Consumer Collaboration on varying Blog and Disclosure Types

A: Interaction Plot for Company Responsivity

B: Interaction Plot for Brand Attitude

Note: Experimental conditions are: **Condition 1** (consumer blog, product payment disclosure), **Condition 2** (consumer blog, monetary payment disclosure), **Condition 3** (company blog, no disclosure)
FIGURE 1.2, cont.
Experiment 1: Plots of the Moderating Role of Consumer Collaboration on varying Blog and Disclosure Types

C: Interaction Plot for Purchase Intentions

D: Interaction Plot for Willingness-to-Pay

Note: Experimental conditions are: Condition 1 (consumer blog, product payment disclosure), Condition 2 (consumer blog, monetary payment disclosure), Condition 3 (company blog, no disclosure)
FIGURE 1.3
Experiment 2: Plots of the Moderating Role of Consumer Collaboration on varying Blog and Disclosure Types

A: Interaction Plot for Trust in the Blogger

B: Interaction Plot for Trust in Company

Note: Experimental conditions are: Condition 1 (consumer blog, no disclosure), Condition 2 (consumer blog, product payment disclosure), Condition 3 (consumer blog, monetary payment disclosure), Condition 4 (company blog, no disclosure)
FIGURE 1.3, cont.
Experiment 2: Plots of the Moderating Role of Consumer Collaboration on varying Blog and Disclosure Types

C: Interaction Plot for Consumer Engagement

D: Interaction Plot for Social Distance

Note: Experimental conditions are: **Condition 1** (consumer blog, no disclosure), **Condition 2** (consumer blog, product payment disclosure), **Condition 3** (consumer blog, monetary payment disclosure), **Condition 4** (company blog, no disclosure)
REFERENCES


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APPENDIX 1.1

Experimental Studies: Consumer Blog; Product Payment Disclosure

Note: The blog’s ‘Disclosure of Material Connection’ is made in accordance with FTC §255.0 of the “Guides Concerning the Use of Endorsements and Testimonials in Advertising” (FTC 2009)
APPENDIX 1.2

EXPERIMENT 2: Social Distance Items Target Measure

The image (shown above) is an illustration of various levels of distance between you and others. Distance is a perception of how close you feel with another entity (such as a person or company). “1” represents the smallest possible distance between you and someone else. On the other hand, a “7” represents the largest possible distance between you and someone else.

Note: To contextualize the concept of social distance, participants were told the following: “Think of a person to whom you feel the closest. Examples include a spouse, a girlfriend, a boyfriend, a best friend, or a parent. What is the level of distance you have with this person?” A similar question was asked concerning a person to whom each participant did not feel close. All participants were then requested to describe the level of distance they have with the toy company, given the information shown.
ESSAY 2

SHARED-VALUE OR MERE COMMERCIALIZATION? FACTORS THAT INFLUENCE PERCEPTIONS OF COLLABORATIVE PRODUCT DEVELOPMENT

*Your job at the early stage of innovation is to get into the shoes of your customer, understand her life, and look for insights that give you ideas on products that you could create that would surprise and delight her.*

—Gilbreath 2012

Consumers expect greater involvement in the product and service offerings of firms. In response, the integration of consumers into the product development process, a technique known as collaborative product development (CPD), has become of interest to researchers across disciplines. CPD has become a “looking glass” technique that fosters an enhanced sense of shared identity. Here, consumers’ perceptions of the firm change from an “us versus them” perception to a “we” orientation. Certainly, perceptions of the firm affect how consumers respond to brand offerings (Brown et al. 2006). As such, the strategic utilization of CPD emerges as an important consideration for marketers who need to build and support the firm’s reputation. Currently, most collaborative relationships with consumers are conducted ad hoc—without precedent to guide marketers’ decision-making. What, then, are the implications of consumer collaboration across the most common business practices including product development and promotion? Does CPD become more influential in product evaluation as it becomes more embedded in a business’s core offering? In other words, collaboration used to promote a new product (i.e., late-stage collaboration) may not create as strong of a connection with the consumer as collaboration used to create and develop that new product (i.e., early-stage collaboration). Overall, the potential implications of CPD variations provide the setting for
additional research in this domain. Moreover, marketers and researchers have not addressed the separate differences in consumer outcomes between the various *types* of product collaboration.

In the current research, I suggest that a firm’s competitive advantage can be supported through its relationships with consumers. CPD, then, connotes a strong commitment to maintaining customer involvement in value creation. This paper attempts to delineate the effects of CPD by focusing on the rudimentary phases of idea creation and selection, through the advanced stages of creation, to the point of product promotion. The objective, then, is to understand the distinct roles *each stage* (i.e., early vs. late) in the CPD process has on consumers’ cognitive and behavioral responses. First, I examine how CPD outcomes differ as a function of consumers’ involvement with the product. Here, involvement is manipulated a variety of ways (Studies 1-A and 1-B) in order to examine its relationship to various perceptions of risk along the product development continuum. In the second study, collaborator-specific differences (i.e., collaboration motivation) are tested to assess changes in consumer outcomes. In the final study, brand trust is manipulated to test how changes in the combined effects of CPD and collaborator motivation (trust-relevant information) differentially impact consumers’ attitudes and behavioral intentions for trusted, untrusted, and trust-unknown brands.

In the first study (1-A), results show that perceptions become more favorable for early-stage CPD and this effect is strengthened for those who value collaboration the most. In other words, as collaboration becomes more embedded (i.e., occur earlier) in the product development process, consumers’ evaluations of the product and the company are favorably influenced. This study also shows that perceptions of identity between the consumer and the firm do *not* differ between promotional CPD and the control (i.e., no collaboration), but significantly improve when the product has been created through early-stage CPD. Next, Study 1-B replicates the
previous results and also shows that for those who value collaboration the most and when product involvement is low, trust significantly improves for promotional CPD. However, when product involvement is high, trust is improved only for products created with early-stage CPD. An important outcome is the distinction between when and how perceptions of trust, and other consumer outcomes, become positively yet differentially influenced by the specific stages of CPD.

In Study 2, results show how differences in information related to the collaborator’s motivation (i.e., intrinsic, extrinsic, or mixed) influence perceptions of credibility, brand trust, user similarity, and willingness to collaborate. For example, when the collaborator has been intrinsically-motivated, trust improves most during promotional CPD. Alternatively, when the collaborator has been extrinsically-motivated, trust is substantially improved during each early-stage (idea generation, idea selection, or advanced development) CPD. In the final study (3), early-stage CPD favorably influences consumer perceptions of product quality. Additionally, overall perceived collaboration is perceived as higher for early-stage CPD when compared with late-stage (i.e., promotional) CPD. While each form of collaboration along the development timeline may be objectively similar, consumers’ subjective interpretation of each form of CPD vary significantly in favor of collaboration that occurs earlier in the process. This study also shows the countervailing effects of CPD stage and motivation where intrinsic-motivation has significantly more favorable implications for late-stage CPD. Conversely, extrinsic-motivation has more favorable implications for early-stage CPD.

Additionally, I show that the CPD phase is systematically affected by social distance and this relationship changes as a function of collaboration importance and brand trust. A primary contribution of the current research is transposing the concept of social distance into a CPD
context. Across all four studies, the conditional indirect effects of CPD (as a function of collaboration importance) occur through this critical mechanism: perceived social distance. Specifically, the first three experiments (Studies 1-A, 1-B, and 2) show when (i.e., during specific development stages) collaboration works through perceptions of social distance to have favorable effects across measures of identity, attitude, and behavioral intentions. The final experiment (Study 3) uses mediation, with sequential coding of groups (Hayes and Preacher 2013), to show that the effects of brand trust are fully mediated by social distance. Each incremental improvement in trust (low, unknown, and high) leads to sequentially more favorable consumer outcomes.

The rest of this essay is organized as follows. First, I review the social psychology and information-processing literatures, discussing current expectations in the domains of product involvement, collaborator motivation, and brand trust. Second, I propose hypotheses that identify the conditions under which early and late-stage CPD differences would be observed. Third, four experiments are presented that test each hypothesis and illustrate the critical role social distance has as the underlying process that aids a firm’s use of pre- or post-promotion collaborative product development under a variety of product and brand-specific differences. Finally, I discuss the theoretical and managerial implications of the results.

**CPD Stages and Social Distance**

The advent of consumer engagement has driven interest in the philosophy and implications of using collaborative product development (see Brodie et al. 2011 and Van Doorn et al. 2010). Led by technological advancements, incorporating consumers into the marketing mix- a process known as consumer collaboration, has become a feasible and attractive strategy for firms. Additionally, consumers’ perceptions of power (Kerr et al. 2012) and empowerment
(Fuchs and Schreier 2011; Füller et al. 2009) have increased. A consistent outcome here is the expectation of greater involvement in firms’ product and service offerings (i.e., value creation). As Hoyer et al. (2010) describe, collaboration specifically in product development is of critical importance and reiterates the need for additional research in this domain. Together, the interests of firms and consumers provide a favorable environment for scholarly research in this area.

Though collaboration research has become increasingly popular, the context of most studies tends to be focused on a comparison of consumer-created goods with those created solely by the firm. For example, Schreier, Fuchs, and Dahl (2012) found that user-designed products led to significantly more favorable consumer perceptions regarding a firm’s ability to innovate. Given the tendency to associate users as less adept in design, these results highlight the powerful role collaboration has in generating favorable consumer outcomes. However, the authors recognize the restrictions in generalizability because their studies focus only on the extreme applications of collaboration (i.e., fully user-generated or not). A similar comparison has been made in advertising research (e.g., Thompson and Malaviya 2013) where collaboration had favorable outcomes for peripheral (i.e., not directly involved) consumers. Importantly, while extant research has significantly added to the discussion on consumer collaboration, there remains a gap in the type of collaboration that has been studied and the form that is most likely to be used by the firm: namely joint (consumer and firm) collaboration. The current research not only examines joint collaboration (in general) but adds to this body of literature by examining various degrees of collaboration along the product development timeline.

In addition to creating a new stream of innovation, firms may use CPD with consumers to engender a positive (i.e., favorable) formation of communal (i.e., connective and horizontal associations versus vertical and contrastive comparisons; Locke 2003) identity. In the context of
business-consumer relationships, this association is often described as consumer-company (C-C) identification (Bhattacharya and Sen 2003). A promising avenue for the development of C-C identification is the strategic use of CPD. This form of collaboration may signal and positively affect C-C identification since the process invites consumers to become inherent members of the value chain through the product development process. As the authors offer, “…a company can exert greater control over the identity communicated by members of its value chain” (page 78).

Interestingly, there is a critical factor underlying C-C identification that is often missing in empirical tests of the effects of collaboration. Social distance, conceptualized as the perception of similarity and closeness, is an individual-level difference that qualifies the effects of CPD through C-C identification. Introduced by Park (1924) in terms of social interaction, this construct was later used in the context of business relationships (Houston and Gassenheimer 1987). In the social psychology literature, social distance is described as one dimension of a more comprehensive construct known as psychological distance. When psychological distance is discussed, it is often framed by construal-level theory (Trope and Liberman 2003; Trope and Liberman 2010). Of the four dimensions of distance, temporal, spatial, social, and hypothetical, social distance is often the least discussed and developed. For example, in a recent collection of articles regarding the effects of psychological distance on consumer decision making (JCR 2014), none of the articles included tests of the social dimension of psychological distance.

Throughout this literature, social distance is often described in terms of “friend” versus “stranger” perceptions. However, there is a compelling reason to investigate other interrelated aspects effects of social distance such as spatial (i.e., “close” versus “far”) and similarity (“more like me” versus “less like me”) perceptions. A firm’s integration of cocreation in product
development, then, should foster a closer and more similar identity with consumers. In response, consumers’ perceptions of social distance should be reduced through this relationship cue (CPD). Stated formally,

H1: Consumers should associate CPD (vs. traditional development) with lower perceived social distance (i.e., a social distance effect of CPD).

The effects of CPD should vary as a function of its utilization in the development process. Stated differently, collaboration used to generate product ideas (i.e., early-stage collaboration) should be perceived differently than collaboration used to promote the final product (i.e., late-stage collaboration). In the product development literature, participation (usually by one or more employees) becomes less embedded or engrained in a product’s development when it occurs later in the process (Deshmukh and Chikte 1980). As a result, collaboration that occurs during the promotional phase of development should be perceived as secondary, or less critical to the product’s development when compared with collaboration that occurs much earlier (e.g., during the advanced development phase). The four primary stages of new product development are outlined as follows:

Idea Provision (Stage 1): Idea provision marks the beginning of the product development process. During this stage, the firm is interested in identifying ideas for new products or line extensions that have potential to build upon existing strengths. While many ideas come within the firm, research on user-centered innovation (Von Hippel 2005) reveals how both B2C and B2B consumers are able and motivated to share ideas for the products and services they use. Idea provision involves the firm initiating contact with a group (e.g., brand advocates) or community (e.g., online forum members) to generate a database of user-generated product, service, or process-related original ideas. Consumers can often submit their ideas directly to the firm online or through a toll-free hotline. The goal is to generate quality ideas- often defined as original and
feasible (Diehl and Stroebe 1987). Sony used collaboration during this stage to develop more sustainable products. Consumers were invited to submit their ideas online within the framework of Sony’s existing technological capabilities. 400 ideas were submitted and a team of Sony employees selected the final idea, GreenBook, as the next product to proceed in the development process. Remarkably, Sony credits this form of collaboration as an important resource for developing products, engaging consumers, and understanding their needs—a boon to product development that was unavailable through traditional marketing research techniques (Beavis 2011).

Idea Selection (Stage 2): The second step in the product development timeline, idea selection, uses collaboration to sift through a volume of product, service, or process-related ideas (user or firm-generated) to choose the best and to make a final selection. Companies will often use social media platforms (e.g., Facebook) to give consumers a chance to vote for their favorite product ideas. Here the consumer plays an integral role in viewing the list of ideas and choosing the final product that will proceed into further development. For example, Lay’s “Do Us a Flavor” originally created an online forum in 2012 for consumers to vote for their favorite user-submitted chip flavors. The contest was so popular it was initiated again two years later (Lays 2014; Lamberton, Kristofferson, Dahl 2013).

Advanced Development (Stage 3): The next stage in the CPD process involves advanced development. Here, the final idea transformed into a tactical plan for the development of a new product. The goal is to take the chosen product idea and create specific plans for what the product will feature and how it will look. Here the consumer plays an integral role is shaping the design and functionality of the final, firm-chosen, product. For example, Proctor & Gamble created a platform called Innocentive for consumers to become “solvers” for a variety of issues
the company is facing, including product design. Depending on the advanced solution offered, consumers may receive remuneration up to $100,000 (Innocentive 2014; Kleemann, Voß, and Rieder 2008).

Promotion (Stage 4): The final stage of CPD uses consumer collaboration to communicate and promote the finalized product. The firm will often collaborate with consumers to create online advertising campaigns, television commercials, or other methods of sharing information after the product becomes available to sell. Here the consumer plays an integral role in creating awareness through new advertisements and making the new product visible to more people. Examples include Dorito’s new chip challenge promotion example and Vol’s television advertisement collaboration challenge for the best commercial).

As Bhattacharya and Sen (2003) suggest, consumers are more likely to favorably identify with the firm when interactions, such as collaboration, are significant and meaningful. This response is known as identity embeddedness and is a critical antecedent to the formation of C-C identification. Embedded relationships result in higher perceptions of trust and loyalty (Dacin, Ventresca, and Beal 1999). Thus, when collaboration occurs earlier in the product development process, consumer outcomes should be more favorable. Identity becomes more embedded and social distance perceptions should become reduced. Therefore, I suggest the following effects:

**H2**: As collaboration becomes more embedded in the product development process (i.e., from early-stage to late-stage development), consumers’ (A) attitudes and (B) behavioral intentions will become more favorable. (C) This positive CPD effect is mediated by social distance (i.e., a reduction in perceptions of social distance).

Ultimately, the purpose of CPD from the firm’s point of view is to seek out new and diverse knowledge to address marketing-related activities in an innovative way (Gassenheimer, Siguaw, and Hunter 2013). This technique “provides the opportunity for [the firm] to explore,
assimilate, and exploit new knowledge unavailable from or suppressed within the operation” (page 207). The implications of such efforts across the broader consumer base are still unknown, calling for more research in this area (Thompson and Malaviya 2013; Fuchs et al. 2013). Of greater interest is the effect of CPD at specific stages in the process. Additionally, the value from collaboration will vary as a function of several important consumer and firm-controlled factors (e.g., motivation, brand trust). These factors, such as a consumer’s involvement with the product, may interact with the effects of CPD and are discussed below.

**Consumer Involvement**

In line with decades’ worth of consumer research on product involvement in advertising (Krugman 1965; Krugman 1966) and consumer behavior (Howard and Sheth 1969), the newest research in marketing suggests that consumers’ level of pre-purchase involvement differs primarily as a function of motivation (Bian and Moutinho 2011). This view, which was later extended by the Elaboration Likelihood Model of persuasion (Cacioppo and Petty 1984; Petty and Cacioppo 1986; Petty, Cacioppo, and Schumann 1983), defines involvement as the perceived personal relevance of a product (Bloch and Bruce 1984), brand (Kirmani, Sood, and Bridges 1999a), task (Clarke and Belk 1979), or issue (Kirmani, Sood, and Bridges 1999b). Drawing from this motivational perspective, involvement with the product has been described as “an individual level, internal state variable that indicates the amount of arousal, interest, or drive evoked by a particular stimulus or situation.” (Mitchell 1979, page 194). Importantly, there are two primary dimensions of involvement that shape risk perceptions differently. The first is enduring involvement (Laaksonen 1994) which takes consumers’ goals, values, and self-concepts into account when evaluating product-related information. As Nkwocha et al. (2005)
note, this form of involvement also has a critical role in reflecting social identity. Higher levels of involvement reflect the centrality of a product in a consumer’s life and his/her overall sense of identity. A more transient dimension of involvement is known as situational involvement. Here involvement is driven primarily from a specific situation (e.g., purchase scenario) where the importance of a product is based on extrinsic goals associated with its purchase and usage (Bloch and Richins 1983). This form of involvement can motivate the consumer to perform a more thorough evaluation of product-related information such as its development or features. Overall, both dimensions work together to show that as product involvement increases, then, consumers’ attitudes and purchase intentions will be influenced more significantly. Of greater theoretical importance, however, is the interaction between involvement and CPD- a new and largely unknown value proposition for the provision of goods and services.

The interest in involvement for consumer research also stems from its well-established role in shaping risk perceptions (Richins, Bloch, and McQuarrie 1992). As a test of the lay theory of “comfort food,” Wood (2010) found consumers’ risk-aversion decreased for low-involvement products (e.g., comfort foods) and the effect was reversed for high-involvement products (e.g., novel foods). In choosing between products, consumers’ tend to optimize their resources (time, effort) and assign greater risk for products that require greater involvement. Since the effects of CPD on consumer outcomes are (1) largely unexplored and (2) most products are still produced using traditional methods (i.e., without consumer collaboration), the construct of enduring product involvement will be useful in understanding how consumers respond differently to CPD products. Here, the literature suggests that as involvement increases, risk aversion also increases (). This correlation is likely to negatively impact CPD products given their novelty and unfamiliarity in the marketplace. The consequences of consuming CPD
products are unknown and unanticipated. Uncertainty should vary as collaboration is employed (or not) and used to develop a product in fundamentally different ways. Consequently, the moderating aspects of product involvement provide the impetus to experimentally test its effects. Thus, the goal of the first two studies is to assess and explicate the changes that occur between CPD stages as a function of product involvement.

H3: The effect of CPD will be less favorable as involvement with the product increases. Product involvement will moderate the effect of CPD on (A) product and company perceptions, (B) social identity perceptions, and (C) purchase decisions (i.e., price willing to pay).

Again, and as described by Sherif, Sherif, and Nebergall (1965), the persuasiveness of a product (or message) is most likely for low-involvement consumers. Drawn from social judgment theory, differences between low and high-involvement consumers occur on various attitudinal scales: the latitudes of acceptance, rejection, and non-commitment. Low-involvement consumers, then, have a wider latitude of acceptance and are more receptive to persuasive communication. The effects of a collaboratively developed product should be more favorable for low-involvement consumers. Moreover, this pattern will be more pronounced among consumers who view collaboration as less important for product development—people for whom collaboration adds little value to the purchase and/or use of a given product.

I predict that product involvement will also moderate the influence of CPD on consumers’ perceptions of the product (e.g., risk, trust) and behavioral intentions (e.g., purchase intent, price willing to pay). Consumers who are evaluating a toy product (i.e., parents in Study 1-A) or are evaluating a specific product class (e.g., a consumer electronic good versus a fruit drink, Study 1-B) should view a collaboratively developed product as more personally relevant. Central processing of the review should occur in these high-involvement situations. As product involvement increases, consumers will rely on greater amounts of elaboration and information
gathering. Consumers should more carefully consider and weigh each CPD stage. As involvement increases, then, consumers’ aversion to risk should also increase. Here, the effects of CPD are less likely to have a favorable outcome for opinions and purchase decisions. Additionally, greater processing of collaboration-related information is more likely for those consumers who place a greater importance on products that are collaboratively developed. Generally, consumers who value collaboration as more important are expected to give more consideration and place a higher value to products when CPD information is provided. For these consumers, CPD products should naturally receive more favorable outcomes (e.g., greater purchase intent). Alternatively, consumers who do not value collaboration are more likely to exert less effort to process CPD product-related information. This elaboration likelihood, as outlined by Petty and Cacioppo (1986), depends on the receiver’s interest in processing the message. This relationship between interest and elaboration suggests the following moderating role of collaboration importance on consumer outcomes. As a result, I expect the following,

**H3**: (D) The interaction of CPD and involvement is moderated by perceptions of collaboration importance such that the unfavorable effect of CDP for high-involvement consumers is attenuated when collaboration is given high importance.
(E) The indirect effect of CPD will vary by collaboration importance [conditional mediation].

**Collaborator Motivation**

The motivation behind collaboration should be clear and communicated to product evaluators. Consumers as collaborators contribute their time and energy to address the firm’s needs. What, then, is provided or offered by the firm in exchange for these resources? Alternatively, what motivates consumers to collaborate in the first place? Drawing from self-determination theory, the three needs that underscore all motivations include autonomy, competence, and relatedness (Deci and Ryan 2000). Autonomy is similar to the ‘perceived
behavioral control’ factor in the theory of planned behavior and describes the ability to control one’s own behavior. Competence, described also as effectance, refers to one’s perceived ability to exert influence and obtain value from the effort. Relatedness is the human need to relate to and connect with others. For sustained collaboration, these needs must be realized and met. From these needs comes a variety of reasons why a consumer is willing to engage with the firm in CPD. Indeed, a large variance exists in the types of motivations behind CPD participation. In a recent review of collaborator motivations, Gassenheimer, Siguaw, and Hunter (2013) describe three important distinctions.

The first, *intrinsic* motives, describe those consumers who participate as a way to selflessly help the firm or because the task is inherently enjoyable. Guided by social exchange theory (Emerson 1976), intrinsically motivated consumers collaborate (for example) to build mutually beneficial relationships in return for trust and reciprocity. Importantly, a required component of intrinsic motivation is the perception of autonomy (Deci and Ryan 2000). This component explains why intrinsically-motivated collaborators need no external reinforcements from the firm or through peers. The second type of motivation, described as *internalized extrinsic*, refers to consumers who are initially motivated by external environmental factors (e.g., monetary payment, public recognition, enhanced reputation). However, motivations eventually become internalized and mirror the previously described intrinsic motives. For example, a consumer may be motivated to participate in a t-shirt design contest in exchange for monetary compensation from the firm. A sense of psychological ownership, as if the developed product belongs to him/her (Pierce, Kostova, and Dirks 2003), shifts the consumer’s motivations to continue collaborating with the firm. He/she is now a brand advocate and illustrates someone who has experienced internalized extrinsic motivations.
The last distinction in motivations, *extrinsic* motives, represent consumers who respond to economic advantage. Any compensation by the firm, from monetary or product payment to pricing discounts, describes an economic advantage. For example, L’Oreal, a health and beauty CPG Company, collaborated with television viewers to develop a new make-up advertisement in exchange for a $1,000 award (Hempel 2006). These consumers participate when perceived rewards exceed perceived costs and are “possessive of their intellectual property when there is little assurance of sufficient rewards” (Gassenheimer, Siguaw, and Hunter 2013, p. 216).

Described as the most opportunistic of motivations, consumers who are extrinsically motivated are more likely to withhold knowledge and will stop collaborating when economic advantages decrease or disappear. The variation in collaborator motivations is likely to vary consumer perceptions of credibility. This premise is supported through extant research where economic motivations communicated in an online setting result in lower (i.e., less favorable) perceptions of credibility than altruistic (e.g., intrinsic) motivations (Lawrence, Fournier, and Brunel 2012). However, this form of motivation is more likely to be positively viewed (i.e., appropriate) for early-stage collaboration (i.e., pre-promotion) than late-stage collaboration. There may be no objective difference in the value (i.e., effort and input) between early and late-stage collaboration, yet collaboration that occurs earlier in the product development process is more likely to be perceived as meriting economic compensation. As a result, I expect the following CPD stage by motivation interaction:

\[ H_4: \text{CPD that is extrinsically-motivated (intrinsically-motivated) will have more favorable (less favorable) effects on consumers’ (A) attitude and (B) purchase intentions for early-stage CPD (e.g., pre-promotion) but not for late-stage collaboration (e.g., promotion). (C) The interaction of CPD and motivation is moderated by perceptions of collaboration importance such that the favorable effect of extrinsic motivation for early-stage CPD is strengthened when collaboration is given high importance.} \]
Brand Trust

A critical consideration in any discussion regarding collaborative product development is consumers’ confidence that a brand (product or service) is truthful, competent, and dependable. Described as brand trust (Rempel, Holmes, and Zanna 1985; Sirdeshmukh, Singh, and Sabol 2002), this factor is an important predictor of brand loyalty and commitment (Chaudhuri and Holbrook 2001) and is a natural dimension in sustainable consumer-firm relationships (Randall, Gravier, and Prybutok 2011; Moorman, Deshpande, and Zaltman 1993). In the current research, I adopt the definition offered by Delgado-Ballester, Munuera-Aleman, and Yague-Guillen (2003) where brand trust is described as a “feeling of security held by the consumer in his/her interaction with the brand, that is based on the perceptions that the brand is reliable and responsible for the interests and welfare of the consumer” (page 11). In a purchasing scenario, the provision of CPD information is likely to draw from existing perceptions of trust. Given its unfamiliarity in the marketplace, collaborative development should highlight the saliency of uncertainty regarding the purchase and consumption of such products. Indeed, any information offered by the firm regarding a product’s collaborative development provides a situation with “imperfect” or incomplete information because the outcome is largely unknown and novel. In other words, consumers cannot infer product-specific benefits simply by knowing that the CPD process has been utilized.

With all else being equal (e.g., price, quality, availability), consumers must rely on perceptions of trust to guide their decision-making. To sustain trust, then, there must be a positive or non-negative outcome (Delgado-Ballester, Munuera-Aleman, and Yague-Guillen 2003). This motivational dimension of trust has been described by Frost, Stimpson, and Maughan 1978) as a form of altruism where firm behavior (e.g., offering CPD products) is
guided by favorable intentions towards the interests of the trust partner (Andaleeb 1992). In situations where brand trust is explicitly poor or otherwise unknown, the provision of information describing the collaborative development of a product may attenuate potentially negative outcomes. Formally,

**H5:** Brand trust will moderate the effect of CPD stage on (A) perceptions of risk for the product and the brand, (B) attitude toward the brand, and (C) purchase decisions. The favorable effect of CPD will be stronger as brand trust increases (i.e., from untrusted to trusted).

The current research will also experimentally test the effects of CPD when the collaborator has been intrinsically motivated (similar to the altruism dimension of trust) yet brand trust has been manipulated as favorable, unknown, or unfavorable. When information about a brand’s trust is unknown, collaborator motivation (intrinsic vs. extrinsic) will moderate the effects of early or late-stage CPD (as previously hypothesized in H4).

Overall, the present research will examine the following research questions: *when* and *how* are perceptions of trust, and other consumer outcomes, differentially influenced by the specific stages of CPD? How do differences in early versus late-stage collaboration change consumers’ perceptions when the collaborator has been motivated intrinsically (or not)? Additionally, are specific CPD stages useful in reducing the negative effects of a brand whose trust is low or unknown? Moreover, does a reduction in perceived social distance explain the favorable effects of CPD (as supported in Essay 1)? I address these research questions and test the hypotheses presented here across four experimental studies. In Studies 1-A and 1-B, product involvement is manipulated using (A) personal relevance and (B) two distinct product categories to test if CPD outcomes become more favorable when involvement is low (versus high). In the last two studies, collaborator-specific differences (i.e., collaboration motivation; Study 2) and brand-specific differences (i.e., brand trust; Study 3) are manipulated to measure changes in
consumer outcomes when collaboration occurs at various stages in the product development process.

**Study 1-A**

When consumers are highly involved with a product, how do their evaluations change when collaboration becomes more embedded (i.e., occurs earlier) in the product development process? The purpose of the present study, then, is to test how each stage of CPD interacts with a consumer’s level of product involvement to influence their evaluations and purchase behaviors.

**Method**

*Experimental Design.* I conducted a 2 (product involvement: high involvement, parents; low involvement; non-parents) x 5 (CPD stages: idea provision, idea selection, advanced development, promotion, no collaboration) between-subjects experiment. The first factor, drawing from the established definition of product involvement as the level of its personal relevance (Zaichkowsky 1985), uses a product for children (puzzle toy) as the context for the study. As a result, only parents of a school-aged child are categorized as “high involvement” consumers. The second factor manipulated the specific stages of product development that are well established in the product development literature (see Cooper 1979 and Song and Parry 1997). Though six product development stages have been identified in the literature, only four are appropriate for collaboration between the firm and its consumers. For example, stages such as “market opportunity analysis” and “product testing” require competencies consumers are unlikely to possess. The phases of development included in the current study are explained in
further detail below and are adapted from extant process descriptions (Tanner and Raymond 2012). Examples of the stimuli appear in Appendix A.

**Sample and Procedure.** Participants were 260 adult American consumers using Amazon’s Mechanical Turk (mTurk) crowdsourcing platform. Cell sizes ranged from 20 and 33. The sample had a median income of $30,000 to 49,999, 89% had at least some college, and over half (51%) had a college degree. Slightly more than half of the sample was male (54%), and the mean age of the respondents was 36. 78% of the sample confirmed that mTurk funds (for research participation) were not a primary source of income and this factor had no significant effect across any of my measures ($p > .3$).

To qualify for the study, embedded measures within the survey (e.g., geoIP location, mobile device usage) guaranteed that only U.S. residents on a laptop or desktop computer were participating. All participants were asked to categorize themselves as a parent (or not). Specifically, participants were asked “Do you have any school-aged (ages 5 - 18) children in your household that you regularly shop for?” Additionally, all participants were given a list of 16 product categories and asked to select those products they would *never* consider purchasing for their child(ren). First, consumer collaboration was described to all participants as a relationship philosophy utilized by companies in one or more business processes. Next, two recent examples (Lays and Doritos) were provided to illustrate the various phases of product development. To assess consumers’ perceptions of overall importance of collaboration, participants were asked

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4 Cell sizes for each CPD stage varied between 50-53. However, there was an unequal distribution of parents (n = 95) & non-parents (n = 166) which created a larger variance in cell sizes between all 10 experimental conditions.

5 Only two participants indicated that they would never consider purchasing a puzzle toy (i.e., the product in my experimental manipulation) for their child(ren). Each was subsequently removed from the dataset.
“Using the given definition and the examples, please indicate your perception of how important consumer collaboration is to any company.” Furthermore, and in an effort to (1) limit positive valence associations with CPD and (2) control potential demand effects for collaboration importance, all participants were asked “Can you think of an example where collaboration with consumers may have a favorable (unfavorable, neutral) outcome?” (Godes and Mayzlin 2004).

The CPD manipulation, adapted from (Smith, Tangari 2014) was framed as an excerpt from a magazine product review section, written by an independent reviewer for a fictitious company, Clifton Toys. Information about the collaboration between two consumers (Tyler, Brooke) and Clifton Toys was manipulated as follows: idea provision “Tyler and Brooke submitted the winning idea, the new Puzzle Toy (as shown),” idea selection “Tyler and Brooke helped the company select the winning idea, the new Puzzle Toy (as shown),” advanced development “Tyler and Brooke helped the company by providing specific ideas for the development of the product, the new Puzzle Toy (as shown),” or promotion “Tyler and Brooke helped the company by providing feedback on how to best promote the product online (a small portion of the ad for the new Puzzle Toy- as shown).” Finally, to maintain strict control of study participation, mTurk recruits were required to verify that they had not participated in any related studies (i.e., pretests or any of the studies included here). In response, an online database management system called TurkCheck (Blanchard 2013), which prevents consumers from participating in multiple studies from the same research project, was used here and for all of subsequent studies.

Measures. The following three sets of measures were addressed: product and company perceptions, social identity measures, and behavioral intentions. Product and company perceptions include Involvement with the Product as a manipulation check. This construct was
measured using three seven-point scale items ($\alpha = .78$) developed by Chandrashekaran (2004) as a modified version of Zaichkowsky's (1985) 20-item bipolar adjective scale. Examples include “I am particularly interested in the product shown in this review” (endpoints of “strongly disagree” and “strongly agree”). To understand the unique aspects of CPD on perceptions of importance, “overall influence” in the development process, and product quality (as a result of the collaborative process), three separate items were added. The first, collaboration importance, was measured using a single nine-point scale, “Consumer collaboration (in general) is” (endpoints of “not very important” and “very important”). A median split was performed, and the variable was recoded to reflect a low, neutral, or high level of importance. The second, perceptions of customer influence, was measured using a single nine-point scale, “Please indicate the degree to which you believe consumers have influenced the product shown in this review.” The third, as a measure of product perceptions, used a seven-point scale where participants were asked “Using Tyler and Brooke's collaboration made this Puzzle Toy a better product” (endpoints of “strongly disagree” and “strongly agree”). Risk perceptions (Stone and Grønhaug 1993) used four seven-point scale items ($\alpha = .78$). Examples include “All things considered, I think I would be making a mistake if I bought this product within the next 12 months.” (endpoints of “strongly disagree” and “strongly agree”). Source credibility (Ohanian 1990; Ohanian 1991) included three seven-point scale items ($\alpha = .93$, e.g., “Based on the information provided, I believe the TOY COMPANY (Clifton Toys) marketing this product is:” with endpoints of “honest” and “dishonest.”) To measure trust in the company, participants were asked, “Overall, I think CLIFTON TOYS is:” We used the following four seven-point endpoints “very trustworthy/ very untrustworthy,” “very competent/ very incompetent,” “of very high integrity/ of very low
integrity,” and “very responsive to customers/ very unresponsive to customers” ($\alpha = .92$). Brand attitude was assessed using three seven-point scale ($\alpha = .93$, Sengupta and Johar 2002). An example includes “My opinion of CLIFTON TOYS is very favorable” (endpoints of “strongly disagree” and “strongly agree”).

Social identity measures included user similarity which included three seven-point scale items ($\alpha = .85$). Examples include “I can relate to the consumers, Tyler and Brooke, Clifton Toys used to create this product” and “I am probably nothing like the consumers Clifton Toys used to create this product (reverse coded)” (endpoints of “strongly disagree” and “strongly agree”). As conceptualized by Bhattacharya and Sen (2003), a key antecedent of a consumer’s identification with the firm is known as identity attractiveness. The authors offered a two-item measure which was adapted for the current study using a seven-point scale ($r = .74$, e.g., “I like what Clifton Toys stands for” with endpoints of “strongly disagree” and “strongly agree”). To assess perceptions of the company as an aspirational or dissociative group, three seven-point scale items ($\alpha = .85$) were included as a measure of social attraction (Escalas and Bettman 2005). An example includes “How much would you like to be identified with this company and what they represent?” (endpoints of “not at all” and “very much”). For perceptions of social distance, five nine-point items ($\alpha = .93$) were adapted from the work of Sirgy et al. (1997). Examples include “I can identify with the Clifton Toys company” and “The Clifton Toys company is more like me” (endpoints of “strongly disagree” to “strongly agree”).

Behavioral measures included purchase intention and willingness to pay. Purchase intentions included three seven-point scale items ($\alpha = .87$, Kozup, Creyer, and Burton 2003). An example includes “How likely would you be to purchase the product, given the information

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6 The correlation ($r$) between ‘Source Credibility’ and ‘Trust in the Company’ = .83, $p < .001$. 
shown?” (endpoints of “very unlikely” to “very likely”). WTP was a single-item measure. Participants were told the following: “Based on the information shown (above), what would you be willing to pay for this specific puzzle toy?” and asked to provide a numeric value. WTP was also measured using a comparison nine-point scale (Simonson and Drolet 2004). Participants were asked to confirm how much less or more than average he/she is willing to pay for the product given the information they were shown.

Covariate Considerations. Given the online presentation of stimuli and the use of an online sample, it is possible that advertising skepticism may limit the interpretation of this and future studies (Hardesty, Carlson, and Bearden 2002). As a check on this potential demand effect, all studies presented here included seven separate, seven-point items as a measure of advertising skepticism (α = .95, Obermiller and Spangenberg 1998). Theoretically, this measure should have no discernable influence on participants’ responses to any of my experimental manipulations. As a result, analyses will be performed to confirm no statistical difference between groups. If this is the case I can conclude that it is unlikely that this covariate is influencing any results reported below.

Results

Manipulation & Attention Checks. Near the end of the survey, after all dependent measures had been collected; participants were given three questions to assess the effectiveness of the collaboration manipulations. First, participants were asked to describe how the product had been created (e.g., with collaboration, without collaboration, none of the above). For the idea generation, selection, and advanced development stages, participants correctly identified the collaborative nature of the product shown earlier in the survey (98.1%, 100%, and 96.2%, respectively). Interestingly, only 74.5% of those in the promotion condition correctly recalled
their experimental condition. However, 21.6% explicitly indicated that the product had not been collaboratively developed. This result has interesting implications regarding the weaker association between collaboration and final-stage development. In the control condition, the proportion of participants who correctly acknowledged that no collaboration had taken place was significantly greater than the proportion who failed this manipulation check (z = 4.0, p < .0001). Additionally, chi-square tests showed that 69.1% of the sample acknowledged that no collaboration had taken place ($\chi^2 = 118.9$, df = 8, $p < .0001$). The second question asked participants to identify how the collaborators in the survey collaborated with the firm. Correct responses are: idea generation = 94.2%, idea selection = 78.0%, advanced development = 88.5%, promotion = 80.4% and control = 65.5% ($\chi^2 = 633.6$, df = 16, $p < .0001$). The third question was designed to test participants’ recall of the specific CPD stage they were shown. Correct recalls for each of the five CPD phases are as follows: idea generation = 96.2%, idea selection = 84.0%, advanced development = 84.6%, promotion = 78.4% and control = 54.5% ($\chi^2 = 602.8$, df = 16, $p < .0001$). Finally, to confirm the appropriateness of my conceptualization of parents as ‘high involvement’ consumers, one-way ANOVA was used to compare the perception of product involvement (Chandrashekaran 2004) across both groups. Involvement for parents (M = 4.09) was significantly greater than involvement for non-parents (M = 3.61; F(1, 260) = 6.38, $p = .012$) whose involvement was significantly below the scale midpoint (3.5, t(165) = 3.3, $p = .001$).

**Effects on Product and Company Perceptions.** The intercorrelation between groups (e.g., identity-related constructs) of the dependent variables suggests the use of MANOVA (Wind and Denny 1974), followed by planned contrasts. Across most measures and as shown in Table 1, the effect of collaboration for each development stage was favorable. However, there were

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7 Degrees of freedom calculated as follows: (# columns – 1) x (# rows – 1) = (5-1) x (5-1) = 16
significant differences in perceptions between the pre-promotion stages (i.e., first three stages) and the promotional stage. For example, perceptions of consumer influence (single-item measure) varied significantly across all conditions (F(4, 231) = 11.9, p < .001), yet follow-up Bonferroni contrasts indicate that consumers who viewed CPD in the first three stages had significantly more favorable perceptions (i.e., higher consumer influence) than the promotion stage (p ≤ .001 for each). An independent samples t-test confirmed no difference between this stage (M = 4.9) and the control condition (M = 4.8, p = .8). Here, the alarming implication is the disassociation of promotional product development (i.e., late-stage CPD) with the process of consumer collaboration.

As shown in Table 1, for perceptions of product risk, the main effect of collaboration across each of the development phases (F(4, 231) = 2.41, p = .05) was favorable in that perceptions of risk were low. While low in comparison to the scale midpoint (M = 3.5), contrasts show that perceptions of risk for promotional CPD (M = 2.9) were higher than most early-stage CPD (M.idea generation = 2.3, p = .03, M.advanced development = 2.1, p = .003). While there was no difference in perceived risk in each CPD stage as a function of involvement, as expected in H3A, there is a significant two-way interaction between the CPD stage and collaboration importance (F(8, 231) = 2.4, p = .018). Planned contrasts reveal consistent differences between those who rank collaboration as high or low in importance. For example, in the idea generation phase, perceptions of product risk were significantly lower for those who rank collaboration as highly important (M = 1.84) than those who value collaboration the least (M = 2.98; p = .009).

However, the two-way interactions are qualified by a significant three-way interaction (F(8, 231) = 2.69, p = .008) that is shown in Figure 3. Essentially, there are no differences in perceived risk between high or low-involvement consumers only when collaboration is highly ranked (all
Differences only occur when collaboration is ranked as low in importance (i.e., low rank) or given a neutral ranking (i.e., mid-rank). When collaboration is not viewed as important (low-rank), there is an interesting change in risk perceptions between early-stage CPD and promotional CPD when involvement is high (or not). For these consumers, risk is significantly higher in the first stage of CPD when product involvement is high ($M_{parents} = 3.6; M_{non-parents} = 2.4, p < .05$). Perceptions reverse for promotional CPD ($M_{parents} = 1.6; M_{non-parents} = 3.2, p < .01$). These results suggest that while some consumers may not explicitly rank CPD as highly important, their perceptions of risk will vary substantially depending on how (i.e., the specific stage of development) CPD is used.

Source credibility perceptions, where lower values indicate more favorable perceptions of credibility, reflected a similar drop between pre and post-promotion stages. As shown in Table 1, credibility was most favorably perceived during the advanced development stage ($M = 2.24$) and viewed as least credible during the promotion stage ($M = 3.1$) and the difference is highly significant ($p < .001$). The two-way interaction is significant between CPD stages and collaboration importance ($F(8, 231) = 2.8, p = .006$). When compared with those with low-rank collaboration, the influence of the CPD stage for source credibility (Figure ZZ) significantly improves credibility for pre-promotions stages such as idea generation: $M_{high-rank} = 2.4, p = .03; M_{mid-rank} = 2.3, p = .01$. During the advanced development stage, credibility was the most favorably rated: $M_{high-rank} = 1.7$ compared with $M_{mid-rank} = 2.3, p = .006$ and $M_{low-rank} = 2.7, p = .076$. The interaction between collaboration importance and product involvement is also significant ($F(2, 231) = 3.1, p = .032$) and contrasts show an unfavorable decrease in perceptions for low-rank consumers ($M_{parents} = 3.3; M_{non-parents} = 2.7$) and the difference is significant ($F(1, 231) = 5.57, p = .019$). Across varying levels of collaboration importance and product
involvement, these results have important implications regarding the trust consumers have toward the product and the brand for collaboration that takes place before or after product promotion/commercialization. The results show support for H2a and H3a. There are more favorable opinions overall for collaboration that is more embedded (i.e., occurs earlier) in a firm’s development process.

Effects on Social Identity. H3B suggested that product involvement would moderate the favorable effect of CPD for social identity perceptions. However, there were no differences across any social identity measure (Table 2) in each CPD stage between high and low-involvement consumers. For perceptions of user similarity where higher levels result in more favorable perceptions, there was a significant interaction between product involvement and collaboration importance, as expected in H3D. For example, perceptions were more favorable for high-involvement consumers (i.e., parents) for the first three collaboration stages. Contrasts show greater user similarity for products created with idea selection and advanced development ($p \leq .03$ for both) and reach significance for idea generation ($p = .1$). There is no difference when promotional collaboration has been used ($p = .8$). The interaction between involvement and collaboration importance is also significant ($F(2, 182) = 4.1, p = .02$) where the differences are largest for low-rank ($p = .02$) and high-rank parents ($p < .001$). For identity attractiveness, consumers’ perceptions were most favorable for high-rank consumers and the interaction between CPG stage and collaboration importance was significant ($F(8, 182) = 2.3, p = .02$). This effect was driven by early-stage collaboration. The simple effects (Keppel and Zedeck 1989) between each stage, including the control, are significant ($p’s < .05$ for each stage except promotional CPD where $p = .6$). Additionally, there were no differences in identity attractiveness between the promotion stage ($M = 4.9$) and the control condition ($M = 4.6, p \geq .1$). A similar
result was shown for social attraction (F(8, 182) = 2.4, \( p = .02 \)) where differences in the high and low-rank drove effects as confirmed by simple effect contrasts (\( p < .01 \) for stages 1, 3, and the control). Again, differences in perceptions between the promotion stage (M = 4.5) and the control (M = 4.2, \( p = .3 \)) show similarly low attraction to the firm’s identity. These results offer support for H2a and H3b.

**Effects on Purchase Decisions.** There were few significant main effects for either behavioral outcome (purchase intention or WTP, Table 2). However, contrasts do show significant improvements for purchase intent for products developed using idea selection (M = 5.2) and promotional CPD (M = 4.6, \( p = .03 \)). For purchase intentions, there is a significant difference in purchase intention between collaboration-importance ranks (F(2, 231) = 3.2, \( p = .042 \)) where the contrast between the those who rank collaboration as most important (e.g., high-rank) are significantly more likely to purchase the product than those who rank collaboration the lowest (\( p = .01 \)). Importantly, one-sample t-tests show that purchase intention across all CPD groups (vs. control) is still significantly greater than the scale midpoint (3.5) suggesting a favorable probability of making a purchase despite consumers’ perceptions of collaboration importance (Ms > 4.6; \( p < .001 \) for each). Finally, while consumers’ self-reported values for the price willing to pay for all collaborative products (M\text{stage 1} = $12.4, M\text{stage 2} = $12.9, M\text{stage 3} = $11.4, M\text{stage 4} = $12.3, \( \sigma \)’s range from .8 - 1.1) was higher than the control (M = $10.5), contrasts show that the differences only approach significance for idea-selection collaboration (\( p = .08 \)). However, univariate analysis of the willingness-to-pay scale show a highly significant main effect for CPG stages (F(4, 231) = 4.3, \( p = .002 \)). When compared with the control condition, participants are more likely to spend above average for products collaboratively
developed ($p \leq .04$ for idea selection, advanced development, and promotion and $p = .1$ for idea generation). These results offer partial support for H3c.

**Mediating Effects of Social Distance.** In support of my main hypothesis (H1), the results showed that consumers’ perception of social distance with the firm was favorably influenced through the use of CPD. There is a main effect of CPD ($F(4, 253) = 2.6, p = .04$). Additionally, early-stage CPD stage is associated with lower social distance when compared with the control ($M_{\text{advanced develop}} = 4.6, M_{\text{idea selection}} = 4.9; p < .03$ for both). However, there is no difference in social distance perceptions with promotional collaboration ($M = 5.0$) than when collaboration is not present ($M_{\text{control}} = 5.6; p > .1$). Next, H2c predicted that consumers’ perceptions of social distance mediate the effects of collaborative CPD on consumers’ attitudes and purchase decisions. Importantly, these effects vary as a function of collaboration importance, as suggested in H3E. To test mediation, the Preacher and Hayes’s (Preacher and Hayes 2008) bootstrap method ($n = 1,000$ samples) via Hayes’ (Hayes 2013) PROCESS SPSS macro (Model 4) was used and conditional indirect effects were tested by using ‘select if’ statements to separately analyze the data per CPD stage. In determining purchase intentions, the direct effect of collaborative CPD was not significant ($p > .3$) but became fully significant for Stage 2 when social distance was entered into the model for product involvement (CI .01 to .61) and collaboration importance (CI .07, .63). Similarly, the effects of consumer collaboration on the price willing to pay were mediated by social distance. The direct effect was not significant ($p > .8$), however the indirect effect was significant (CI .02 to .74). As shown in Table 5, a similar pattern of indirect-only mediation for Stage 2 was observed for brand attitude (CI .008

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8 Since Hayes’ (2013) PROCESS SPSS macro is designed to test for conditional indirect effects using dichotomous moderators, analysis with a different model (e.g., 7) and an experimental factor of five levels becomes untenable.
to .50), consumer engagement (CI .02 to .90). Results suggest that collaboration works through perceptions of social distance to have favorable effects across the measures, as suggested in H39.

**Study 1-B**

In the previous study, product involvement is a function of product relevance (e.g., toy products are more relevant for parents than non-parents.) Therefore, toy products are higher involvement products for parents and lower involvement products for non-parents. However, to address alternative explanations for H3 (product involvement as a moderator), the current study includes a different conceptualization of involvement borrowed from current manipulations in social psychology literature (Uimonen 2011; Nkwocha et al. 2005). Here, product involvement is a function of product category (e.g., low-involvement products such as fruit juice and high-involvement products such as cell phones.)

**Method**

*Experimental Design.* I conducted a 2 (product involvement: high or low involvement) x 5 (CPD stages: idea provision, idea selection, advanced development, promotion, no collaboration) between-subjects experiment. The first factor, product involvement, uses a conceptualization of involvement that is based on product class (Lastovicka 1979) instead of involvement as an individual-level factor (Study 1-A). High involvement, then, was manipulated as new cell phone from a fictitious company (Clifton Electronics). Low involvement was manipulated as a fruit drink from the firm, Clifton Drinks. An electronic product (cell phone) and

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9 Separate analyses were also conducted using each identity measure (e.g., user similarity) as the mediator. However, bootstrapped confidence intervals contained zero and/or the indirect effect was reduced. These results support H2C in favor of social distance as the more appropriate mediator underlying the effects of CPD.
a beverage (fruit drink) were drawn from recently used manipulations offered in the literature (Uimonen 2011; Nkwocha et al. 2005). The second factor manipulated the specific stages of product development in an identical manner as Study 1-A.

Sample and Procedure. Participants were 316 adult American consumers drawn from mTurk. Cell sizes ranged from 29 and 33. To qualify for the study, participants had to follow the same procedure outlined in the first study. The sample had a median income of $30,000 to 49,999, 84% had at least some college, and slightly less than half (45%) had a college degree. 68% of the sample was female, the mean age of the respondents was 36 and participants represented a total of 44 states where no state accounted for more than 8.5% of the total sample. A majority of the sample (88%) confirmed that mTurk funds (for research participation) were not a primary source of income and this factor had no significant effect across any of my measures ($p > .25$).

Measures. We used the same scales to measure involvement ($\alpha = .7$), risk ($\alpha = .92$), source credibility ($\alpha = .96$), trust in the company ($\alpha = .92$), brand attitude ($\alpha = .94$), purchase intention ($\alpha = .95$), user similarity ($\alpha = .91$), identity embeddedness ($\alpha = .84$), identity attractiveness ($\alpha = .85$), social attraction ($\alpha = .92$), social distance ($\alpha = .95$), and consumer engagement ($\alpha = .82$) as in Study 1. We also measured various control variables such as advertising skepticism ($\alpha = .95$) and market mavenism ($\alpha = .93$).

Results

Manipulation & Attention Checks. Participants were given four questions to assess the effectiveness of both manipulations. First, participants were asked to confirm which product they recalled from earlier in the survey. They were shown similarly-sized images of soda, fruit punch, an MP3 player, a cell phone, or given the option to select “none of the above.” Participants in
both product involvement conditions were accurate in their response ($N_{fruit\text{-}punch} = 157, 100\%; N_{cell\text{-}phone} = 159, 100\%$). Next, participants were asked to describe how the product had been created. For each CPD stage, participants correctly identified the collaborative nature of the product shown earlier in the survey (Stage 1, 92%, Stage 2, 97%, Stage 3, 95%, and Stage 4, 89%). The third question asked participants to identify how the collaborators in the survey collaborated with the firm. Cross-tabulation results show that correct responses are as follows: idea generation = 90%, idea selection = 81%, advanced development = 88%, promotion = 84% and control = 87% ($\chi^2 = 878, df = 16, p < .0001$). The final question was designed to test participants’ recall of the specific CPD stage they were shown. Correct recalls for each of the five CPD phases are as follows: idea generation = 83%, idea selection = 84%, advanced development = 91%, promotion = 83% and control = 61% ($\chi^2 = 746.2, df = 16, p < .0001$).

Additionally, one-way ANOVA was used to compare the perception of product involvement (3-item scale) across both groups. Involvement perceptions were significantly higher for the cell phone ($M = 4.4$) than the beverage ($M = 3.5; F(1, 314) = 36.5, p < .001$). Finally, one-sample t-tests show that perceived involvement is significantly above the scale midpoint (3.5) for the cell phone ($t(158) = 9.6, p < .001$) but not for the fruit drink ($p > .9$) which specifically suggests high (i.e., non-neutral) levels of perceived relevance and interest only for the cell phone product.

*Effects on Product and Company Perceptions.* As shown in Study 1-A, and in partial support for H3A, product involvement significantly moderates the effect of CPD stage on perceptions of risk ($F(4, 296) = 3.5, p = .008; \eta^2_p = .05$) and results show an increase in risk perceptions for high-involvement products (cell phone) when compared with low-involvement products across all CPD stages, as simple effect contrasts show (Keppel and Zedeck 1989; $p$’s
Importantly, there is no difference in the control condition ($p = .3$). While there is no main effect of CPD stage, perceived risk is significantly lower in all stages when compared with the control condition (Independent Sample $t$'s $\geq 2.7$, $p$'s $\leq .007$ for each).

The CPD stage and collaboration rank main effects predicted source credibility ($p$'s $< .05$ for both) and, as expected, source credibility for the firm was significantly more favorable when compared with the control ($p < .05$ for Stages 1-3, $p = .077$ for the ‘promotion’ stage). Results are similar for perceptions of trust in the company. However both main effects of CPD stage and collaboration rank ($p$'s $\leq .001$ for both) are qualified by a significant three-way interaction ($F(4, 296) = 2.63$, $p = .035$) where trust is highest overall for the high-involvement product (cell phone), yet differences between those with high and low ranks for collaboration occur at different CPD stages for both involvement products. Pairwise comparisons that that the differences between high and low ranks for the high-involvement product (cell phone) occur in the *early* pre-promotion stages (idea generation: $M_{\text{low-rank}} = 2.6$, $M_{\text{hi-rank}} = 3.4$, $p = .07$), idea selection: $M_{\text{low-rank}} = 2.3$, $M_{\text{hi-rank}} = 3.8$, $p = .002$, advanced development: $M_{\text{low-rank}} = 2.5$, $M_{\text{hi-rank}} = 3.2$, $p = .07$). However, differences between high and low ranks for the low-involvement product (fruit juice) occur in the *late* stage of development (promotion: $M_{\text{low-rank}} = 2.8$, $M_{\text{hi-rank}} = 3.6$, $p = .057$, control: $M_{\text{low-rank}} = 2.8$, $M_{\text{hi-rank}} = 4.0$, $p = .007$). In other words, for those who value collaboration the most, when product involvement is low, trust significantly improves for promotional CPD. For these high-rank consumers who are evaluating a high-involvement product, however, trust improves only for early-stage CPD. Trust is positively yet differentially influenced by the specific stage of CPD.

\textsuperscript{10} Contrast tests show that the difference between high and low-involvement products for Stage 1 (Idea Selection) is moderately significant ($F(1, 296) = 3.5$, $p = .063$).
The effect of CPD on consumers’ perceptions of the product as a “better product” are also significantly different between stages. When compared with the control, the product is perceived as a significantly better product for early-stage collaboration (simple effect *p*’s ≤ .001 for idea generation, selection, and advanced promotion) but not for late-stage (promotion) CPD (*p* = .1). Again, perceptions of promotional collaboration are viewed less favorably when consumers form product opinions. Similarly, brand attitude is favorably influenced when collaboration is used (*F*(4, 295) = 4.5, *p* = .002). When compared with the control, contrasts show that brand attitude is significantly improved across all CPD stages (mean differences ≥ .6 for each; *p*’s < .01).

**Effects on Purchase Decisions.** As demonstrated in the first study, consumers’ purchase intentions in the current study significantly differ between collaboration phases (*F*(4, 295) = 2.3, *p* = .058) where contrasts show that differences with the control are driving this main effect. Specifically, when compared with the control (M = 3.4), all pre-promotion CPD stage intentions significantly improve (M_{idea generation} = 4.0, *p* = .06; M_{idea selection} = 4.2, *p* = .01, M_{advanced devel} = 4.2, *p* = .02). While purchase intent improves for late-stage CPD (M_{promotion} = 3.7), the improvement from the control is not significant (*p* = .4). Again, early-stage collaboration is driving the favorable effect of CPD on behavioral intentions. Similarly, the main effect of CPD stages for the willingness-to-pay scale shown in the first study are again supported here (*F*(4, 295) = 2.3, *p* = .056).

Mirroring the results for purchase intent, consumers’ responses on the willingness to pay scale are significantly more favorable for each pre-promotion CPD stage (M_{idea generation} = 4.4, *p* = .03; M_{idea selection} = 4.3, *p* = .05, M_{advanced devel} = 4.5, *p* = .01) when compared with the control (M = 3.7). Again, there is no difference when collaboration is used in the last stage of development.
In addition, product involvement \( F(1, 295) = 2.7, p = .09 \) and collaboration importance \( F(1, 295) = 3.3, p = .07 \) main effects marginally predicted consumers’ willingness to pay. H3C predicted that the effect of CPD would be less favorable when product involvement is high (cell phone), yet there are no significant differences between these groups. However, while the expected interaction between these factors was not supported, there was a significant three-way interaction between these factors and collaboration importance, as suggested in H3D \( F(4, 295) = 3.2, p = .014 \) and shown in Table 4. Specifically, there is a general improvement in WTP for those who ranked collaboration as most important (i.e., high rank). However, an inverse pattern of effects occur for product involvement. As shown in Figure 5, when product involvement increases, the effect on WTP becomes more favorable for all CPD stages except when collaboration is ranked as low. In this case, contrasts show a significant drop only for the idea selection CPD stage (mean difference = 1.5, \( p = .005 \)).

**Mediating Effects of Social Distance.** As shown in the previous study and in support of H1, the results showed that consumers’ perception of social distance with the firm was favorably influenced through the use of CPD. There is an effect of CPD \( F(4, 309) = 2.2, p = .075 \) where each early-stage CPD stage is associated with lower social distance when compared with the control \( (M_{\text{idea generation}} = 5.7, M_{\text{advanced development}} = 5.8, M_{\text{idea selection}} = 5.9; p < .05 \) for each). However, there is no difference in social distance perceptions with promotional collaboration \( (M = 6.2) \) than when collaboration is not present \( (M_{\text{control}} = 6.6; p > .3) \). Next, H2c predicted that consumers’ perceptions of social distance mediate the effects of collaborative CPD on consumers’ purchase decisions. Importantly, these effects vary as a function of product involvement and collaboration importance. As previously used to test mediation, Preacher and Hayes’s (Preacher and Hayes 2008) bootstrap method \( (n = 5,000 \) samples) via Hayes’ (Hayes
PROCESS SPSS macro (Model 4) was used and conditional indirect effects were tested per CPD phase. I began by testing for the social distance effect across both behavioral measures: purchase intention and willingness to pay. In determining purchase intentions, the direct effect of collaborative CPD was not significant (\( p > .5 \)) but became fully significant for Phases 1 and 4 when social distance was entered into the model for collaboration importance (Idea Generation: CI .19, 1.5; Promotion: CI .002, 1.3). Similarly, the effects of consumer collaboration on willingness to pay were mediated by social distance. The direct effect was not significant (\( p > .3 \)), however the indirect effect was significant in several collaboration phases (Idea Generation: CI .15 to 1.3; Idea Selection: CI .0003 to 1.1; Promotion: CI .02 to 1.1). As shown in Table 6, a similar pattern of indirect-only mediation for was observed across several company and product perceptions including source credibility (Idea Generation: CI -.95 to -.12; Idea Selection: CI -.79 to -.01; Promotion: -.74 to -.02), brand attitude (Idea Generation: CI .12 to 1.1; Promotion: CI .02 to .93), and product involvement (Idea Generation: CI .15 to 1.1; Idea Selection: CI .01 to .66; Promotion: .02 to .67). Importantly, results also provide strong support in showing how social distance shapes the formation of social identity perceptions. For example, indirect-only mediation was observed for identity attractiveness (Idea Generation: CI .14 to 1.3; Idea Selection: CI .002 to 1.07), perceptions of company similarity (Idea Generation: CI .2 to 1.5; Idea Selection: CI .006 to 1.6), social attraction (Idea Generation: CI .14 to 1.1; Promotion: CI .001 to 1.1), and consumer engagement (Idea Generation: CI .07 to .67; Idea Selection: CI .02 to .66). Ultimately, results show when (i.e., during specific development stages) collaboration works through perceptions of social distance (H3d) to have favorable effects across measures of identity, attitude, and behavioral intentions.
Study 2

The results from the previous two studies show how and when product-specific differences (i.e., product involvement) and perceptions of collaboration importance have a favorable impact on consumer outcomes. However, collaborator-specific differences may have a critical role in shaping perceptions as well. For example, if a product has been collaboratively developed by a brand enthusiast (i.e., someone who is intrinsically motivated), the effect is more likely to be positive than when compared to products that are developed by paid collaborators (i.e., extrinsic motivations). A recent study (Gassenheimer, Siguaw, and Hunter 2013) suggests that variation in collaborator motivations are likely to affect consumer perceptions of credibility inversely and this prediction (H4) is tested here.

Method

Experimental Design. I conducted a 3 (collaborator motivation: extrinsic, intrinsic, mixed) x 4 (CPD stages: idea provision, idea selection, advanced development, promotion) between-subjects experiment. The first factor, collaborator motivation, draws from motivation research (Gassenheimer, Siguaw, and Hunter 2013) and explicitly describes how two consumers (Tyler, Brooke) were compensated by a fictitious firm (JiveMusic) for the collaborative development of a new wireless headset. The second factor manipulated the following stages of product development described in the previous studies: Stage 1, idea provision; Stage 2, idea selection; Stage 3, advanced development; and Stage 4, promotion. Examples of the stimuli appear in Appendix C.

Sample and Procedure. Participants were 304 adult American consumers from mTurk. Cell sizes ranged from 24 and 28. The sample had a median income of $30,000 to 39,999, 90%
had at least some college, and more than half (58%) had a college degree. A majority of the sample was female (62%), the mean age of the respondents was 36 and participants represented a total of 44 states where no state accounted for more than 9% of the total sample. 84% of the sample confirmed that mTurk funds (for research participation) were not a primary source of income and this factor had no significant effect across any of my measures ($p > .4$).

The experiment began with a product review about a fictitious company named “JiveMusic” that was presented as a product poll for a pair of wireless headphones. Participants learned that the Spring 2014 issue of *Tribune Reports* magazine (a fictitious magazine) reported that two consumers, Tyler and Brooke, were involved in a contest sponsored by the company. The purpose of the contest was to create a new wireless headset to be advertised online. In each condition, the review stated that *Tribune Reports* readers gave JiveMusic relatively high marks in terms of design and functionality. Information about the collaboration between Tyler, Brooke, and JiveMusic was manipulated as follows: **idea provision** “Tyler and Brooke submitted the winning idea, the new headphones (as shown),” **idea selection** “Tyler and Brooke helped the company select the winning idea, the new headphones (as shown),” **advanced development** “Tyler and Brooke helped the company by providing specific ideas for the development of the product, the new headphones (as shown),” or **promotion** “Tyler and Brooke helped the company by providing feedback on how to best promote the product online (a small portion of the ad for the new headphones- as shown).” Finally, to describe how the collaborators were motivated, participants were shown one of the three motivation types extensively detailed in a recent study (Gassenheimer, Siguaw, and Hunter 2013). Specifically, for **intrinsic motivation**, participants were told the following: “Tyler and Brooke are headphone enthusiasts and just love contributing to the JiveMusic online community without thought of any other compensation.” For **mixed**
motivation (i.e., internalized extrinsic), participants were told “Tyler and Brooke are compensated with 1% of net sales but now go out of their way to serve as vocal spokespeople for the brand. They have become headphone enthusiasts who love contributing to the JiveMusic online community.” Finally, for extrinsic motivation, participants were shown the following: “Tyler and Brooke are compensated for their contribution with 1% of net sales.”

Measures. The following three sets of measures were included in the current study: trust perceptions, social identity measures, and behavioral outcomes. As expected, analyses showed acceptable reliability levels across each dependent variable: source credibility (3-items, $\alpha = .92$), trust in the company (4-items, $\alpha = .90$), trust in the brand (11-items, $\alpha = .94$), risk perceptions (4-items, $\alpha = .86$) brand attitude (3-items, $\alpha = .91$), purchase intentions (3-items, $\alpha = .92$), identity embeddedness (2-items, $r = .65$), user similarity (3-items, $\alpha = .89$), identity attractiveness (2-items, $r = .79$), company similarity (2-items, $r = .84$), collaboration willingness (3-items, $\alpha = .90$), social identity attractiveness (3-items, $\alpha = .89$), social distance (5-items, $\alpha = .95$), organization identity (2-items, $r = .80$), trust in the review (4-items, $\alpha = .78$), and advertising skepticism (7-items, $\alpha = .96$). Collaboration importance was again measured here using a single nine-point scale, “Consumer collaboration (in general) is” (endpoints of “not very important” and “very important”). A median split was performed, and the variable was recoded to reflect a low or high level of importance.

Results

Manipulation & Attention Checks. Four questions were used to test the effectiveness of the CPD stage and motivation manipulations. First, participants were asked to describe how the product had been developed (i.e., with collaboration). For each CPD stage, participants correctly identified the collaborative nature of the product shown earlier in the survey (Stage 1, 96%,
Stage 2, 91%, Stage 3, 90%, and Stage 4, 77%; $\chi^2 = 29$, df = 6, $p < .0001$). While there was no condition without a CPD product, a number of participants (18%) explicitly indicated that the product had not been collaboratively developed. The next question asked participants to identify how the collaborators in the survey collaborated with the firm. Correct responses are: submitted winning idea = 66%, selected winning idea = 72%, provided ideas for advanced development = 97%, and provided feedback on how to promote the product = 86% ($\chi^2 = 550$, df = 12, $p < .0001$). The next question was designed to test participants’ recall of the specific stage of CPD they were shown. Correct recalls for each of the four CPD stages are as follows: idea generation = 70%, idea selection = 80%, advanced development = 91%, promotion = 88% ($\chi^2 = 550$, df = 9, $p < .0001$). Finally, participants were asked to confirm how the consumers in the survey had been rewarded for their collaboration with the firm. Correct responses are as follows: intrinsic motivation = 91%, mixed motivation = 91%, and extrinsic motivation = 81% ($\chi^2 = 432$, df = 6, $p < .0001$). This indicates high consumer awareness of the motivation behind the collaborative product development.

**Effects on Product and Company Perceptions.** Advertising skepticism was significantly (and positively) correlated with most of my dependent measures ($r \geq .2$, $p < .01$ for each). However, this factor did not interact with ($p > .1$) and was not significantly correlated ($p > .1$) with either independent variable. As a result, ad skepticism was included as a covariate in analyses relevant to H1, H2, and H4. To assess these predictions regarding the moderating effect of collaborator motivation, CPD stage, and collaboration importance, and since all dependent

11 Again, participants were given the option to choose “with collaboration,” “without collaboration,” or “none of the above.” For participants in the promotion stage, 76.7% correctly identified their condition while 17.8% provided the second choice and 5.5% answered “none of the above.”
measures were correlated ($r > .3, p < .001$ for each), I performed a multivariate analysis of covariance (MANCOVA) with Univariate follow-up tests of simple effects (Keppel and Zedeck 1989). First, I assessed the results for a variety of trust measures including source credibility, trust in the company, and brand trust. As reported in Table 7 and replicating the results from the first two studies, the significant main effects of collaboration importance are qualified by several significant three-way interactions. Generally, perceptions of source credibility are highest for those who value collaboration the most across all three motivation types (i.e., intrinsic, mixed, and extrinsic). With intrinsic motivation, the difference is significant only for stage 4 collaboration ($M_{\text{hi import}} = 6.7, M_{\text{low import}} = 5.3, p = .01$). With extrinsic motivation, the difference reaches significance for Stage 1 ($M_{\text{hi import}} = 6.2, M_{\text{low import}} = 5.4, p = .06$) and Stage 4 collaboration ($M_{\text{hi import}} = 5.8, M_{\text{low import}} = 5.1, p < .1$). For mixed motivation, perceptions of source credibility become more favorable only for Stage 2 promotion ($M_{\text{hi import}} = 6.2, M_{\text{low import}} = 5.3, p = .03$). Similarly, perceptions of brand trust are more favorable for each type of motivation when collaboration is highly ranked. Again, contrasts show when these perceptions are significantly improved for intrinsic (Stage 4, $p = .04$), extrinsic (Stage 1, $p = .04$), and mixed motivation (Stage 1, $p = .08$). These results suggest that the effect is more favorable for those who rank collaboration as most important (H3b) and are strongest more often for the beginning (Stage 1 for mixed or extrinsic-motivation) or end (Stage 4 for intrinsic-motivation) periods of CPD. For those who value collaboration the most and when the collaborator has been intrinsically motivated, consumers’ level of involvement marginally improves with advanced development ($M_{\text{hi import}} = 5.1, M_{\text{low import}} = 3.7, p = .08$) and significantly improves during promotional collaboration ($M_{\text{hi import}} = 5.3, M_{\text{low import}} = 3.7, p = .04$). Conversely, for Stage 4 collaboration, involvement significantly decreases for these consumers when the collaborator has
a mixed motivation (M_{hi\ import} = 3.3, M_{low\ import} = 5.5, p = .01). When collaborators’ motivation is extrinsic, the pattern of results show higher levels of involvement across all CPD stages for those who value collaboration the most, though the differences do not reach significance. Additionally, perceptions of the product’s improvement as a result of collaboration (e.g., “Using collaboration made these wireless headphones a better product.”) show a significant main effect for CPD stages (F(3, 291) = 10.4, p < .001) such that products developed with early-stage collaboration were perceived as significantly better when compared to late-stage collaboration (M_{idea\ generation} = 5.4, M_{idea\ selection} = 5.0; M_{advanced\ development} = 5.8; M_{promotion} = 4.5, p \leq .04 for each). Again, given the ordinal pattern of means, a linear regression analysis was used and results show that CPD stage is a significant predictor (B = .2, t = 2.7, p = .007) yet collaborator motivation does not improve the model (F-change = 2.0, p > .2).

*Effects on Social Identity.* For measures of social identity, which include user similarity, company similarity, social attraction, identity attraction, and identity embeddedness, there is a significant main effect of collaborator importance (p’ s < .001 for each, shown in Table 8) such that perceptions of identity are more favorable for those consumers who value collaboration the most. Additionally, the interaction between motivation and importance is significant for user similarity (F(2, 186) = 3.8, p = .03) such that perceptions of similarity improve for those who rank collaboration as most important (intrinsic motivation: M_{hi\ import} = 4.8, M_{low\ import} = 3.7, p = .002; extrinsic motivation: M_{hi\ import} = 5.1, M_{low\ import} = 4.1, p = .01). A similar pattern emerges for across nearly *every* identity measure (company similarity, social attraction, identity attraction, and identity embeddedness: p’ s \leq .05 for each intrinsic and extrinsic motivation contrast, respectively). Here the effects of each motivation extreme (either intrinsic or extrinsic, but excluding mixed-motivation) are attenuated for those who rank collaboration as most important.
This result can also be seen for participants’ willingness to collaborate (intrinsic motivation: \( M_{hi\text{ import}} = 6.2, M_{low\text{ import}} = 5.5, p = .02 \); extrinsic motivation: \( M_{hi\text{ import}} = 6.3, M_{low\text{ import}} = 5.6, p = .01 \)). Finally, the interaction between motivation and CPD stage is significant for identity embeddedness (\( F(6, 186) = 2.4, p = .03 \)) such that embeddedness (i.e., consumers’ perceptions that collaboration indicates how important consumers are in product development) improve most during CPD stages 1 and 3 (idea selection and advanced development) and this effect is moderated by how the collaborators are motivated. During Stage 1 collaboration, consumers’ perceptions significantly improve when the motivation is mixed or extrinsic (\( p \)'s < .04 for each contrast). However, the effect is reversed when collaboration occurs further in the development process. For Stage 3 collaboration, perceptions moderately improve when motivation is intrinsic (vs. extrinsic, \( p = .07 \)). These results suggest that extrinsically-motivated collaboration may be appropriate only during the first stage whereas intrinsic motivation yields the most favorable results during later-stage collaboration.

*Effects on Behavioral Outcomes.* Consumers’ purchase intentions are shaped by their perceptions of collaboration importance (\( F(1, 186) = 9.9, p = .002 \)) where intention is most favorable when CPD products are most valued (i.e., high collaboration importance), as shown in Table 7. However, this effect differs as a function of motivation (\( F(2, 186) = 4.9, p = .008 \)) where the largest improvement in intention occurs when collaborators are externally motivated (\( M_{hi\text{ import}} = 5.4, M_{low\text{ import}} = 4.1, p < .001 \)). Interestingly, consumers’ intentions remain the same when mixed motivation is incorporated into the CPD process regardless of how importance collaboration is perceived to be (\( M_{hi\text{ import}} = 5.0, M_{low\text{ import}} = 4.9, p > .9 \)). There is also a significant main effect for the price consumers are willing to pay for the product (\( F(2, 390) = 4.0, \))
Specifically, with mixed-motive collaboration, consumers are willing to pay significantly more (M = $116.5) than when the collaboration is intrinsically motivated (M = $105.9, p = .02) or extrinsically motivated (M = $104.2, p = .01). Not surprisingly, consumers who value collaboration the most are also willing to pay marginally more for CPD products (p = .1). Together, these results suggest how the negative effects (i.e., unfavorable responses in intention and WTP) of extrinsic motivation can be attenuated for those who value collaboration the most. Additionally, consumers’ intentions translate to premium prices when the consumers who collaborate with the firm have been motivated by a mix of intrinsic and extrinsic reasons (i.e., mixed-motivation).

Other Results: Trust in the Review. Finally, at the end of the survey after responses to all dependent measures had been collected, I measured consumers’ perception of the product review’s trustworthiness. My interest here was primarily to assess the perceived credibility of the manipulation across each CPD stage. For this factor, an ANOVA showed a significant main effect of CPD Stage (F(3, 291) = 2.78, p = .042) where results showed an interesting and linear pattern of responses. Overall, trust in the review progressively improved from each stage where trust was highest (i.e., most favorable) for the promotion stage (M =5.31). The results for this stage are significantly greater than Stage 1 (M_{idea provision} = 4.91) and Stage 2 (M_{idea selection} = 4.98), p’s ≤ .03 for both. A follow-up linear regression shows that this experimental factor is a moderate predictor of this measure (B = .099, t = 1.73, p = .085). Adding the second experimental factor (collaborator motivation) did not significantly improve the model (F-change

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12 As advertising skepticism had no significant influence on WTP (p > .1), a Univariate ANOVA was performed for this dependent measure.
Given the proliferation of promotion-related collaborations in the marketplace (e.g., co-produced advertising), this result is not surprising.

**Mediating Effects of Social Distance.** As illustrated in the first two studies, consumers’ perception of social distance with the firm is favorably influenced through the use of CPD. This effect is moderated by consumers’ perception of collaboration importance. For example, social distance perceptions are lowest (i.e., most favorable) across most CPD stages for those who value collaboration the most. Alternatively, for other consumers social distance is greatest—especially during the advanced development stage of collaboration. Specifically, the distance perceived between the consumer and the firm is significantly reduced during Stage 1 ($M_{hi\text{ import}} = 5.0, M_{lo\text{w import}} = 4.1, p = .02$), Stage 3 ($M_{hi\text{ import}} = 5.7, M_{lo\text{w import}} = 4.0, p < .001$), and moderately improved during promotional collaboration ($M_{hi\text{ import}} = 5.1, M_{lo\text{w import}} = 4.5, p = .1$). To test mediation (H2), Hayes’ (Hayes 2013) PROCESS SPSS macro (Model 4) was again used and results show full mediation for collaboration importance (H3c). For product and company perceptions, indirect effects occur through nearly each CPD stage except during idea selection (Stage 2). Specifically, for source credibility the indirect effects are significant (i.e., none of the CIs contain a value of zero) through Stages 1 and 3 (Idea Generation: CI .09 to .66; Advanced Development: .07 to .47) and the same is true for trust in the company (Idea Generation: CI .06 to .55; Advanced Development: .14 to .54). However, for perceptions of brand trust and brand attitude, the indirect effects are significant through the last stage (4) as well. Indirect effects for brand trust are as follows per CPD stage (Idea Generation: CI .06 to .52; Advanced Development: .16 to .56, and Promotion: .01 to .32). For brand attitude, effects are as follows: (Idea Generation: CI .07 to .57; Advanced Development: .2 to .65, and Promotion: .01 to .38). Effects are similar for behavioral outcomes as well: purchase intention (Idea Generation: CI .14
to .42; Advanced Development: .18 to .91, and Promotion: .01 to .6) and WTP (Idea Generation: CI .84 to 15.5 and Advanced Development: 1.4 to 16.7). Finally, across social identity perceptions, indirect effects are significant for the first and third CPD stages and the coefficients are positive, as expected and shown in Table 9. Together these results show how consumers’ perceptions of social distance mediate the effects of collaboration importance, as predicted in H3E, through all CPD stages except for Idea Selection (Stage 2). Using CPD during specific stages of the development process can favorably impact attitudes and behavioral outcomes when social distance is reduced.

**Study 3**

Study 3 extends CPD research in several important ways. First, the previous study (Study 2) measured brand trust using seven separate seven-point scales adapted from Herbst et al. (2012). However, the effects instead may have been driven by other constructs that are correlated with this measure. Study 3 addresses this concern by testing and analyzing the effects of manipulated brand trust. Theories of interpersonal trust (Holmes and Rempel 1989; Simpson 2007) suggest that the combined effects of CPD and collaborator motivation (trust-relevant information) should differentially impact consumers’ attitudes and behavioral intentions for trusted or untrusted brands. As a result, the current study manipulates participants’ exposure to high, low, or unknown (i.e., absent) trust-relevant information about the brand. Second, the scope of this research is extended with the additional measure of organizational identity. This measure is important because it explicitly compares consumers’ self-image with the perceived image of the (fictitious) firm. Consistent with results in the previous studies, the effects of CPD, collaborator motivation, and brand trust should have a favorable effect on product/ company
perceptions, social identity perceptions, and behavioral measures such that outcomes become more favorable with early-stage development, intrinsic motivation, and trusted brands.

Method

*Experimental Design.* The next study was a 2 (*CPD Stage*: early-stage development or last-stage development) X 2 (*collaborator motivation*: extrinsic or intrinsic) X 3 (*brand trust*: high trust, low trust, or trust unknown) between-subjects experiment. The first factor, CPD Stage, collapsed the first three stages (e.g., idea provision, idea selection, and advanced development) from the previous studies into one early-development, pre-promotion stage (e.g., “Tyler and Brooke participated with JiveMusic in the early stages of development for these new headphones.”) The fourth CPD stage, promotion, was carried forward into the current study. As a result, the manipulation provided a simpler test of the pre and post-promotion differences in the stages of CPD. Collaborator motivation was also streamlined to include only the intrinsic and extrinsic motivations and the same manipulations from the previous study were used here. The final factor, brand trust, draws from Herbst et al. (2012) and was included toward the bottom of the product review. Specifically, participants were shown a mock “Trustworthiness Index” where the firm either received a poor rating of 31 out of 100 (brand non-trusted), a favorable rating of 91 out of 100 (brand trusted), or the information was absent altogether (brand trust-unknown). Examples of the stimuli appear in Appendix D.

*Sample and Procedure.* Participants were 332 adult American consumers from mTurk. Cell sizes ranged from 24 and 31. The sample had a median income of $40,000 to 49,999, 91% had at least some college, and over half (58%) had a college degree. Slightly more than half of the sample was female (54%), the mean age of the respondents was 43 and participants represented a total of 46 states where no state accounted for more than 8% of the total sample.
81% of the sample confirmed that mTurk funds (for research participation) were not a primary source of income and this factor had no significant effect across any of my measures ($p > .3$).

As in Study 2, participants reviewed the Spring 2014 issue of *Tribune Reports* magazine (a fictitious magazine). Tyler and Brooke (consumer collaborators) were involved in a contest sponsored by the company. The collaboration manipulation was condensed from the previous study to reflect the two extreme (e.g., pre and post-promotion) stages of CPD: **early-stage development** “Tyler and Brooke participated with JiveMusic in the early stages of development for these new headphones (as shown)” or **last-stage development** “Tyler and Brooke participated in the last stage of development by providing feedback on how to best promote the product online (a small portion of the ad for the new headphones- as shown).” The motivation behind Tyler and Brooke’s collaboration was manipulated as **intrinsic** (e.g., “Tyler and Brooke are headphone enthusiasts and just love contributing to the JiveMusic online community without thought of any other compensation”) or **extrinsic** (e.g., “Tyler and Brooke are compensated for their contribution with 1% of net sales”). The final information included in the product poll contained my trust manipulation modeled after the work by Herbst et al. (2012). Participants in the **trust-unknown** condition were not given any information about JiveMusic’s trustworthiness. Alternatively, in the **not-trusted** condition, participants were told “Based on our analyses, JiveMusic is a relatively untrustworthy company. In our Trustworthiness Index, the company received a rating of 31 out of 100, placing them well below the average company on brand trust.” Finally, in the **trusted** condition, JiveMusic was described as “…a highly trustworthy company. In our Trustworthiness Index, the company received a rating of 91 out of 100, placing them in the top 5% for brand trust.” Examples of the stimuli appear in Appendix D.
Measures. A new measure, organizational identity, was a two-item measure \((r = .85, p < .001)\) where the first nine-point item asked consumers to describe the degree to which their self-image overlaps with that of the firms (endpoints of “not at all” and “very much”). The second item, drawn from Ahearne, Bhattacharya, and Gruen (2005), is a cognitive representation process model originally proposed by Bergami and Bagozzi (2000). As shown in Appendix E, a series of eight Venn diagrams indicates the degree of overlap between the consumer and the (fictitious) firm, JiveMusic. The larger the overlap, the greater (i.e., more favorable) the perceived identity with the organization. Specifically, participants were told the following: “Imagine that one of the circles at the left in each row represents your own self-definition or identity. The other circle at the right in each row represents [the firm’s] identity. Please indicate which case (A, B, C, D, E, F, G, or H) best describes the level of overlap between your own and [the firm’s] identities” (endpoints of “far apart” and “complete overlap”). The following three sets of measures: product and company perceptions, behavioral outcomes, and social identity perceptions. Source credibility (3-items, \(\alpha = .96\)), trust in the company (4-items, \(\alpha = .94\)), risk perceptions (4-items, \(\alpha = .93\)) brand attitude (3-items, \(\alpha = .96\)), purchase intentions (3-items, \(\alpha = .95\)), identity embeddedness (2-items, \(r = .78\)), user similarity (3-items, \(\alpha = .86\)), identity attractiveness (2-items, \(r = .85\)), company similarity (2-items, \(r = .85\)), collaboration willingness (3-items, \(\alpha = .90\)), social identity attractiveness (3-items, \(\alpha = .90\)), social distance (5-items, \(\alpha = .95\)), organization identity (2-items, \(r = .84\)), trust in the review (4-items, \(\alpha = .86\)), and advertising skepticism (7-items, \(\alpha = .96\)).

Results

Manipulation & Attention Checks. Several methods were used to test the effectiveness of each manipulation. The 7-item scale for brand trust used in the previous study was again
employed in the current study ($\alpha = .98$). A one-way ANOVA showed significant differences in each manipulation where the untrusted brand ($M = 3.3$) was perceived as significantly less trusted than the neutral (i.e., trust unknown) brand ($M = 5.3$, $p < .001$). The trusted brand was perceived as significantly more trustworthy ($M = 5.7$) than the other two conditions ($p \leq .02$ for both). After all dependent measures had been collected, participants were asked to specifically describe how the firm had been rated in the report’s Trustworthiness index (e.g., “How was JiveMusic rated in the report’s Trustworthiness Index?” where the answers included “high rating,” “low rating,” or “none of the above”). Accuracy levels are as follows: untrusted brand = 98%, trusted brand = 97%, and trust-unknown brand = 57%; $\chi^2 = 438$, df = 4, $p < .0001$). Next, three questions were used to test the effectiveness of each CPD stage and motivation condition. First, participants were asked to describe how the product had been developed (i.e., with collaboration). Participants correctly identified the collaborative nature of the product shown earlier in the survey (early development, 99%, promotion = 89%). As described in each of the previous studies, a substantial number of participants (11%) explicitly indicated that the product had not been collaboratively developed. The next question asked participants to identify how the collaborators in the survey collaborated with the firm. Correct responses are: early development = 91% and promotion = 75% ($\chi^2 = 165$, df = 2, $p < .0001$). The final question was designed to confirm participants’ awareness of how the consumers in the survey had been rewarded for their collaboration with the firm. Correct responses are as follows: intrinsic motivation = 92% and extrinsic motivation = 98% ($\chi^2 = 313$, df = 2, $p < .0001$).

**Effects on Product and Company Perceptions.** When asked to indicate the degree of perceived collaboration (from “1 = low” to “9 = high” collaboration), participants rated early development as marginally greater ($M = 6.4$) than promotion ($M = 5.9$, $p = .08$). Objectively, the
level of shared-value and collaboration between a firm and its consumers may not differ between early and late product development. However, when collaboration occurs earlier in the product development process, the subjective perception of overall “consumer influence” is much higher. It is important to note that each CPD stage manipulation was still higher (i.e., non-neutral) than the scale midpoint (4.5) as one-sample t-tests confirm [early development, t(162) = 10.4, \( p < .001 \); promotion, t(168) = 8.5, \( p < .001 \)]. This result confirms the perception of collaboration for each CPD manipulation (i.e., early vs. late-stage) as higher than neutral. As expected, there was also a main effect of brand trust (F(2, 319) = 12.9, \( p < .001 \)) such that perceptions of overall consumer influence were significantly higher when brand trust was unknown (M = 6.3) or the brand was trusted (M = 6.8, \( p’ s \leq .001 \) for each contrast \( M_{untrusted} = 5.3 \)). However, when the brand is untrusted perceptions of consumer influence do moderately improve when the collaborator has been intrinsically motivated (mean difference = .6, \( p = .1 \)). Importantly, these perceptions translate directly to perceptions to favorable perceptions of product quality (i.e., “using collaboration made [these headphones] a better product”), there were significant main effects of CPD stage and brand trust (\( p’ s < .001 \) for both) where the product was perceived as better with early-stage collaboration. Additionally, each incremental improvement in brand trust (untrusted, trust unknown, trusted) resulted in significantly more favorable perceptions (\( M_{untrusted} = 3.9, M_{trust-known} = 4.6, M_{trusted} = 5.1, p \leq .01 \) for each contrast). Finally, there was a significant main effect of brand trust across the remaining product and company perceptions, as shown in Table 10, such that each improvement led to increased perceptions of trust and a more favorable attitude toward the company.

Finally, there is a significant three-way interaction between all experimental factors for consumers’ perception of product involvement (F(2, 319) = 5.1, \( p = .007 \)). For example, when
brand trust is unknown (similar to Study 2), perceptions have reverse effects when the product has been collaborated in the early or late-stages. When brand trust is unknown for early-development CPD, involvement improves with extrinsic motivation ($M_{extrinsic} = 4.7, M_{intrinsic} = 3.9, p = .05$). However, when brand trust is unknown for promotional CPD, involvement improves with intrinsic motivation ($M_{intrinsic} = 4.6, M_{extrinsic} = 3.9, p = .09$). As illustrated in the previous study, current results suggest that extrinsically-motivated collaboration may be appropriate when the trust of the brand is not explicitly known, but only for early-stage collaboration. Alternatively, consumers who collaborate with the firm for promotional CPD will favorably influence interest in the product when they are intrinsically motivated.

*Effects on Social Identity Perceptions.* As shown in Table 11, for each improvement in brand trust (i.e., distrust, trust unknown, trusted), perceptions of similarity with the user, company, and perceptions of identity attractiveness improved, as shown in Table 11 where all main effects are highly significant ($p$’s < .006)\(^{13}\). As expected, improvements in brand trust result in significant improvements across all identity measures. Given the linear of the pattern of results (i.e., ordinal differences as trust improves from low levels, unknown levels, to high level), a linear regression was performed for all measures where each test was significant and all coefficients were in the predicted direction ($\beta$’s $\geq .2, p$’s $\leq .01$). However, the effect of brand trust for identity embeddedness is dependent on (i.e., moderated by) the collaborator’s motivation ($F(2, 319) = 2.0, p = .1$). When the brand was manipulated as untrusted, perceptions of identity embeddedness (i.e., collaboration indicates how important consumers are in product development) improved when the collaborator was intrinsically motivated ($M_{intrinsic} = 4.5$,

\(^{13}\) The main effect of brand trust on perceptions of user similarity was not as highly significant ($F(2, 319) = 4.1, p = .02$).
For organizational identity, on the other hand, when the brand was trusted perceptions became more favorable (i.e., overlapping identities between the consumer and the firm) when the collaborator was extrinsically motivated ($M_{\text{extrinsic}} = 3.7$, $M_{\text{intrinsic}} = 3.2$, $p = .08$). The results here suggest that trust on one dimension (e.g., high brand trust or intrinsically-motivated collaboration) attenuate the negative effects of distrust on a different dimension. For example, if brand trust is poor then perceptions of identity can be improved by using intrinsically-motivated collaborators. Finally, there was a significant interaction between CPD stage and motivation ($F(1, 319) = 4.9$, $p = .03$). Similar to the effects for company perceptions, extrinsic motivation significantly improves perceptions of company similarity ($M_{\text{extrinsic}} = 3.3$, $M_{\text{intrinsic}} = 2.9$, $p = .04$) but only for early-stage CPD (effects were n.s. for promotional collaboration).

**Effects on Behavioral Outcomes.** Consumers’ purchase intentions were favorably influenced by brand trust ($F(2, 319) = 67.3$, $p < .001$). For example, intent increases when brand trust is unknown ($M = 4.2$) or the brand is trusted ($M = 4.5$) when compared to a distrusted brand ($M = 2.7$, $p’ < .001$ for each contrast). There were no significant interactions between any experimental factor for this measure. For consumers’ self-stated payment prices (i.e., willingness to pay (WTP) as expressed in a numeric value), there was a significant main effect of brand trust ($F(2, 318) = 23.5$, $p < .001$) such that WTP incrementally increased as brand trust increased ($M_{\text{untrusted}} = $73.3, $M_{\text{trust unknown}} = $101.6, $M_{\text{trusted}} = $107.9). Simple effect contrasts show that, compared to a distrusted brand, the price consumers are willing to pay are significantly higher for brands that are trusted or whose trust is otherwise unknown ($p’ < .001$ for each).

Interestingly, WTP changes as a function of CPD stage and motivation and this disordinal interaction approaches significance ($F(1, 318) = 3.6$, $p = .06$). For promotional CPD, WTP
marginally improves when extrinsic motivation is used ($M_{\text{extrinsic}} = 98.3, M_{\text{intrinsic}} = 90.0, p = .1$). Conversely, WTP is higher for early-development CPD when intrinsic motivation is present. While the mean difference is $6.8$, it is not significant ($p = .2$).

**Mediating Effects of Social Distance.** To test the expectation that social distance would mediate the effects of brand trust (i.e., indirect effects), the MEDIATE macro described by Hayes and Preacher (2013) was used and results appear in Table 12. Since the three levels of brand trust can be rank ordered with respect to the degree of trust (low, unknown, high), sequential coding is used in the analysis to assess the indirect effects of each “level” of (1) trust unknown or (2) high trust relative to the group one step lower in the rank-ordered system (e.g., trust-unknown relative to low trust and high trust relative to trust-unknown). For the control condition (low trust), two dummy codes, $D_1$ and $D_2$, are set = 0. For the trust-unknown brand, $D_1 = 1$ and $D_2 = 0$ and for the trusted brand, $D_1$ and $D_2$ both = 1. I found that social distance exerted significant indirect effects where the trust unknown condition had perceptions of source credibility that were .50 units more favorable (note: also know this b/c all $\beta$’s are positive) on average (with a 95% bias-corrected bootstrap confidence interval from .32 to .70) than when the brand is distrusted. When the brand is trusted, results for source credibility became .22 units more favorable on average (95% CI: .05, .40) than when trust is unknown. As shown in the table, results are similar for other product and company perceptions where each incremental improvement in brand trust results in a favorable improvement in outcomes through reductions in perceived social distance. Indirect effects were significant across each behavioral outcome and all social identity measures as well, thus confirming my expectation that improvements in brand trust lead to favorable outcomes because consumers’ social distance toward the firm is reduced.
General Discussion

This research attempted to gain deeper insight into the nature and direction of collaboration in the new product development process. Early research in this context suggests that this technique may be useful in enhancing consumers’ relationships with companies. Extant research devoted to consumer-firm identity shows the importance of collaborating with consumers, yet little empirical evidence exists to show how CPD will influence consumer outcomes. Of specific interest in the present research, then, are the implications of CPD across specific temporal occurrences in the product development timeline. Importantly, the results here show how CPD can favorably influence product evaluations as collaboration becomes more embedded (i.e., occurs earlier) in development. Additionally, the effects of CPD are delineated by manipulating its presence in the rudimentary phases of idea creation and selection, through the advanced stages of creation, to the point of product promotion.

Studies 1a and 1b suggest that product involvement may not have a critical role in shaping product evaluations, as previously theorized. Specifically, the first study (1-A) shows that consumers’ product and company perceptions become more favorable for early-stage CPD (e.g., pre-promotion collaboration). This favorable effect is strengthened for those who value collaboration the most (i.e., attribute a high importance). Results show that as collaboration becomes more embedded (i.e., occurs earlier) in the product development process, consumers’ evaluations of the product and the company are favorably influenced. This study also shows, across multiple measures of social identity, that perceptions between the consumer and the firm do not differ between promotional CPD and the control (i.e., no collaboration), but significantly improve when the product has been created through early-stage CPD. Next, Study 1-B replicates the previous results and also shows that for those who value collaboration the most and when
product involvement is low, trust significantly improves for late-stage CPD. This effect is reversed when product involvement is high. Specifically, trust is improved only for products created with early-stage CPD. An important outcome is the distinction between when and how perceptions of trust, and other consumer outcomes, become positively yet differentially influenced by the specific stages of CPD.

In Study 2, results show how differences in information related to the collaborator’s motivation (i.e., intrinsic, extrinsic, or mixed) influence perceptions of credibility, brand trust, user similarity, and willingness to collaborate. For example, when the collaborator has been intrinsically-motivated, trust improves most during promotional CPD. Alternatively, when the collaborator has been extrinsically-motivated, trust is substantially improved during each early-stage (idea generation, idea selection, or advanced development) CPD. In the final study (3), early-stage CPD favorably influences consumer perceptions of product quality. Additionally, overall perceived collaboration is perceived as higher for early-stage CPD when compared with late-stage (i.e., promotional) CPD. While each form of collaboration along the development timeline may be objectively similar, consumers’ subjective interpretation of each form of CPD vary significantly in favor of collaboration that occurs earlier in the process. This study also shows the countervailing effects of CPD stage and motivation where intrinsic-motivation has significantly more favorable implications for late-stage CPD. Conversely, extrinsic-motivation has more favorable implications for early-stage CPD.

This research contributes to our understanding of consumer behavior in several important ways. First, consumer collaboration is an underexplored and new behavioral context for marketing researchers. Exploratory and empirical research in this area, as this dissertation provides, enriches our understanding of this novel method of value creation. Second, the effects
of collaboration between the stages of new product development (e.g., early-stage collaboration such as idea provision versus late-stage collaboration such as advertisement co-production) has not been empirically tested until now. Third is the development of the construct of social distance as it pertains to the emergence of social identity through CPD. Across all four studies, the conditional indirect effects of CPD (as a function of collaboration importance) occur through this critical mechanism: perceived social distance. Specifically, the first three experiments (Studies 1-A, 1-B, and 2) show when (i.e., during specific development stages) collaboration works through perceptions of social distance to have favorable effects across measures of identity, attitude, and behavioral intentions. The final experiment (Study 3) uses mediation, with sequential coding of groups (Hayes and Preacher 2013), to show that the effects of brand trust are fully mediated by social distance. Each incremental improvement in trust (low, unknown, and high) leads to sequentially more favorable consumer outcomes. Social distance and C-C identification are dynamic and likely to be influenced by consumers’ involvement, perceptions of collaborator motivation, and brand trust. My findings shed light on the pivotal role CPD has in decreasing social distance and informing consumers of a firm’s relationship efforts.

This research provides additional insight into the nature and direction of collaboration in the new product development process. The results show how consumer and firm-controlled factors (e.g., motivation, brand trust) interact to identify boundary conditions for collaboration’s influence. Results suggest that collaborating with consumers sustains the firm’s competitive advantage when used appropriately (e.g., during the most optimum stage of product development).
TABLE 2.1


<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Product and Company Perceptions</th>
<th>Univariate F Values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Better Product</td>
<td>Risk</td>
</tr>
<tr>
<td>Main Effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPD Phase (CPD)</td>
<td>10.5****</td>
<td>2.4**</td>
</tr>
<tr>
<td>Involvement (INV)</td>
<td>.07</td>
<td>.725</td>
</tr>
<tr>
<td>Importance (IMP)</td>
<td>16.3****</td>
<td>6.0***</td>
</tr>
<tr>
<td>Interaction Effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPD x IMP</td>
<td>.46</td>
<td>2.4**</td>
</tr>
<tr>
<td>INV x IMP</td>
<td>.34</td>
<td>2.2*</td>
</tr>
<tr>
<td>CPD x INV x IMP</td>
<td>.28</td>
<td>2.7***</td>
</tr>
</tbody>
</table>

The interactions between CPD Phase (CPD) and Product Involvement (INV) were non-significant across all measures and have been excluded within this table of results.

**** $p \leq .001$; *** $p \leq .01$; ** $p \leq .05$; * $p \leq .1$
### TABLE 2.2

Study 1-A: Effects of Consumer Collaboration, Product Involvement, and Collaboration Importance on Social Identity and Behavioral Outcomes

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Social Identity</th>
<th>Behavioral Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>User Similarity</td>
<td>Identity Attraction</td>
</tr>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPD Phase (CPD)</td>
<td>1.2</td>
<td>5.1***</td>
</tr>
<tr>
<td>Involvement (INV)</td>
<td>8.5***</td>
<td>1.4</td>
</tr>
<tr>
<td>Importance (IMP)</td>
<td>5.9***</td>
<td>25.7****</td>
</tr>
<tr>
<td><strong>Interaction Effects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPD x IMP</td>
<td>1.1</td>
<td>2.3**</td>
</tr>
<tr>
<td>INV x IMP</td>
<td>4.1**</td>
<td>1.7</td>
</tr>
</tbody>
</table>

The two-way interactions between CPD Phase (CPD) and Product Involvement (INV) and the CPD*IMP*INV three-way interactions were non-significant across all measures and have been excluded within this table of results.

**** $p \leq .001$; *** $p \leq .01$; ** $p \leq .05$; * $p \leq .1$
### TABLE 2.3
Study 1-B: Effects of Consumer Collaboration, Product Involvement, and Collaboration Importance on Product and Company Perceptions

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Better Product</th>
<th>Risk</th>
<th>Source Credibility</th>
<th>Trust in Company</th>
<th>Brand Attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPD Phase (CPD)</td>
<td>7.7***</td>
<td>1.5</td>
<td>2.4**</td>
<td>4.8***</td>
<td>4.5***</td>
</tr>
<tr>
<td>Involvement (INV)</td>
<td>.28</td>
<td>55.9****</td>
<td>.01</td>
<td>.20</td>
<td>.46</td>
</tr>
<tr>
<td>Importance (IMP)</td>
<td>11.5****</td>
<td>3.60*</td>
<td>26.4****</td>
<td>24.1****</td>
<td>10.1***</td>
</tr>
<tr>
<td><strong>Interaction Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPD x INV</td>
<td>.82</td>
<td>3.5***</td>
<td>1.3</td>
<td>1.2</td>
<td>.45</td>
</tr>
<tr>
<td>CPD x INV x IMP</td>
<td>1.1</td>
<td>.97</td>
<td>1.1</td>
<td>2.6**</td>
<td>2.5**</td>
</tr>
</tbody>
</table>

The interactions between Collaboration Importance (IMP) and Product Involvement (INV) were non-significant across all measures and have been excluded within this table of results.

**** $p \leq .001$; *** $p \leq .01$; ** $p \leq .05$; * $p \leq .1$
TABLE 2.4
Study 1-B: Effects of Consumer Collaboration, Product Involvement, and Collaboration Importance on Social Identity and Behavioral Outcomes

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Social Identity</th>
<th>Behavioral Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>User Similarity</td>
<td>Identity Attraction</td>
</tr>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPD Phase (CPD)</td>
<td>.65</td>
<td>3.4***</td>
</tr>
<tr>
<td>Involvement (INV)</td>
<td>.29</td>
<td>1.1</td>
</tr>
<tr>
<td>Importance (IMP)</td>
<td>10.6****</td>
<td>22.8****</td>
</tr>
<tr>
<td><strong>Interaction Effects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPD x IMP</td>
<td>.86</td>
<td>.73</td>
</tr>
<tr>
<td>INV x IMP</td>
<td>1.5</td>
<td>.08</td>
</tr>
<tr>
<td>CPD x INV x IMP</td>
<td>.34</td>
<td>2.7**</td>
</tr>
</tbody>
</table>

The two-way interactions between CPD Phase (CPD) and Product Involvement (INV) was non-significant across all measures and have been excluded within this table of results.

**** $p \leq .001$; *** $p \leq .01$; ** $p \leq .05$; * $p \leq .10$
### TABLE 2.5

**Study 1-A: The Indirect Effects of Collaborative Product Development on Attitudes and Behavioral Outcomes**

**Mediation Paths:** CPD Stage x CPD Importance $\rightarrow$ Social Distance $\rightarrow$ Attitude and Behavioral Outcomes

```
<table>
<thead>
<tr>
<th>Panel A: Idea Generation</th>
<th>Indirect Effect (SE)</th>
<th>95% Confidence Interval (CI)</th>
<th>Panel B: Idea Selection</th>
<th>Indirect Effect (SE)</th>
<th>95% Confidence Interval (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better Product Trust in the Company</td>
<td>.17 (.13)</td>
<td>[.01, .54]</td>
<td>WTP</td>
<td>-.26 (.17)</td>
<td>[-.74, -.02]</td>
</tr>
<tr>
<td>Brand Attitude</td>
<td>- .21 (.10)</td>
<td>[-.43, -.03]</td>
<td>Purchase Intention Brand Attitude Consumer Engagement</td>
<td>-.22 (.14)</td>
<td>[-.61, -.01]</td>
</tr>
<tr>
<td>Purchase Intentions User Similarity Identity Attraction</td>
<td>.18 (.09)</td>
<td>[.02, .39]</td>
<td></td>
<td>-.17 (.12)</td>
<td>[-.50, -.01]</td>
</tr>
<tr>
<td></td>
<td>.27 (.13)</td>
<td>[.07, .62]</td>
<td>Consumer Engagement</td>
<td>-.43 (.23)</td>
<td>[-.93, -.02]</td>
</tr>
<tr>
<td></td>
<td>.38 (.19)</td>
<td>[.06, .83]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.22 (.12)</td>
<td>[.01, .46]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Panel C: Promotion</td>
<td>Consumer Engagement</td>
<td>.31 (.11)</td>
<td>[.13, .59]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

Note: The model shows the total indirect effect for CPD stage and collaboration importance (3 levels) for social distance (Hayes 2013; Model 4 using ‘Select If’ statements). Values for the upper and lower confidence interval are estimated with bias-corrected confidence intervals with a bootstrap sample of n=5000. The absence of a zero in the interval indicates statistical significance.
### TABLE 2.6

Studies 1-B: The Indirect Effects of Collaborative Product Development Across Attitudes and Behavioral Outcomes

<table>
<thead>
<tr>
<th>Mediation Paths</th>
<th>Indirect Effect (SE)</th>
<th>95% Confidence Interval (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel A: Indirect Effects for Source Credibility</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaboration Importance → Social Distance → Idea Generation</td>
<td>-.46 (.21)</td>
<td>[-.95, -.12]</td>
</tr>
<tr>
<td>Collaboration Importance → Social Distance → Idea Selection</td>
<td>-.27 (.19)</td>
<td>[-.79, -.01]</td>
</tr>
<tr>
<td>Collaboration Importance → Social Distance → Promotion</td>
<td>-.33 (.18)</td>
<td>[-.74, -.02]</td>
</tr>
<tr>
<td><strong>Panel B: Indirect Effects for Product Involvement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaboration Importance → Social Distance → Idea Generation</td>
<td>.57 (.23)</td>
<td>[.15, 1.07]</td>
</tr>
<tr>
<td>Collaboration Importance → Social Distance → Idea Selection</td>
<td>.22 (.16)</td>
<td>[.01, .66]</td>
</tr>
<tr>
<td>Collaboration Importance → Social Distance → Promotion</td>
<td>.23 (.16)</td>
<td>[.02, .64]</td>
</tr>
<tr>
<td><strong>Panel C: Indirect Effects for Brand Attitude</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collaboration Importance → Social Distance → Idea Generation</td>
<td>.54 (.25)</td>
<td>[.13, 1.12]</td>
</tr>
<tr>
<td>Collaboration Importance → Social Distance → Promotion</td>
<td>.45 (.24)</td>
<td>[.02, .93]</td>
</tr>
</tbody>
</table>

**Note:** insert here
### TABLE 2.7

Study 2: Effects of Consumer Collaboration, Collaborator Motivation, and Collaboration Importance on Product-Company Perceptions, and Behavioral Outcomes

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Better Product</th>
<th>Involvement</th>
<th>Source Credibility</th>
<th>Trust in Company</th>
<th>Brand Trust</th>
<th>Brand Attitude</th>
<th>Purchase Intention</th>
<th>WTP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPD Phase (CPD)</td>
<td></td>
<td>.24</td>
<td>1.1</td>
<td>1.8</td>
<td>.66</td>
<td>.43</td>
<td>1.3</td>
<td>.76</td>
</tr>
<tr>
<td>Motivation (MOT)</td>
<td>.69</td>
<td>.03</td>
<td>.16</td>
<td>.94</td>
<td>.09</td>
<td>.23</td>
<td>.88</td>
<td>4.0***</td>
</tr>
<tr>
<td>Importance (IMP)</td>
<td>1.9</td>
<td>1.3</td>
<td>9.2***</td>
<td>8.6***</td>
<td>7.6***</td>
<td>10.9****</td>
<td>9.9***</td>
<td>2.4*</td>
</tr>
<tr>
<td><strong>Interaction Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOT x IMP</td>
<td>.51</td>
<td>2.4*</td>
<td>.62</td>
<td>.32</td>
<td>.34</td>
<td>1.1</td>
<td>4.9***</td>
<td>.56</td>
</tr>
<tr>
<td>CPD x MOT x IMP</td>
<td>1.5</td>
<td>2.1**</td>
<td>2.8**</td>
<td>1.2</td>
<td>2.0*</td>
<td>.84</td>
<td>1.5</td>
<td>.62</td>
</tr>
</tbody>
</table>

Note: The two-way interactions between (1) CPD Phase (CPD) and Collaborator Motivation (MOT) and (2) CPD x Collaboration Importance (IMP) interactions were non-significant across all measures and have been excluded within this table of results.  
**** $p \leq .001$; *** $p \leq .01$; ** $p \leq .05$; * $p \leq .1$
TABLE 2.8

Study 2: Effects of Consumer Collaboration, Collaborator Motivation, and Collaboration Importance on Social Identity Perceptions and Willingness to Collaborate

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Social Identity Perceptions</th>
<th>Social Distance Perceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>User Similarity</td>
<td>Company Similarity</td>
</tr>
<tr>
<td>Main</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPD Phase (CPD)</td>
<td>2.2*</td>
<td>1.6</td>
</tr>
<tr>
<td>Motivation (MOT)</td>
<td>1.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Importance (IMP)</td>
<td>11.0****</td>
<td>13.4****</td>
</tr>
<tr>
<td>Interaction Effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPD x MOT</td>
<td>1.1</td>
<td>.67</td>
</tr>
<tr>
<td>MOT x IMP</td>
<td>3.8***</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Note: The two-way interactions between CPD Phase (CPD) and Product Involvement (INV) and the CPD*IMP*INV three-way interactions were non-significant across all measures and have been excluded within this table of results.

**** $p \leq .001$; *** $p \leq .01$; ** $p \leq .05$; * $p \leq .1$
TABLE 2.9

Study 2: The Indirect Effects of Collaborative Product Development Across Attitudes and Behavioral Outcomes

Mediation Paths: CPD Stage moderated by CPD Importance  Social Distance  Attitude and Behavioral Outcomes

<table>
<thead>
<tr>
<th>Panel A: Idea Generation</th>
<th>Indirect Effect (SE)</th>
<th>95% Confidence Interval (CI)</th>
<th>Panel B: Advanced Development</th>
<th>Indirect Effect (SE)</th>
<th>95% Confidence Interval (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Credibility</td>
<td>.34 (.14)</td>
<td>[.09, .66]</td>
<td>Source Credibility</td>
<td>.23 (.10)</td>
<td>[.07, .47]</td>
</tr>
<tr>
<td>Trust in the Company</td>
<td>.26 (.12)</td>
<td>[.06, .55]</td>
<td>Trust in the Company</td>
<td>.32 (.10)</td>
<td>[.14, .54]</td>
</tr>
<tr>
<td>Brand Trust</td>
<td>.26 (.12)</td>
<td>[.06, .52]</td>
<td>Brand Trust</td>
<td>.33 (.10)</td>
<td>[.16, .56]</td>
</tr>
<tr>
<td>Brand Attitude</td>
<td>.29 (.13)</td>
<td>[.07, .57]</td>
<td>Brand Attitude</td>
<td>.40 (.11)</td>
<td>[.2, .65]</td>
</tr>
<tr>
<td>Purchase Intentions</td>
<td>.27 (.07)</td>
<td>[.14, .42]</td>
<td>Purchase Intentions</td>
<td>.47 (.19)</td>
<td>[.18, .91]</td>
</tr>
<tr>
<td>Willingness to Pay</td>
<td>5.8 (3.5)</td>
<td>[.84, 15.5]</td>
<td>Willingness to Pay</td>
<td>7.3 (3.8)</td>
<td>[1.4, 16.7]</td>
</tr>
<tr>
<td>User Similarity</td>
<td>.63 (.24)</td>
<td>[.21, 1.2]</td>
<td>User Similarity</td>
<td>.71 (.20)</td>
<td>[.33, 1.1]</td>
</tr>
<tr>
<td>Company Similarity</td>
<td>.62 (.23)</td>
<td>[.18, 1.1]</td>
<td>Company Similarity</td>
<td>.84 (.24)</td>
<td>[.36, 1.3]</td>
</tr>
<tr>
<td>Social Attraction</td>
<td>.50 (.18)</td>
<td>[.15, .85]</td>
<td>Social Attraction</td>
<td>.75 (.22)</td>
<td>[.33, 1.2]</td>
</tr>
<tr>
<td>Identity Attraction</td>
<td>.39 (.15)</td>
<td>[.12, .72]</td>
<td>Identity Attraction</td>
<td>.54 (.16)</td>
<td>[.23, .86]</td>
</tr>
<tr>
<td>Identity Embeddedness</td>
<td>.23 (.13)</td>
<td>[.03, .54]</td>
<td>Identity Embeddedness</td>
<td>.28 (.13)</td>
<td>[.09, .60]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel C: Promotion</th>
<th>Indirect Effect (SE)</th>
<th>95% Confidence Interval (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand Trust</td>
<td>.13 (.08)</td>
<td>[.01, .32]</td>
</tr>
<tr>
<td>Brand Attitude</td>
<td>.16 (.09)</td>
<td>[.01, .38]</td>
</tr>
<tr>
<td>Purchase Intention</td>
<td>.27 (.15)</td>
<td>[.01, .60]</td>
</tr>
</tbody>
</table>

Note: The model shows the total indirect effect for CPD stage and collaboration importance for social distance (Hayes 2013; Model 4 using ‘Select If’ statements). Values for the upper and lower confidence interval are estimated with bias-corrected confidence intervals with a bootstrap sample of n=5000. The absence of a zero in the interval indicates statistical significance.
<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Better Product</th>
<th>Involvement</th>
<th>Source Credibility</th>
<th>Trust in Company</th>
<th>Consumer Influence</th>
<th>Brand Attitude</th>
<th>Purchase Intention</th>
<th>WTP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPD Phase (CPD)</td>
<td>10.4****</td>
<td>3.1*</td>
<td>.16</td>
<td>.00</td>
<td>3.2*</td>
<td>.18</td>
<td>.32</td>
<td>.08</td>
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<tr>
<td>Motivation (MOT)</td>
<td>.02</td>
<td>.05</td>
<td>1.0</td>
<td>.26</td>
<td>.17</td>
<td>.64</td>
<td>.02</td>
<td>.24</td>
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<tr>
<td>Brand Trust (BTR)</td>
<td>15.1****</td>
<td>4.3***</td>
<td>142.6****</td>
<td>101.5****</td>
<td>12.9****</td>
<td>119.9****</td>
<td>67.3****</td>
<td>23.5****</td>
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<td><strong>Interaction Effects</strong></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CPD x MOT</td>
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<td>.62</td>
<td>.10</td>
<td>.03</td>
<td>.05</td>
<td>.29</td>
<td>.26</td>
<td>.36*</td>
</tr>
<tr>
<td>MOT x BTR</td>
<td>1.4</td>
<td>.25</td>
<td>1.8</td>
<td>1.5</td>
<td>2.1*</td>
<td>1.4</td>
<td>.67</td>
<td>.28</td>
</tr>
<tr>
<td>CPD x MOT x BTR</td>
<td>.51</td>
<td>5.1***</td>
<td>.02</td>
<td>.13</td>
<td>.94</td>
<td>.16</td>
<td>.53</td>
<td>.08</td>
</tr>
</tbody>
</table>

Note: The two-way interactions between CPD Phase (CPD) and Brand Trust (BTR) were non-significant across all measures and have been excluded within this table of results.

**** $p \leq .001$; *** $p \leq .01$; ** $p \leq .05$; * $p \leq .1$
TABLE 2.11
Study 3: Effects of Consumer Collaboration, Collaborator Motivation, and Brand Trust on Social Identity Perceptions and Willingness to Collaborate

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>User Similarity</th>
<th>Company Similarity</th>
<th>Social Attraction</th>
<th>Identity Attraction</th>
<th>Identity Embedded</th>
<th>Social Distance</th>
<th>Collaboration Willingness</th>
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</thead>
<tbody>
<tr>
<td><strong>Main Effects</strong></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPD Phase (CPD)</td>
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<td>.01</td>
<td>.64</td>
<td>.00</td>
<td>.53</td>
<td>.15</td>
<td>.03</td>
</tr>
<tr>
<td>Motivation (MOT)</td>
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<td>.59</td>
<td>.13</td>
<td>.19</td>
<td>1.4</td>
<td>.96</td>
<td>1.4</td>
</tr>
<tr>
<td>Brand Trust (BTR)</td>
<td>4.1**</td>
<td>32.1****</td>
<td>55.9****</td>
<td>66.0****</td>
<td>18.2****</td>
<td>35.3****</td>
<td>5.2****</td>
</tr>
<tr>
<td><strong>Interaction Effects</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPD x MOT</td>
<td>1.1</td>
<td>4.9**</td>
<td>1.2</td>
<td>.59</td>
<td>.45</td>
<td>1.5</td>
<td>1.3</td>
</tr>
<tr>
<td>MOT x BTR</td>
<td>.78</td>
<td>.00</td>
<td>.92</td>
<td>1.2</td>
<td>2.0*</td>
<td>.07</td>
<td>.10</td>
</tr>
</tbody>
</table>

Note: The two-way interactions between CPD Phase (CPD) and Brand Trust (BTR) and the CPD*MOT*BTR three-way interactions were non-significant across all measures and have been excluded within this table of results.

**** p ≤ .001; *** p ≤ .01; ** p ≤ .05; * p ≤ .1
### TABLE 2.12

**Study 3: The Indirect Effects of Brand Trust Across Attitudes and Behavioral Outcomes**

**Mediation Paths:** Brand Trust → Social Distance → Attitude and Behavioral Outcomes

<table>
<thead>
<tr>
<th>Product and Company Perceptions</th>
<th>D1 Indirect Effect (SE)</th>
<th>95% Confidence Interval (CI)</th>
<th>D2 Indirect Effect (SE)</th>
<th>95% Confidence Interval (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better Product</td>
<td>.49 (.11)</td>
<td>[.29, .72]</td>
<td>.21 (.09)</td>
<td>[.05, .41]</td>
</tr>
<tr>
<td>Involvement</td>
<td>.69 (.12)</td>
<td>[.47, .93]</td>
<td>.31 (.12)</td>
<td>[.08, .56]</td>
</tr>
<tr>
<td>Source Credibility</td>
<td>.50 (.10)</td>
<td>[.32, .70]</td>
<td>.22 (.09)</td>
<td>[.06, .40]</td>
</tr>
<tr>
<td>Trust in the Company</td>
<td>.50 (.10)</td>
<td>[.33, .69]</td>
<td>.22 (.09)</td>
<td>[.06, .39]</td>
</tr>
<tr>
<td>Consumer Influence</td>
<td>.62 (.14)</td>
<td>[.37, .92]</td>
<td>.27 (.11)</td>
<td>[.06, .51]</td>
</tr>
<tr>
<td>Brand Attitude</td>
<td>.56 (.10)</td>
<td>[.37, .76]</td>
<td>.25 (.10)</td>
<td>[.07, .44]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Behavioral Outcomes</th>
<th>D1 Indirect Effect (SE)</th>
<th>95% Confidence Interval (CI)</th>
<th>D2 Indirect Effect (SE)</th>
<th>95% Confidence Interval (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase Intentions</td>
<td>.64 (.11)</td>
<td>[.43, .87]</td>
<td>.28 (.11)</td>
<td>[.07, .50]</td>
</tr>
<tr>
<td>Willingness to Pay</td>
<td>9.5 (2.3)</td>
<td>[$5.4, $14.4]</td>
<td>4.2 (1.8)</td>
<td>[$1.0, $8.1]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social Identity Perceptions</th>
<th>D1 Indirect Effect (SE)</th>
<th>95% Confidence Interval (CI)</th>
<th>D2 Indirect Effect (SE)</th>
<th>95% Confidence Interval (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Similarity</td>
<td>.83 (.14)</td>
<td>[.56, 1.10]</td>
<td>.37 (.14)</td>
<td>[.10, .65]</td>
</tr>
<tr>
<td>Company Similarity</td>
<td>.89 (.14)</td>
<td>[.61, 1.17]</td>
<td>.39 (.15)</td>
<td>[.11, .69]</td>
</tr>
<tr>
<td>Social Attraction</td>
<td>.72 (.12)</td>
<td>[.49, .96]</td>
<td>.32 (.12)</td>
<td>[.08, .55]</td>
</tr>
<tr>
<td>Identity Attraction</td>
<td>.67 (.11)</td>
<td>[.45, .89]</td>
<td>.29 (.11)</td>
<td>[.08, .52]</td>
</tr>
<tr>
<td>Identity Embeddedness</td>
<td>.52 (.10)</td>
<td>[.33, .73]</td>
<td>.23 (.09)</td>
<td>[.06, .41]</td>
</tr>
</tbody>
</table>

Note: Sequential coding is used in the mediation analysis to assess the indirect effects of each “level” of (1) trust unknown or (2) high trust relative to the (3) group one step lower in the rank-ordered system (i.e., low trust, unknown, high trust). D1 = the indirect effect of the trust-unknown brand relative to the distrusted brand. D2 = the indirect effects of the trusted brand relative to the trust-unknown brand. Values for the upper and lower confidence interval are estimated with bias-corrected confidence intervals with a bootstrap sample of n=5000. The absence of a zero in the interval indicates statistical significance.
FIGURE 2.1

Overview of Studies: Essay 2

Notes:

a = Where ‘Involvement’ is a function of product relevance (e.g., toy products are more relevant for parents than non-parents. Therefore, toy products are high-involvement products for parents and low-involvement products for non-parents.)
b = Where ‘Involvement’ is a function of product category (e.g., low-involvement products such as fruit juice and high-involvement products such as cell phones.)
c = Separate analyses were also conducted using each identity-related dependent measure (e.g., user similarity) as the mediator. However, bootstrapped confidence intervals contained zero and/or the indirect effect was reduced. These results support the construct of social distance as the more appropriate mediator underlying the effects of CPD.
FIGURE 2.2
Study 1-A: Plots of the Moderating Role of Consumer Collaboration on varying Blog and Disclosure Types

A: Interaction Plot for User Similarity

Note: the control condition is not included here as the “user similarity” construct was not measured in this experimental condition. In other words, a collaboratively developed product (by users) was not present in the control.
FIGURE 2.3
Study 1-A: Plots of the Moderating Roles of CPD, Product Involvement, and Collaboration Importance on Risk Perceptions

A: Interaction Plot for Consumers with Low Collaboration Importance

B: Interaction Plot for Consumers with Medium Collaboration Importance
Study 1-A: Plots of the Moderating Roles of CPD, Product Involvement, and Collaboration Importance on Risk Perceptions

C: Interaction Plot for Consumers with High Collaboration Importance

Note: The 3-way interaction between collaboration, product involvement, and collaboration importance (F = 2.7*** is reported in Table 2.1.

**** p ≤ .001; *** p ≤ .01; ** p ≤ .05; * p ≤ .1
FIGURE 2.4
Study 1-B: Plot of the Moderating Roles of CPD and Product Involvement on Risk Perceptions

Note: Simple effect contrasts show significant differences between involvement conditions for each CPD stage except the control. Idea generation, $p = .063$; Idea selection, $p < .001$; advanced development, $p = .001$; promotion, $p < .001$; control, $p = .253$. 
FIGURE 2.5
Study 1-B: 3-Way Interaction Plots of the Moderating Role of CPD and Product Involvement across Levels of Collaboration Importance

A: Interaction Plot for Willingness to Pay, Low Collaboration Importance

B: Interaction Plot for Willingness to Pay, High Collaboration Importance

Note: The 3-way interaction between collaboration, product involvement, and collaboration importance (F = 3.2***) is reported in Table 2.4.

**** p ≤ .001; *** p ≤ .01; ** p ≤ .05; * p ≤ .1
FIGURE 2.6
Study 1-B: The Mediating Role of Social Distance for Consumers’ Perceptions of Source Credibility

Note: Results provide support for H2C which states that the positive CPD effect is mediated by social distance (i.e., a reduction in perceptions of social distance).

**Sobel test for mediation:** $z = 2.43, p = .01$

**Indirect Effect:** $\beta = .07, se = .03, CI .02, .13$
FIGURE 2.7

Study 2: 3-Way Interaction Plots of the Moderating Role of CPD and Motivation across Levels of Collaboration Importance

A: Interaction Plot for Intrinsic Motivation

B: Interaction Plot for Extrinsic Motivation
FIGURE 2.7, cont.
Study 2: 3-Way Interaction Plots of the Moderating Role of CPD and Motivation across Levels of Collaboration Importance

C: Interaction Plot for Mixed Motivation

Note: Contrasts show when these perceptions are significantly improved for intrinsic (Stage 4, \( p = .04 \)), extrinsic (Stage 1, \( p = .04 \)), and mixed motivation (Stage 1, \( p = .08 \)). These results suggest that the effect is more favorable for those who rank collaboration as most important (H3D) and are strongest more often for the beginning (State 1 for mixed or extrinsic-motivation) or end (Stage 4 for intrinsic-motivation) periods of CPD.
Study 3: Plot of the Moderating Roles of Collaboration Motivation and Brand Trust on Perceptions of Consumer Influence

Note: Simple effect contrasts showed a marginal improvement in perceptions of consumer influence only when brand trust was low (i.e., untrusted), $p = .1$. 

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REFERENCES


One thing about the Clifton Toys company is that it is known for its innovation and creativity. You can tell that this company cares about its consumers. Two consumers, Tyler and Brooke, were involved in a contest sponsored by Clifton Toys. The purpose of the contest was to create a new toy for children that will be advertised online. **Tyler and Brooke submitted the winning idea, the new Puzzle Toy seen below.** This brand new toy is the result of consumer collaboration.

Note: Given the product category (toys), product involvement was operationalized as high (for parents) and low (non-parents). The experimental condition shown above was the first phase of collaborative product development (idea submission).
One thing about the Clifton Electronics (Drinks) company is that it is known for its innovation and creativity. You can tell that this company cares about its consumers. Two consumers, Tyler and Brooke, were involved in a contest sponsored by Clifton Electronics (Drinks). The purpose of the contest was to create a new cell phone (fruit punch) that will be advertised online. **Tyler and Brook helped the company by providing specific ideas for the development of the product, the new Cell Phone (Fruit Punch) seen below.** This brand new phone (beverage) is the result of consumer collaboration.

Note: Product involvement was operationalized in this study as high (cell phone) and low (fruit juice) and draws directly from similar studies (Uimonen 2011; Nkwocha et al. 2005). The experimental condition shown above was the third phase of collaborative product development (advanced development).
APPENDIX 2.3

Study 2: Collaborator Motivation and the Moderating Role of CPD Stage

Note: The experimental condition shown (above) is for Stage 4 CPD (promotion) and intrinsic motivation.
APPENDIX 2.4

Study 3: Collaborator Motivation, Brand Trust, and the Moderating Role of CPD Stage

Note: The experimental condition shown (above) is for Stage 4 CPD (promotion), extrinsic motivation, and high (i.e., favorable) brand trust.

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Spring 2014

Product Poll Results: Wireless Headphones

A recent poll was given to our readers across the U.S. regarding the new wireless headphones produced by JiveMusic™. We found it very interesting that two consumers, Tyler and Brooke, were involved in a contest sponsored by the company. The purpose of the contest was to create a new wireless headset to be advertised online.

- Tyler and Brooke participated in the last stage of development by providing feedback on how to best promote the product online (a small portion of the ad for the new headphones - as shown).
- Tyler and Brooke are compensated for their contribution with 1% of net sales.

Poll Results? Our readers gave JiveMusic relatively high marks in terms of design and functionality.

Based on our analyses, JiveMusic is a highly trustworthy company. In our Trustworthiness Index, the company received a rating of 91 out of 100, placing them in the top 5% for brand trust.
Given the information previously shown regarding JiveMusic's new Wireless Headphones, please answer the following question.

Imagine that one of the circles at the left in each row represents your own self-definition or identity. The other circle at the right in each row represents JiveMusic's identity. Please indicate which case (A, B, C, D, E, F, G, or H) best describes the level of overlap between your own and JiveMusic's identities.

Please reference the scale below for your answer:

Note: Adapted from Ahearne, Bhattacharya, and Gruen (2005) from the original Bergami and Bagozzi (2000) cognitive representation process model used to measure organizational identification.
To understand the theoretical underpinnings between the interactive effects of collaborative NPD and disclosure blog types, the mechanism between these factors and our dependent measures must be conceptualized. The conceptual model offered here is largely guided by the overarching concepts of social identity (Brewer 1991; Tajfel and Turner 1986) and organizational identity (Mael and Ashforth 1992; Whetten and Godfrey 1998). The application of an organizational identity approach to consumer behavioral studies is a recent endeavor (Bergami and Bagozzi 2000) that is largely undeveloped. Bhattacharya and Sen (2003) offered a large-scale conceptual model—also grounded in social identity theory, where a consumer’s identity was operationalized as a psychological construct [consumer-company (C-C) identification] that reflects the multidimensional relationships consumers have with companies.

Though not explicitly theorized as a test of (any) identity theories, Thompson and Malaviya (2013) model the effects of collaborative advertisement on ad and brand evaluations through skepticism and identification as mediators. However, in the present research I offer the
construct of social distance as a more parsimonious manner of explaining the mediated effects of collaboration (in a NPD context) on evaluations and purchase decisions. Social distance, then, is conceptualized as the absence of C-C identification and associated feelings of closeness.

Social distance occurs when identity loses its salience. For example, when a consumer reads a peer consumer blog, identity is initially triggered. In this example, overall identity occurs when the consumer places his/herself in a social group such as “peer consumers.” When the peer blogger discusses a brand or product, the initial trigger of identity can have very favorable effects for the firm (as Sprott, Martin, and Martin 2012 discovered). However, when that peer (i.e., consumer blogger) discloses a material connection with a company (e.g., monetary payment), identity loses its salience. If, then, information regarding a product’s collaborative development is provided (again in the same online context), identity salience should be restored. Additionally, Bhattacharya and Sen (2003) identified “identity attractiveness” as a key antecedent to C-C identification while “identity embeddedness” was suggested as a primary moderator.
In the context of integrative collaborative NPD strategy in the C2C communication domain, I propose instead that the more “upstream” a consumer is in a business process (e.g., moving from WOM during a product launch to offering ideas during the idea generation phase) the greater their “embeddedness” is (see Figure). This effect is mediated through consumers’ perceptions of social distance where lower perceived distance reflects greater identification with the company. Alternatively, “identity attractiveness” is based on the communication source and increases as the communication source (i.e., message encoder) becomes more similar to the message decoder (e.g., a peer consumer blogger on his/her own site would have greater identity attractiveness than consumer blogger on a company-owned site. In this example, messages on a company-owned blog are similarly persuasive as traditional marketing messages (e.g., print advertisements).
Method

*Experimental Design.* A 2 (collaboration: present or absent) X 4 (disclosure blog type:¹⁴ consumer blog- no disclosure; consumer blog- product payment disclosure; consumer blog-monetary payment disclosure; company-owned blog) between-subjects experiment was conducted. Participants were 200 adult consumers obtained through Amazon mTurk. Cell sizes ranged from 53 to 54. Participants were first required to answer a qualifier question. Given the category (toys) of the product review included in the blog, only parents of at least one child ages 3 – 12 were invited to participate. More than half of the sample (81%) were parents of children ages 3 – 8. Participants were asked about the importance of using collaboration in addition to estimating the frequency they felt collaboration was practiced by companies. Next, the survey contained a mock blog product review and measures of interest. Each participant was randomly assigned to one of the eight experimental conditions and presented one version of the blog stimuli. The sample had a median income of $50,000-59,999, and 88.4% had at least some college. More than one-half of the sample (61.1%) had a college degree. The majority of the sample was female (66.3%) and the mean age of the respondents was 35 years.

Results

*Structural Equation Modeling Results.* The inclusion of multiple mediators and dependent measures in my conceptual model make structural equation modeling conducive for large-scale analyses. However, before a structural model can be analyzed, a measurement model of all constructs included in the model warranted examination. With an initial total of 30 indicators for all eight latent variables, exploratory factor analysis (EFA) was employed for data reduction. With 30 metric indicators, the sample size of 200 is appropriate because it exceeds the

¹⁴ For the purpose of S.E.M. analyses, all DBT experimental conditions were collapsed.
conservative ratio of 5-10 observations per variable (Hair et al. 2010; Kerlinger and Pedhazur 1973). The overall correlation matrix (see Appendix 3.1) indicates a substantial number of significant correlations above .30 which makes the data appropriate for factor analysis. Bartlett’s test of sphericity is significant ($\chi^2 = 5669$, df = 406, $p < .001$); the correlations between the items also are sufficiently large for factor analysis (Field 2009). The Kaiser-Meyer-Olkin measure of sampling adequacy (MSA) reaches an acceptable level of .921 overall and each individual MSA values also exceeds .52 and is sufficiently above the .50 threshold (Field 2009). Next, the latent root criterion and scree analysis are evaluated to determine how many factors to retain. Consistent with the scree diagram, the initial eigenvalue analysis suggests extracting eight factors; 71.3% of the variance was explained.

Models with all eight factors enter the FA (in SPSS, with principal axis factoring [PAF]). Promax rotation is utilized because the low interfactor correlations indicate orthoganality and support the use of an orthogonal model (Fabrigar et al. 1999). To attain a power level of 80 percent and a significance level of .05, with my inflation of standard errors in factor loading and sample size of 215, I set the factor loading threshold to .40 (Hair et al. 2010). Variables were deleted from the analysis due to either low or cross-loadings. A final eight-factor model finally emerged with few cross loadings. The final post-CFA model appears in Table 5. The item clustering generally follows my a priori theoretical factor predictions.

Coefficient alpha (Gerbing and Anderson 1988) was used to assess the reliability of my measures. The Cronbach’s $\alpha$ values, all greater than .85, indicate good reliability. All the variables also load at levels greater than .8 on the expected factors and this result indicates convergent validity. Additionally, the absence of significant cross-loadings across my measures offers support of discriminant validity.
Measurement Model: Confirmatory Factor Analysis. I used a two-step approach to (1) assess the quality of my measures through the measurement model and (2) test the hypotheses through the structural model (also known as the SEM stage) (Anderson and Gerbing 1988). I began by performing the CFA using structural equation modeling (SEM) in AMOS Graphics software (Arbuckle, 2010). Each factor and its items were reviewed to confirm their face validity. I specify the model in AMOS with all eight factors derived from the EFA. The sample size of 200 is sufficient, considering the low communalities (Hair et al. 2010). I expect my model to converge in a maximum likelihood estimation. Another assumption of SEM analysis is that all items for each of the eight factors are reflective in nature (caused by the latent construct). Reflective items are “meant to tap into the same concept or phenomenon” (Chin 1998, ix). As a measure of face validity, Chin (1998) suggests the following acid test question: “Is it necessarily true that if one of the items… were to suddenly change in a particular direction, the others would change in a similar manner?” (p. ix). When I applied this acid test to my items, I found all items to be reflective. In addition, all latent variables include measured items and so I model each latent variable as first-order factors.

To evaluate model fit, I derive the chi-square ($\chi^2$), degrees of freedom (df), and associated p-value (p). Since the $\chi^2$ statistic is sensitive to large sample sizes, I use $\chi^2$/df (normed $\chi^2$) with a threshold of 3:1 or less indicating better fitting models (Hair et al. 2010). All of the items in the initial loading are statistically significant (p < .001) with critical ratios greater than 11.4. While the $\chi^2$ value is significant and suggests that the model may not fit the data well ($\chi^2 = 515.8$, df = 348, p < .001). The overall RMSEA is at .047, sufficiently below the .05 threshold, and the confidence interval has an upper bound of .056 and a lower bound of .039 (Byrne 2001; Kline 2010). With this evidence, I turn to SRMR (.041), CFI (.970), and the TLI
Using Hu and Bentler’s (1999) combinational rules, which require a SRMR of less than .09 and CFI and TLI greater than .95, I find additional support for the model. The normed $\chi^2$ (1.48) also indicates a good “rule of thumb” model fit (Tabachnick & Fidell, 2000). Therefore, I perceive good sample fit for this measurement model. The goodness of fit statistics for the sample is as follows (also reported in Table 3.4): $\chi^2 = 515.8$, $df = 348$, $p < .001$, RMSEA = .047, NFI = .913, and CFI = .970, TLI = .965. These indices and the model are also shown in Figure 2. These values meet the general guidelines established by Hu and Bentler (1999).

However, AMOS output also reported that Mardia’s multivariate kurtosis (Mardia 1970) is greater than 5, suggesting that multivariate nonnormality may be problematic (Byrne 2001). Fortunately, the Bollen-Stine p-value can be used to correct for nonnormality and bias in my data (Bollen and Stine 1992) since it does not use a ML-based p-value to assess model fit. As a result, a Bollen-Stine bootstrap was run using a sample size of 5,000. The Bollen-Stine bootstrap value was also nonsignificant ($p = .274$), dovetailing with the aforementioned model fit statistics and indicating good fit.

To assess reliability and validity (convergent and discriminant), I look at key statistics including average variance extracted (AVE) and construct reliability (CR) (Fornell and Larcker 1981; Hair et al. 2010). I present the psychometric properties for all items in Table 3 and CFA results in Table 4.

To show unidimensionality and convergent validity, the construct reliability should be greater than AVE and all AVE values should be higher than the recommended minimum value of .50 (Fornell and Larcker 1981). All items exhibit high-factor loadings ($\lambda$’s) with most above .8. All t-values exceed 19, reflecting unidimensionality and convergent validity. Finally, the AVE for each construct is much higher than .50 with most exceeding .80. Since all items are
significantly related to their latent constructs, the data supports the convergent validity of my CFA model. To show discriminant validity, the correlations between item pairs should be greater than the square root of the AVE. In other words, all constructs should share more variance with their indicators (items) than with any other construct. I find that most constructs do indeed share more variance with their indicators than with other factors in my study. However, the square roots of the AVE for ‘Trust in the Company’ and ‘Source Credibility’ are less than one their correlations with other factors, suggesting that discriminant validity for these factors may be problematic. However, most squared correlations between my constructs were significantly less than the corresponding AVE (shown on the diagonal in Table 3.1). Additionally, construct (composite) reliability, as a more rigorous estimate for reliability (Chin 1998), for each of the eight factors is well above the .70 threshold (all > .86). The lowest construct reliability for my model is .863 and all estimates for AVEs are ≥ .815 which provides additional evidence of reliability (Bagozzi 1980; Fornell and Larcker 1981).

*Specification of the Structural Equation Model (SEM) and Results.* To test the significance of each path, I specify the full structural model in AMOS and use a maximum likelihood estimation. The model fit results for the overall structural model indicate that the model has a good fit with a relatively low $\chi^2$ (shown in Figure 3.2). Again, the $\chi^2$ should be interpreted with caution due to its dependence on sample size. All other measures of fit were in the acceptable range and above recommended values. The goodness of fit statistics for the sample is as follows: $\chi^2 = 549.6$, df = 382, $p < .001$, RMSEA = .045, SRMR = .058, NFI = .908, and CFI = .970, TLI = .966, and PNFI = .798. Model fit indices for the CFA and SEM models are offered in Table 6.
Limitations and Discussion. Since all data used in the study were self-report, there is the possibility for common method bias to threaten the interpretation of my results. I mitigated the problem by following procedures recommended by Podsakoff et al. (2003). As a result, I was able to reduce the likelihood that common method variance is an alternative explanation for my findings. Although I cannot fully rule out the effect of CMB, its effects do not appear to be interpretable. Overall, the hypothesized model fit the data well and results enhance the understanding for purchasing behaviors by explaining 57% of the variance in purchase intention.
### TABLE 3.1

Interfactor Correlation Matrix, AVE, Reliability, and Validity

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Trust in Blogger</td>
<td>0.830</td>
<td>0.024</td>
<td>0.510</td>
<td>0.448</td>
<td>0.151</td>
<td>0.247</td>
<td>0.648</td>
</tr>
<tr>
<td>2. Consumer Engagement</td>
<td>0.154</td>
<td>0.815</td>
<td>0.044</td>
<td>0.036</td>
<td>0.014</td>
<td>0.026</td>
<td>0.024</td>
</tr>
<tr>
<td>3. Trust in Company</td>
<td>0.714</td>
<td>0.209</td>
<td>0.852</td>
<td>0.759</td>
<td>0.372</td>
<td>0.471</td>
<td>0.903</td>
</tr>
<tr>
<td>4. Brand Attitude</td>
<td>0.669</td>
<td>0.190</td>
<td>0.871</td>
<td>0.891</td>
<td>0.378</td>
<td>0.551</td>
<td>0.627</td>
</tr>
<tr>
<td>5. Social Distance</td>
<td>0.388</td>
<td>0.119</td>
<td>0.610</td>
<td>0.615</td>
<td>0.856</td>
<td>0.370</td>
<td>0.317</td>
</tr>
<tr>
<td>6. Purchase Intention</td>
<td>0.497</td>
<td>0.162</td>
<td>0.686</td>
<td>0.742</td>
<td>0.608</td>
<td>0.926</td>
<td>0.381</td>
</tr>
<tr>
<td>7. Source Credibility</td>
<td>-0.805</td>
<td>-0.155</td>
<td>-0.950</td>
<td>-0.792</td>
<td>-0.563</td>
<td>-0.617</td>
<td>0.824</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of items</th>
<th>3</th>
<th>9</th>
<th>4</th>
<th>3</th>
<th>4</th>
<th>3</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range of scale</td>
<td>1-7</td>
<td>1-7</td>
<td>1-7</td>
<td>1-7</td>
<td>1-7</td>
<td>1-7</td>
<td>1-7</td>
</tr>
<tr>
<td>Mean</td>
<td>4.85</td>
<td>5.06</td>
<td>5.13</td>
<td>5.01</td>
<td>4.75</td>
<td>4.56</td>
<td>3.05</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.34</td>
<td>1.28</td>
<td>0.95</td>
<td>1.07</td>
<td>1.79</td>
<td>1.42</td>
<td>1.12</td>
</tr>
<tr>
<td>Coefficient alpha</td>
<td>0.863</td>
<td>0.936</td>
<td>0.916</td>
<td>0.921</td>
<td>0.923</td>
<td>0.947</td>
<td>0.884</td>
</tr>
<tr>
<td>Construct Reliability</td>
<td>0.867</td>
<td>0.921</td>
<td>0.913</td>
<td>0.920</td>
<td>0.917</td>
<td>0.948</td>
<td>0.863</td>
</tr>
</tbody>
</table>

Notes: Values below the diagonal are the correlation estimates for each latent construct, diagonal elements are AVE values, and values above the diagonal are squared correlations. All correlations are significant at $p < .001$. 
TABLE 3.2
Confirmatory Factor Analysis Results

<table>
<thead>
<tr>
<th></th>
<th>Unstd. Load</th>
<th>Std. Error</th>
<th>Critical Ratio</th>
<th>Std. Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>V7</td>
<td>Consumer Engagement</td>
<td>1</td>
<td>0.92</td>
<td></td>
</tr>
<tr>
<td>V8</td>
<td>Consumer Engagement</td>
<td>0.937</td>
<td>0.047</td>
<td>19.875</td>
</tr>
<tr>
<td>V9</td>
<td>Consumer Engagement</td>
<td>0.96</td>
<td>0.048</td>
<td>19.833</td>
</tr>
<tr>
<td>V6</td>
<td>Consumer Engagement</td>
<td>0.846</td>
<td>0.053</td>
<td>16.082</td>
</tr>
<tr>
<td>V10</td>
<td>Consumer Engagement</td>
<td>0.927</td>
<td>0.065</td>
<td>14.162</td>
</tr>
<tr>
<td>V5</td>
<td>Consumer Engagement</td>
<td>0.771</td>
<td>0.065</td>
<td>11.852</td>
</tr>
<tr>
<td>TC1</td>
<td>Trust in Company</td>
<td>1</td>
<td>0.913</td>
<td></td>
</tr>
<tr>
<td>TC3</td>
<td>Trust in Company</td>
<td>1.029</td>
<td>0.047</td>
<td>21.775</td>
</tr>
<tr>
<td>BA1</td>
<td>Brand Attitude</td>
<td>1</td>
<td>0.865</td>
<td></td>
</tr>
<tr>
<td>BA3</td>
<td>Brand Attitude</td>
<td>1.136</td>
<td>0.061</td>
<td>18.626</td>
</tr>
<tr>
<td>BA2</td>
<td>Brand Attitude</td>
<td>1.022</td>
<td>0.056</td>
<td>18.136</td>
</tr>
<tr>
<td>SD3</td>
<td>Social Distance</td>
<td>1</td>
<td>0.854</td>
<td></td>
</tr>
<tr>
<td>SD2</td>
<td>Social Distance</td>
<td>0.979</td>
<td>0.052</td>
<td>18.772</td>
</tr>
<tr>
<td>SD4</td>
<td>Social Distance</td>
<td>1.111</td>
<td>0.083</td>
<td>13.419</td>
</tr>
<tr>
<td>SD1</td>
<td>Social Distance</td>
<td>1.049</td>
<td>0.084</td>
<td>12.543</td>
</tr>
<tr>
<td>PI2</td>
<td>Purchase Intention</td>
<td>1</td>
<td>0.952</td>
<td></td>
</tr>
<tr>
<td>PI3</td>
<td>Purchase Intention</td>
<td>1.024</td>
<td>0.039</td>
<td>26.369</td>
</tr>
<tr>
<td>PI1</td>
<td>Purchase Intention</td>
<td>0.931</td>
<td>0.04</td>
<td>23.462</td>
</tr>
<tr>
<td>TB4</td>
<td>Trust in Blogger</td>
<td>1</td>
<td>0.682</td>
<td></td>
</tr>
<tr>
<td>TB1</td>
<td>Trust in Blogger</td>
<td>1.061</td>
<td>0.093</td>
<td>11.458</td>
</tr>
<tr>
<td>TB3</td>
<td>Trust in Blogger</td>
<td>1.081</td>
<td>0.094</td>
<td>11.492</td>
</tr>
<tr>
<td>TC4</td>
<td>Trust in Company</td>
<td>0.879</td>
<td>0.066</td>
<td>13.366</td>
</tr>
<tr>
<td>TC2</td>
<td>Trust in Company</td>
<td>0.873</td>
<td>0.048</td>
<td>18.253</td>
</tr>
<tr>
<td>SC1</td>
<td>Source Credibility</td>
<td>1</td>
<td>0.792</td>
<td></td>
</tr>
<tr>
<td>SC3</td>
<td>Source Credibility</td>
<td>1.002</td>
<td>0.057</td>
<td>17.609</td>
</tr>
<tr>
<td>SC2</td>
<td>Source Credibility</td>
<td>0.976</td>
<td>0.072</td>
<td>13.608</td>
</tr>
<tr>
<td>V4</td>
<td>Consumer Engagement</td>
<td>0.893</td>
<td>0.059</td>
<td>15.038</td>
</tr>
<tr>
<td>V3</td>
<td>Consumer Engagement</td>
<td>0.931</td>
<td>0.069</td>
<td>13.438</td>
</tr>
<tr>
<td>V2</td>
<td>Consumer Engagement</td>
<td>0.79</td>
<td>0.066</td>
<td>11.992</td>
</tr>
</tbody>
</table>

Notes: The critical ratio (CR) is a t-value calculated by dividing the covariance estimate by its standard error. A value that exceed |1.96| indicates statistical significance at $p = .05$. All CR values in this table indicate significant effects.
### TABLE 3.3

**EFA Factor Loadings for All Independent Variables (Post-CFA)**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vivek_2</td>
<td>0.676</td>
<td>0.054</td>
<td>0.149</td>
<td>0.048</td>
<td>0.022</td>
<td>-0.122</td>
<td>0.436</td>
</tr>
<tr>
<td>Vivek_3</td>
<td>0.748</td>
<td>-0.052</td>
<td>0.037</td>
<td>0.104</td>
<td>-0.002</td>
<td>-0.111</td>
<td>0.407</td>
</tr>
<tr>
<td>Vivek_4</td>
<td>0.780</td>
<td>0.105</td>
<td>0.066</td>
<td>-0.053</td>
<td>0.097</td>
<td>0.115</td>
<td>0.310</td>
</tr>
<tr>
<td>Vivek_5</td>
<td>0.698</td>
<td>0.057</td>
<td>0.02</td>
<td>-0.005</td>
<td>-0.043</td>
<td>0.102</td>
<td>0.412</td>
</tr>
<tr>
<td>Vivek_6</td>
<td>0.826</td>
<td>0.151</td>
<td>-0.017</td>
<td>0.024</td>
<td>0.042</td>
<td>-0.091</td>
<td>-0.140</td>
</tr>
<tr>
<td>Vivek_7</td>
<td>0.926</td>
<td>0.029</td>
<td>0.011</td>
<td>0.021</td>
<td>0.029</td>
<td>-0.026</td>
<td>-0.119</td>
</tr>
<tr>
<td>Vivek_8</td>
<td>0.885</td>
<td>0.076</td>
<td>0.051</td>
<td>0.107</td>
<td>-0.038</td>
<td>-0.054</td>
<td>-0.208</td>
</tr>
<tr>
<td>Vivek_9</td>
<td>0.878</td>
<td>0.145</td>
<td>0.054</td>
<td>0.031</td>
<td>0.071</td>
<td>-0.01</td>
<td>-0.137</td>
</tr>
<tr>
<td>Vivek_10</td>
<td>0.787</td>
<td>-0.026</td>
<td>0.012</td>
<td>0.022</td>
<td>0.053</td>
<td>0.311</td>
<td>0.003</td>
</tr>
<tr>
<td>SCred_1</td>
<td>-0.065</td>
<td>-0.789</td>
<td>-0.185</td>
<td>-0.105</td>
<td>-0.205</td>
<td>0.252</td>
<td>-0.129</td>
</tr>
<tr>
<td>SCred_2_Recode</td>
<td>0.005</td>
<td>-0.766</td>
<td>-0.138</td>
<td>-0.114</td>
<td>-0.307</td>
<td>0.115</td>
<td>-0.02</td>
</tr>
<tr>
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Notes: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 10 iterations. 79.6% Variance Explained.
TABLE 3.4
Goodness-of-Fit Indices

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Notes: $\chi^2 = 515.8$, df = 348, $p < .001$, Normed $\chi^2 = 1.482$, RMSEA = .047 upper bound = .056, lower bound = .039, $p = .680$. SRMR = .0408, NFI = .913, TLI = .965, CFI = .970, Relative fit index = .899, and PNFI = .783.
FIGURE 3.2
Final Structural Model

Notes: *** $p < .001$; ** $p < .01$; * $p < .05$. The Critical Ratio and significance are in parentheses; all path values are standardized.

Model fit indices are as follows: $\chi^2 = 549.6$, df = 382, $p < .001$, Normed $\chi^2 = 1.44$, RMSEA = .045 upper bound = .053, lower bound = .037, $p = .822$. SRMR = .058, NFI = .908, TLI = .966, CFI = .970, Relative fit index = .896, and PNFI = .798.
REFERENCES


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Scale 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7

Note: Correlations greater than |.085|, \(p < .05\); correlations greater than |.106|, \(p < .01\), correlations greater than |.157|, \(p < .001\).
APPENDIX 3.1: Correlation Table (cont.)

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Note: Correlations greater than |.085|, \( p < .05 \); correlations greater than |.106|, \( p < .01 \), correlations greater than |.157|, \( p < .001 \).
Conclusion

Using consumers’ ideas to drive innovation in product development is not a recent discovery. Indeed, more than 55 years ago Penrose (1959) was among several to suggest that consumers provide the inside track to innovation (Coviello and Joseph 2012). A steady stream of research followed (c.f., Rothwell et al. 1974) which provided empirical support for the relationship between consumer feedback and the success of newly-launched products. Market research techniques, such as focus groups and surveys, led to the conceptualization of customer feedback as “goods” owned by the firm. Customer feedback became yet another input to the production process (Barney 1991, Barney et al. 2001). A shift in this orientation occurred with the recent focus on consumers’ ability and expectation for bi-directional feedback.

Aided by Service-Dominant Logic theory (SDL; Vargo and Lusch 2004), there was a growing acceptance among marketers that consumers and producers no longer need to be mutually exclusive in the provision of goods and services. SDL promoted a focus on value creation and reminded marketers that “value is uniquely and phenomologically determined by the beneficiary” (Vargo and Lusch 2008, p. 9). With the proliferation of information shared online, consumers’ feedback was viewed as more useful. Moreover, consumers now expect greater involvement in the marketing activities of the firm. The relational benefits of engaging consumers in business processes is a philosophy that has led to the practice of consumer collaboration. In the context of product and service creation, this is known as collaborative product development (CPD). The practice of CPD represents an important demarcation in the consumption-production relationship. This dissertation, then, contributes to our understanding of how the traditional model of exchange is destabilized through collaboration. Exchange between the producer and consumer can occur long before consumption (i.e., before the product becomes
available for sale) and the consumer behavior implications are very positive. Specifically, results from the first essay suggest that CPD improves consumers’ perceptions of trust in the product significantly more than products created without collaboration. The comparison is made between products that are created using traditional product development practices and those that are created using consumer input. The studies in Essay 1 show how products that are collaboratively developed lead to reduced perceptions of social distance. These changes mediate positive increases in consumers’ attitudes, evaluations, and purchase decisions. Moreover, these favorable outcomes occur even in the presence of negative information (e.g., material-connection disclosures, consumer reviews on company-owned blogs). The studies in Essay 2 extend these results by showing how consumers’ evaluations change as a function of when CPD occurs in the development process (e.g., idea generation versus product promotion). Generally, as collaboration becomes more embedded (i.e., occurs earlier) in the production process, perceptions of trust and behavioral intentions significantly increase. Finally, Essay 3 looks to extend the first two essays by modeling the entire relationship between the antecedents and outcomes of CPD. The study here uses convergent and discriminant validity to triangulate the results from the first two essays using a different methodological lens (structural equation modeling) to assess the impact when all factors are analyzed together. Together, the studies in this dissertation illustrate the binary opposition in product development and suggest that collaboratively-developed products can outperform (e.g., improve perceptions of trust, WPT) products created solely by the firm.

As discussed throughout this dissertation, a limited number of studies have shown how collaboration, in general, can have favorable implications for consumer behavior. However, severe limitations exist that restrict generalizability and the studies (across three essays) included
here serve to address this issue. This dissertation, as a whole, sought to understand the influence of collaboration specifically in the context of the new product development (NPD) process using a conceptualization of collaboration unaddressed in current literature. Namely, the limited research in this area typically compares consumer outcomes as a function of fully user-generated (vs. traditional firm-generated) products (Schreier, Fuchs, and Dahl 2012). This dissertation addresses this constraint by using a co-created (Prahalad 2004) version of collaboration where products are created jointly (i.e., equally) by the firm and consumers (Essay 1 and 3) or with stage-specific (i.e., early development such as ideation or late development such as product promotion) collaboration (Essay 2). By utilizing a social identity (Brewer 2001; Tajfel and Turner 1986; Tajfel 2010) and organizational identity (Mael and Ashforth 1992; Whetten and Godfrey 1998) theoretical framework, this dissertation adds substantially to our understanding of how, when, and why CPD influences consumers’ attitudes and evaluations.

This dissertation consisted of three essays with a total of eight studies. The purpose of Essay 1 was to qualitatively explore the elements and consequences of collaboration that were most meaningful to consumers and to test how collaboration can be used to address negative information about the firm (e.g., a consumer review on a company-owned site or a material-connection disclosure on a peer review). Finally, Essay 1’s purpose was to identity a significant mechanism underlying perceptions of trust. A sample of parents was used in each study since a variety of toy products (playhouse, learning tablet) provided the context for CPD. Essay 2 was designed to test how collaboration implemented in each stage of the NPD process affects consumers’ cognitive and behavioral responses. Using structural equation modeling methodology and scale development purification, the purpose of Essay 3 was to expand upon existing conceptual models of consumers’ identification with the firm. To the best of my
knowledge, the predominant model of consumer-company identification (Bhattacharya and Sen 2003) has not been empirically tested until now.

Study 1 in the first essay qualitatively explored responses from 240 parents using an iterative coding procedure (thematic analysis method; Boyatzis 1998). The resulting themes aligned with the elements and consequences of collaboration proposed in the consumer engagement (Vivek 2009) and service (van Doorn et al. 2010, Kumar et al. 2010, and Parent et al. 2011) literatures. Importantly, a majority (58%) of the sample explicitly indicated that trust is the primary outcome of CPD. Since trust is a prerequisite for relational commitment (Morgan and Hunt 1994), this result suggests that info shared about the collaborative development of a product should have favorable implications for the broader target market.

Study 2 experimentally tested the moderating role of CPD toward the presence of negative brand information found online. Specifically, this study investigated the effectiveness of CPD product-related information across a variety of blog settings. Examples included several peer blogs (i.e., written by parents) with the presence or absence of a material connection (e.g., monetary payment by a company) disclosure in addition to a company-controlled blog. Results show that CPD can outweigh the previously described harmful implications to favorably influence consumers’ perceptions. A key outcome in this study is the effect CPD will have in indirectly engaging consumers. Since a majority of the sample in the previous study described engagement as a primary element, or dimension, of collaboration, the results here are largely supportive of this prediction.

Study 3 extended the previous study by introducing an additional blog condition. However, the primary purpose of the study was to test how and why CPD-information about a product can result in favorable outcomes. As social distance was theorized as antecedent to the
measures used in this experiment, its role as a mediator was also tested. Together, results show considerable improvements in how favorably the company is perceived when the product is collaboratively developed and such information is communicated on a consumer blog. Here, a fundamental shift in the development of the product (traditional manufacturing vs. consumer collaboration) becomes a powerful piece of information strong enough to counter potentially harmful information (e.g., when the blogger discloses a material connection with the company). Moreover, mediation results suggest that collaboration works through perceptions of social distance to favorably influence consumer outcomes.

Study 1-A in the second essay extended the results offered in Essay 1 by testing consumers’ association of CPD (vs. traditional NPD) with lower perceived social distance. Results here confirm this prediction. Additionally, early-stage CPD was expected to favorably influence consumer behavior outcomes significantly more than late-stage CPD. Several measures, such as consumer’s perceptions of risk, were shown to be significantly lower (i.e., more favorable) as collaboration occurred earlier in the product development process. When compared with the control (i.e., the absence of CPD), behavioral outcomes such as WTP expectations (e.g., more or less than average pay likelihood) are significantly improved for all CPD stages. Interestingly, the effects of CPD were not less favorable for high-involvement consumers (vs. low-involvement), as expected. However, the indirect effects of the interaction between CPD and collaboration importance were mediated by social distance, but only for the first stage.

Study 1-B extended the previous study by using a different conceptualization of product involvement. Whereas the previous experiment used personal relevance to demonstrate this construct, product class was used instead in an effort to provide a stronger test of the moderating
role of product involvement. As expected, perceptions such as risk, were more favorable (i.e., lower) as involvement decreased. This effect was especially pronounced in CPD stages 2-4. Also, the positive CPD effect was fully mediated by social distance- a consistent pattern across the studies included in this dissertation.

Study 2 introduced a new firm-controlled moderator (collaborator motivation) to test the effects of CPD. The type of collaborator motivation had implications for consumers’ perceptions of identity embeddedness (i.e., perceptions that consumers are an important part of the NPD process) such that the most favorable results occurred during Stage 3 only when the collaborator had been intrinsically motivated. Alternatively, this measure was significantly increased for Stage 1 when the collaborator had mixed or extrinsic motives. Perceptions of collaboration importance (CI) moderated the interaction between CPD stage and motivation for perceptions of brand trust. Results suggest that brand trust is improved despite the collaborator’s motives when collaboration, in general, is ranked as highly important. This result is strongest for Stage 1 and Stage 4 CPD. Additionally, the indirect effects of the CPD and CI interaction are fully mediated across evaluations, social identity measures, and behavioral outcomes for each CPD stage except Stage 2. This effect is strongest when collaboration occurs during the advanced development stage.

The last study in Essay 2 is Study 3. Whereas the previous study included a scale measurement of brand trust, Study 3 enhanced the generalizability of Study 2 by using a manipulation of brand trust. The manipulations proved to be extremely effective as there were highly significant main effects across all outcome variables. As expected, each improvement in brand trust (e.g., low trust, trust unknown, high trust) led to favorable improvements in consumers’ evaluations for the product and the brand. While there were few interactions with the
other experimental factors in this study (CPD stage and motivation), planned contrasts did highlight results that extend those found in earlier studies. For example, the perceptions of a consumer’s influence in NPD were favorably improved when the collaborator was intrinsically-motivated- despite the presence of a low trust rating for the brand. Again, and as demonstrated in the first essay, CPD-information about a product may serve as a powerful way to attenuate harmful information about the firm. A new contribution that Study 3 provides is results that support the effects of brand trust through social distance. Each incremental improvement in brand trust results in a favorable improvement in outcomes through reductions in perceived social distance. Indirect effects were significant across each behavioral outcome and all social identity measures as well, thus confirming my expectation that improvements in brand trust lead to favorable outcomes because consumers’ social distance toward the firm is reduced.

*Theoretical Contributions and Managerial Implications*

Across all studies, the favorable effects of CPD are mediated by consumers’ perceptions of social distance. Results also demonstrate how specific CPD stages are systematically affected by social distance and this relationship changes as a function of collaboration importance and brand trust. Results in this dissertation offer an important contribution by showing that CPD at specific stages of the development process can favorably impact attitude and behavioral outcomes when social distance is reduced. Additionally, CPD is shown in the first and second essay as a powerful strategy useful in addressing negative information (e.g., material disclosures or poor brand-trust ratings).

Overall, the studies in this dissertation contribute to our understanding of consumer behavior in several important ways. First, consumer collaboration is an underexplored and new behavioral context for marketing researchers. Exploratory and empirical research in this area, as
this dissertation provides, enriches our understanding of this novel method of value creation. Second, the effects of collaboration between the stages of new product development (e.g., early-stage collaboration such as idea provision versus late-stage collaboration such as advertisement co-production) has not been empirically tested until now. Third, the present research proposes and advances a mediating role of a psychological mechanism (social distance) that explains the impact of collaborative product development on firm evaluations and behavioral outcomes. Finally, in this dissertation we gain deeper insight into the nature and direction of collaboration in the new product development process. The results show how consumer and firm-controlled factors (e.g., motivation, brand trust) interact to identify boundary conditions for collaboration’s influence. The findings from this dissertation are relevant to a wide audience including consumer behavior researchers, relationship marketers, public policy makers, and firms interested in collaborative product development.

Additionally, this dissertation builds upon several recent calls for additional research in this domain (Hoyer et al. 2010; Bhattacharya and Sen 2003). The limited number of studies in this new research stream compare collaboration extremes (e.g., user-generated) to products created using tradition development processes. In response, the studies here offer greater generalizability with equal collaboration between the firm and consumers (E1, E3) and at specific points in time during the NPD timeline (E2).

**Limitations and Future Research**

Although I draw from a geographically diverse online sample of consumers, there are several limitations within these studies that limit the generalizability of their results. While the professionally designed stimuli used were modeled after consumer blogs (E1) or online product reviews (E2, E3), participants were forced to review the manipulations for a specific (and timed)
duration. This led to greater control (higher internal validity) but was not necessarily reflective of the typical consumption environment (lower external validity) or of other media channels (e.g., print, television).

There may have been other limitations due to the online consumer sample. Across studies, participants had lower (vs. national average) income and education levels. While I did address the concern that survey compensation may be a primary source of income for participants, demographics are significantly correlated with purchase behavior (Slama and Tashchian 1985). As a result, the results may differ from those consumers with higher income and/or are more educated. Additionally, my experimental study design (1) did not include other forms of collaboration (user-generated content) and (2) did not always include a control condition—limiting generalizable comparisons. Furthermore, studies in Essay 2 included a median split of a measured variable (collaboration importance). While this is a common practice among researchers, it has recently been criticized (Fitzsimons 2008) for reduced statistical power and for the potential for spurious significant results.

The studies included here would benefit from extensions to a lab or field setting to garner (1) other behavioral outcomes such as consumers’ choice in a lab or (2) actual purchasing results from the field. In addition to methodological/contextual changes, future research could examine the effects of other individual-level differences as a function of CPD (or its stages). For example, literature on self-efficacy (Bandura 1977; 1996) suggests that for consumer who feel more capable of behaving in a way that will lead to desirable outcomes (i.e., higher perceived self-efficacy), the favorable effects of products that are collaboratively developed may dissipate. In other words, these agentic and motivated consumers may feel more highly qualified to collaborate in NPD than their peers and are less likely to favorably evaluate products created by
others. For these consumers, other types of collaboration (e.g., direct collaboration-products created through self-customization) may be more appropriate.

Additionally, a key factor in each essay of this dissertation was consumers’ perceptions of social distance toward the firm. CPD was conceptualized here as a “looking glass” technique likely to engender “we” (versus “us”-“them”) perceptions. However, future research could examine other social distance orientations—namely the social distance a consumer may feel toward the collaborator. Which social distance measurement (consumer-company vs. consumer-collaborator) is more powerful in explaining the effects of CPD? Future research could include both measurements in order to assess the direct differences each has on behavioral outcomes and to test which factor is the stronger mediator.

In conclusion, this dissertation has shown how collaboration illustrates a critical change in the relationship between the firm and its consumers. CPD challenges the linear associations between production and consumption. Integrating consumers into the development of a new product can have favorable outcomes for the firm that are significantly greater than when collaboration is absent. However, the effects of collaboration will vary across consumer and firm-controlled factors (e.g., motivation, product category, brand trust, CPD stage, etc.). Overall, the findings presented in this dissertation contribute to the social and organizational identity literatures by examining the effects of product development in an underexplored behavioral context (consumer-producer collaboration). Results across studies also show a combination of factors that interact with CPD to highlight important boundary conditions. This research has important implications for academicians interested in theoretically-based consumer research, relationship marketers, public policy makers, and firms interested in collaborative product development.
REFERENCES

*Psychological Review*, 84 (2), 191-215.


Vivek, Shiri D. (2009), "A Scale of Consumer Engagement." Doctor of Philosophy Dissertation, Department of Management & Marketing, Graduate School- The University of Alabama, UMI.

APPENDIX 4.1
E1 – E3: Research Compliance Protocol Letter

MEMORANDUM

November 8, 2012

TO: Laurel Cook
    Ronn Smith

FROM: Ro Windwalker
       IRB Coordinator

RE: New Protocol Approval

IRB Protocol #: 12-10-191

Protocol Title: Consumer Perceptions of Customer Collaboration and Blog Disclosures

Review Type: ☑ EXEMPT ☐ EXPEDITED ☐ FULL IRB

Approved Project Period: Start Date: 11/08/2012 Expiration Date: 11/07/2013

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of one year. If you wish to continue the project past the approved project period (see above), you must submit a request, using the form Continuing Review for IRB Approved Projects, prior to the expiration date. This form is available from the IRB Coordinator or on the Research Compliance website (http://vpred.uark.edu/210.php). As a courtesy, you will be sent a reminder two months in advance of that date. However, failure to receive a reminder does not negate your obligation to make the request in sufficient time for review and approval. Federal regulations prohibit retroactive approval of continuation. Failure to receive approval to continue the project prior to the expiration date will result in Termination of the protocol approval. The IRB Coordinator can give you guidance on submission times.

This protocol has been approved for 1,100 participants. If you wish to make any modifications in the approved protocol, including enrolling more than this number, you must seek approval prior to implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 210 Administration Building, 5-2208, or irb@uark.edu.

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