

IRENE CONSIGLIO

# Others

Essays on Interpersonal and Consumer Behavior



## **OTHERS**

**Essays on interpersonal and consumer behavior**



***OTHERS***

***Essays on interpersonal and consumer behavior***

***ANDEREN***

***Essays over interpersoonlijk en consumentengedrag***

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by

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The Erasmus University logo, featuring the word "Erasmus" in a stylized, cursive script.

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# Chapter 1

## Introduction

Consumers rarely realize how much principles governing the way they interact with other people may affect not only their interpersonal behavior, but even their consumer behavior. In this dissertation, I investigate this general issue in the context of consumer decision-making, by studying the intersection between interpersonal and consumer behavior. The following chapters offer a varied perspective on this broad topic.

In chapter 2 and chapter 3, I examine how principles that usually govern interpersonal relationships may affect consumer relationships with service providers and brands. In both chapters, I look at transgressions that occur in consumer-brand relationships (e.g., service failures), and provide evidence that, even though transgressions occur, consumer loyalty may be preserved (chapter 2), or even reinforced (chapter 3), under certain conditions.

Specifically, in chapter 2, I propose that consumers with low self-esteem become wary of new relationships with alternative service providers if they experience service failures in a current service relationship, whilst consumers with high self-esteem do not, as suggested by literature on self-esteem and interpersonal relationships. I document that consumers with high self-esteem are willing to sign contracts with other available alternatives if a service failure occurs, whereas consumers with low self-esteem tend to stick to their current brand. Moreover, in line with our proposed underlying process, consumers with low self-esteem who experience service failures avoid new commitments, and seem to prefer short-term marketing relationships to long-term relationships. In this context, consumers' switching behavior seems to be determined both by their self-esteem and the type of contract offered by available competitors.

In chapter 3, I define brand flirting as consumers' casual interest in or short-term experimentation with a competitor to a favored brand. Whereas the literature on consumer-brand relationship often characterizes committed consumer-brand relationships as similar to monogamous interpersonal relationships (e.g., Fournier 1998), consumers actually often stray from their preferences. In this chapter, I examine the consequences of minor consumer infidelity. I demonstrate that brand flirting can be beneficial for brand relationships, under certain conditions. I propose that flirting is exciting and that consumers who flirt with a competing brand may transfer the flirting-induced arousal to their favored brand – resulting in even greater love and desire for it. In short, this research suggests that consumers' prior commitment to a favored brand and the allure of other available alternatives may determine even greater commitment.

Chapter 4 departs from the previous chapters in that it abandons the focus on consumer loyalty and commitment, and examines a different behavioral outcome: information sharing. In this case, the context of the research is completely social, as I investigate the effect of the presence of others in a given space on the likelihood that consumers engage in word-of-mouth, which is a form of interpersonal communication that is very relevant for marketing purposes. This paper demonstrates that the higher the number of people surrounding consumers in a given space, the greater the likelihood that consumers will share information with others (elsewhere, e.g., on social media). I provide evidence that this happens because crowdedness decreases perceptions of personal control, and consumers use information sharing as a means to restore it.

## **Declaration of contribution**

The research presented in chapter 2 is being conducted with Professor Stijn van Osselaer, chapter 3 with Daniella Kupor, and Professors Michael Norton and Francesca Gino, and finally, chapter 4 with Dr. Matteo De Angelis and Professor Michele Costabile.

*Chapter 1.* I have written this chapter and implemented my promoter's feedback.

*Chapter 2.* I formulated the research question in cooperation with my promoter, performed the literature review, designed studies, conducted the data collection and analysis, and wrote the manuscript. My promoter provided feedback on all these steps.

*Chapter 3.* I formulated the research question in cooperation with professors Michael Norton and Francesca Gino. I designed the study with the feedback of Michael Norton and Francesca Gino. I conducted data collection and analysis independently or in cooperation with Daniella Kupor. I wrote the manuscript in cooperation with my co-authors. Overall, I have done the majority of the work in this chapter. This chapter is currently under review at a consumer research journal.

*Chapter 4.* I formulated the research question. I designed the studies in cooperation with dr. Matteo de Angelis. I conducted data analysis independently and wrote the manuscript in cooperation with Matteo de Angelis. Professor Michele Costabile provided feedback on this project and cooperated in data collection for a study that is not included in this chapter. Overall, I have done the majority of the work in this chapter.

*Chapter 5.* I have written this chapter and implemented my promoter's feedback.



## **Chapter 2**

### **The Devil you know:**

#### **Service Failures, Self-esteem, and Brand Switching**

In 2010, Youp van't Hek – a Dutch comedian – tweeted about a negative service experience he had with mobile telephony provider T-mobile, and invited his followers to tell him their own stories. The response was overwhelming, and Youp was quickly submerged by thousands of emails in which consumers recounted their negative experiences with T-mobile and with many other brands in a wide range of product and service categories. Some of the most interesting stories were printed by a national newspaper: Consumers described brands that denigrated them, made them feel powerless, took advantage of them, causing extreme negative emotions and stress. Surprisingly, when we got access to Youp's email database, we learned that even when consumers felt victimized and abused, many did not switch to other brands. In some cases, for example in the public transport sector, it was evident that there were no available alternatives, but often there seemed to be an ample choice of other brands in the market, for example in the mobile carriers industry.

What makes consumer stay in face of service failures? Why do some consumers switch to available alternatives following service failures whilst others do not? Whereas prior research explains why consumers are less likely to switch when switching costs in terms of money or time are high (vs. low; Gronhaug and Gilly 1991; Heide and Weiss 1995; Klemperer 1987; Lam et al. 2004; Lee and Cunningham 2001; Nielson 1996; Patterson and Smith 2003; Wathne, Biong, and Heide 2001), this research does not help us understand why consumers stay when these costs are relatively low. This question is particularly important, because different reasons for consumers'

brand switching lead to qualitatively different implications in terms of policies that regulate consumers' rights. Moreover, from a marketing perspective, competitors who wish to lure consumers away from negative brand relationships might find themselves short of the right strategies if they do not know what is keeping consumers locked-in. This issue is even more relevant in stagnating markets, where consumers' switching may represent competitors' only growth opportunity (Fornell and Wernerfelt 1987). From the point of view of consumers' well-being, the tendency to stick with a brand in face of service failures might lead individuals to stay in dissatisfying (or worse) brand relationships, which might make them vulnerable to extreme negative emotions and psychological distress, as illustrated by the opening example.

In this research, we investigate one of the factors that might explain this behavioral loyalty. We argue that service failures impact not only switching per se, but also the kind of relationships consumer form with other brands. Specifically, we propose that service failures have significant consequences on consumers' tendency to approach alternative brands, motivating some consumers to commit to available alternatives following a service failure, and others to avoid such commitment, and favor short-term, uncommitted service relationships instead. This tendency to avoid commitments with other brands might ironically lead consumers to preserve their current relationship with the culprit, when alternative short-term opportunities are not available.

Specifically, research suggests that individuals with low self-esteem who experience negative events in a relationship develop an avoidant behavior, which impairs their interpersonal functioning and their willingness to take further interpersonal risks in the future (Park and Maner 2009), and in particular to engage in other long-term relationships (Walker 2009). Drawing on this research, we propose that low self-esteem consumers who experience service failures

become unwilling to commit themselves to alternative brands, thus – paradoxically – they remain trapped in their current brand relationship. High self-esteem consumers, instead, are more likely to switch to alternative service providers following service failures, as compared to their counterparts who do not experience any failure.

### **Service failures and switching**

Service quality (Bitner, Booms, and Tetreault 1990; Boulding et al. 1993), relationship quality (Crosby, Evans and Cowles 1990; Crosby and Stephens 1987), and overall satisfaction (Cronin and Taylor 1993) improve customers' loyalty. Conversely, service failures and dissatisfaction motivate switching (Crosby and Stephens 1987; Kelley, Hoffman, and Davis 1992). However, the relationship between service failures and loyalty is complex (Mittal and Kamakura 2001; Oliver 1999). In fact, just as satisfied customers are not necessarily loyal (Anderson and Sullivan 1993; Ganesh, Arnold, and Reynolds 2000; Jones and Sasser 1995; Oliver 1999; Rowley and Dawes 2000; Szymanski and Henard 2001), dissatisfied customers do not always switch (Day 1984; Hirschman 1970). For example, following service failures, some consumers switch brands or service providers, while others take no action at all (Richins 1987).

In the literature, the most prevalent explanation for such behavioral loyalty in the face of service failure is in terms of switching costs in terms of money, time, or effort. Indeed, there is a negative relationship between switching costs and switching intentions (Fornell 1992; Jones, Mothersbaugh, and Beatty 2000). For example, time, effort, and money involved in switching to a new provider increase consumers' lock-in (Gronhaug and Gilly 1991; Heide and Weiss 1995; Klemperer 1987; Lam et al. 2004; Lee and Cunningham 2001; Nielson 1996; Patterson and

Smith 2003; Wathne, Biong, and Heide 2001). Moreover, consumers might be dependent on a service provider because of the lack of superior competition in the market (Anderson and Narus 1990), or because consumers would lose benefits – such as discounts or price breaks – that might not be readily available from competitors (Gwinner, Gremler and Bitner 1998). However, it is unclear what makes consumers stay when these switching costs are low and superior competition is available. For example, even in the mobile industry, switching from one network to another is often relatively simple for consumers using a prepaid card or when providers offer to take care of costs and administration of a contract switch, especially in countries in which consumers can keep the same phone number when switching providers. Moreover, policy makers often regulate competition by reducing switching costs. For instance, in the EU retail banking market, the European Competition Authorities promoted the implementation of switching facilities (comparison sites, switching services, etc.) and account portability. In the medical sector, it is now easier for patients to switch to another practice; for instance, in the National Health System in the UK has introduced an electronic transfer of health records between general practitioners. In these and similar examples, it is important to know what drives consumers' brand switching in face of service failures, beyond switching costs in terms of money, time, and effort.

In this research, we argue that service failures might have significant consequences for the way consumers approach alternatives in the market, and that this effect is dependent on consumers' self-esteem. We adopt a relationship paradigm to develop our predictions. In fact, research shows that when consumers form relationships with brands they use norms of interpersonal relationships as a guide in their brand interactions (Aggarwal 2004; Aggarwal and Law 2005). Moreover, consumer-brand interactions and interpersonal relationships are governed

by similar principles (Aaker, Garbinsky, and Vohs 2012; Aaker, Vohs and Mogilner 2010; Aggarwal 2004; Aggarwal and Law 2005; Fournier 1998).

## **Theory and hypotheses**

The interpersonal relationship literature suggests that self-esteem is related to the difficulty in leaving negative relationships as well as to the type of relationships individuals seek after leaving a negative relationship (Aguilar and Nightingale 1994; Cascardi and O'Leary 1992; Walker 2009). In fact, self-esteem is a person's self-assessment of his or her worth as a human being (Campbell 1990), and as such it deeply affects the way people interact with each other (Baumeister and Leary 2000), especially following negative events (Park and Maner 2009).

In general, negative events trigger the need to affiliate with other people, because others are a source of social support and can provide comfort, or can help solve a problem (Pierce and Lydon 1998). However, correlational studies reveal that some people who experience aversive events may have diminished capacity to trust and to become attached to other people (Herman 1992), and may develop avoidant interpersonal behaviors (Straight et al. 2003; Taft et al. 2007). Indeed, empirical evidence indicates that negative relational events may lead to avoidance of new long term-relationships, distrust in other people, and a tendency to prefer more superficial, low-involvement relationships (Walker 2009).

Thus, not all individuals are equally likely to seek interdependence and closeness following a negative event; in fact, research indicates that individuals with high and low self-esteem differ in their willingness to seek closeness and commitment with others after experiencing a threat. This occurs because negative events trigger different relational schemas in

high and low self-esteem people (Leary and Baumeister 2000). These triggered schemas lead high self-esteem people to seek close connections with others, whereas low self-esteem people avoid forming close relationships with others (Park and Maner 2009), and seek low-involvement relationships (Walker 2009).

In particular, low self-esteem individuals (LSE) – those who hold a low opinion about themselves – doubt their level of social acceptance and are hypersensitive to negative interpersonal signals (e.g., relational devaluation, Gyurak and Ayduk 2007; Heatherton and Vohs 2000; Leary and Baumeister 2000; Murray et al. 2002). Fear of being hurt in interpersonal relationships runs deep in low self-esteem people (Gyurak and Ayduk 2007; Heatherton and Vohs 2000). Importantly, this fear is triggered by experiencing negative events (e.g., failures, threats; Park and Maner 2009) and when negative events occur in a current relationships, this fear is carried to future relationships (Walker 2009).

Overall, these findings suggest that, following negative events, LSE individuals become less inclined to seek interdependence with other people in future relationships (Murray, Holmes, and Collins 2006; Park and Maner 2009; Walker 2009). In fact, correlational evidence suggests that individuals with low self-esteem who experience negative events in a relationship become more constrained and conservative in their interpersonal behavior, which impairs their willingness to engage in new long-term, high-commitment relationships with alternative partners (Walker 2009). Indeed, research on problematic relationships shows that often low self-esteem correlates with a fear of forming close relationships, as well as the likelihood to remain in a negative relationship (Aguilar & Nightingale, 1994; Mechanic, in press; Murphy & Cascardi, 1999; Walker 2009). Interestingly, even though fear of forming close relationships is common among LSE individuals who have experienced negative relationships, these individuals do desire

relationships with others, but are afraid of forming attachments (Walker 2009). In sum, prior research suggests that following negative events, LSE individuals seem to desire to affiliate with others, but prefer short-term, uncommitted relationships, to long-term, committed ones.

In contrast, high self-esteem individuals (HSE) believe that they have a good number of positive qualities (Brockner, Derr and Laing 1987; Brown and Dutton 1995; Brown, Dutton and Cook 2001; Dogson and Wood 1998; Heimpel et al. 2002; Park and Maner 2009). Moreover, HSE individuals think that they are worthy of care and attention, believe that others will treat them with respect, and do not worry about being hurt by others (Leary and Baumeister 2000; Park and Maner 2009). Thus, when HSE individuals experience a negative event, they are not afraid to approach others to find comfort. This confidence enables them to seek interpersonal connection and commitment following negative events (Baumeister, Tice and Hutton 1989; Park and Maner 2009).

Drawing on this research, we propose that service failures will trigger a defensive and avoidant style in LSE consumers, who will be reluctant to engage in new long-term, high-commitment relationships with other brands. LSE consumers may want to affiliate with others (in this case: other brands), but are afraid to commit to them. In contexts in which consumers need a service (e.g., Internet), and the only other available options are high-commitment (e.g., long-term) contracts with alternative service providers, this fear of new commitments should lead to a sticky behavior in LSE individuals. Thus, whereas service failures may induce HSE consumers to switch to available alternative service providers, service failures might affect LSE consumers' likelihood to switch to a lesser extent. It is even possible that low self-esteem consumers will be equally likely to stay with their current provider when the current service quality is good as when it is bad. High self-esteem consumers, instead, will be more likely to

commit to alternative service providers when they experience service failures, as compared to when they do not experience any failures. We also predict that LSE individuals who experience a service failure will tend to avoid new commitments and to favor low-commitment, short-term service relationships. LSE consumers who experience failures will avoid long term-commitments to other service relationships, but take advantage of short term offers and promotions. In contrast, in face of service failures, HSE consumers should be more likely to switch to alternative service providers when these providers offer high-commitment contracts (vs. low commitment contracts), because negative events should encourage HSE consumers to seek interdependence, and high-commitment contracts are better suited to fulfil this need.

We investigated these hypotheses in three studies. In study 1A and 1B, we show that whilst HSE consumers are more likely to switch to a competitor when their Internet connection is bad (vs. good), LSE consumers do so to a lesser extent. In study 2, we manipulate the type of contract that is offered by an alternative Internet provider, to explicitly address the hypothesis that LSE consumers avoid commitments with alternative service providers in face of service failures, but take advantage of low-commitment options if given the opportunity.

## **Study 1A**

The goal of study 1A and 1B was to test the hypothesis that HSE consumers would be more likely to accept the offer to sign a contract for a different provider as the quality of their service got worse, whilst low self-esteem likelihood to switch would be affected to a lesser degree. In study 1A, we asked consumers to report the percentage of time that their Internet works perfectly as a proxy of the quality of their Internet service.

Since it could be argued that LSE consumers perceive service failures as less severe, we complemented this study with a validation experiment, in which we asked consumers to rate the severity of a hypothetical service failure: a short (vs. long) temporary interruption of the Internet service.

### *Participants and procedure*

One hundred sixty-three undergraduate students at a business school in the Netherlands (47.2% males;  $M_{age} = 20.26$ ;  $SD = 1.96$ ) participated in this study in exchange for 5 Euros or course credit. First, participants completed a 10-item measure of self-esteem (adapted from Rosenberg 1989; e.g. “I have a number of good qualities;” 1 = *Strongly disagree*, 7 = *Strongly agree*), interspersed with filler questions (e.g. “I hardly ever swear,” “I like watching TV”). Next, participants were introduced to an allegedly unrelated study about their Internet usage. Participants first completed a ten minute filler task, consisting in decoding a series of CAPTCHA images. CAPTCHA is an acronym for Completely Automated Public Turing test to tell Computers and Humans Apart, and it is a test commonly placed on websites to determine whether or not the user is human and thus block submissions by spambots: A CAPTCHA program generates distorted images containing text that humans can read, but computer programs cannot. All students were familiar with this test and were able to decode all CAPTCHA images. After the CAPTCHA task, participants completed a series of filler questions, included to disguise the purpose of the study (e.g., “How many hours per day do you use the Internet?”) Among these questions, participants answered the following: “Considering your Internet usage over time, what percentage of the time does your Internet connection work

perfectly?” Participants answered by sliding a knob on a bar that was ranging from 0% - *Internet never works perfectly* to 100% - *Internet always works perfectly*. Finally, participants were asked how likely they would be to switch to a competitor of their current Internet provider, if they received an offer for a cheaper service with the same connection speed. To reduce the perception of exit barriers to a minimum, participants were asked to imagine that canceling their current contract would be free of charge and that the new provider would do all the paperwork. Participants rated how likely they would be to accept this offer using a scale ranging from 1 (= *Extremely unlikely*) to 9 (= *Extremely likely*).

*Validation study.* After a 15 minute break, during which participants completed an unrelated study, participants were assigned to a *Failure severity* condition: participants rated the perceived severity of a 20-minute interruption (*Mild failure condition*) or of a one-hour interruption (*Severe failure condition*), by answering a four-item measure of severity (Hess, Ganesan, and Klein 2002; e.g., “How would you describe this service failure?” 1 = *Minor service problem*, 9 = *Major service problem*).

### *Results and discussion*

In this and all of the following analyses, missing cases were excluded pairwise.

*Likelihood to accept offer.* We used a multiple regression procedure to analyze the likelihood to accept a competitor’s offer to switch (Aiken and West 1991). In a first step, we regressed self-esteem ( $\alpha = 0.87$ ) and quality of Internet service on intentions to accept the

competitor's offer. The model proved significant ( $R^2 = 0.40$ ,  $F(2, 141) = 6.69$ ,  $p < .01$ ). There was only a main effect of frequency of failures ( $B = -0.04$ ,  $t(141) = -3.66$ ,  $p < .001$ ;  $F(2,141) = 6.69$ ,  $p < .01$ ). Unsurprisingly, the greater the percentage of times that consumers experienced Internet service disruptions, the greater was the likelihood to switch to the competitor. In a second step, we included the interaction between self-esteem and frequency of failures to the model. Adding the interaction significantly improved the model ( $F_{change}(1,140) = 5.68$ ,  $p < 0.05$ ), and the predicted interaction between self-esteem and the frequency of service failures emerged ( $B = -0.03$ ,  $t(140) = -2.38$ ,  $p < .05$ ). To decompose this interaction we used the Johnson-Neyman technique – dubbed “floodlight” analysis by Spiller et al. (2013) – to identify the regions on the self-esteem scale where the simple effect of service quality was significant. We found that for any self-esteem score higher than 4.3, the effect of the service quality was significant: consumers were more likely to switch as service quality decreased ( $B = -0.03$ ,  $t(140) = -2.33$ ,  $p < .05$ ). However, at any lower level of self-esteem, service quality did not have a statistically significant effect on consumers' likelihood to switch ( $B = -0.02$ ,  $t(140) = -1.66$ ,  $p = .10$ ). That is, LSE participants were not significantly more likely to indicate they would switch as service failure intensified.

*Perceived severity.* We measured perceived severity of service failure to test for an alternative explanation in terms of LSE participants experiencing service failures as less severe, presumably giving less incentive to switch. We submitted the perceived severity data to a multiple regression procedure (Aiken and West 1991), in which we regressed failure severity and self-esteem on perceived severity ( $\alpha = 0.93$ ) in the first step, and the interaction between failure severity and self-esteem in a second step. The first step model was marginally significant ( $R^2 =$

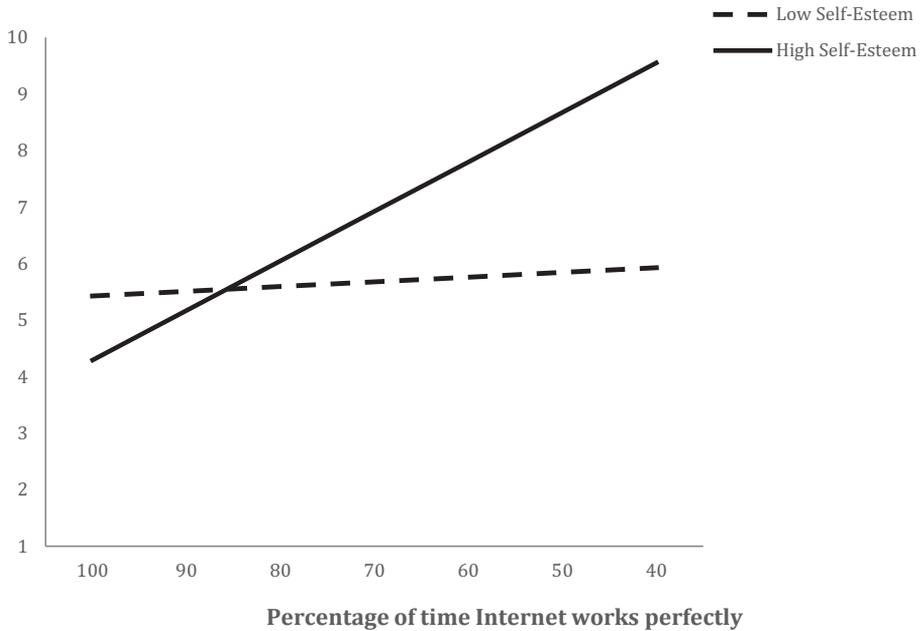
.04,  $F(2,138) = 2.83, p = .06$ ). There was only a significant main effect of failure severity ( $B = -0.64, t(138) = -2.36, p < .05$ ) such that the longer service disruption was perceived as more severe than the shorter service disruption, indicating that the manipulation of severity was successful. In a second step, we included the interaction between self-esteem and failure severity to the model, but adding this interaction did not improve the model ( $F_{change}(1,137) = .23, p = .63$ ). There was no interaction between self-esteem and objective severity ( $B = -0.15, t(137) = -0.48, p = .63$ ). These results indicate that HSE and LSE participants do not seem to have different perceptions of service failure severity. Thus, these results are not consistent with this alternative explanation.

Overall, the results of this study indicate that, as predicted, high self-esteem consumers tend to turn to competing alternatives more as the quality of their Internet service worsens. In contrast, low self-esteem consumers display a much stickier behavior.

This correlational evidence was important because it allowed us to investigate the effect of the real experience of Internet service failures on LSE and HSE consumers' self-reported likelihood to switch to an alternative provider. Correlational evidence, however, might be problematic because it did not allow control over unobserved variables that might have driven the reported effects. Thus, in study 1B, we tested the robustness of this study in an experimental setting, by manipulating service failures.

**Figure 1. Study 1: As service quality gets worse, only high self-esteem consumers are more likely to switch to a competitor**

Likelihood to accept offer



### Study 1B

The goal of study 1B was to examine through manipulation of service failure whether HSE consumers would accept the offer of a competitor more after a service failure compared to their counterparts whose service is perfect, whilst LSE consumers would not or to a significantly lesser extent. In this study, we created vignettes describing a perfectly functioning Internet service and an extremely faulty one, and used a questionnaire to measure participants' responses to these scenarios.

### *Participants and procedure*

One hundred and one U.S. residents (70% males,  $M_{age} = 29.46$ ,  $SD = 8.03$ ) from a national online pool (MTurk) participated in this study in exchange for monetary reward. Participants first completed a self-esteem scale interspersed with filler items, as in study 1A. Subsequently, participants were assigned to a Service failure or to a No failure condition. In the Service failure condition they imagined a scenario in which they were using an extremely faulty Internet connection:

*Your Internet does not work perfectly. Slower speed and a faulty connection limit your internet usage. Your Internet is often running at a slower speed. Sometimes service disruptions even prevent you from using the Internet completely for several hours.*

In the No failure condition participants imagined using a perfectly functioning Internet connection:

*Your Internet always works perfectly; neither slower speed nor a faulty connection ever limit your Internet usage. Your Internet is always running at full speed. You never experience service disruptions that prevent you from using the Internet.*

After the manipulation, all participants imagined that a competitor of their Internet provider contacted them with an offer to sign an Internet contract, and they rated the likelihood that they would accept this offer. As in study 1A, participants imagined to receive an offer for a

cheaper service with the same connection speed; canceling their current contract would be free of charge and the new provider would do all the paperwork. Participants rated how likely they would be to accept this offer using a scale ranging from 1 (= *Extremely unlikely*) to 9 (= *Extremely likely*).

### *Results and discussion*

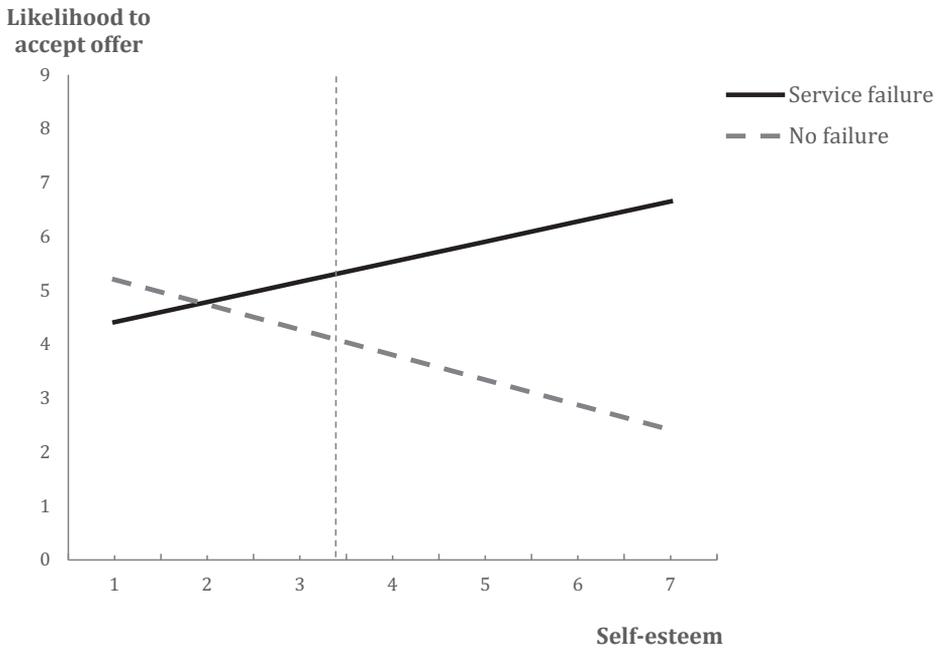
*Likelihood to accept offer.* We applied Aiken and West's (1991) multiple regression procedure to analyze the likelihood to accept the competitor's offer. First, we regressed service failure condition and self-esteem ( $\alpha = 0.95$ ) on the dependent variable ( $R^2 = 0.34$ ,  $F(2,95) = 24.90$ ,  $p < .001$ ). There was a main effect of condition: participants were more likely to accept the offer of the competitor in the Service failure condition as compared to the No failure condition ( $B = 2.68$ ,  $t(95) = 7.01$ ,  $p < .001$ ). Next, we added the interaction between condition and self-esteem to the model ( $F_{change}(1,94) = 8.60$ ,  $p < .01$ ). The predicted interaction between condition and self-esteem emerged ( $B = 0.84$ ,  $t(94) = 2.93$ ,  $p < .01$ ). Floodlight analysis (Spiller et al. 2013) revealed that the self-esteem value defining the significant region was 3.40: consumers whose self-esteem was higher were more likely to switch to a new provider if they experienced service failures with their current provider, compared to the No failure condition ( $B = 1.35$ ,  $t(94) = 2.32$ ,  $p < .05$ ). However, LSE participants were not more likely to switch to a different provider as compared to their counterparts in the No failure condition ( $B = 1.13$ ,  $t(94) = 1.76$ ,  $p > .15$ ).

This study replicates study 1A results in an experimental setting, providing converging evidence that HSE consumers are more likely to start a new contract with a different provider

following a service failure compared to their counterparts who did not experience service failures, whilst LSE individuals are not.

We have argued that this behavior is an indication of LSE consumers' wariness of new long-term relationships following a failure, resulting in a more cautious, restrained behavior on their part. In study 2, we explicitly address this hypothesis by manipulating the level of commitment represented by a competitor's offer.

**Figure 2. Study 1B: Consumers are more likely to switch to a competitor following a service failure (vs. no failure), only at high levels of self-esteem.**



The dotted line crossing the graph indicates the Johnson-Neyman point above which the difference between the Service Failure condition and No failure condition is significant.

## Study 2

In this study, we manipulated the level of commitment entailed in a competitor's offer, in order to explicitly address the hypothesis that LSE consumers become wary of new commitments following a failure. We reasoned that if we gave consumers the opportunity to sign low-commitment contract with an alternative service provider, thereby removing the potential cause for LSE consumers' behavioral loyalty, we should observe an increase in LSE consumers' switching likelihood in face of service failures (vs. no failures).

We hypothesized that when a competitor's offer implied high commitment (e.g., one year contract) HSE consumers would be more likely to switch as the quality of their Internet service worsened, whereas the intentions of low self-esteem consumers would not change as a function of the quality of their current service. In other words, when a competitor's offer entailed high commitment, we predicted that we would replicate the results of studies 1A and 1B.

In contrast, we predicted that when the level of commitment of the competitor's offer was low (e.g., one month trial), high and low self-esteem consumers would behave similarly. This should happen because, in response to failure, LSE consumers' likelihood to switch when offered a low-commitment contract should increase. At the same time, because HSE consumers seek interpersonal connection following negative events, HSE consumers' likelihood to switch to an alternative provider should decrease, in this case.

In this study we manipulated the level of commitment of a competitor's offer (between subjects): the high commitment offer was to sign a yearly contract with the competitor, and the low commitment offer was to sign up for a renewable monthly trial of the competitor's service.

As in study 1A, we asked consumers to report the percentage of time that their Internet worked perfectly as a proxy of the quality of their Internet service.

### *Participants and procedure*

One-hundred sixty-one U.S. residents (61.5% males;  $M_{age} = 32.96$ ,  $SD = 10.34$ ) from an online national pool (MTurk) participated in this study in exchange for monetary reward. First, participants completed the same self-esteem measure, embedded among filler questions, as in study 1A and 1B. Next, participants answered a series of questions designed to disguise the purpose of the study (e.g., “How many hours per day do you use the Internet?”) Among these questions, respondents answered the following: “Considering your Internet usage over time, what percentage of the time does your Internet connection work perfectly?” Participants answered by sliding a knob on a bar that was ranging from 0% - *Internet never works perfectly* to 100% - *Internet always works perfectly*. Finally, participants were asked how likely they would be to switch to a competitor of their current Internet provider, if they received an offer for a cheaper service and same connection speed. Participants were assigned to one of two conditions: in the Low commitment condition, participants were told that the offer was for a renewable one-month trial; in the High commitment condition, participants were told that the offer was for a one-year contract. In both conditions, participants were told that canceling their contract would be free of charge and that all paperwork would be done by the new provider. Specifically, participants read the following:

*If a competitor of your current Internet provider called you today proposing you to cancel the contract with your current Internet provider and to sign up for a one-month trial (renewable) [one-year contract], how likely would you be to accept this offer?*

*The competitor offers the same connection speed (MB per second) but it is \$3 cheaper than your current Internet service. Canceling your contract will be free of charge and the new provider will do all the paperwork.*

Participants indicated how likely they would be to accept this offer by sliding a knob on a bar that ranged from 0 (= *Extremely unlikely*) to 100 (= *Extremely likely*).

### *Results and discussion*

*Likelihood to accept offer.* In order to test the predicted 2 (commitment: High vs. Low) x self-esteem x service quality interaction we used the regression procedure suggested by Spiller et al. (2013). We submitted the likelihood to accept the competitor's offer to a regression including commitment condition, self-esteem and service quality (the percentage of time participants' service worked perfectly), all two-way interactions between these variables, and their three-way interaction (most inclusive model:  $R^2 = 0.21$ ,  $F(6,151) = 6.56$ ,  $p < .001$ ), in a stepwise procedure (Aiken and West 1991). The predicted three-way interaction between commitment, self-esteem, and service quality emerged ( $B = 0.51$ ,  $t(151) = 2.42$ ,  $p < .05$ ), and significantly improved the model including the main effects and two-way interactions ( $F_{change}(1, 150) = 5.79$ ,  $p < .05$ ). Consistent with our prediction, the two-way interaction between self-esteem and service quality was significant when the competitor's offer implied high commitment ( $B = .53$ ,  $t(151) = 3.12$ ,  $p$

< .01). This two-way interaction indicates that, as in the previous studies, the likelihood to accept the offer of the competitor was not different as a function of service quality, among LSE consumers ( $SE < 4.4$ ;  $B = 0.31$ ,  $t(151) = 1.53$ ,  $p > .13$ ). HSE consumers ( $SE > 4.5$ ), instead, were more likely to accept the offer of the competitor as their service quality worsened ( $B = .42$ ,  $t(151) = 2.91$ ,  $p < .05$ ). However, in the Low commitment condition, HSE and LSE consumers behaved similarly, as revealed by the absence of an interaction between self-esteem and service quality in this condition ( $B = .30$ ,  $t(151) = .10$ ,  $p = .92$ ). In this condition, both HSE and LSE consumers are more likely to switch an alternative service provider as their service quality worsens ( $p < .01$ ).

We also predicted as service quality gets worse, LSE consumers' preference for a low commitment competitor's offer should increase, and the preference for a high-commitment offer should be relatively lower. Consistent with this prediction, the floodlight analysis also revealed that the interaction between commitment and the quality of service was significant among LSE consumers ( $SE < 3$ ). For LSE participants, the higher the level of service failures, the greater was the likelihood to accept the low commitment offer, as compared to the high commitment offer ( $B = 1.05$ ,  $t(150) = 2.02$ ,  $p < .05$ ).

There was a significant interaction between condition and service quality also at high levels of self-esteem ( $SE > 6.4$ ). For HSE consumers ( $SE > 6.4$ ), the higher the level of service failures the greater was the likelihood to accept the high commitment offer, as compared to the low commitment offer ( $B = -0.79$ ,  $t(150) = 1.98$ ,  $p < .05$ ).

We note that the region of significance on the service quality scale in which the contrast between commitment conditions was significant was similar among HSE and LSE participants. When the percentage of time that their Internet service worked perfectly was less than 54, LSE

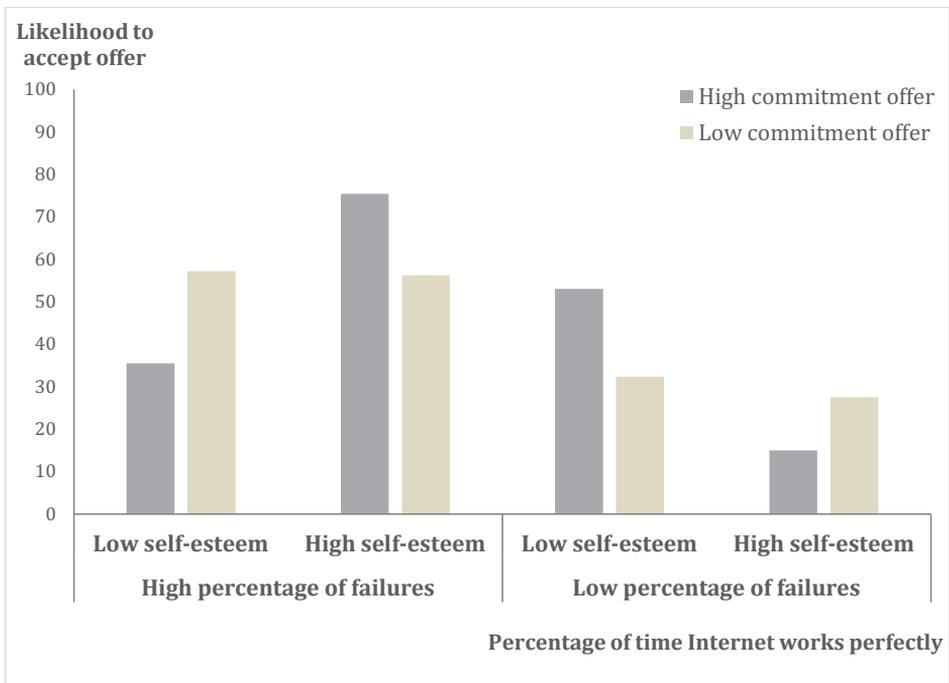
participants started being more likely to accept a low commitment offer, relative to a high commitment offer, ( $B = 28.46, t(150) = 1.62, p < .10$ ). In contrast, HSE consumers started being more likely to accept a high commitment offer, relative to a low commitment offer ( $B = -24.86, t(150) = -1.81, p = .08$ ).

When the competitor's offer entailed a high level of commitment, we replicated the two-way interaction that emerged in prior studies. Specifically, HSE consumers were more likely to switch to a competitor as the quality of their current internet service worsened. However, this two-way interaction was not significant when the offer entailed low commitment. There was no significant difference between HSE and LSE in terms of their intention to switch in response to a decrease in service quality. Our analysis revealed that this effect was driven by LSE consumers' increased likelihood to accept a low commitment offer, relative to a high commitment offer, in response to service failures, and by HLS consumers' decreased likelihood to accept a low commitment offer, relative to a high commitment offer (see figure 3).

In sum, in study 2 we manipulated the type of contract that was offered by an alternative Internet provider, and demonstrated that when a competitor offered a long-term (i.e., high-commitment) contract, we replicated study 1A and 1B results: HSE consumers were more likely to switch in face of service failures, whilst LSE consumers were not; however, when a competitor offered a short-term (i.e., low-commitment) contract, LSE consumers and HSE consumers behaved similarly, because LSE (HSE) consumers' likelihood to accept this contract following a service failure increased (decreased). We interpret these findings as an indication that following a service failure, LSE consumers become wary of new commitments and as a result they stick with the devil they know; in fact, when we experimentally removed the potential cause of LSE consumers' behavioral loyalty in face of service failures, by offering an alternative

low-commitment contract, we observed an increase in LSE consumers' switching likelihood. On the other hand, because HSE consumers seek interdependence in face of negative events, we observed a decrease in HSE consumers' switching likelihood, because a low-commitment contract was not suited to fulfil this interdependence need.

**Figure 3. Study 2: Low self-esteem consumers' likelihood to accept a high (low) commitment offer from a competitor decreases (increases) as their service quality gets worse.**



For illustration purposes, this graphs depicts means at +/- 1SD.

## **General discussion**

The studies reported here suggest that following service failures, consumers with high self-esteem are more likely to switch to a competitor compared to their counterparts who do not experience service failures, whilst consumers with low self-esteem are not (studies 1A and 1B). We proposed that transgressions make LSE consumers wary of interpersonal risks, thus rendering them avoidant of commitment with other brands and prone to take advantage of short term commitments. Consistent with this hypothesis, LSE (HSE) consumers are more (less) likely to sign low-commitment offers and less (more) likely to sign high-commitment offers, in the face of service failures (study 2).

These findings complement previous research on switching behavior. Specifically, these results demonstrate that switching behavior is not driven only by factors such as switching costs in terms of time, effort, and money, by showing that service failures themselves affect consumers' tendency to commit to other available alternatives in the market.

Moreover, this work has meaningful contributions for theory on brand relationships. This research takes a unique approach by identifying tensions between multiple brand relationships (with current and alternative brands), and by investigating consumers' vulnerabilities that shape these relationships. Thus, this research answers both the recent call for a focus on multiple brand relationships (Swaminathan and Dommer 2012) and for a greater emphasis on negative relationships and the study of processes and outcomes of these relationships (Fournier and Alvarez 2013). Specifically, this research contributes to the growing literature on negative brand relationships, by providing insights about factors that drive consumers' behavioral loyalty in these relationships.

This research has also significant practical import for marketing, consumer well-being, and policy-making. Consumers in negative brand relationships can more easily escape them if they look for low-commitment alternatives; thus, marketers who wish to lure dissatisfied consumers from their competitors, should consider diversifying their offerings and include short-term and low-commitment offers in their portfolios. Moreover, policy makers should take into account that behavioral loyalty is not determined only by switching costs or apathy, and that consumer vulnerabilities extend beyond the current narrowly defined categories (e.g., elderly consumers). Lowering switching barriers to favor competition might not be enough to protect consumers' rights, but motivating brands to right their wrongs – for example by broadening the scope of class actions, or encouraging brands to include no lock-in options in their portfolios – might be an important additional protection for consumers who do not easily switch.

We note that one main limitation of this research is that we did not include studies in which we manipulated – instead of measured – self-esteem. This may raise concerns about the possibility to make casual attributions, because self-esteem may be confounded with other factors. We did try to manipulate state self-esteem, however current manipulations that we borrowed from prior research are self-threat or self-enhancement manipulations (e.g., McGregor, Nash, and Inzlicht 2009), to which LSE and HSE participants reacted differently. For example, on the one hand HSE participants believed more strongly than LSE participants that positive feedback on a IQ test was believable and accurate; on the other hand, LSE participants believed more strongly than HSE participants that negative feedback was believable and accurate. Overall, this bogus feedback manipulation did not affect participants' state self-esteem in a significant way. This is not surprising, since self-esteem is a fundamental assessment of a person's worth (Leary and Baumeister 2000), it is rather stable during an individual's life

(Trzesniewski, Donnellan, and Robins 2003), and it affects the way people deal with any praise and criticism. In fact, praise may even backfire among individuals with low self-esteem (Brummelman et al. 2014). Moreover, even if we were able to manipulate state self-esteem such that we can induce a temporary increase or decrease of self-esteem in both HSE and LSE participants, research documents that state self-esteem manipulations affect the behavior of individuals differently, depending on a person's chronic level of self-esteem (Vohs and Heatherton 2004), thus predictions regarding outcome behavior would be unclear. Until we develop a valid and robust manipulation of self-esteem, based on which we can make clear predictions, we are reluctant to rely on current methods.

Even though self-esteem may be confounded with other factors, we believe that it is still very important to recognize that there is a group of consumers with low self-esteem that does not respond to decreasing service quality. Measuring self-esteem allowed us to uncover some unobserved heterogeneity in the market, and to identify a group of consumers who tend to stick with the devil they know, but may be nudged to switch to other available brands if offered the right type of contract.



## Chapter 3

### Brand (In)fidelity:

#### When Flirting with the Competition Strengthens Brand Relationships

What happens when consumers who are committed to a particular brand flirt with – admire or sample – other brands? Even though conventional wisdom suggests that a positive encounter with a competing brand could cause consumers to be less loyal to a previously favored brand (Keaveney 1995; Oliver 1999), we argue that when a favored brand remains in the hearts and minds of consumers, flirting with other brands can paradoxically be beneficial for committed brand relationships.

Marketers frequently give consumers free samples of their products, offer price reductions, and inundate them with advertisements in hopes of luring them away from competitors. Moreover, consumers enjoy browsing and daydreaming about products, thus they may have frequent pleasant interactions (real or imagined) with brands other than their favored. However, surprisingly little research has investigated the effect of positive encounters with competing brands on consumers in committed brand relationships – those in which a consumer is loyal to a favored brand in a product category and is committed to buying the brand in the future (Beatty, Kahle, and Homer 1988; Fournier 1998; Lastovicka and Gardner 1978; Miller, Fournier, and Allen 2012; Traylor 1981).

Using interpersonal relationships as a metaphor (Aggarwal 2004; Fournier 1998), we define “brand flirting” as casual interest in or short-term experimentation with a competing brand. Flirting in the consumer domain is common: for example, while window shopping, a consumer may enjoy looking at other brands or, once inside the store, even sampling them, with

no real intention of switching brands. Flirting can occur in a variety of ways, from evaluating certain brand characteristics positively (akin to noticing the attractive characteristics of someone other than one's current romantic partner) to using a product and having a pleasant short-lived experience with it (akin to having a late-night drink with that new person). More generally, brand flirting occurs when a consumer who has a preference for a brand displays more intimacy in his or her interactions with another brand than is typical, but with shallow or no commitment. In the current research, we instantiate brand flirting in several ways, but each instantiation has the following critical attributes: 1) the consumer evaluates positive information about a competitive brand or enjoys using a product produced by a competitive brand; 2) the interaction with the brand is short-lived; and 3) the consumer has no commitment to the competing brand.

The current research provides a definition of brand flirting, documents its characteristics, and examines the effect of flirting with competing brands on consumers' committed brand relationships. Because past research suggests that consumers can form relationships with brands in much the same way they form interpersonal relationships (Aggarwal 2004; Fournier 1998), we draw our predictions from the interpersonal relationship literature. Research reveals that factors that govern interactions between people also play a role in brand relationships (Aaker, Garbinsky, and Vohs 2012; Aaker, Vohs and Mogilner 2010; Aggarwal 2004; Aggarwal and Law 2005); moreover, there are important parallels between the committed relationships that individuals form with romantic partners and with brands (Aaker, Fournier, and Brasel 2004; Fournier 1998; Shimp and Madden 1974). Of particular relevance, similar antecedents predict brand loyalty and interpersonal loyalty (Li and Petrick 2008; Melnyk, van Osselaer, and Bijmolt 2008).

Our central prediction is that flirting with a competing brand can cause individuals who are in committed brand relationships to *increase* their preference for their favored brand. We propose that the arousal induced by flirting with competing brands can ironically be transferred to the preferred brand, increasing committed consumers' anticipated consumption of and love for "their" brand.

### **The Impact of Attractive Alternatives on Committed Relationships**

Major theories of commitment suggest that the availability of attractive alternatives reduces commitment and increases the risk of interpersonal relationship dissolution (Drigotas and Rusbult 1992; Rusbult and Buunk 1993). According to the social exchange model of cohesiveness (Levinger 1965), interdependence theory (Kelley and Thibaut 1978; Thibaut and Kelley 1959), and the investment model of commitment (Rusbult 1980), the absence of attractive alternatives is a key determinant of relationship maintenance. Consistent with these models, research reveals a negative correlation between perceived availability of alternatives and commitment (Jemmott, Ashby, and Lindenfeld 1989). Research also indicates that the availability and attractiveness of alternatives predicts the likelihood of relationship dissolution (Femlee, Sprecher and Bassin 1990; Simpson 1987), as do self-reports of attention to alternatives (Miller 1997).

To shield themselves against relationship threats, individuals who are committed to a romantic relationship use a wide array of cognitive and behavioral strategies in order to remain faithful to their partner. For example, they might devalue the attractiveness of alternatives or pay less attention to them (Johnson and Rusbult 1989; Lydon, Fitzsimons, and Naidoo 2003; Maner,

Gailliot, and Miller 2008; Maner, Rouby, and Gonzaga 2008). And, when attractive alternatives are perceived as a threat to the relationship, individuals are driven to protect it (Lydon et al. 2008).

Although commitment can help individuals ward off temptations, committed individuals still flirt occasionally. For example, when self-regulatory resources are low, individuals in a relationship are as likely as their single counterparts to feel attracted to alternatives (Ritter, Karremans, and van Schie 2010). Flirting is arguably even more frequent in the brand relationship domain than in the interpersonal relationship domain. Even though brand commitment saves the customer the cost of seeking new relations with other brands (Chauduri and Holbrook 2001), committed brand relationships are unlikely to be monogamous. Indeed, consumers often look for, sample, and enjoy different brands from a product category in which they have a favored brand (Fournier and Yao 1997; Swaminathan and Dommer 2012).

However, the consequences of flirting on committed brand relationships are unknown. Past research has explored the cognitive and behavioral strategies that individuals employ to ward off attractive alternatives, yet to our knowledge, no study has experimentally manipulated flirting and examined its effects on commitment. Thus, we know very little about the consequences of flirting with alluring alternatives. We propose that, under certain conditions, flirting with an attractive competitive brand can increase loyal consumers' commitment to their favored brand.

## Conceptual Development

### *Brand Flirting and Arousal*

Flirting with attractive others elicits excitement and other positive feelings, as it is often playful, pleasant, and arousing (Henningsen 2004). Flirting can also elicit excitement in the brand-relationship context, as using or admiring a brand other than one's usual brand may be a fresh and arousing experience. In contrast, habituation may cause interactions with a favored brand to be relatively less exciting, in much the same way that habituation can lead to relatively low levels of excitement in interpersonal relationships (Aron and Aron 1986; Aron et al. 2000; Aronson and Linder 1965; Berger 1988; Huesmann 1980; Jacobson and Margolin 1979; Linvingston 1980; Lucas et al. 2003; Norton, Frost, and Ariely 2007; Plutchik 1967; Tsapelas, Aron, and Orbuch 2009). Specifically, while arousal levels are high in the early stages of a relationship, they decrease as intimacy levels become more stable over time (Aron et al 2000; Reimann et al. 2011). The same effect has been replicated in the domain of brand relationships (Reimann et al 2011). Related research indicates that certain types of short-term or new brand relationships can induce more arousal than do stable brand relationships (Alvarez and Fournier 2012; Reimann et al. 2011). Similarly, research in the interpersonal relationship domain reveals that flirting with an individual to whom one is uncommitted elicits feelings of excitement (Garcia and Reiber 2008; Guerrero et al. 2001; Henningsen 2004). Drawing on this literature, we hypothesize that arousal may similarly be fostered when individuals who have a favored brand in a certain product category flirt with other brands. This arousal, in turn, can have ironic effects on a consumer's relationship with their favored brand.

## *Arousal and Attraction*

Arousal is an affective response that is hypothesized to “disperse, scatter, permeate, combine, fuse, spillover and become attached to totally unrelated stimuli” (Murphy, Monahan, and Zajonc 1995, p. 590; Sweldens, Osselaer and Janiszewski 2010). People sometimes transfer diffuse affective reactions – such as arousal – from an attitude object to unrelated targets (Dannowski and Suslow 2006; Murphy and Zajonc 1993; Rotteveel et al. 2001; Winkielman, Berridge, and Wilbarger 2005). As a result, arousal can be experienced as positive or negative affect depending on the nature of a salient target to which arousal is transferred (Cantor, Zillmann, and Bryant 1975; Zillmann and Bryant 1974; Zillmann, Katcher, and Milavsky 1972). Importantly, arousal can lead to greater attraction toward a salient other, even when the source of the arousal is independent from the person to whom it is attributed. In fact, a large body of research suggests that arousal increases positive thoughts and feelings toward a salient attractive person, resulting in more positive responses than would occur if arousal were absent (Dutton and Aron 1974; Allen et al. 1989).

Arousal facilitates attraction to unrelated attractive targets even when the original source of arousal is unambiguous (Foster et al. 1998), which is an indication that a transfer of an affective state from its source to an unrelated target does not require conscious cognitive processes, but can occur implicitly, especially under conditions that make the target salient (i.e. active in consumers’ minds when affect is experienced; Jones, Fazio, and Olson 2009; Sinclair et al. 1994). Moreover, arousal transfer is accentuated (attenuated) when the target is difficult (easy) to distinguish from the true source of affect (Foster et al. 1998; Jones et al. 2009), such as when the source is similar to (dissimilar from) the target.

In fact, research suggests that individuals are more likely to transfer affective states to a particular target if this target is salient (Jones et al. 2009). Not only can arousal transfer occur implicitly, but it can occur even when salient targets are not in the immediate environment, but simply cognitively active. In fact, research in the domain of misattribution showed that salient constructs that were primed during a heightened arousal state determined similar misattribution of arousal effects (Sinclair et al. 1994). Thus, misattribution effects occur not only when the immediate environment provides salient cues relevant to the source of arousal, but also when there are salient cognitive cues. Therefore, it is possible that flirting-induced arousal can increase attraction to brands that are salient in consumers' minds.

Favored brands, in particular, are more salient among individuals in committed brand relationships (Agrawal and Maheswaran 2005; Park et al. 2010). Brand salience is defined as the extent to which a brand is cognitively accessible (Alba and Chattopadhyay 1986; Nedungadi 1990). Favored brands are more easily accessible in more (versus less) committed consumers' minds; as such, more (versus less) committed consumers' favored brands are more likely to "absorb" diffuse states that are elicited by other sources in the environment (e.g., competing brands). Because arousal is more likely to be transferred to more (versus less) salient targets (Jones et al. 2009), even when the environment is void of such salient cues (Sinclair et al. 2014), and because a favored brand is more salient in the minds of more (versus less) committed consumers (Agrawal and Maheswaran 2005; Park et al. 2010), we hypothesize that flirting with competing brands will increase attraction towards a favored brand as consumers' commitment to this brand increases.

Second, because transfer of affective states is more likely to occur when it is difficult to tease apart the source and the target (Foster et al. 1998; Jones et al. 2009; Payne et al., 2005;

Schwarz and Clore 1996; Sweldens et al. 2010), we hypothesize that a key factor that increases the likelihood that flirting-induced arousal is transferred to an unrelated target is the similarity between the source of the arousal (i.e. a competing brand) and the unrelated target (i.e., the salient favored brand). Indeed, research demonstrates that transfer of affect from one individual to another is more likely to occur when the two individuals are similar (Andersen and Berk 1998; Andersen et al. 1995; Kruglanski and Pierro 2008). In general, prior evidence suggests that similarity between source and target causes source confusability (Ferguson, Hashtroudi, and Johnson, 1992; Henkel and Franklin 1998; Intraub and Hoffman 1992; Johnson, Foley, and Leach 1988; Johnson et al. 1981; Johnson et al. 1995). In turn, similarity-driven source confusability causes a vast array of attribution errors in different domains (e.g., misattribution of memory; Henkel and Franklin 1998; Lyle and Johnson 2006, 2007). Drawing on this literature, we predict that flirting with competing brands will increase attraction to a salient favored brand when the brand with which individuals flirt is similar rather than dissimilar to their favored brand.

## **Overview**

In sum, we argue that consumers experience greater arousal when flirting with a competitor's brand than when interacting with a favored brand, and that this arousal is sometimes transferred to the favored brand, leading to greater love and desire to consume it. We predict that this flirting-induced arousal is most likely to become attached to a consumer's favored brand and increase attraction to this brand when two conditions are met: 1) the favored brand is salient, and 2) the favored brand and the competitor's brand are similar. When

consumers flirt with a brand that is dissimilar from their favored brand, the resulting arousal is unlikely to be transferred to the favored brand (regardless of the salience of the favored brand) because the substantial difference between the two brands produces low levels of source confusion. On the other hand, if the brands are similar, but the favored brand is not salient, the flirting-induced arousal is unlikely to become attached to this non-salient brand, because there is no active target to which arousal can become attached. Thus, we predict that flirting-induced arousal is most likely to spill over onto a favored brand when the two brands are similar (i.e., when source confusion is most likely) and when consumers are committed to their favored brand (i.e., when the favored brand is most salient).

Thus, contrary to the possibility that brand flirting is detrimental to committed brand relationships, we predict that, under certain conditions, brand flirting will increase committed consumers' attraction toward their favored brand and boost their intention to consume it.

**Figure 1. Summary of predictions**

	<b>Low Commitment</b>	<b>High commitment</b>
<b>Brand flirting Similar brand</b>	Arousal: High Source confusion: High Brand salience: Low <b>NO EFFECT</b>	Arousal: High Source confusion: High Brand salience: High <b>POSITIVE EFFECT</b>
<b>Brand flirting Dissimilar brand</b>	Arousal: High Source confusion: Low Brand salience: Low <b>NO EFFECT</b>	Arousal: High Source confusion: Low Brand salience: High <b>NO EFFECT</b>
<b>Control (Favored brand)</b>	Arousal: Low Brand salience: Low	Arousal: Low Brand salience: High

We test our predictions in two pilot studies and five experiments. In our first pilot study, we document the existence and scope of brand flirting behavior and its fundamental characteristics. In our second pilot study we demonstrate that, consistent with the interpersonal relationship literature, flirting is arousing. We investigate the effect of flirting on committed brand relationships in the following four experiments. Study 1 demonstrates that flirting with a competitor's brand causes individuals in committed brand relationships to more strongly desire their favored brand. Study 1 also reveals that, consistent with prior research, a favored brand is more accessible in consumers' minds as their commitment to the favored brand increases. Study 2 tests our proposed process by investigating whether flirting with a relatively similar (vs. dissimilar) brand is more likely to boost committed consumers' love of their favored brand. Study 3 tests our full account: flirting with a competing brand is more arousing than flirting with a favored brand, this flirting-induced arousal is transferred to a favored brand only if the favored and the competing brand are similar, and this effect occurs only among highly committed consumers.

Finally, in study 4 we address one possible alternative mechanism underlying the brand flirting effect. In study 4, we explore the possibility that the brand flirting effect occurs because competing brands automatically activate a goal of being loyal to a favored brand (Fishbach, Friedman, and Kruglanski 2003). To this end, we compare the consequences of flirting with a competing brand to the consequences of incidental exposure to a competing brand. Study 4 reveals evidence inconsistent with this alternative mechanism.

## **Pilot Study 1: The existence and scope of brand flirting**

In this pilot study, we investigated the resonance and scope of the brand flirting construct. In order to probe for familiarity and experiences with this behavior, we applied a methodology suggested by Miller et al. (2012). Specifically, we provided a brief scenario based on our conceptualization of brand flirting, and asked participants to describe a similar interaction with a brand. Respondents rated the experience that they described in terms of the emotions that it elicited; participants also indicated whether they had a favored brand in the same product category as the brand they flirted with.

### *Participants and procedure*

Two-hundred and ten respondents from a national online pool (MTurk) were asked to indicate whether they ever “tried out, experimented with, showed a superficial interest in, or thought positively about a brand, without committing to it seriously;” if, in other words, they “ever had a short-lived, pleasant interaction with a brand, or thought positively about a brand, but did not feel committed to this brand.” To check if consumers’ experience was indeed enjoyable (as required by our definition of flirting), we asked consumers whether their interaction with the brand was pleasant (yes vs. no), and to rate how pleasant it was (1: *Not at all*, 7: *Extremely*). Moreover, we explored whether flirting elicited feelings of guilt (1: *Not at all*, 7: *Extremely*). Next, we asked participants to list up to five brands that fit the description, to select the most representative brand and describe their experience with this brand.

## *Results and discussion*

*Brand flirting resonance.* Seven participants who filled in random strings in the open end questions were excluded from the analysis, because it was not possible to verify whether their brand experience fit our definition of flirting or not. We analyzed the data of the remaining 203 respondents. The majority of consumers (71%) reported that they had an experience with a brand that fit our description: 1) the consumer evaluated positive information about a brand or enjoyed using a brand; 2) the interaction with the brand was short-lived; and 3) the consumer had no commitment to this brand. Only 14 consumers said that the interaction with the brand was not pleasant, and 9 described an interaction with a brand that did not fit our description. Among consumers whose answers reflected our description, 47% had a different favored brand in the same product category. Thus, flirting with brands other than one's favored emerged as a widespread behavior. In the remainder of this paper we define brand flirting as a short-lived, uncommitted, pleasant interaction with a brand *other than one's favored*.

*Emotions.* On average, the experience with the brand was pleasant ( $M = 5.69$ ,  $SD = 1.34$ ) and it elicited very little guilt ( $M = 2.17$ ,  $SD = 1.38$ ). There were no differences in how pleasant the brand experience was between people who had a favored brand in the same product category (i.e., people who engaged in brand flirting;  $M = 5.72$ ,  $SD = 1.38$ ) and those who did not ( $M = 5.67$ ,  $SD = 1.32$ ,  $p = .80$ ). There were no differences in how guilty the brand experience made participants feel between people who had a favored brand in the same product category ( $M = 2.01$ ,  $SD = 1.29$ ) and people who did not ( $M = 2.29$ ,  $SD = 1.44$ ,  $p = .21$ ).

In sum, these results provide evidence that brand flirting metaphor resonates with consumers, and give us confidence in brand flirting as a behavior that concerns a substantial number of people. Brand flirting emerges a pleasant short-term interaction with a competing brand. Importantly, the hedonistic enjoyment of brand flirting does not seem to be tainted by feelings of guilt, which instead may emerge in interpersonal relationships (Paul and Hayes 2002).

### **Pilot study 2: Brand Flirting is exciting**

We predict that the brand flirting effect occurs because brand flirting produces arousal that can be transferred to a preferred brand under particular circumstances (i.e., when consumers in committed brand relationships flirt with a brand similar to their favored brand). In this study, we tested the first part of this hypothesis: that consumers perceive that flirting with a competing brand is more exciting than consuming a favored brand. We tested this hypothesis across each of the four product domains explored in the current research: soda, coffee, beer, and potato chips.

#### *Participants and procedure*

Two hundred U.S. participants from a national online pool ( $M_{age} = 31.27$ ,  $SD = 9.26$ ; 57.5% males) were paid \$0.20 to complete this survey. Respondents chose which of two options was more exciting: consuming their favored brand or trying out a different attractive brand. Specifically, participants answered the following question: “In your opinion, is it more exciting

to drink your usual brand of beer, or try out a different nice brand?” Participants answered this question for brands in four product categories: soda, coffee, beer, and potato chips.

### *Results and discussion*

Across all product categories, respondents (77%) perceived that it was more exciting to try out a different attractive brand than a favored brand,  $z = 14.61$ ,  $p < .001$ . This effect also emerged across each of the four product categories when the categories are analyzed separately ( $p < .001$ ; table 1).

Hence, consistent with our prediction and the interpersonal relationship literature, this study suggests that flirting (in this case: trying out an attractive alternative) is more exciting than consuming a favored brand.

**Table 1. Percentage of consumers who believe that consuming an attractive brand other than their favored brand is more exciting than consuming their favored brand.**

<i>Product category</i>	<i>Favored brand vs. attractive brand</i>	<i>N</i>
Soda	66.1%	192
Coffee	80.9%	178
Beer	79.1%	190
Chips	82.6%	172

## **Study 1: The Brand Flirting Effect and the Role of Commitment**

The goal of study 1 was to provide an initial test of the brand flirting effect. Specifically, we predicted that individuals in committed brand relationships would more strongly desire to consume their preferred brand if they flirted with a similar competing brand than if they did not. In this study, flirting was operationalized as appreciating a competing brand's attractive characteristics.

As previously noted, we hypothesize that the brand flirting effect occurs when individuals transfer flirting-induced arousal to the brand to which they are committed. We predict that the brand flirting effect is most likely to occur when highly committed (versus less committed) consumers flirt with a competing brand because arousal is most likely to be transferred to a salient target, and because a favored brand is more likely to be salient in the minds of highly committed (versus less committed) consumers. In study 1, we also tested the second of these two predictions - that a favored brand is more salient in consumers' minds as their commitment to the favored brand increases.

### *Participants and procedure*

Eighty-four students from a university in the Netherlands who defined themselves as Coca-Cola (Coke) drinkers ( $M_{\text{age}} = 21.02$ ,  $SD = 2.45$ ; 42.9% male) participated in this experiment in exchange for course credit or 5 Euro. Participants first completed a scale that assessed their brand commitment to Coke. Next, participants were randomly assigned to either a

*Favored Brand* condition or a *Flirting* condition. In both conditions, participants rated positive features of a cola (either Coke or its competitor Pepsi).

Next, in an ostensibly unrelated study, participants completed a lexical decision task. Participants read that words would appear one at a time at the center of their computer screen. They learned that their task was to press the “Z” key if the word they saw was a brand and the “M” key if the word they saw was not a brand.

Finally, participants reported how much Coke they anticipated consuming in the next week.

### *Independent Variables*

*Brand commitment.* Participant answered five questions that measured their commitment to Coke (see appendix). This scale contained items adapted from Lastovicka and Gardner’s (1979) commitment scale and from Beatty and Kahle’s (1988) emotional loyalty scale (e.g., “If Coke (Pepsi) were not available at the store, it would make little difference to me if I had to choose another brand”). Participants reported their answers to each question on a 7-point scale (1: *Strongly disagree*; 7: *Strongly agree*). The items were averaged to create a composite measure of brand commitment ( $\alpha = .76$ ).

*Brand flirting.* Participants in the *Flirting* condition rated the extent to which they liked four positive attributes that (allegedly) described their non-favored cola (Pepsi). Specifically, participants rated the extent to which they liked the following four positive features: 1) “Pepsi cans are designed to keep your drink cool as long as possible”; 2) “The Pepsi formula allows

your drink to stay fizzy longer than any other cola drink”; 3) “Compared to other cola brands, Pepsi contains lower levels of sugar”; and 4) “The Pepsi formula is thirst-quenching. Your thirst is satisfied sooner.” The word “Coke” appeared in these items for participants in the *Favored Brand* condition. All participants reported their responses on 7-point scales (1: *Extremely dislike*; 7: *Extremely like*).

### *Dependent Variable*

*Reaction time.* Participants were presented with a series of letter strings and were asked to decide as quickly and as accurately as possible whether or not each letter string was a brand. At the beginning of each trial, a fixation point (+) appeared at the center of the screen for 1 second. The target word then replaced the fixation point. All stimuli were presented in black letters at the center of a white screen. Participants’ task was to classify the target as either a brand or a non-brand. Specifically, participants pressed the “Z” key if the word was a brand and the “M” key if the word was not a brand. Each response was followed by a .5 second pause, which was immediately followed by the next trial. After six practice trials (which included an equal number of brands and non-brands), participants started the main part of the task. This part included four Coke related words (Coca-Cola, Coke, Diet Coke, and Coke Zero; each word was repeated twice) that were embedded between 24 other trials. These trials consisted of four irrelevant brands (Emporio Armani, Giorgio Armani, Armani Collezioni, and Armani Jeans; each word was repeated twice) and eight letter strings that were similar to existing brands (e.g., Mercedes, Pell, Mart; each letter string was repeated twice). If more than 2 seconds elapsed

before participants responded, they saw an error message that prompted them to answer more quickly.

*Anticipated consumption.* Participants reported the number of bottles of their favored cola brand, as well as the number of bottles of the competitor's cola brand, that they thought they would consume in the next week.

### *Results and discussion*

*Reaction time.* Two participants were excluded from subsequent analysis because they experienced a computer malfunction that precluded them from providing responses. We first log transformed the reaction times for correct responses. We excluded outliers that were three standard deviations above or below the mean (Bargh and Chartrand 2000; Fazio 1990). The resulting missing values were excluded pairwise. Next, we computed the average of the log transformed reaction time data for each Coke target word and submitted these data to a multiple regression procedure (Aiken and West 1991). In a first model, we included only the main effects of condition (*Flirting vs. Favored Brand*) and brand commitment. This model was marginally significant ( $R_2 = 0.11$ ,  $F(2,45) = 2.87$ ,  $p = .06$ ), and a significant main effect of commitment emerged ( $B = -0.021$ ,  $t(45) = -2.39$ ,  $p < .05$ ); there was no effect of condition ( $B = 0.01$ ,  $t(45) = 0.26$ ,  $p = .80$ ). In a second step, we added the interaction between condition and brand commitment. This interaction was not significant ( $B = -0.002$ ,  $t(44) = -0.10$ ,  $p = .92$ ).

We performed a similar analysis to test the effect of condition, commitment, and their interaction on response time for the control brands and for the bogus brands. The analysis

revealed a significant effect of commitment to Coke on participants' reaction times for bogus brands ( $B = -0.06$ ,  $t(32) = -2.95$ ,  $p < .01$ ). However, it is important to note that the bogus brands appeared more frequently than each of the other brands and that these trials are not interpretable in terms of accessibility. Faster response times did not necessarily reflect salience but could be the result of repetition priming or practice effects (Dannenbring and Briand 1982; Logan 1990; McKone 1995; Ratcliff, Hockley, and McKoon 1985; Scarborough et al 1977; Zeelenberg, Wagenmakers, and Shiffrin 2004). More importantly, there were no significant effects of commitment, condition, or their interaction, on reaction time to the control brands ( $p > .19$ ).

Consistent with previous research (Agrawal and Maheswaran 2005; Park et al. 2010), these results suggest that a favored brand is more salient as commitment increases. Flirting with a competing brand did not increase the accessibility of a favored brand (as compared to the *Favored Brand* condition) suggesting that the brand flirting effect does not occur because brand flirting increases the accessibility of favored brands.

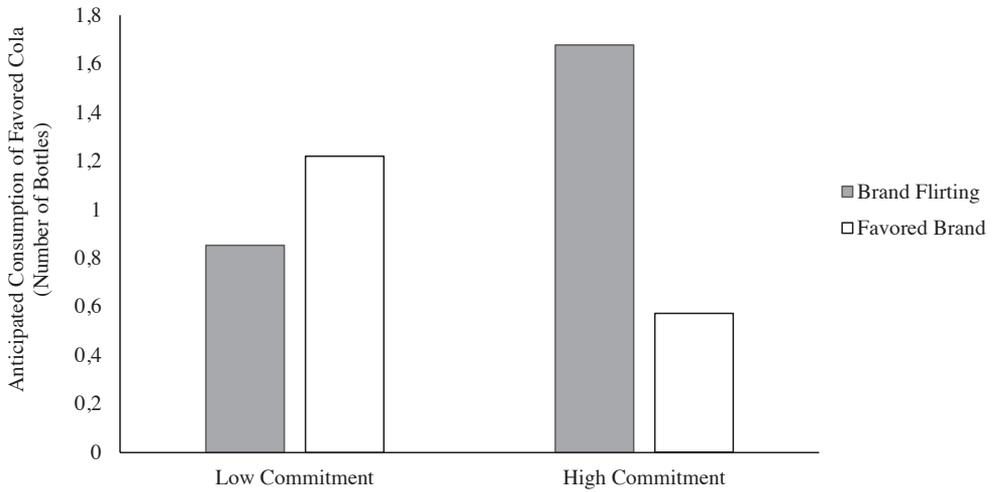
*Anticipated consumption of favored cola.* We applied a multiple regression procedure (Aiken and West 1991) to analyze the amount of Coke that participants anticipated drinking in the next week. First, we tested a model including only the main effects of condition and brand commitment on anticipated Coke consumption. This model was not significant ( $R^2 = 0.15$ ,  $F(2, 81) = 0.95$ ,  $p = .39$ ); however, adding the interaction between condition and brand commitment significantly improved the model ( $F_{change}(1, 80) = 7.25$ ,  $p < .01$ ). The predicted interaction between condition and brand commitment emerged ( $B = 0.67$ ,  $t(80) = 2.69$ ,  $p < .01$ ). Decomposition of the interaction revealed that consumers committed to Coke (+1SD) anticipated drinking more bottles of Coke when they flirted with Pepsi ( $B = 1.10$ ,  $t(80) = 2.86$ ,  $p < .01$ ) as

compared to their counterparts who did not flirt. Brand flirting did not impact the quantity of Coke that less committed consumers (-1SD) anticipated drinking ( $B = -0.37, t(80) = -0.37, p > .34$ ; figure 2).

*Anticipated consumption of competitor's cola.* A model including only the main effects of condition and brand commitment on anticipated Pepsi consumption was marginally significant ( $R^2 = 0.24, F(2, 81) = 2.52, p = .09$ ). Only a negative main effect of commitment emerged: participants anticipated consuming less of the competitor's cola the more committed they were to their favored brand ( $B = -0.88, t(81) = -2.22, p < .05$ ). However, the interaction added in the second step of the analysis was not significant ( $B = 0.32, t(80) = .40, p > .69$ ).

In sum, this study indicates that flirting with a non-preferred brand increases committed consumers' desire to consume more of their favored brand. Conversely, brand flirting has no effect on the anticipated consumption of less committed participants. Finally, while participants who were more (versus less) committed to a favored brand indicated less desire to consume a competitor's brand, flirting did not influence consumers' anticipated consumption of a competitor's brand. Thus, flirting does not seem to trigger avoidance of competing brands. Instead, as predicted, these findings demonstrate that flirting leads highly committed consumers to anticipate consuming more of their favored brand as compared to their counterparts who did not flirt. Moreover, this study reveals that a favored brand is more salient as brand commitment increases. However, flirting does not increase the salience of a favored brand among committed consumers. This finding is inconsistent with the possibility that the brand flirting effect occurs because flirting increases the cognitive activation of the favored brand as compared to the favored brand condition.

**Figure 2. Study 1: Effect of flirting on anticipated consumption of favored brand.**



### **Study 2: Similar versus Dissimilar Brands**

Study 1 tested our hypothesis that the brand flirting effect is most likely to occur among more (versus less) committed consumers. We also predict that the brand flirting effect is more likely to occur when individuals flirt with a brand that is more (versus less) similar to their favored brand. In study 2, we tested this hypothesis. In addition, we explored the generalizability of the brand flirting effect by using a different product category and a different manipulation of flirting. Finally, we examined a possible alternative mechanism for the brand flirting effect: perhaps brand flirting induces feelings of guilt that drive subsequent increased loyalty to a favored brand. Indeed, research suggests that when people experience guilt, they are empathic

toward those they have hurt and attempt to correct the situation through reparation (Leary 2007). Our pre-test showed that flirting induces very little guilt, thus we did not expect guilt to play a significant role.

### *Participants and procedure*

Three hundred and seven students at a university in the Netherlands ( $M_{\text{age}} = 20.50$ ,  $SD = 2.10$ ; 56% male) completed an in-lab experiment in exchange for course credit. Participants were required to notify the researcher if they did not drink beer at all. Participants who did not drink beer at all did not take part in this experiment. The remaining participants answered two questions that assessed the extent to which they liked beer and the frequency with which they consumed it. Next, they wrote the name of their favored beer as well as the names of five other beers, indicated the similarity of these five other beers to their favored beer, and completed a brand commitment measure. All participants next read a scenario in which they imagined drinking and enjoying a particular beverage. Participants then reported the amount of love they felt toward different beverage brands. Finally, participants reported the extent to which drinking their non-favored beer would cause them to feel guilty.

### *Independent Variables*

*Brand commitment.* Participants completed the same brand commitment measure administered in study 1 ( $\alpha = .78$ ).

*Brand similarity.* Participants ranked five beers from the most similar to their favored brand to the most dissimilar to their favored brand. Next, they indicated the extent to which the most similar brand was similar to their favored beer, as well as the extent to which the most dissimilar brand was similar to their favored beer (1: *Extremely Dissimilar*, 7: *Extremely Similar*).

*Brand Flirting.* All participants read the following scenario:

Imagine that you are at a food tasting session, in which a group of beverage and food experts have chosen the best possible beverage – foods combinations. Experts have chosen a (*brand name: favored beer, similar beer, dissimilar beer, or red wine*) to accompany a plate of smoked meats. You taste the food and drink a sip of (*brand name: favored beer, similar beer, dissimilar beer, or red wine*), and notice how nicely the flavor of this (*beer/wine*) complements the smokiness of the meat. You find yourself thinking that (*brand name: favored beer, similar beer, dissimilar beer, or red wine*) is a very good (*beer/wine*)!

The beverage brand name that appeared in the scenario differed across the four conditions. Participants in the *Flirting with Similar Beer* condition saw the name of the beer that they ranked as most similar to their favored beer. Conversely, participants in the *Flirting with Dissimilar Beer* condition saw the name of the beer that they ranked as most dissimilar to their favored beer. Participants in the *Flirting with Wine* saw the name of a wine. Finally, participants in the *Favored Brand* condition saw the name of their favored beer appear in the scenario.

*Guilt.* Participants completed a 4-item measure that assessed the extent to which drinking a beer other than their favored brand would cause them to feel guilty (e.g., “Drinking another beer instead of X makes me feel guilty toward X”). Participants indicated their responses on 7-point scales (1: *Strongly disagree*; 7: *Strongly agree*;  $\alpha = .94$ ).

### *Dependent Variable*

*Brand love.* We assessed brand love with three items (“How much do you like X?” (1: *Not at all*; 7: *Very much*), “Drinking X is truly a joy” (1: *Strongly disagree*; 7: *Strongly agree*), and “I love X” (1: *Strongly disagree*; 7: *Strongly agree*). Participants completed these three items for three different brands: their favored brand, the brand that they self-identified to be most similar to their favored brand, and the brand that they self-identified to be most dissimilar to their favored brand. The three items were averaged to create a composite index of brand love (for all brands,  $\alpha = .87$ ).

### *Results and discussion*

The analyses below include only beer drinkers, defined as participants who liked beer (beer liking > 4) and who drink beer at least once a month (beer usage > 4). For non-beer drinkers, there was neither an effect of condition on the composite index of brand love ( $p > .56$ ) nor an interaction between condition and commitment ( $p > .37$ ). The results also exclude 38 participants who did not have a favored beer, 34 participants who did not write down the names of five other beers, and 38 participants who did not complete the brand similarity measure.

*Brand similarity.* A manipulation check revealed that beers in the *Flirting with Similar Beer* condition were perceived as more similar to each participant's favored beer ( $M = 5.45$ ,  $SD = .91$ ) than were beers in the *Flirting with Dissimilar Beer* condition ( $M = 2.29$ ,  $SD = 1.27$ ;  $t(119) = 15.69$ ,  $p < .001$ ).

*Brand love.* We used a multiple regression procedure to analyze the love participants reported for their favored brand of beer (Aiken and West 1991). A model including only the main effects of condition and brand commitment was significant ( $R^2 = 0.19$ ,  $F(4, 226) = 12.81$ ,  $p < .001$ ). This model revealed a main effect of brand commitment, such that higher brand commitment was associated with more love of the preferred brand, ( $B = 0.30$ ,  $t(226) = 7.14$ ,  $p < .001$ ).

More importantly, adding the interactions between loyalty and flirting condition significantly improved the model ( $F_{change}(3, 223) = 3.04$ ,  $p < .05$ ), and the predicted interaction between condition and brand commitment emerged. Specifically, the relationship between commitment and love was not different between the *Flirting with Dissimilar Beer* condition and the *Favored Brand* condition ( $B = 0.12$ ,  $t(223) = 1.09$ ,  $p > .27$ ), nor was it different between the *Flirting with Dissimilar* condition and the *Flirting with Wine* condition ( $B = 0.13$ ,  $t(223) = 1.15$ ,  $p > .25$ ). However, committed consumers who flirted with a competing brand anticipated consuming more of their favored brand as compared to their counterparts in the *Favored Brand* condition ( $B = 0.31$ ,  $t(223) = 2.63$ ,  $p < .01$ ), the *Flirting with Dissimilar Beer* condition ( $B = 0.19$ ,  $t(223) = 1.70$ ,  $p = .09$ ), and the *Flirting with Wine* condition ( $B = 0.32$ ,  $t(223) = 2.63$ ,  $p < .01$ ). Decomposition of the interaction at one standard deviation above and below the mean of brand commitment revealed that highly committed consumers in the *Flirting with Similar Beer*

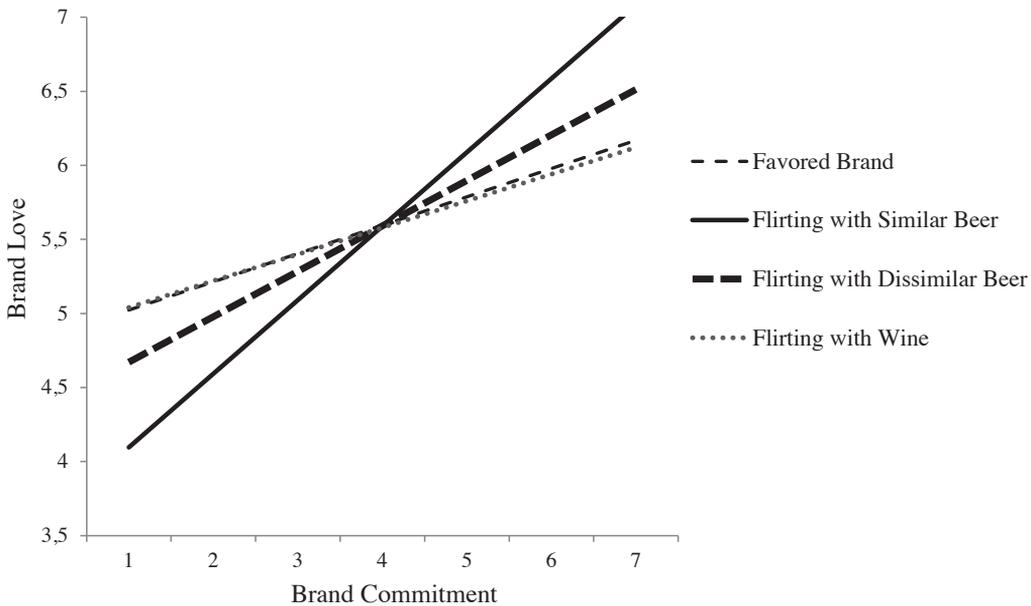
condition felt more love for their preferred beer when they flirted with a similar beer as compared to their counterparts in each of the other three conditions ( $B = 0.45, t(227) = 2.70, p < .01$ ). In contrast, participants in less committed brand relationships expressed equivalent levels of love across conditions ( $B = -0.18, t(227) = -1.22, p > .22$ ; figure 3).

Love for a similar beer was not affected by condition ( $p > .43$ ). There was also no interaction between condition and brand commitment on love for a similar beer, nor on love for a dissimilar beer ( $p > .24$ ). Only a main effects model regressing condition and brand commitment on love for the dissimilar beer was marginally significant ( $F(4, 223) = 2.01, p = .09$ ); however, none of the conditions differed from the control condition ( $p > .15$ ).

*Guilt.* Consistent with our first pilot study, participants reported very low levels of flirting-induced guilt ( $M = 1.81, SD = 1.07$ ), on average. To examine whether feelings of guilt drove the brand flirting effect, we tested whether there was an interaction between condition and guilt on subsequent feelings of brand love. If guilt drove the brand flirting effect, then the effect should be stronger among participants who chronically tend to experience flirting-induced guilt. Applying Aiken and West's (1991) procedure, we added the interaction term to a model including only the main effects of condition and guilt. The analyses revealed that the interaction was not significant and did not improve the main effects model ( $F_{change}(3, 220) = 0.05, p > .98$ ). This null interaction is inconsistent with the possibility that the brand flirting effect is due to guilt-induced reparation motives (Leary 2007). The finding that consumers experience relatively low levels of guilt as a result of flirting is also inconsistent with this possibility.

Together, these results support the hypothesis that the brand flirting effect is moderated by the similarity between a competitor's brand and a favored brand, thus offering additional evidence consistent with our account.

**Figure 3. Study 2: Effect of flirting on brand love**



**Study 3: Flirting-induced arousal mediates the effect of flirting**

Our previous studies demonstrate that (1) trying out a brand other than a favored brand is more exciting than consuming a favored brand (pilot study 2); (2) similar competing brands, but not dissimilar ones, increase the desire to consume a favored brand (study 2); and (3) this effect

occurs only among committed consumers (individuals for whom the favored brand is most salient; studies 1-2). These findings are consistent with a process whereby consumers in committed brand relationships transfer flirting-induced arousal to a salient brand – the favored brand to which they are committed. Study 3 directly tests this hypothesis.

As previously noted, our second pilot study revealed that trying out a brand other than one's favored brand is a more exciting consumption experience than consuming one's favored brand. In study 3, we predicted that we would replicate this finding. We further predicted that this flirting-induced excitement would mediate the effect of flirting on subsequent desire to consume the favored brand. As previously described, we predicted that this effect would be most likely to occur when more (versus less) committed consumers flirted with a brand similar (versus dissimilar) to their favored brand, because these conditions facilitate the transfer of flirting-induced arousal (Agrawal and Maheswaran 2005; Andersen and Berk 1998; Andersen et al. 1995; Jones et al. 2009; Kruglanski and Pierro 2008).

This study also had a second goal. Because it is possible that completing a brand commitment scale at the beginning of a study could trigger consistency effects (Cialdini, Trost and Newsom 1995; Tourangeau 1992), we examined whether the previously observed effects also emerge when brand commitment is not measured at the beginning of the study. Thus, we measured brand commitment after a filler task at the conclusion of the study rather than at the beginning of the study.

### *Participants and procedure*

One hundred and eighty-one United States residents ( $M_{\text{age}} = 35.46$ ,  $SD = 12.53$ ; 48.1% male) from an online national pool completed an experiment in exchange for monetary payment. Participants first reported their favored potato chip brand as well as their favored brand in 19 other consumer product categories. Participants who did not have a favored brand of potato chips and those whose favored potato chip brand was Jim's (the potato chip brand used in the manipulation below) or Tim's (a brand similar to the brand used in the manipulation) were automatically screened out of the survey. All of the other participants next completed a series of filler questions about grocery shopping. Participants were then randomly assigned to one of three conditions: *Flirting with a Similar Brand*, *Flirting with a Dissimilar Brand*, or *Favored Brand*. In all conditions, participants read a vignette in which they imagined consuming a particular brand of potato chips. Finally, participants reported how exciting it would be to consume the described potato chips as well as how many bags of their favored brand of potato chips they planned to consume in the next month.

### *Independent Variables*

*Brand flirting.* Participants in the *Favored Brand* condition were asked to read and vividly imagine themselves in the following scenario:

You are at a party at a friend's house, where several beverages and snacks are being offered to guests. Your friend comes to chat with you, holding a bowl of

potato chips. You are quite hungry so you grab a handful of these chips and eat them. The chips are extra crispy, and you really like their taste and texture. “They are really good!” you think to yourself. “What brand are these chips?” you ask your friend, to which she answers, “They are *avored potato chip brand name*” “They’re so good!” you say. You really mean it - the chips taste great.

In contrast, participants in the *Flirting with a Similar Brand* condition and the *Flirting with a Dissimilar Brand* condition were asked to read and vividly imagine themselves in the following scenario:

You are at a party at a friend's house, where several beverages and snacks are being offered to guests. Your friend comes to chat with you, holding a bowl of potato chips. You are quite hungry so you grab a handful of these chips and eat them. The chips are extra crispy, and you really like their taste and texture. “They are really good!” you think to yourself. “What brand are these chips?” you ask your friend, to which she answers, “They are Jim’s, they are very similar to [dissimilar from] *avored potato chip brand name*!” “They’re so good!” you say. You really mean it - the chips taste great.

*Brand commitment.* After completing a filler task at the end of the study, participants completed the same brand commitment items described in study 1 ( $\alpha = .87$ ).

## *Dependent Variables*

*Arousal.* Immediately after participants read the scenario, they indicated their level of arousal by reporting the extent to which they thought that eating the potato chips would be exciting (1: *Not At All*; 7: *Extremely*).

*Anticipated consumption.* Participants estimated the number of bags of their favored brand of potato chips that they would consume in the next month.

## *Results and discussion*

*Anticipated consumption.* We first submitted the anticipated consumption data to a multiple regression analysis (Aiken and West 1991). The model including only the main effects of condition and brand commitment was significant ( $R^2 = 0.10$ ,  $F(3, 176) = 6.19$ ,  $p < .01$ ), and adding the interactions between brand commitment and flirting condition significantly improved the model ( $F_{change}(2, 174) = 3.73$ ,  $p < .05$ ).

Specifically, the relationship between commitment and anticipated consumption of the favored brand was stronger when consumers flirted with a similar brand as compared to both the *Flirting with a Dissimilar Brand* ( $B = 0.737$ ,  $t(174) = 1.89$ ,  $p = .06$ ) and *Flirting with a Favored Brand* condition ( $B = 1.09$ ,  $t(174) = 2.68$ ,  $p < .01$ ). However, the slope in the *Flirting with a Dissimilar Brand* condition did not differ from the slope in the *Flirting with a Favored Brand* condition ( $B = 0.351$ ,  $t(174) = .91$ ,  $p > .36$ ).

Decomposition of the interaction at one standard deviation above and below the mean of brand commitment revealed that highly committed participants in the *Flirting with a Similar Brand* condition anticipated consuming more of their favored potato chips than did their counterparts in the other two conditions ( $B = 1.44, t(176) = 2.49, p < .05$ ). Moreover, there were no significant differences between conditions among participants with low brand commitment ( $B = -0.69, t(176) = 1.24, p > .21$ ).

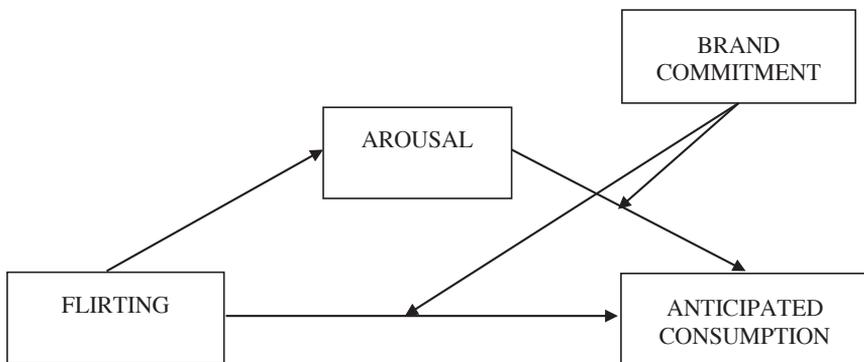
*Arousal.* We submitted the arousal data to the same analysis. There was a main effect of condition on arousal ( $F(2,177) = 3.34, p < .05$ ). Planned comparisons revealed that participants in both the *Flirting with a Similar Brand* condition ( $M = 5.4, SD = 1.20$ ) and *Flirting with a Dissimilar Brand* condition ( $M = 5.2, SD = 1.45$ ) experienced more arousal than did participants in the *Favored Brand* condition ( $M = 4.79, SD = 1.30; t(177) = 2.51, p < .05$ ). There was no interaction between brand commitment and flirting condition on arousal ( $p > .42$ ).

*Mediation analysis.* We followed the procedures outlined by Hayes (2012) to examine whether arousal mediated the interaction between condition and brand commitment (controlling for the main effects) on anticipated consumption. The analysis revealed a significant 95% bootstrap confidence interval for both highly committed consumers (.04, 1.60) and for less committed consumers (-1.04, -.002; table 2). These results suggest that highly committed participants in the *Flirting with a Similar Brand* condition experienced greater arousal than their counterparts in the *Favored Brand* condition and that this flirting-induced arousal led to greater anticipated consumption of the consumers' preferred potato chip brand. Less committed participants in the *Flirting with a Similar Brand* condition also experienced greater arousal than

their counterparts in the *Favored Brand* condition, but this greater arousal led to lower anticipated consumption of the preferred potato chip brand.

Together, these results are consistent with our hypothesis that a transfer of flirting-induced arousal mediates the previously observed brand flirting effect, such that individuals in committed brand relationships transfer the arousal generated from flirting with a similar brand to their favored brand. Of note, the absence of an interaction between condition and brand commitment on arousal suggests that flirting with a novel brand can trigger arousal for individuals in both high- and low-commitment brand relationships. Importantly, however, individuals only transfer this arousal to a favored brand when they are in a committed brand relationship and when the novel brand is similar to a favored brand.

**Figure 4. Transfer of flirting-induced arousal: flirting with brands generates arousal, which in turn leads to higher anticipated consumption of a favored brand among highly committed consumers.**



**Table 2. Study 5: Multiple regressions predicting arousal (Model 1) and anticipated consumption (Model 2 and 3).**

	Model 1	Model 2	Model 3
Dependent variable	Arousal	Anticipated Consumption	Anticipated consumption
Constant	4.79*** (.17)	2.29*** (.323)	2.32*** (.33)
Contrast1: Similar vs. Favored Brand	.63** (.24)	.43 (.46)	.33 (.47)
Contrast2: Dissimilar vs. Favored Brand	.46 (.26)	.18 (.45)	.17 (.46)
Brand Commitment	.21 (.15)	.23 (.28)	.31 (.29)
Arousal			.06 (.15)
Contrast1 x Brand Commitment	.18 (.21)	1.09** (.41)	.89* (.41)
Contrast2 x Brand Commitment	-.08 (.20)	.35 (.39)	.20 (.39)
Arousal x Brand Commitment			.28* (.12)
R <sup>2</sup>	.08	.13	.16

Dummy-Variable regressions, Favored Brand is the base level

<sup>a</sup>  $p = .05$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

#### **Study 4: A Direct Test of a Goal Activation Account**

An alternative explanation for the brand flirting effect is that exposure to a competitor's brand represents a temptation that causes committed consumers to behave in accordance with the goal of being loyal to their favored brand (Fishbach et al. 2013). Research reveals that mere exposure to temptations automatically activates the corresponding higher-order goal (Fishbach et al. 2003). Therefore, if the brand flirting effect occurs because a competing brand is a temptation that automatically activates the goal of loyalty to a favored brand, then mere exposure to a competing brand should increase anticipated consumption of the favored brand, consistent with prior evidence in the self-regulation literature. Thus, study 4 examined whether mere exposure to a competing brand is sufficient to increase anticipated consumption of a favored brand (as suggested by a goal activation account) or whether only actively flirting with a competing brand increases anticipated consumption of a favored brand (as suggested by our account).

#### *Participants and procedure*

One-hundred thirty-nine participants ( $M_{age} = 28.86$ ,  $SD = 8.50$ ; 66.2% male) who described themselves as Coke drinkers took part in a 2 (*Brand*: Favored vs. Competitor)  $\times$  2 (*Activity*: Rating vs. Mere Exposure) between-participants experiment. Participants in all conditions answered a series of questions about their commitment to Coke and Pepsi and then saw the logo of either their favored brand (i.e., Coke; *Favored* condition) or of a competing brand (i.e., Pepsi; *Competitor* condition). Next, participants either rated four pleasant characteristics of the presented brand (*Rating* condition) or simply looked at the brand logo for a

similar amount of time (*Mere Exposure* condition). Following this manipulation, participants indicated how many bottles of Coke (their preferred brand) they planned to drink the following week. Participants also rated the extent to which they perceived Pepsi (the competing cola brand) to be tempting and desirable, as well as the extent to which Pepsi threatened their intention to buy Coke.

### *Independent Variables*

*Commitment.* Participants completed the same commitment items described in study 1 ( $\alpha = .76$ ).

*Brand logo.* Participants in all conditions saw a brand logo. Participants in the *Favored* condition saw the logo of their favored brand (Coke), and participants in the *Competitor* condition saw the logo of a competing brand (Pepsi).

*Activity.* As in study 1, participants in the *Rating* condition were instructed to rate four favorable characteristics of the presented brand (either *Favored* or *Competitor*). Conversely, participants in the *Mere Exposure* condition were instructed to look at one of the two brand logos. Hence, only participants in the *Competitor-Rating* condition flirted with (i.e., considered the positive attributes of) a competing brand. Participants spent the same amount of time completing the described task in both conditions ( $F(3,131) = 0.39, p > .75$ ). Due to a technical error, time data was not available for four participants.

## *Dependent Variables*

*Anticipated consumption.* In an open-ended response box, participants entered the number of bottles of Coke that they expected to consume in the following week.

*Brand desirability.* Next, participants rated the strength of their desire for Pepsi (“How much do you desire a Pepsi?” 1: *No desire at all*; 7: *Irresistible desire*).

*Temptation.* Participants also rated the extent to which Pepsi was tempting (“How tempting is Pepsi?” 1: *Not at all*; 7: *Extremely*).

*Relationship threat.* Finally, participants rated the extent to which Pepsi threatened their intention to buy Coke (“Please rate the extent to which Pepsi threatens your intentions to purchase Coca-Cola” 1: *Not at all*; 7: *Extremely*).

## *Results and discussion*

*Anticipated consumption.* The following analyses exclude one participant who indicated that she would drink 72 bottles of Coke the following week ( $SDR = 21.59$ ).

We submitted the anticipated consumption data to a multiple regression procedure in which we entered brand logo (*Favored vs. Competitor*), activity (*Rating vs. Mere Exposure*), commitment, and all two-way interactions as predictors in a first step and the three-way interaction in a second step (Aiken and West 1991). This analysis revealed that there was no

main effect of brand logo ( $p > .69$ ), which suggests that exposure to a competing brand is not sufficient to increase anticipated consumption. Thus, these results are inconsistent with the possibility that exposure to competing brands automatically triggers a goal to consume more of one's favored brand. There was also a positive effect of brand commitment on anticipated consumption of the favored brand ( $B = 0.73$ ,  $t(126) = 2.14$ ,  $p < .05$ ). Most important, the predicted three-way interaction between brand logo, flirting, and brand commitment emerged ( $F_{change}(1,126) = 4.18$ ,  $B = 1.61$ ,  $t(126) = 2.05$ ,  $p < .05$ ).

In order to decompose this interaction, we created dummies for each experimental condition (with the *Favored-Rating* condition as the baseline) and regressed brand commitment and the condition dummies on anticipated consumption of the favored cola. Consistent with our previous analysis, the model including only the main effects of the condition dummies and anticipated consumption was significant ( $F(4,129) = 8.85$ ,  $p < .001$ ), and revealed only a main effect of brand commitment ( $B = 1.08$ ,  $t(129) = 5.40$ ,  $p < .001$ ). Adding the interaction between the condition dummies and commitment significantly improved the model ( $F_{change}(3,126) = 3.95$ ,  $p = .01$ ). This analysis revealed a significant interaction between brand commitment and the *Competitor-Rating* condition dummy, indicating that committed consumers who flirted with a competing brand anticipated consuming more of their favored brand as compared to their counterparts in the *Favored-Rating* condition ( $B = 1.26$ ,  $t(126) = 2.29$ ,  $p < .05$ ). The relationship between brand commitment and anticipated consumption in the *Mere Exposure* conditions did not differ from the baseline ( $p > .36$ ). Further analysis revealed that highly committed consumers (+1SD) in the *Competitor-Rating* condition anticipated consuming more of their favored cola than their counterparts in all of the other conditions ( $B = 3.06$ ,  $t(130) = 3.67$ ,  $p < .001$ ). However, condition did not impact less committed consumers' (-1SD) intention to consume their favored

brand of cola ( $B = -1.21, t(130) = -1.32, p > .18$ ). Next, we compared each condition with the *Favored-Mere Exposure* condition. Importantly, this analysis revealed that there were no differences between the slopes in the *Favored-Mere Exposure* condition and the *Competitor-Mere Exposure* condition ( $p > .48$ ).

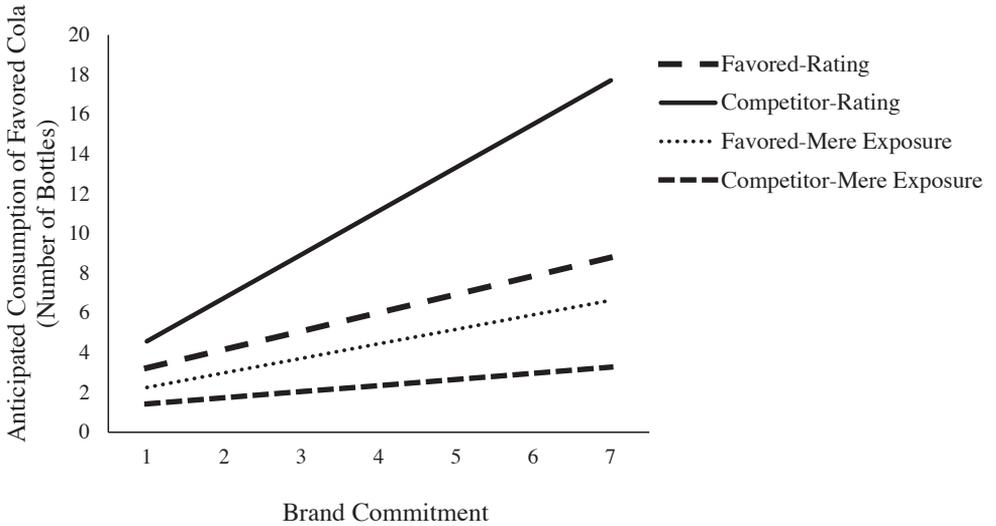
In sum, these analyses reveal that highly committed consumers who flirted with a competing brand anticipated consuming more of their favored cola than did highly committed consumers who did not flirt (and who instead rated favorable characteristics of their favored brand, viewed the logo of their favored brand, or viewed the logo of their non-favored brand). Moreover, individuals who viewed the logo of their favored brand anticipated consuming the same amount of their favored brand as did individuals who viewed the logo of their non-favored brand. Therefore, mere exposure to a competing brand did not elicit the brand flirting effect (figure 5).

*Brand desirability.* We submitted the brand desirability data to an ANCOVA with condition (*Favored-Rating*, *Competitor-Rating*, *Favored-Mere Exposure*, *Competitor-Mere Exposure*), commitment, and their interaction as predictors. This model revealed that condition did not influence the desirability of the competitor's brand ( $F(3,126) = 0.39, p > .76$ ). There was also no effect of brand commitment and no interaction between brand commitment and condition ( $p > .48$ ).

*Temptation.* We submitted the temptation data to an ANCOVA with condition, brand commitment, and their interaction as predictors. This model revealed that condition did not impact the extent to which participants were tempted by the competitor's brand ( $F(3,133) = 0.58$ ,

$p > .63$ ). The model revealed neither a significant effect of brand commitment nor an interaction between condition and brand commitment ( $p > .27$ ).

**Figure 5. Study 4: Flirting effect versus mere exposure**



*Relationship threat.* We ran an ANCOVA with relationship threat as the dependent variable, and condition, commitment, and their interaction as predictors. There were no significant effects ( $p > .15$ ).

In sum, this study indicates that flirting with a competing brand increases anticipated consumption of a favored brand but that incidental exposure to a competing brand does not produce this same effect. Thus, these results are inconsistent with the possibility that a goal-activation process underlies the flirting effect. These findings further reveal that flirting neither

makes a competing brand more tempting nor threatens a consumer's relationship with a favored brand. Therefore, the flirting effect does not seem to be due to increased motivation to protect the relationship with a favored brand.

## **General discussion**

In the current research, we introduced the metaphor of “flirting” in a brand relationship context to describe the pleasant and uncommitted interactions that consumers can have with other brands in the same product category as their favored brand. By focusing on this brand relationship dynamic, the current research answers the call for an expansion of the brand relationship literature from a focus on single brand relationships to multiple brand relationships (Swaminathan and Dommer 2012). This research is particularly important because disloyalties are likely in a highly competitive brand landscape (Fournier and Yao 1997; Swaminathan and Dommer 2012). Moreover, the development of technology and the diffusion of the Internet have allowed consumers to be even more exposed to alternative brands, as consumers can even more vividly imagine themselves using other brands, by means of innovations such as virtual product experiences, in which consumers can view products from various angles and explore different features.

We have shown that brand flirting can take a variety of forms, from evaluating certain brand characteristics positively to using a product and having a pleasant short-lived experience with it (e.g., sampling a competitor's potato chips). To reflect the wide variety of flirting interactions that can occur in real life, we manipulated brand flirting in different ways: appreciating a competitor's product (studies 1 and 4) and imagining consuming a competitive

brand (studies 2 and 3). We found that brand flirting can lead consumers to become *more* committed to their favored brands: to have greater desire to consume the favored brand and love the favored brand more. The effect of flirting emerges only among consumers who are highly committed to their favored brand – such that the favored brand is salient – and only when the competitive brand is similar to (vs. dissimilar from) a consumer’s favored brand. We also show that flirting-induced arousal mediates the brand flirting effect. These findings are consistent with the proposed process in which committed consumers transfer the arousal elicited by flirting with a similar brand to the brand to which they are committed.

The current research provides important insights into the effect of flirting with attractive alternatives on commitment to relationships. To date, research has shown that the availability of attractive alternatives is potentially harmful for relationships. In general, the availability of attractive alternatives is thought to reduce commitment and thereby increase the likelihood of relationship dissolution (Drigotas and Rusbult 1992; Lydon et al. 2003; Lydon et al. 2008; Rusbult and Buunk 1993). Consistent with this negative view of infidelity, past research has mostly focused on the cognitive processes and behavioral strategies that committed individuals employ to avoid the allure of attractive alternatives (Johnson and Rusbult 1989; Lydon, Fitzsimons, and Naidoo 2003; Maner, Gailliot, and Miller 2008; Maner, Rouby, and Gonzaga 2008). In contrast, the current research demonstrates that in the brand relationships context, when individuals do *not* avoid alternatives, committed brand relationships can even be strengthened.

### *Alternative Explanations, Related Phenomena, and Future Directions*

An alternative mechanism for the brand flirting effect could be that competing brands activate the goal of being brand loyal and that people consequently desire to consume their favored brand more. However, it is unlikely that this alternative explanation accounts for the current results. Indeed, while incidental exposure to a temptation can activate an overarching higher-order goal, succumbing to the temptation – that is, flirting with the temptation – might inhibit (rather than activate) the corresponding goal (Fishbach et al. 2003), akin to the “what the hell” effect studied in the domain of dieting behavior (Cochran and Tesser 1996). Moreover, our evidence is inconsistent with this account. Specifically, if competing brands are temptations that activate a brand-loyalty goal and trigger goal-consistent behavior, then mere exposure to a competing brand should increase commitment regardless of whether or not consumers indulge (i.e., whether or not they flirt; Fishbach et al. 2003). In study 4, we directly tested this alternative explanation. The results revealed that mere exposure to other brands did not increase commitment to a favored brand; rather, only flirting increased brand commitment. These results suggest that, unlike temptation primes, competing brands do not automatically activate the goal of being brand loyal.

We would also like to point out that brand flirting shares some similarities with brand flings, however it is theoretically a different construct. Brand flings are transient relationships between consumers and brands, and are characterized by a very strong emotional involvement with a brand, which becomes a focal point in the life of the consumer for a short period of time (Alvarez and Fournier 2012). Brand flirting is similar to brand flings because it allows consumers to experiment with something different. However, brand flirting does not involve

such strong ties and obsession with a competitor's brand, but occurs most often when there is no commitment to this brand. More importantly, brand flirting occurs when consumers who have a core brand in a given product category have pleasant interactions with other brands. Brand flings, on the other hand, do not necessarily occur out of the boundaries of a relationship with a favored brand.

It is important to note that in the current work, we investigated the effect of only one instance of flirting. It is possible that numerous instances of flirting could damage commitment to an originally favored brand. Future research could investigate this possibility. Moreover, we have focused only on the short-term consequences of flirting. Further research should examine whether repeated instances of flirting and a delay between flirting and consumption moderate the brand-flirting effect.

A sensible question is what happens when people who do not have a favored brand in a given category engage in behaviors similar to flirting (i.e., they have short-lived, uncommitted, pleasant interactions with a brand in a given category). We can reasonably conclude that the brand-flirting effect does not apply to these consumers, just as much as the brand-flirting effect occurs only among people who are highly committed to their favored brand. We also note that in this research we have focused on the effects of flirting on committed relationships, however it is reasonable to expect that the effect can also benefit any types of brand relationships in which a brand is salient, and its consumption does not elicit as much arousal as flirting does. Committed brand relationships are especially interesting because they are often conceived as exclusive and similar to marriages, whilst in fact consumers stray from their preferences.

### *Managerial Implications*

In addition to their theoretical contribution, these findings also have significant practical import. Every year, marketers spend enormous budgets in attempts to lure away customers from competitors and more and more dollars are spent on online advertising, online brand building, and mobile marketing. Thus, consumers are increasingly exposed to attractive alternatives and companies fight for consumers' attention in this crowded environment. While some research suggests that committed consumers pay less attention to – or discount the attractiveness of – alternatives and their attributes in order to maintain consistent preferences (Bloemer and Kasper 1995; Raju, Unnava, and Montgomery 2009), our results suggest that even when attempts to gain the attention and interest of consumers are successful, this apparent success may backfire by increasing consumers' involvement with the brands to which they are committed. If a company is targeting committed consumers, this boomerang effect can be avoided by marketing brands that are clearly different from their competitors. Similarly, our research suggests that creating products that imitate brands to which consumers are committed may be a risky strategy, as consumer interactions with such products may boost individuals' involvement with the brands to which they are committed.

## Appendix

### *General notes*

Missing cases were excluded pairwise in all studies.

### *Brand commitment, Coke example.*

- 1) If Coke is not available at the store, it makes little difference for me if I must choose another brand.
- 2) If I want a cola, I buy Coke.
- 3) I consider myself loyal to Coke.
- 4) When another brand is on sale, I generally purchase it rather than buying Coke.
- 5) I definitely have a “wanting” for Coke.

### *Pilot Study 1*

*Recruitment Notes.* Respondents were recruited on Amazon Mechanical Turk, a website which has been extensively validated as a participant pool (e.g., Paolacci, Chandler, and Ipeirotis, P. G. 2010). Only residents in the US with approved/submitted HIT ratio greater than or equal to 90% were admitted to participate. Due to an error, demographic data are not available for this sample. Two hundred ten respondents completed this survey.

*Brand Experience Description and Related Questions.* This method is adapted from Miller, Fournier, and Allen (2012). All participants answered the following question:

Have you ever (by choice or by chance) tried out, experimented with, showed a superficial interest in, or thought positively about a brand, without committing to it seriously? In other words, have you ever had a pleasant, short-lived encounter or interaction with a brand, or thought positively about a brand, but did not feel committed to this brand? (*Yes/No*)

Participants who answered yes, answered the following questions:

- Was it a pleasurable experience? (*Yes/No*)
- List up to five brands that you (by choice or by chance) tried out, experimented with, showed a superficial interest in, or thought positively about, without committing to them seriously. These should be brands with which you had a pleasant, short-lived encounter or interaction, or brands that you thought positively about, without feeling committed to them. (*Open ended*)
- Among the brands you have listed above, which one would be the most representative? Please write it down in the box below. (*Open ended*)

All participants who answered the questions above, answered the following questions about the brand they chose as the most representative of the brand description. In the following questions, “X” indicates the brand name that participants chose as most representative.

- What made you try out this brand or think about it positively? What were the external circumstances (or what was your personal motivation) to do it? (*Open ended*)

- Please describe your interaction with this brand in as much detail as possible.

*(Open ended)*

- Please answer the following questions about your interaction with this brand.
  - My interaction with X was pleasant
  - My interaction with X made me feel guilty.

*(1: Not at all, 7: Extremely)*

- You indicated X as a brand that you tried out, experimented with, showed a superficial interest in, or thought positively about, without committing to it seriously. Do you have a favored brand in the same product category? *(Yes – please specify/No)*

*Data Analysis Notes.* The open ended questions revealed that seven respondents filled in random strings. We excluded these respondents because we could not verify that their behavior fit our definition of flirting. The analysis was conducted on the data from the remaining 203 respondents.

#### *Data Breakdown by Question*

- Have you ever (by choice or by chance) tried out, experimented with, showed a superficial interest in, or though positively about a brand, without committing to it seriously? In other words, have you ever had a pleasant, short-lived encounter or interaction with a brand, or thought positively about a brand, but did not feel committed to this brand? *(Yes/No)*

167 respondents answered Yes to this question, and chose a brand that was most representative of the description and described their interaction with this brand. Among these participants, 14 indicated that their interaction with the brand was not pleasurable. Moreover, nine participants' open ended answers did not reflect our definition of flirting (e.g., they described a monopoly, an unpleasant interaction with a brand that they did not like, or a brand to which they were committed). The other descriptions fit our scenario based on the following criteria: 1) the consumer evaluated positive information about a brand or enjoyed using a brand; 2) the interaction with the brand was short-lived; and 3) the consumer had no commitment to this brand. In total, 144 respondents fit these criteria (71% of sample). Among them, 68 had a different favored brand in the same product category (i.e., they engaged in brand flirting; 47%).

*Examples that fit our definition of flirting*

“I've always been a Windows guy, so I've never really used an Apple computer. I was, however, given the opportunity to mess around with an iPad by a friend of mine. [...] I really enjoyed how easy it was to use, even for a beginner like me. Find new apps was simple and fun, and the selection of apps to choose from is enormous. I also really love the aesthetic design of the interface, it's very polished and easy to follow.”

“The advertisements for it appealed to me and it was on sale so I tried it. I used it while it lasted. The smell was pleasant and it lasted just as the commercials claimed. Once it was gone I went back to the more natural detergents that I typically try.”

*Examples that did not fit our definition of flirting*

“It's basically the only Internet connection and phone in my area. [...] A couple of years ago At&t were caught not giving the correct speed to customers who used them. There was a

lawsuit and I was paid money. But I'm pretty sure they are still doing the same thing right now because my connection is slow and I'm always being disconnected.”

“Cost was the reason that I tried out this brand. My motivation was to have a cheap but good computer. I bought this computer and have used it every day since then.”

“I didn't like it, it was bulky, poorly designed comfort wise, and didn't track steps very well. I sold it on craigslist.”

#### *Additional Data Analysis: Motivation Coding*

- What made you try out this brand or think about it positively? What were the external circumstances (or what was your personal motivation) to do it? (*Open ended*)

We conducted a content analysis of open ended answers to identify emerging motivations underlying brand flirting. Specifically, we looked for patterns of occurrence and re-occurrence of topics (Bogdan and Taylor 1975; Guba 1978). The final coding scheme is as follows:

- Attractiveness (mentioned by 36%): Flirting was motivated by positive, attractive features of the brand (e.g., high quality.)

“I got mesmerized with APPLE iPhone 6 plus features, even though I don't have one.”

“I find the brand to be attractive in terms of design and engineering.”

“A video advertising their brand was impressive and beautiful. Still images of the bikes looked great. I subscribed to the YouTube channel and looked for independent reviews and comments about Trn. Apart from one product safety recall, everything was positive and appealing.”

“I see Volvo cars on the road and think they look good.”

- Social influence (mentioned by 28%): Flirting was motivated by word-of-mouth or social norms (e.g.: band-wagon effect; Leibenstein 1950)

“Had friends who loved it”

“My friends had great reviews on their whitening toothpaste and had excellent results. I thought I give it a try.”

“A lot of people told me what a great brand it is and that I should try it out.”

“Everyone else was buying Samsung TV”

- Competitor’s actions (mentioned by 21%): Flirting was motivated by sales, promotions, on-time availability, or advertising.

“It was on sale. I thought it tasted very good.”

“I love chocolate and the Godiva store was offering free samples so I took a couple. I have never bought the brand - I just tried the samples and really liked them.”

“I saw very glossy, well made magazine advertisements.”

- Chance (mentioned by 19%): The consumer came across the brand by mere chance (e.g., the brand was offered at a party, the brand was temporarily accessible because a friend was using it, etc.)

“I was strolling around the mall and entered the Apple store by chance.”

“It was served at a party.”

“My sister let me use hers for a few moments. I thought it was pretty nifty.”

“It was a gift from a friend.”

- Browsing (mentioned by 15%): The consumer was on the market for a new purchase or was window shopping.

“Well I was looking for a new guitar and they had one that fit my price range and had great reviews on all the guitar websites. [...] I went to guitar center in order to try out the guitar.”

“While car shopping, I decided to experiment with several Audi car models even though I knew that I would not purchase one.”

“Went to the Burberry store at the mall and tried out a few of their classic jackets. Wasn't planning to buy any.”

- Variety seeking (mentioned by 5%): Flirting was motivated by boredom with the current brand or a desire of a new and novel stimulus (McAlister 1982; McAlister and Pessemier 1982).

“I wanted to try out many different running shoes. I gave some Nike running shoes a try and evaluated them.”

“I wanted to freshen up my wardrobe.”

“I tried it out of curiosity and enjoyed the experience.”

- Fling (mentioned by 3%): The experience with the brand was deeply involving for a short period of time (Alvarez and Fournier 2012).

“I bought a pretty huge lot of cloth diapers and felt very committed to the brand although I had never used it before. By the third month after my son was born though, my love affair had ended.”

“I bought the phone and instantly loved it. I used it all the time and showed it off when I could. I was very proud of it. The "honeymoon phase" wore off pretty quickly though and it was just a phone after that. Newer and better technology was coming out and people moved on to thinking that was cool and nothing else was. I still really liked my phone but I didn't have those initial feelings anymore.”

- Impulse buying (mentioned by 2%): Flirting was motivated by a sudden impulse (Rook 1987).

“Saw the brand in a military supply store and thought, "cool," and bought the product.”

“I purchased Tokyopop books without specifically intending to purchase from them--  
It was more happenstance.”

- Other (e.g., nostalgia; need for uniqueness; mentioned by 8%)

“Fujifilm: Nostalgia and a change of pace. Could not have been any more positive  
but simply couldn't afford to continue.”

“Zune was a new mp3 player on the market with iPod dominating sales. I wanted a  
Zune because I liked being different and Microsoft has always been pretty decent.”

Notably, variety seeking and impulse buying were mentioned only by less than 5% of consumers who flirted. Brand flirting was seldom initiated to reduce boredom or increase sensorial stimulation. Moreover, only 3% of consumers' descriptions fit the definition of a fling—which was expected, given that flings are brand relationships that are characterized by a deep emotional involvement and commitment to a brand for a short period of time (Alvarez and Fournier 2012), whereas flirting occurs more frequently at a shallower emotional level and is characterized by an absence of commitment. The most common motivations for flirting are the attractiveness of the brand (36%), social influence (28%), competitor's actions (21%), chance (19%), and browsing (15%).

### *Pilot study 2*

*Recruitment Notes.* Participants were recruited on Amazon Mechanical Turk. Only residents in the US with approved/submitted HIT ratio greater than or equal to 95% and with a number of HITs approved greater than or equal to 500 were admitted to participate.

## Study 1

*Recruitment Notes.* The study was part of a larger research session. Participants completed the study on individual computers.

### *Brand Flirting Manipulation*

- *Pepsi [Coke] cans are designed to keep your drink cool as long as possible.* How much do you like this feature?
- *The Pepsi [Coke] formula allows your drink to stay fizzy longer than any other cola drink.* How much do you like this feature?
- *Compared to other cola brands, Pepsi [Coke] contains lower levels of sugar.* How much do you like this feature?
- *The Pepsi [Coke] formula is thirst-quenching. Your thirst is satisfied sooner.* How much do you like this feature?

(1: *Extremely dislike*; 7: *Extremely like*)

*Selection Criteria.* In order to reduce noise in our data, we focused only on self-defined Coke drinkers and to exclude self-defined Pepsi drinkers in study 1 and 4. At a closer inspection, Pepsi drinkers were less loyal to their brand overall (e.g., study 4:  $M = 3.76$ ,  $SD = 1.61$ ), as compared to Coke drinkers ( $M = 4.27$ ,  $SD = 1.40$ ;  $t(193) = 2.21$ ,  $p < .05$ ). We suspected that self-defined Pepsi drinkers included not only participants whose favored brand was Pepsi, but also participants who did not have a favored brand between the two options. We conducted a study to test this hypothesis and validate our choice to select only Coke drinkers. 100 U.S. residents from

an online national pool (Mturk) participated in this study in exchange for \$0.10 (approved/submitted HIT ratio greater than or equal to 95%, number of HITs approved > 50). We randomly assigned participants to one of two brand choice conditions. In the *Forced choice* condition (the same used in study 1 and 4; N = 50) participants were asked to indicate whether they would define themselves as a Coke drinker or a Pepsi drinker, no other option was provided. In the *Opt out* condition (N = 50) participants had the option to choose “none of the above”. As expected, a percentage of people in this condition (12%) chose the “none of the above” option, but whilst the percentage of Coke drinkers did not decrease compared to the other condition (58%), the percentage of Pepsi drinkers dropped from 42% to 30%. This suggests that, as suspected, a good portion of participants who defined themselves as Pepsi drinkers did not have a clear brand preference for this brand, whilst participants who defined themselves as Coke drinkers did. In other words, many participants who did not have a preference for either brand opted to select Pepsi, making the assignment to a flirting or control condition meaningless for them. Including self-defined Pepsi drinkers in study 1 does not change significance and patterns of results, however including Pepsi drinkers makes the results of study 4 not significant. In all our studies (1 to 4) we excluded participants who did not have a favored brand in the relevant product category.

## Study 2

*Recruitment Notes.* The study was part of a larger research session. Participants completed the study on individual computers. Participants were required to notify the experimenters if they did not drink beer at all. Participants who did not drink beer at all did not take part in this experiment.

*Brand Similarity.* Participants listed their favored beer and other five beers other than their favored. Next, they were asked the following question: “Please rank order these beers from the most similar to X to the most dissimilar to X,” where “X” was their favored beer brand name.

Our program selected the most similar and the most dissimilar beer, and participants answered the following question for each of these beers: “To what extent are these beers similar or dissimilar to X?” (1: *Extremely dissimilar*, 7: *Extremely similar*)

*Selection criteria.* Participants answered two questions that assessed the extent to which they liked beer (“How much do you like beer?” 1: *Extremely dislike*, 7: *Extremely like*) and the frequency with which they consumed it (“How often do you drink beer?” 1: *Never*, 7: *Daily*). Our analyses include only beer drinkers, defined as participants who liked beer (beer liking > 4) and who drink beer at least once a month (beer usage > 4).

Our dataset also excludes 38 participants who did not have a favored beer, 34 participants who did not write down the names of five other beers, and 38 participants who did not complete the brand similarity measure. These participants are not included in our dataset because our manipulation of flirting was based on participants’ answers to these questions.

### *Study 3*

*Recruitment Notes.* Respondents were recruited on Amazon Mechanical Turk, a website which has been extensively validated as a participant pool (e.g., Paolacci, Chandler, and Ipeirotis, P. G. 2010). Only residents in the US with approved/submitted HIT ratio greater than or equal to 95% and a number of HITs approved greater than or equal to 100 were admitted to participate.

*Selection criteria.* The dataset did not include data from 19 participants who did not have a favored brand of potato chips, and two participants whose favored brand was Jim's or Tim's (a brand similar to Jim's, the brand name used in our manipulation).

*Data analysis notes.* Factor and reliability analyses were performed on Brand Commitment (see Table A3), and average scores were computed for this factor.

### *Study 4*

*Recruitment notes.* The study was part of a larger research session. Participants completed the study on individual computers.

*Selection Criteria.* In order to reduce noise in our data, we focused only on self-defined Coke drinkers and to excluded self-defined Pepsi drinkers in study 1 and 4. See study 1.

*Brand logo manipulation.* All participants saw a brand logo. Participants in the *Favored* condition saw the logo of their favored brand (Coke), and participants in the *Competitor* condition saw the logo of a competing brand (Pepsi).

*Favored*



*Competitor*



## **Chapter 4**

### **The More Crowded the More I Share:**

#### **The Positive Effect of Crowdedness on Word-of-Mouth**

Word-of-mouth (hereafter WOM), defined as “informal communications directed at other consumers about the ownership, usage or characteristics of particular goods and services, and their sellers” (Westbrook 1987, p. 261), has widely emerged as the main factor affecting consumers’ buying behavior in many categories, driving up to 50% of purchasing decisions (McKinsey 2010). One important characteristic of WOM in today’s interconnected world is that consumers increasingly share information about the products and services they use in real time, by posting information on social media using their mobile devices (You, Vadakkepatt, and Joshi 2015). In fact, the ever-increasing mobile connectivity has made it easy for consumers to share their product and service experiences with others through instant message platforms, social networking sites or review websites. To illustrate, it is very common to see consumers chatting or sending texts or emails while being in stores or reading newspapers in coffee shops.

In addition to WOM that occurs spontaneously, marketers themselves provide consumers with opportunities to comment via social media during product acquisition or consumption occasions. For example, events such as conferences and conventions try to increase audience participation and buzz by encouraging participants to talk about their experiences on social media, such as Twitter and Facebook, while the event takes place. The development of communication technology also allows companies to target consumers in specific locations and contingencies, in order to spur WOM. For instance, companies can use indoor proximity systems

that trigger actions on mobile devices, such as check-in on social media when entering a specific store or venue to signal consumers' location to others.

In all these examples, consumers share information with others while being in places characterized by the presence of few or many other people (e.g., stores, coffee shops, events and conferences). Thus, one question that appears relevant to understand what drives consumers to share WOM on a real-time basis is whether and how the presence of others might play a role in affecting this behavior. This is the issue we explore in this research. In particular, we investigate if varying levels of crowdedness characterizing the environments in which consumers are situated influence consumers' propensity to share information.

Despite the relevance of understanding the effect of crowdedness on information sharing behavior, previous research has neglected to investigate this question. In general, surprisingly little research examined how environmental factors affect consumers' likelihood to share WOM. One notable exception is represented by the work of Berger and Schwartz (2011), who have shown that products or services that are more frequently cued by the environment (e.g., products that are publicly visible) are those products that get talked about over a longer time horizon when compared to products that are less frequently cued.

Drawing on research on crowdedness (Altman 1975; Baum and Gatchel 1981; Baum and Valins 1977; Cohen and Sherrod 1978; Hui and Bateson 1991; Rodin 1976; Solomon, and Metcalf 1978), psychological drives of WOM behavior (Berger 2014; Henning-Thurau et al. 2004; Sundaram, Mitra, and Webster 1998) and compensatory control (Cutright 2012; Cutright, Bettman, and Fitzsimons 2013; Kay et al. 2010; Langer 1975), we propose that more versus less crowded places make consumers experience a decrease in their feeling of personal control which

makes them more likely to engage in WOM in order to restore their sense of control. We present five studies that test and find support for this prediction.

In sum, this research contributes to extant literature in three major ways. First, we contribute to literature on information sharing by investigating how an unexplored contextual factor, namely environmental crowdedness, affects consumers' propensity to engage in information sharing behavior. Second, we contribute to extant knowledge about the role of crowdedness in marketing (e.g., Andrews et al. 2015; Levav and Zhu 2009; Maeng, Tanner, and Soman 2013; Xu, Shen, and Wyer 2012) by testing its effect on WOM behavior. Third, we contribute to the research about the psychological motives driving WOM behavior (e.g., Berger 2014) by providing evidence for the role of an underexplored WOM motive such as individuals' need to restore their sense of personal control.

## **Theoretical background**

Abundant research has investigated the underlying psychological processes that explain why individuals share information (see Berger 2014 for a review). Prior work has mostly focused on understanding what type of information individuals are more likely to share – e.g., positive versus negative WOM (Godes and Mayzlin 2004); arousing versus non-arousing content (Berger and Milkman 2012), self-presentational versus useful content (Barasch and Berger 2014). This work has also demonstrated that individuals consider WOM communications as instrumental to the fulfillment of certain psychological needs of theirs. To illustrate, sharing information may allow individuals to self-enhance (De Angelis et al. 2012), gain social status (Gatignon and Robertson 1986), regulate their emotions (Berger and Milkman 2012), or help other people make

buying decisions (Price, Feick, and Guskey 1995). However, while past research has shed light on content characteristics and psychological drivers that influence WOM communications, little is known about the effect of the physical context in which WOM occurs on information sharing behavior. In particular, unexplored to date is the effect of crowdedness on WOM.

Previous research in marketing has investigated the effect of the presence of other people on consumer behavior. In particular, crowdedness has been shown to affect different types of consumer responses, such as product choice (Levav and Zhu 2009; Maeng, et al. 2013; Xu et al. 2012) shopping time and satisfaction (Eroglu, Machleit, and Barr 2005; Harrell, Hutt, and Anderson 1980; Hui and Bateson 1991; Machleit and Eroglu 2000), as well as consumers' propensity to respond to mobile advertising (Andrews et al. 2015). Specifically, early research on the effect of crowdedness on consumer behavior indicates that consumers tend to decrease their shopping time when being in crowded stores (Harrell et al. 1980). More recent research (Xu et al. 2012) has shown that, when feeling crowded, consumers experience a threat to their individuality and uniqueness, which makes them likely to restore their individuality by choosing products that differentiate them from other people (e.g., a type of coffee cap with a very different shape relative to all other types of coffee caps). Moreover, crowdedness instills a defensive stance in consumers; thus, in highly crowded contexts consumers are more likely to choose products that have safety connotations, i.e., those that offer prevention-related benefits (e.g., first-aid products) than they are in lowly crowded contexts (Maeng et al. 2013). Very recently, Andrews et al. (2015) have shown that being in crowded subway trains increases consumers' attention to mobile advertising, thus making them more likely to purchase the advertised products when compared to consumers who are in less crowded trains. However, to the best of

our knowledge, no studies have shed light on the effect of crowdedness on WOM behavior; this is the gap we aim to fill with this research.

Literature in sociology and social psychology has linked crowdedness to hostility (Griffitt and Veitch 1971), reduced social interactions, and antisocial behavior (Zimbardo 1969), which in turn might reduce information sharing, since information sharing is, in essence, a social behavior. However, in this research, we propose that crowdedness may actually have a positive impact on the likelihood that consumers engage in WOM behavior. Below, we build on research on crowdedness, psychological drivers of WOM, and compensatory control, to draw our conceptual model and predictions.

### **Conceptual development**

In line with past research on crowdedness in marketing, we define crowdedness as the extent of social presence, i.e., as the extent of the physical presence of other people in a given place (Maeng et al. 2013). In this research, we investigate the hypothesis that being in crowded places decreases consumers' perceived control, which induces them to share WOM as a way to regain their lost sense of control.

#### *Crowdedness and Perceived Control*

Literature in social and environmental psychology has documented that crowdedness may have “control-debilitating effects” (Baum, Aiello, and Calesnick 1978, p. 1000), i.e., it may cause individuals to experience a feeling of reduction in their perceived personal control,

manifested in their inability to perform desired actions (Altman 1975; Baum and Gatchel 1981; Baum and Valins 1977; Cohen and Sherrod 1978; Rodin 1976; Rodin, Solomon, and Metcalf 1978). The basic idea is that crowded environments are typically perceived to be as uncontrollable environments (Cohen and Sherrod 1978). Crowdedness affects one's sense of personal control in two ways: On the one hand, the presence of many other people may interfere with the achievement of an individual's goal; on the other hand, the presence of other people may make the environment unpredictable (Sherrod and Cohen 1978).

One relevant stream of research that has investigated how crowdedness can lead to reduction in perceived control is the work on learned helplessness, whose fundamental finding is that living in crowded spaces leads individuals to experience a sense of reduced control over the environment which, in turn, generates helplessness in social interactions (e.g., Seligman 1975). Rodin (1976), for instance, has shown that children living in dormitory apartments with high person-per-room density felt less personal control than children living in dormitory apartments with low person-per-room density. Similarly, Baum and Valins (1977) have shown that when larger numbers of dormitory residents shared common spaces, such residents experienced a sense of loss of control that made them perceive the nature, frequency and duration of their interactions with others as more unpredictable, as compared to resident groups who shared common spaces in smaller numbers. Research showed that crowdedness is associated to lower levels of perceived control also in densely populated urban environments (Fleming, Baum, and Weiss 1987).

Relevant to marketing contexts, a study conducted by Hui and Bateson (1991) on consumers' service experience, showed that in certain settings (e.g., banks) high levels of crowdedness negatively affect the pleasantness of the service experience by reducing one's perception of control.

### *Perceived Control and WOM*

Building on the idea that individuals like to feel in control over their environments (Rothbaum, Weisz, and Snyder 1982; Skinner 1996), as this feeling makes them perceive to be agent of their actions (e.g., Wegner and Wheatley 1999), past research has demonstrated that when feeling that their sense of control is threatened, individuals are likely to engage in behaviors aimed at regaining their lost sense of control (e.g., Kay et al. 2010; Langer 1975; Whitson and Galinsky 2008). Also in marketing a number of scholars have offered support for the idea that individuals tend to engage in control-restoring behaviors. For example, research on physical confinement has shown that when consumers feel confined (e.g., when they are in a narrow versus a broader aisle in a supermarket, or in other crowded stores) they perceive a loss of personal freedom, which they are motivated to reestablish by making more varied and unique choices (Levav and Zhu 2009). Moreover, Cutright and her colleagues have shown that consumers feeling a reduction in their sense of control are likely to engage in compensatory behaviors such as buying “structured” products (e.g., products with sharp edges or tangible boundaries; Cutright 2012) or preferring brand extensions that have a high degree of fit with the parent brand (Cutright, Fitzsimons and Bettman 2013). In this research, we propose that WOM is another important means that allows consumers to compensate for their threatened sense of control.

Past work seems supportive of our idea of compensatory WOM as it suggests that WOM is often the expression of compensatory behaviors triggered by different needs (Berger 2014). For example, when feeling threatened in their self-esteem consumers are likely to engage in WOM as a way to self-enhance and restore a sense of self-worth (De Angelis et al. 2012). Moreover, when

consumers experience negative emotions (e.g., anger) associated with a negative experience (e.g., a delayed flight), they might try to reduce such a negative feeling by venting, i.e., by sharing their experience with others (e.g., Nyer 1997). Furthermore, WOM often serves a social bonding function, whereby individuals share information to compensate for a sense of loneliness and social exclusion (Berger 2014).

We propose that WOM can also be a means to restore a loss of personal control. In fact, information sharing can restore control for a number of intertwined reasons. First, consistent with its impression management function (Berger 2014), WOM is an important means for consumers to express their own personality in social contexts (Belk 1988; Berger 2014; Dichter 1966; Sedikides 1993; Sirgy 1982), which, in turn, is a means to achieve control over one's own image and affirm one's self. In fact, personal control is an important component of self-integrity (Sherman and Cohen 2006) and, when personal control is threatened, self-affirmation allows to restore a view of the self as able to control outcomes in their life (Liu and Steele 1986). Second, consistent with the social bonding function of WOM (Berger 2014), information sharing can strengthen social connections (e.g., Dunbar and Dunbar 1998), and people with tighter social connections are better able to have control over the events they face (Cohen 1981). In line with this idea, when personal control is threatened, individuals who have a strong social support system are less likely to seek further compensatory sources of control (Cutright 2012). Third, consistent with the persuading others function of WOM (Berger 2014), individuals often engage in WOM to advise others by suggesting other people how to behave in certain situations (e.g., Fitzsimons and Lehmann 2004), thus helping them make better buying decisions (Hennig-Thurau et al. 2004; Sundaram et al. 1998). By doing so, consumers affirm a positive image of themselves as persons capable of influencing others by sharing useful information (e.g., Barasch

and Berger 2014), which in turn may increase their perception of control (Sommer and Burgeois 2010). Moreover, recent research suggests that advice giving can be a means to restore control (Peluso et al. 2013).

In sum, previous research corroborates the hypothesis that WOM can be instrumentally used by consumers to compensate for a feeling of low control induced by being in crowded environments. We present five studies that test our predictions. In our lab studies (study 1 and study 2), we manipulate crowdedness by varying the number of people in the same room. Study 1 establishes the basic effect that crowdedness leads to a higher likelihood to share information with others. Study 2 extends these results by testing whether chronic need for control moderates the effect of crowdedness on information sharing, thereby offering first evidence for the underlying mechanism. Study 3 demonstrates that the effect of crowdedness on information sharing is turned off when participants have the opportunity to restore control before they express their intentions to engage in word of mouth. In study 4 and 5 we test our predictions by measuring perceived crowdedness, perceived control, and information sharing, in naturalistic settings. Study 4 links perceived crowdedness to real consumer behavior, and shows that perceived control mediates the effect. Study 5 replicates study 4 results, and in addition demonstrates that the indirect effect of crowdedness on word of mouth is moderated by consumers' reactance.

## **Study 1**

Study 1 had multiple goals. The main goal was to have a first indication of whether crowdedness would stimulate social transmission of information. We investigated this hypothesis in a controlled laboratory setting. Specifically, we tested our prediction by manipulating

crowdedness, keeping physical proximity constant between conditions. Moreover, we explored the role of emotions and arousal. In fact, it is possible that individuals in the crowded condition might experience negative affect and try to restore their positive mood by seeking connection with others (Gray, Ishii, and Ambady 2011); or that greater arousal in a crowded setting might trigger information sharing (Berger 2011).

### *Participants and procedure*

Eighty-six business administration students (58.1% male,  $M_{age} = 20.19$ ,  $SD = 1.38$ ) participated in this study in exchange for course credit. Students were invited to participate 25 at a time, and were assigned to one of two conditions: in the crowdedness condition all attending participants were seated in the same 24-person classroom; in the control condition, participants were divided into two adjacent 24-person classrooms. Participants in both conditions completed a paper questionnaire. First, participants completed a battery of filler questions, such that they would spend at least some time in a crowded versus not crowded environment before they completed the dependent measure. Next, respondents completed the dependent variable. Specifically, respondents read an article about Jawbone UP3, a new product that helps people keep fit:

*Depending on your view, Jawbone is on the road to making us all super fit athletes or brutally efficient cyborgs who operate by data alone. How many minutes of REM sleep did I get last night? What's the difference between my heart rate while resting and during a workout?*

*How hydrated am I? How many calories did I burn on my last run? Jawbone UP3 answers all those questions better than any other Jawbone did before.*

Participants indicated how likely they would be to share this content with other people (1 = *Very unlikely*, 7 = *Very likely*) and indicated whether they already owned a similar product.

Subsequently, they completed a short version of the PANAS (Watson, Clark, and Tellegen 1988), which measured their current emotions, an anxiety measure (Spielberger 1983), and an arousal measure (Thayer 1989). Finally, participants rated to what extent they perceived the room as crowded and noisy (1 = *Not at all*, 7 = *Extremely*), and the proximity between themselves and others (1 = *Very close*, 7 = *Very far*).

### *Results and discussion*

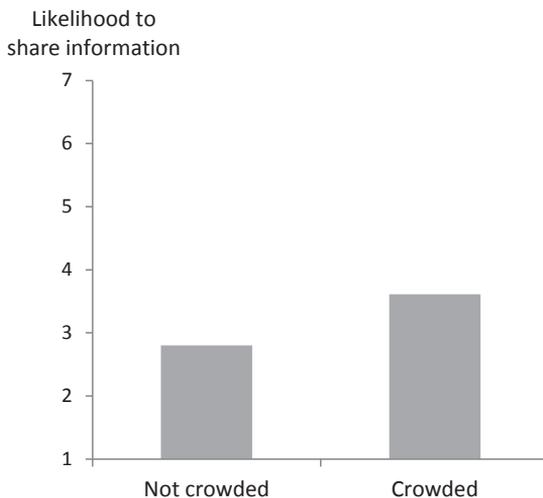
In all the following analyses missing cases were excluded pairwise.

*Manipulation check.* Participants in the crowded condition perceived the room as more crowded ( $M = 5.97$ ,  $SD = .81$ ) than did participants in the control condition ( $M = 4.46$ ,  $SD = 1.44$ ;  $t(84) = 5.66$ ,  $p < .001$ ). Proximity between participants was similar between conditions ( $p > .40$ ); however, even though noise was rather low in both conditions, the crowded condition was still more noisy ( $M = 3.44$ ,  $SD = 1.66$ ) than the control condition ( $M = 2.56$ ,  $SD = 1.25$ ;  $t(84) = 2.82$ ,  $p < .01$ ). There were no significant differences in negative affect, positive affect, anxiety, and arousal, between conditions ( $p > .54$ ).

*Likelihood to share information.* Participants in the crowded condition indicated that they were more likely to share the content of the article with others ( $M = 3.61, SD = 1.68$ ) than were participants in the control condition ( $M = 2.80, SD = 1.70; t(84) = 2.19, p < .05$ ).

These results suggest that crowdedness triggers information sharing. Moreover, the effect does not seem to be generated by physical proximity, affect, anxiety, or arousal, as these factors were similar between conditions. Because noise was correlated with crowdedness in this study, in study 2 we test the robustness of the effect by keeping noise constant between conditions. Moreover, because in real life crowdedness is often associated with greater physical proximity, in study 2 we allowed physical proximity to correlate with crowdedness to achieve higher external validity. Finally, we also introduced a theoretically relevant moderator – chronic need for control – in order to provide a first test of the underlying mechanism.

**Figure 1. Participants in the crowded condition reported a greater likelihood to share information than did participants in the control condition**



## Study 2

In study 2, we manipulated crowdedness and kept noise constant between conditions. We achieved this goal by inviting fewer participants at a time – as compared to study 1 – such that they would generate very little noise even in the crowded condition. Moreover, we also investigated the proposed mechanism. We reasoned that if the effect of crowdedness on word-of-mouth is driven by the desire to compensate for a perceived loss of control, then the effect of crowdedness should be greater among those individuals who have a higher chronic need for control, as compared to individuals who have lower chronic need for control. In other words, we predicted that the effect of crowdedness on the likelihood to share information would be moderated by participants' trait need for control.

### *Participants and procedure*

One hundred nineteen business administration students participated in this study in exchange for course credit (40.2% male;  $M_{age} = 20.24$ ,  $SD = 1.82$ ). Students were invited 8 at a time, and were assigned to one of two conditions: in the crowdedness condition, all attending participants were seated in a 4-person lab room; in the control condition, participants were seated in two adjacent 4-person lab rooms. First, participants read the same article as in study 1 and reported the likelihood that they would share that article with others (1 = *Very unlikely*, 7 = *Very likely*). Next, they completed a short version of the PANAS (Watson, Clark, and Tellegen 1988), which measured their current emotions, an anxiety measure (Spielberger 1983), and an arousal measure (Thayer 1989). Subsequently, participants completed a 3-item scale that measured their

chronic need for control (e.g., “I like to be in control of most things that occur in my life;” 1 = *Strongly disagree*, 7 = *Strongly agree*; Burger and Cooper 1979; appendix A). Finally, they rated to what extent they perceived the room as crowded and noisy (1 = *Not at all*, 7 = *Extremely*), and the proximity between themselves and others (1 = *Very close*, 7 = *Very far*).

### *Results and discussion*

*Manipulation check.* Participants perceived the room in the crowded condition as more crowded ( $M = 4.98$ ,  $SD = 1.66$ ) than the room in the not crowded condition ( $M = 2.41$ ,  $SD = 1.32$ ;  $t(117) = 9.41$ ,  $p < .001$ ). There were no significant differences between conditions in terms of noise, arousal, anxiety, and positive or negative affect ( $p > .35$ ). Whilst in study 1 the physical distance between participants was similar between conditions, in this study, participants in the crowded condition were sitting closer to each other ( $M = 5.81$ ,  $SD = 1.23$ ) than did participants in the not crowded condition ( $M = 3.83$ ,  $SD = 1.10$ ;  $t(117) = 9.25$ ,  $p < .001$ ).

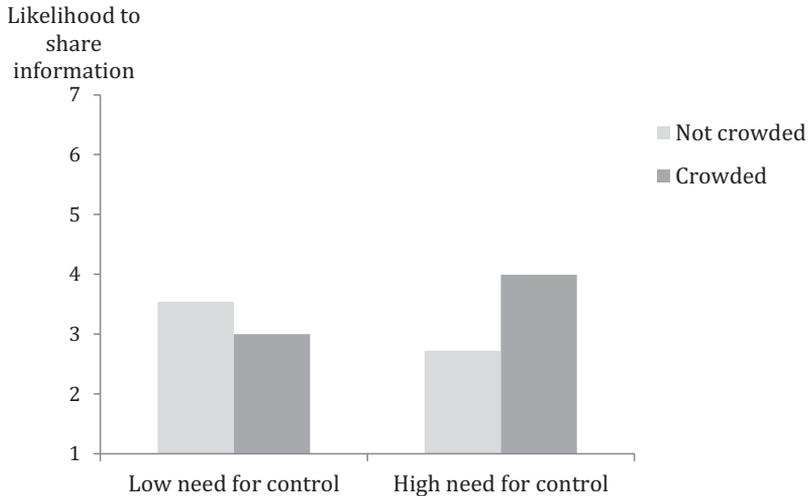
*Likelihood to share information.* We submitted this measure to a multiple regression procedure (Aiken and West 1991), in which we entered the main effects of crowdedness condition and need for control in a first step, and the two-way interaction between crowdedness and need for control in a second step. The first model was not significant ( $p > .27$ ), however adding the two-way interaction between crowdedness and need for control in the second step significantly improved the model ( $F_{change}(1, 115) = 6.56$ ,  $p = .01$ ), as a two-way interaction between condition and need for control emerged ( $B = 1.08$ ,  $t(115) = 1.91$ ,  $p = .01$ ). Decomposing this two-way interaction at high (+1SD) and low (-1SD) chronic need for control revealed that

participants with high chronic need for control were more likely to share the product information when they were in a crowded room, compared to their counterparts who were in a less crowded room ( $B = 1.27$ ,  $t(115) = 2.85$ ,  $p < .01$ ). There was no effect for crowdedness among participants with low chronic need for control ( $p > .29$ ).

Consistent with the proposed process, study 2 results revealed that the effect of crowdedness was moderated by chronic need for control: individuals who had a chronically higher need for control were more likely to share content with others when they were in a crowded room, as compared to their counterparts who were in a less crowded room; individuals who had a lower need for control were not affected by crowdedness. Furthermore, this study allowed us to rule out some alternative mechanisms. In particular, we ruled out the effect of environmental noise by keeping noise constant between conditions. Finally, negative affect, positive affect, anxiety and arousal were similar between conditions, as in study 1, thus they are unlikely to explain the observed effects.

We also note that unlike study 1, in which we kept physical proximity between participants similar between conditions, in this study participants in the crowded condition were closer to each other than participants in the not crowded condition. This is often the case in crowded locations, thus this study allowed us to explore the effect of crowdedness in a controlled yet more externally valid setting.

**Figure 2. The positive effect of crowdedness on information sharing is significant only among people who have a chronic high need for control**



### Study 3

If participants share information with others as a way to compensate for the loss of control they experience in crowded locations, then providing an alternative means to restore control beforehand should turn off the positive effect of crowdedness on sharing. Thus, in this study, we tested whether the likelihood to engage in information sharing would be attenuated when an alternative way to restore one's threatened sense of control is available. We reasoned that once a source of control had been provided, the effect of crowdedness on sharing would disappear, because the need to restore control would be already replenished. In fact, research on compensatory control shows that sources of control can substitute for each other (Inesi et al. 2011; Kay et al. 2009).

To manipulate the opportunity to restore control, we used a false feedback paradigm. We gave participants an easy interactive puzzle, in which they had to click on a series of dots numbered from 1 to 66, to reveal a hidden picture. Allegedly, the more accurate participants would be in clicking on all 66 dots, the better the resulting picture solution would be. In reality, participants were assigned to one of two conditions, regardless of their real performance: in the *control over outcome* condition, participants were told that they were accurate and could see a picture of a dog as the solution to the puzzle; in the *no control over outcome* condition, participants were told that they were not accurate and could not see the correct solution to the puzzle (they saw an unintelligible scribble instead). Assuming that participants put the same effort in the task between conditions, we expected participants who saw a scribble as the outcome of their actions to perceive less control over the outcome than participants who saw the correct solution to the puzzle.

In addition to manipulating the opportunity to restore control, study 3 had three goals. First of all, we wanted to test the effect of crowdedness in a naturalistic setting. Thus, we recruited participants from an online subject pool (MTurk), who were required to be in a public space and to use a GPS enabled hand-held device (such as a smartphone or a tablet) such that we could verify their approximate location and ask them to rate the crowdedness of that location. Second, we used a different measure of information sharing to test the robustness of our results. Third, we wanted to rule out a possible explanation for the effect; specifically, one might argue that individuals who are in a crowded location focus their attention on the content on their mobiles, in order to distract themselves and find relief from their crowded surroundings (Andrews et al., forthcoming); thus, individuals in crowded locations might share content more, simply because they have paid greater attention to it. Thus, in this study, we measure how much

time participants devote to reading an article, as an indication of the extent to which they attend to the information in that article.

### *Participants and procedure*

One-hundred sixty-four U.S. residents (52.4% male;  $M_{age} = 30.92$ ,  $SD = 20.01$ ) from an online national pool (MTurk) took part in this study in exchange for \$1. Participants were required to complete this survey only if they were in a public space and only if they were using a GPS-enabled hand-held device. Participants were informed that their location and type of device would be detected.

First, participants reported their current location (bar, library, café, restaurant, etc.), and the address of that location. Next, they rated how crowded their location was (1 = *Not at all*, 7 = *Extremely*). In addition, respondents provided an estimate of the number of people in their immediate surroundings and of the area (square feet) of their location.

After this battery of questions, participants completed a dot-a-dot puzzle. The puzzle consisted of a collection of 66 dots with a unique number from 1 to 66 next to each dot. The goal of traditional dot-a-dot puzzles is to reveal a hidden picture by connecting the dots in ascending order starting with 1 and ending with the highest number. Participants could play this puzzle interactively on their smartphones and tablets. Participants were told that this version of the game focused on accuracy and on their ability to use their mind's eye. To draw an imaginary line, participants had to click their mouse or tap their finger on a dot, then click again on the next dot, starting with 1 and ending with dot 66. Participants were instructed to click on dots as precisely as possible, and were told that they would not see the lines they drew immediately—they needed

to rely on their mind's eye to complete the puzzle. Unbeknownst to participants, we registered the number of clicks on that task, and the amount of time that participants spent on the task. Participants were told that after completing the task, our software would draw their solution, taking into account all of their moves, their average error and overall accuracy. In reality, after completing this task participants were assigned to one of two conditions, regardless of their performance: in the *control over outcome* condition participants were told that they were accurate and they could see that they drew a picture of a dog; in the *no control over outcome* condition, participants were told that they were not accurate and were shown an unintelligible scribble as their drawing (appendix B).

Following the control manipulation, participants read an article about an innovative water- and energy-saving tap design. We measured the time that participant spent reading the article unobtrusively. Next, participants answered two questions that measured their likelihood to talk about the article with others (“How likely are you to share this content with others on social media?” and “How likely are you to talk about this information with others?” 1 = *Very unlikely*, 7 = *Very likely*). Participants were also asked to indicate the action that they would be more likely to do: share this article on their Facebook wall, share this article in a private message on facebook, click “like” but not share this article, or none of these options. Finally, participants indicated whether they were facebook users.

### *Results and discussion*

The following analyses include only participants who completed the manipulation task with sufficient accuracy. The manipulation task required participants to click on 66 dots. 25

participants with less than 60 clicks were excluded. The percentage of participants who were excluded (15.6% in the *control over outcome* condition, 14.9% in the *no control over outcome* condition) was not significantly different between conditions ( $\chi^2(1, N=164) = .01, p = .91$ ).

*Manipulation check.* Participants in the *control over outcome* ( $M = 146.11, SD = 90$ ) and participants in the *no control over outcome* condition ( $M = 145.45, SD = 73.66$ ) spent an equal number of seconds on the task ( $t(162) = .05, p = .96$ ). Moreover, participants in the former condition ( $M = 64.79, SD = 13.53$ ) clicked a similar number of dots, as participants in the latter condition ( $M = 63.05, SD = 17.83; t(162) = .71, p = .48$ ), indicating that participants in both conditions missed a similar number of dots (and because of our selection criteria, no more than 6 dots). Thus, it is reasonable to assume that the effort participants put in the task was not different between conditions. Most importantly, participants in the *control over outcome* condition perceived to have more control over the outcome of the dot-a-dot task ( $M = 5.86, SD = 1.52$ ) than did participants in the *no control over the outcome* condition ( $M = 3.65, SD = 1.61; p < .001$ ), as intended.

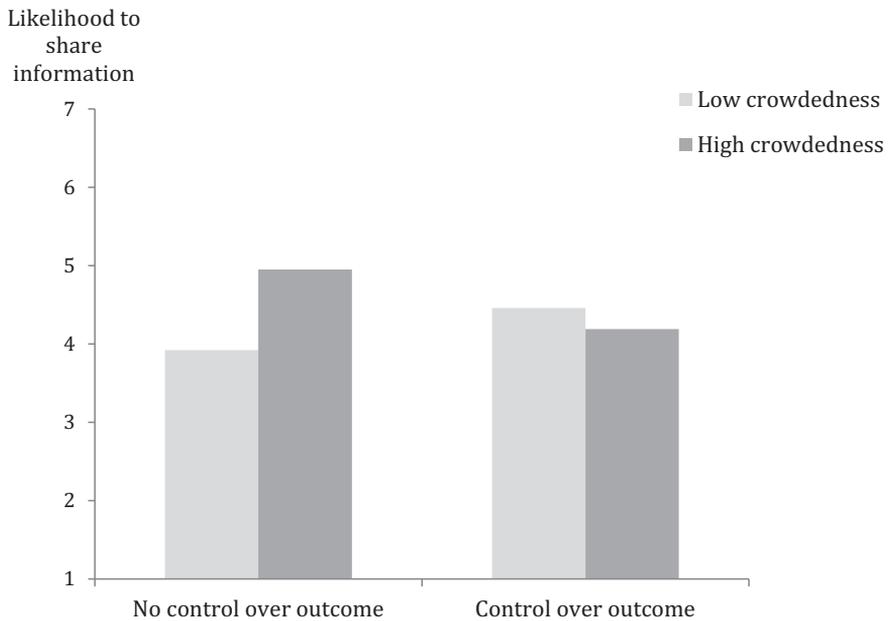
*Reading time.* Participants in the *control over outcome* condition ( $M = 66.93, SD = 123.78$ ) spent approximately the same time reading the article as participants in the *no control over outcome* condition ( $M = 66.15, SD = 113.43; p = .97$ ). This suggests that the level of attention and the depth of elaboration were similar between conditions. Moreover, crowdedness was not related to reading time, nor was there an interaction effect between crowdedness and control manipulation on reading time ( $p > .26$ ).

*Likelihood to share information.* We averaged the two sharing likelihood items to form a composite measure of likelihood to share information. We applied a multiple regression procedure to analyze this composite measure (Aiken and West 1991). The main effects model was not significant ( $R^2 = F(2,136) = .80, p = .45$ ), however adding the interaction between crowdedness and control condition significantly improved the model ( $F_{change}(1,135) = 5.82, p < .05$ ), as a significant interaction emerged ( $B = -0.41, t(135) = -2.41, p < .05$ ). We followed up this significant interaction by analyzing the effect of crowdedness in the opportunity to restore control condition, and in the no opportunity to restore control condition, respectively. As predicted, there was a positive effect of crowdedness on sharing only when participants did not have an alternative means to restore control ( $B = 0.32, t(135) = 2.62, p < .01$ ). When participants had an alternative means to restore control the effect of crowdedness on sharing was not significant ( $B = -0.08, t(135) = -0.73, p > .46$ ). The analysis on the single items revealed a similar pattern of results.

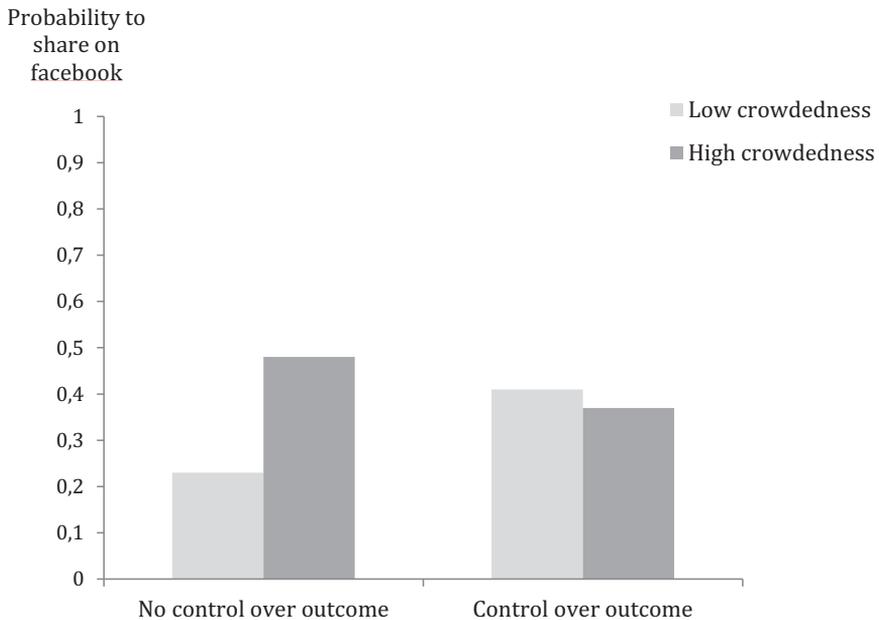
*Sharing on Facebook.* 22 people who did not use facebook were excluded from this analysis. We created a new variable by coding the first two choice options – sharing on facebook wall and sharing in a private facebook message – as 1 (= *Sharing*), and last two options – liking but not sharing, and doing nothing – as 0 (= *Not sharing*). We ran multiple logistic regressions to analyze this dichotomous variable. This analysis revealed that adding the interaction between crowdedness and the opportunity to restore control improved the main effects model ( $\chi^2(1) = 2.82, p = .09$ ). Indeed, there was a marginally significant interaction between crowdedness and opportunity to restore control ( $B = -0.39, z(1) = -1.65, p = .10$ ). Crowdedness had a positive effect on sharing likelihood when participants did not have alternative means to restore control

( $B = .34, z(1) = 1.95, p = .05$ ); however the effect of crowdedness on sharing likelihood was not significant when participants had an alternative means to restore control ( $B = -0.05, z(1) = -0.32, p > .74$ ).

**Figure 3. The positive effect of crowdedness on information sharing occurs only when participants do not have an alternative means to restore control**



**Figure 4. Crowdedness boosts the probability to share content on Facebook only when participants do not have alternative means to restore control**



#### **Study 4**

In this study, we wanted to test the effect of crowdedness on information sharing behavior, as well as the mediating role of perceived control – our full model – in a naturalistic setting, in order to have the best possible approximation of real consumer behavior. Thus, we recruited cinema goers at a movie theater in a large European city, and we collected data in different days of the week (Wednesdays and Sundays) at different times (early afternoon, evening, and late evening), in order to include peak and lull hours, and their varying levels of crowdedness. In order to have a measure of real sharing behavior, respondents were asked to

read information about a real promotion offered by a nearby restaurant in cooperation with the movie theater. Respondents were led to believe that by checking a box during the survey they would automatically share information about this promotion online on their favored social network once the survey was completed. At the end of the study, participants were asked whether they had believed that they would really share information about the promotion on social media. Our prediction was that perceived crowdedness would be negatively related to perceived control, and that this loss of control in turn would increase the likelihood that respondents would check the box to share information about the promotion (provided that they believed that they would share the content on social media).

### *Participants and procedure*

One hundred ninety-nine respondents (44.2% male;  $M_{age} = 26.35$ ,  $SD = 8.82$ ) took part in this study on a voluntary basis. A research assistant blind to the hypothesis approached movie goers in the lobby of a movie theater. Respondents used a tablet to fill in a survey. First, they rated the crowdedness of the movie theater. Next, they read information about a real promotion offered by a nearby restaurant. The promotion consisted in a discounted price for a meal if the consumer presented their movie ticket. Respondents were asked to check a box if they wanted to share this information with others on social media. They were told that by checking this box, the promotion would be automatically shared on a social network of their choice at the end of the study. Importantly, we made clear to participants that they could take advantage of the promotion regardless of whether they shared information about it or not. Subsequently, participants completed a 4-item perceived control measure (ad hoc; e.g., “Right now, I feel in control,”

“Right now, I have control over my surroundings;” appendix B). After filling in their demographic information, respondents were informed that they would not be given the chance to share the promotion on social media, and were asked whether they had believed that they would do so. Finally, participants were debriefed and thanked for their participation.

### *Results and discussion*

*Social media sharing.* We registered whether we successfully deceived participants by coding respondents who believed that they would share the promotion on social media as 1, and participants who did not as 0. In a first step, we entered deception success and perceived crowdedness as predictors in a logistic regression model predicting social media sharing (1 = *Yes*, 0 = *No*). We added the interaction between deception success and perceived crowdedness in a second step. The interaction term significantly improved the main effects model ( $\chi^2(1) = 4.77$ ,  $p < .05$ ). In accordance with our hypothesis, when movie goers believed that they would share a promotion on social media, they were more likely to do so as their perception of crowdedness increased ( $B = .22$ ,  $z(1) = 2.13$ ,  $p < .05$ ), in line with prior results. When movie goers did not believe that they would share a promotion on social media, the effect of crowdedness on social media sharing was not significant ( $B = -.49$ ,  $z(1) = -1.43$ ,  $p = .15$ ).

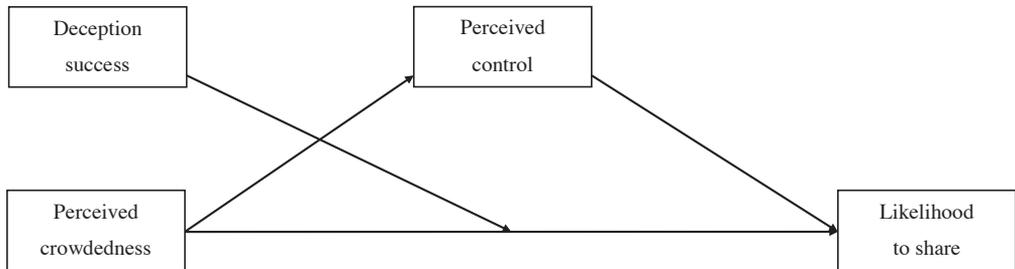
*Mediation.* Importantly, as crowdedness increased, all respondents perceived that they had less control ( $B = -.22$ ,  $t(195) = -5.25$ ,  $p < .001$ ). In turn – regardless of whether respondents believed that they would share a promotion on social media or not – a greater lack of control led to a marginally significant greater likelihood to share this promotion, as mediation analysis

(Hayes 2012) revealed a significant 90% bootstrap confidence interval for the indirect effect of crowdedness through perceived control (LLCI = .01, ULCI = .14; 1,000 bootstrap samples; bias-corrected confidence intervals; figure 5). This finding is consistent with our proposed mechanism that crowdedness makes individuals feel less in control over their surroundings, therefore it motivates them to compensate for this loss of control by sharing information with others.

One might argue that after respondents checked the box to share information about the promotion, they should not have reported lower perceived control as crowdedness increased, because sharing should have replenished their threatened sense of control. However, we note that respondents were told that information sharing would occur only *at the end* of the study, not as soon as they checked the box. Thus, it is not surprising to observe the predicted negative relationship between crowdedness and perceived control. Decoupling the decision to share and the moment in which sharing would occur also allowed us to verify that performing a simple action (such as making a decision and checking a box) was not sufficient to replenish control, which suggests that respondents were motivated to share information with others, and not just to perform any action.

In conclusion, this study offered converging evidence for our proposed model in a real life context and with an approximation of real sharing behavior: indeed, the positive effect of crowdedness on information sharing was observed among those respondents who believed that they would really share information on social media. Moreover, this study also provided direct evidence about the underlying process: the effect of crowdedness on the likelihood to share information with others was mediated by perceived loss of control.

**Figure 5. The positive effect of perceived crowdedness on likelihood to share information was mediated by perceived control. Crowdedness had a positive effect on sharing among participants who believed they would share information on social media.**



### **Study 5**

The goal of study 5 was to test the robustness of the role of perceived control as a mediator. In addition, we wanted to test whether the effect of crowdedness on information sharing through perceived control would be moderated by another theoretically relevant moderator, namely trait reactance. Reactance is a motivational state that is aroused when a behavioral freedom – such as personal control – is threatened or eliminated, and that in turn triggers behaviors aimed at restoring this freedom (Brehm 1966; Wicklund 1974). Trait reactance is the chronic individual tendency to experience reactance: individuals can vary in how reactant they are in general (Hong and Faedda 1996), and highly reactant individuals tend to react more strongly to threats to their freedom (Brehm and Brehm 1981; Dowd, Milne, and Wise 1991). For example, consumers with high chronic reactance who experience physical confinement have been shown to make more varied product choices as a way to reassert their

behavioral freedom, as compared to individuals with relatively lower chronic reactance (Levav and Zhu 2009).

Based on this prior evidence, we reasoned that if the effect of crowdedness on word-of-mouth is driven by the desire to compensate for a perceived loss of control, then the positive indirect effect of crowdedness through perceived control should be observed among those individuals who have a higher chronic reactance, because these individuals should be strongly motivated to reestablish their control. The indirect effect of crowdedness should be less strong among individuals who have lower chronic reactance.

Finally, in this study, we investigated a number of alternative or concurrent mechanisms. First, a possible effect of crowdedness is to instill a perception of anonymity or self-alienation. In fact, research suggests that when individuals are among others, they feel anonymous (Cannavale, Scarr and Pepitone, 1970; Singer, Brush and Lublin, 1965; Zimbardo 1969). Not only feelings of deindividuation in a crowd may induce feelings of anonymity, but also they may make individuals unable to have strong awareness of their self (Diener 1979), which might result in self-alienation—a state of disconnection from one’s self (Wood et al. 2008). As a result, consumers could be drawn to use social media in order to reestablish their sense of uniqueness and individuality, as social media have been shown to be a means to affirm the self (Toma and Hancock 2013). It is also possible that the effect of crowdedness via anonymity (or self-alienation) is moderated by individuals’ chronic need for uniqueness, as individuals with higher need for uniqueness react more strongly to threats to their uniqueness, than do individuals with lower need for uniqueness. Indeed, related research suggests that when personal space is violated, people feel that their uniqueness is threatened and thus are motivated to reassert their individuality (Levav and Zhu 2009; Xu et al. 2011).

Second, the presence of others may prime relatedness (i.e., interpersonal connection), which in turn makes consumers more likely to connect with others by means of word of mouth; in this case, the indirect effect of crowdedness through relatedness could be moderated by consumers' self-construal. Self-construal refers to the extent to which individuals hold an independent or interdependent self: these two images of the self reflect the emphasis on connectedness and relations (interdependent) and the separateness and uniqueness of the individual (independent), and may co-exist in an individual (Markus and Kitayama 1991; Singelis 1994). If crowdedness induces feelings of relatedness, higher chronic accessibility of the independent self might lead to reduced word of mouth, as a way to preserve one's separateness and independence from others, whereas higher chronic accessibility of the interdependent self might encourage information sharing, as a means to connect with others. Thus, it is possible to hypothesize that the extent to which consumers use word of mouth, following increased feelings of relatedness, depends on consumers' most salient self-construal.

### *Participants and procedure*

One hundred one U.S. residents participated in a survey in exchange for \$0.20. Due to an error in our online survey flow, demographic data was not recorded. As in study 3, respondents were required to complete this survey only if they were in a public space and only if they were using a GPS-enabled hand-held device, so that we could verify their current location. First, respondents indicated where they were completing the survey and the address of that location. Next, they rated how noisy and crowded their location was (1 = *Not at all*, 7 = *Extremely*). In addition, respondents provided an estimate of the number of people in their immediate

surroundings and of the area (square feet) of their current location. After this battery of questions about their location, respondents completed the mediating variable – perceived control – as in study 4, and the dependent variable, as in study 1. Specifically, respondents read an article about a new product that helps people keep fit, and indicated how likely they would be to share this content with other people (1 = *Very unlikely*, 7 = *Very likely*). Finally, participants completed several measures, including a trait reactance measure (Hong and Page 1989), consisting of 14 items (e.g., “I become angry when my freedom of choice is restricted;” 1 = *Strongly disagree*, 7 = *Strongly agree*.)

Besides reactance, we measured several states: perceived anonymity (five items, e.g., “I feel invisible;” 1 = *Not at all*, 7 = *Extremely*); self-alienation (four items, e.g., “Right now, I feel as if I don’t know myself very well;” 1 = *Strongly disagree*, 7 = *Strongly agree*; Gino, Norton, and Ariely 2010), state anxiety (nine items, e.g., “I feel tense;” 1 = *Not at all*, 7 = *Extremely*; based on Spielberger et al. 1983), positive and negative affect (Watson, Clark, and Tellegen 1988), and relatedness (“How do you feel right now?” 1 = *Extremely unrelated to others*, 7 = *Extremely related to others*). We also measured the following individual traits: self-construal (independent and interdependent self; e.g., “I try to do what is best for me, regardless of how that might affect others;” 1 = *Strongly disagree*, 7 = *Strongly agree*; Singelis 1994), and need for uniqueness (e.g., “I intentionally do things to make myself different from those around me;” 1 = *Strongly disagree*, 7 = *Strongly agree*; based on Lynn and Harris 1997.)

## *Results and discussion*

*Mediation.* As hypothesized, perceived crowdedness was negatively related to perceived control: as crowdedness increased, respondents perceived that they had less control ( $B = -.31$ ,  $t(93) = -3.36$ ,  $p = .001$ ). We subsequently tested the predicted moderated mediation, following the procedures outlined by Hayes (2009, 2013). The analysis (1,000 bootstraps; 95% bias-corrected confidence intervals) revealed that the moderated mediation index was significant (LLCI = .03, ULCI = .30), which means that the indirect effect of crowdedness on likelihood to share information through perceived control differed significantly across different levels of reactance. Indeed, as predicted, there was an interaction between perceived control and reactance ( $B = -0.42$ ,  $t(89) = -2.53$ ,  $p = .01$ ). Thus, we further examined the conditional indirect effects at different levels of the moderator. Consistent with our hypothesis, a greater lack of control led to greater likelihood to share, but only among respondents who had high chronic reactance—As expected, our analysis (1,000 bootstrap samples; bias-corrected confidence intervals) revealed a positive 95% bootstrap confidence interval for participants high in reactance (+1 SD; LLCI > 0, ULCI = .31); the indirect effect of crowdedness was negative for participants who had low chronic reactance (-1 SD; LLCI = -0.38, ULCI = -0.02). Perceived crowdedness was correlated with noise ( $r = .79$ ,  $p < .001$ ), but all the effects outlined above hold even when noise is entered as a covariate in the model.

In accordance with our hypothesis, the effect of crowdedness through perceived control was moderated by reactance. This indirect effect was positive for highly reactant individuals. Unexpectedly, we found out that crowdedness had the opposite effect among individuals low in chronic reactance. We can speculate that whilst on the high end on the reactance spectrum

individuals have a strong preference for exerting control and avoiding external influences and limitations to their freedom, individuals at the opposite end prefer a lack of personal control and thus, as control loss increases, they are even less motivated to engage in behaviors that replenish control.

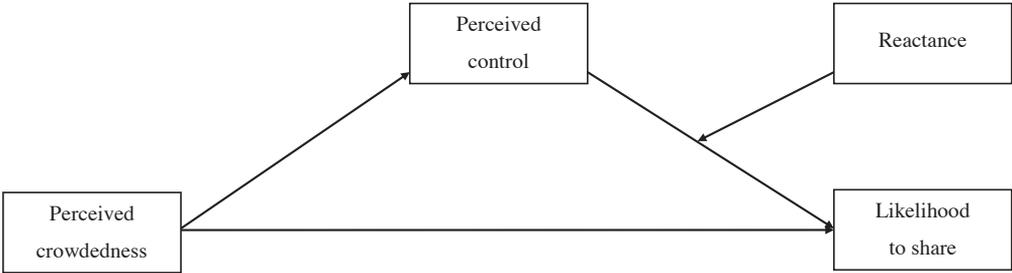
*Alternative accounts.* We tested a number of alternative accounts. First, we tested whether crowdedness predicted perceived anonymity, which in turn positively influenced information sharing, and whether the indirect effect of crowdedness through anonymity was moderated by need for uniqueness. Second, we tested a similar model, in which the effect of crowdedness was mediated by self-alienation, instead of anonymity; finally, we tested whether crowdedness predicted perceptions of relatedness, and whether relatedness, in turn, was positively related to information sharing; in this case, we tested whether the indirect effect of crowdedness was moderated by individuals' self-construal (independent-interdependent). None of these models proved significant thus we will not elaborate on them further.

Crowdedness was not related to anxiety ( $p > .32$ ), but we note that, unlike previous studies, perceived crowdedness did induce negative emotions, in this case ( $B = .22, t(97) = 2.16, p < .05; R^2 = .05, F(1,97) = 4.65, p < .05$ ). However, negative emotions did not mediate the effect of crowdedness on information sharing, as 95% and 90% bootstrap confidence intervals around this indirect effect included zero (1,000 bootstrap samples; bias-corrected confidence intervals.)

To sum up, this study suggests that the positive effect of crowdedness on word of mouth, mediated by perceived control, occurs among highly reactant people. Thus, in this study we provided converging evidence in favor of our proposed mechanism by using another

theoretically relevant moderator. Moreover, we ruled out a number of alternative mechanisms, as perceived anonymity, self-alienation, and relatedness did not mediate the effect of crowdedness on likelihood to share, even when these indirect effects were moderated by relevant individual traits.

**Figure 6. The positive effect of perceived crowdedness on likelihood to share information was mediated by perceived control. This indirect effect was positive only among highly reactant individuals (+1SD)**



**Table 1. Regressions predicting perceived control (model 1) and likelihood to share information (model 2)**

	Model 1	Model 2
Dependent variable	Perceived control	Likelihood to share
Constant	5.91*** (0.22)	-8.68 (4.71)
Crowdedness (measured)	-0.31** (0.09)	1.03 (0.70)
Reactance		2.53* (1.06)
Perceived control		1.85* (.73)
Perceived control x Reactance		-0.42* (0.17)
Crowdedness x Reactance		-0.14 (0.34)
R <sup>2</sup>	0.11	0.17
N	95	95
Conditional indirect effect of crowdedness at low reactance		-0.15* (.09)
Conditional indirect effect of crowdedness at high reactance		0.11* (.07)

## **General discussion**

### *Summary of Results and Implications for Theory and Practice*

In this research, we tested the prediction that consumers in crowded spaces engage in WOM as a means to compensate for their perceived loss of control. As a result, we showed that consumers' likelihood to share information is higher in more (vs. less) crowded settings. We presented the results of three experiments (studies 1 to 3), one field study (study 4), and one survey (study 5). Study 1 found support for the basic effect: participants placed in a crowded room expressed higher likelihood that they would share information with others than did participants in a less crowded room. In study 2, we provided first evidence for the underlying process, by linking our findings with chronic need for control: we found that crowdedness increased the likelihood to share information among participants who scored high on a chronic need for control scale; crowdedness did not exert its effect among participants with low chronic need for control. In both study 1 and 2, we showed that the effect of crowdedness on information sharing was not due to differences in mood or arousal. In study 3, we manipulated the opportunity to restore control before participants expressed their intention to share information with others. When participants did not have an alternative means to restore control we replicated prior results; however, when participants could restore control via alternative means, crowdedness did not have an effect on the likelihood to share information anymore, because participants' need to restore control had already been satisfied. Moreover, in study 3, there was no evidence that the effect was driven by involvement with the content that was shared. In study 4 and 5, we tested whether perceived control mediated the effect of crowdedness on WOM, in

two different naturalistic settings. Study 4 was a field study in which we measured real information sharing behavior. Specifically, in study 4, respondents were movie goers who completed a survey in the lobby of a movie theater. As crowdedness increased respondents perceived that they had less control, which in turn increased their likelihood to share information about a real promotion on their favored social network. In study 5, we required respondents to complete a survey from their mobile devices, in public places. In this study, we documented that the mediating effect of perceived control depended on another moderator: reactance. We found that the positive effect of crowdedness through decreased perceived control mediated the effect of crowdedness on WOM only among respondents who had high chronic reactance (i.e., among those people who are chronically more motivated to replenish their lost personal control). Moreover, in study 5 we did not find support for possible alternative mediators (anonymity, self-alienation, and relatedness).

From a theoretical standpoint, this research offers some relevant contributions to the WOM literature. First, while most past work has focused on the role of WOM valence and content, this research sheds light on the effect of the physical context in which WOM occurs on the likelihood to share information. Second, while past work in marketing has explored the effect of crowdedness on purchase-related variables, our study investigates the effect of crowdedness on WOM behavior. Third, our findings also suggest that a previously overlooked motivation might underlie WOM: the need to restore control.

Our work has also interesting managerial implications. In the era of mobile technology and devices, consumers often post their comments and ideas about products they see in stores, shopping malls or other crowded places on social media. Marketing practitioners can leverage this tendency by addressing targeted real-time communications to consumers when they are in

crowded spaces. For instance, through geo-fencing companies can reach consumers in specific locations and send them targeted communications. Moreover, in line with prior research (e.g., Inesi et al. 2011), our findings suggest that when the need to restore control is satisfied, further opportunities to restore control have diminishing returns. This means that timing marketing actions accurately is essential and that the greater benefits are likely to be seized by the first competitor that targets and reaches a consumer who is situated in a crowded environment.

### *Related research and further directions*

Prior research on compensatory control has suggested religion (Kay et al. 2008), pattern and structure seeking (Whitson and Galinsky 2008; Friesen et al. 2014), and system justification (Kay et al. 2008) can serve as means to compensate one's threatened sense of control. The current research suggests that WOM can also be an important means through which individuals can cope when their personal control is threatened. However, whilst we have shown that a crowdedness-induced loss of control spurs information sharing, we have not examined which specific aspect of information sharing allows consumers to restore control. This demands further investigation. We have suggested that information sharing may restore control for three potential reasons: self-affirmation, social bonding, and social influence (e.g., advice giving). Further research should examine whether each of these WOM functions contributes to control restoration.

Our research is related to a number of previous findings, and specifically to a growing literature that examines the effect of crowdedness on consumer behavior. Most notably, research on crowdedness in subway trains has shown that when passengers are in crowded cars, they are

more likely to react to push messages from their mobile carriers, as compared to their counterparts in less crowded cars (Andrews et al. 2015). This behavior has been attributed to “mobile immersion”: it was proposed that, in order to escape the aversive crowded environment, passengers immerse themselves into mobile usage and become more involved with their personal mobiles. Our research complements these findings, by demonstrating another motivation triggered by crowdedness—the need to restore control, which leads to a different behavior used to restore control, namely WOM. As a matter of fact, in our studies, medium usage was kept constant: all participants and respondents were required to complete our study on the same medium. The time devoted to study completion, and the way people interacted with the medium during the study, were similar across different crowdedness levels. Thus, by design, crowdedness did not influence involvement with mobile devices. In fact, study 3 results suggest that participants paid the same attention to a given text, regardless of perceived crowdedness, which may be an indication that the level of involvement with the text, and the corresponding depth of elaboration, were not affected. Thus, given the same level of “mobile immersion”, we were able to uncover yet a different behavior triggered by crowdedness. Indeed, our proposed process might have contributed to the effect observed by Andrews and her colleagues (2015). Research suggests that consumer choice is a means through which individual restore their thirst for personal control (Inesi et. al 2011), thus passengers in crowded trains (vs. less crowded trains) might have reacted more often to mobile advertising not only because they more involved with their mobiles, but also because making a purchase contributed to satisfy their need to reestablish control. Further research could investigate whether a loss of perceived control induced by crowding leads also to a greater likelihood of making a purchase.

Other related research suggests that crowdedness is often associated with an invasion of personal space, which is perceived as a threat (Graziano and Cooke 2006; Hall 1966) and causes defensive responses (Felipe and Sommer 1966; Sommer and Becker 1969). As a result, consumers express an increased preference for safety-oriented choice alternatives (e.g., visiting a pharmacy instead of a convenience store; Maeng et al. 2013). Unlike this research, we note that crowdedness did not generate great levels of negative arousal in our studies. Our manipulations of crowdedness in study 1 and 2 did not seem to induce negative affect nor arousal. Assuming that our measures were sensitive enough, and that indeed there was no effect of crowdedness on arousal or affect, this means that in those studies crowdedness reduced perceived control, but not to the extent that the situation became threatening. Also, in study 5, we did not find an effect of crowdedness on anxiety. We did find an effect on negative emotions, however negative affect did not explain the effect of crowdedness on word of mouth.

Even though prior research supports the idea that a lack of personal control is not necessarily associated with stress responses (Averill 1973; Folkman 1984), we acknowledge that, at extreme levels of crowdedness, a greater loss of control might indeed correlate with higher levels of negative arousal. This crowdedness-induced negative arousal might lead to two opposing predictions: it may generate even greater information sharing – as suggested by research linking word of mouth to arousal (Berger 2011) – or it may lead to the opposite effect. In fact, as suggested by Maeng et al. (2013), when crowdedness becomes threatening, self-protection instincts may prevail and make individuals more constrained and conservative in their social behavior. Thus, further research might examine potential critical levels of crowdedness at which the effect on WOM turns from positive to negative.

We also note that we focused on likelihood to engage in WOM, but it is important to explore also how crowdedness impacts the type and valence of shared content, or the type of recipient with whom consumers share information. Finally, crowdedness can be aversive, yet people also seek out and enjoy crowded situations, such as music events (Novelli et al. 2013). These contexts suggest that whether a person identifies with a crowd or not, or whether a person is alone or with friends, may affect the degree of control the person experiences. Further research might investigate these additional moderators for the effect of crowdedness on word of mouth.

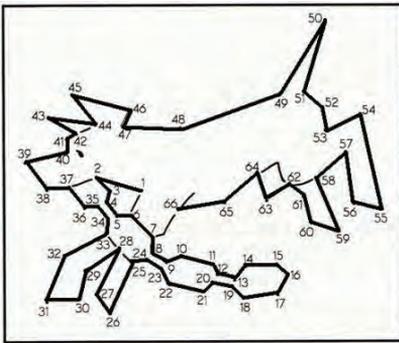
## Appendix A

*Need for Control Scale (based on Burger and Cooper 1979)*

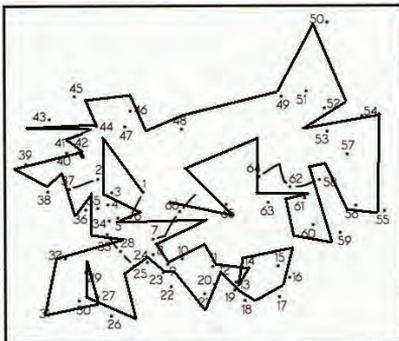
- 1) I enjoy having control over my own destiny;
- 2) I like to be in control of most things that occur in my life;
- 3) I prefer a job where I have a lot of control over what I do and when I do it.

## Appendix B

*Control over outcome condition*



*No control over outcome condition*





## **Chapter 5**

### **Conclusions**

This dissertation is comprised of three chapters that examine the intersection between interpersonal and consumer behavior. This final chapter reviews the main findings of each research paper included in this dissertation, highlights their theoretical and practical contributions, and suggests avenues for future research.

## **Chapter 2**

In chapter 2, I investigated one of the factors that might explain switching behavior in the face of service failures. Research suggests that individuals with low self-esteem who experience relational transgressions develop an avoidant attachment style, which impairs their interpersonal functioning and their willingness to take further interpersonal risks (Park and Maner 2009), and in particular to engage in new long-term relationships (Walker 2009). Drawing on this research, I proposed that low self-esteem (LSE) consumers who experience service failures become unwilling to commit themselves to alternative brands, thus – paradoxically – they remain trapped in their current brand relationship. High self-esteem (HSE) consumers, instead, are more likely to switch to other available service providers when they experience service failures, as compared to when they do not experience failures. I tested these predictions in one survey and two experiments.

In study 1a, participants completed a measure of self-esteem and reported the quality of their internet connection. Finally, participants indicated how likely they would be to switch to a

competitor of their current Internet provider, if canceling their current contract were free of charge and the new provider did all the paperwork. As the quality of their internet connection decreased, HSE consumers were more likely to switch to a different provider. However, frequency of failures did not have an effect on LSE consumers' likelihood to switch. In study 1b, I replicated these findings in an experimental setting: HSE consumers who imagined they were using an extremely faulty Internet connection were more likely to switch to an available provider as compared to their counterparts who imagined they were using a perfectly functioning connection; LSE consumers did not express different switching intentions between conditions.

Since I had hypothesized that the loyalty of LSE consumers in the face of service failures is driven by their avoidance of new long-term relationships, I chose in study 2 to manipulate the length of the contract offered by an alternative Internet service provider. When an alternative service provider offered a long-term contract (1 year) I replicated previous results: HSE consumers were more likely to switch to this alternative service provider as the quality of their internet connection worsened, but LSE consumers were not. Instead, when an alternative service provider offered a short-term contract (1 month, renewable) LSE consumers were as likely as HSE consumers to switch to this provider, as revealed by the absence of an interaction between self-esteem and service quality in this condition. In fact, in the face of a declining service quality, LSE consumers switched more to an alternative service provider when this provider offered a short-term (vs. long term) contract. Our analysis suggested an increased fear of committing to alternative brands, and a preference for short-term, low-commitment relationships, as service quality worsened.

In summary, these studies suggest that following service failures, HSE consumers are more likely to switch to a competitor compared to their counterparts who do not experience

failures, whilst LSE consumers are not (studies 1a, 1b, and 2). Consistent with the hypothesis that service failures (vs. no failures) make LSE consumers wary of relational risks, thus rendering them avoidant of commitment with alternative brands, LSE consumers increase their preference for low-commitment (vs. high-commitment) offers from competitors (study 2).

This research has significant implications for marketing and policy-making. Marketers who wish to attract dissatisfied consumers from their competitors should diversify their portfolio and offer low-commitment and high commitment contracts to their potential customer base.

From a policy point of view, our studies suggest that lowering switching barriers in terms of money and effort in order to favor competition might not be enough. In addition to lowering monetary switching costs, policy makers should consider motivating brands to offer short-term contracts, and to avoid strategies that favor consumer lock-in. Moreover, broadening the scope of class actions might be an important additional protection for LSE consumers who do not switch easily.

### *Theoretical contributions and further research*

Chapter 2 findings contribute to research on consumers' switching behavior. Specifically, our results demonstrate that switching behavior is not driven only by factors such as switching costs in terms of time, effort, and money (as often assumed by policy makers), by showing that service failures themselves may affect some consumers' tendency to commit to other available alternatives in the market. Measuring consumers' self-esteem allowed us to uncover some unobserved heterogeneity on the market, and to identify a group of consumers who tend to stick

with the devil they know even if their service quality is decreasing, but who may be nudged to switch to other available brands if offered the right type of contract.

This work also has important implications for theory on brand relationships. This research takes a unique approach by identifying tensions between multiple brand relationships (with current and alternative brands), and by investigating consumers' vulnerabilities (in this case: low self-esteem) that shape these relationships. Thus, this research answers both the recent call for a focus on multiple brand relationships (Swaminathan and Dommer 2012) and for a greater emphasis on negative consumer-brand relationships (Fournier and Alvarez 2013). Specifically, this research contributes to the growing literature on negative brand relationships, by providing insights about factors that may affect consumers' behavioral loyalty in these relationships.

Follow-up research might examine the behavior of low and high self-esteem consumers in the marketplace. Ideally, teaming up with a service provider who cold-calls consumers to ask them to switch service would allow us to test whether the reported effects replicate with real switching behavior. Sales representatives could offer either a long-term or short-term contract to potential customers, and self-esteem could be assessed either by using demographics proxies, or by using a single item measure of self-esteem (e.g., Robins, Hendin, and Trzesniewski 2001). Consumers' current service quality could be derived from secondary data, or sales representatives could ask a question similar to the one used in our studies ("Considering your Internet usage over time, what percentage of the time does your Internet connection work perfectly?")

Our research suggests that service failures affect choices regarding relationships with service providers other than the one responsible for the failure. If following service failures LSE

consumers become wary of new commitments, it is possible that this applies also to companies in unrelated industries. In other words, it is possible that service failures lead LSE consumers to a general wariness of new commitments. Further research could test this possibility.

Moreover, it is possible that the effects of service failures may even extend beyond brand relationships and drive consumer choices in unrelated domains, too. For example, it would be interesting to explore the effect of service failures on financial decisions made by LSE and HSE consumers, because the experience of service failures may affect their consumption practices where a degree of risk is involved. In fact, low self-esteem consumers' restrained interpersonal behavior after experiencing service failures may cause a generalized avoidance of failure, which in turn may result in a preference for safe (vs. risky) financial choices. Indeed, according to Henry (2003) the heightened sense of personal limits and the salient risk of failure result in a drive for stability and safety in financial decisions. After service failures, low self-esteem consumers may have the perception, at least temporarily, that the market is an unsafe place and prefer to find refuge in safe financial investments, rather than take the chance and run some risks to gain greater returns.

### **Chapter 3**

In chapter 3, I demonstrated that a temporary interest spurred by a competitor may be beneficial for committed brand relationships, under certain conditions. I defined brand flirting as a short-term, uncommitted interaction with a brand other than one's favored, and a pilot study confirmed that this definition resonated with consumers. A second pilot study revealed that brand flirting may be more exciting than consuming a favored brand. I hypothesized that this flirting-

induced arousal, in turn, reinforces committed consumers' love for their favored brand and their desire to consume it, through an arousal-transfer process.

Arousal can spill over and become attached to unrelated stimuli (Murphy, Monahan, and Zajonc 1995, p. 590; Sweldens, Osselaer and Janiszewski 2010), even when these stimuli are not in the immediate environment, but simply cognitively active (Sinclair et al. 1994). Indeed, research reveals that a transfer of an affective state from its source to an unrelated target can occur implicitly, especially under conditions that make the target salient (Jones, Fazio, and Olson 2009; Sinclair et al. 1994). Because a favored brand is more salient in the minds of more (versus less) committed consumers (Agrawal and Maheswaran 2005; Park et al. 2010), I hypothesized that flirting with competing brands will increase attraction towards a favored brand as consumers' commitment to this brand increases. Moreover, arousal transfer is accentuated (attenuated) when the source of arousal is difficult to distinguish from the true source of affect (Foster et al. 1998; Jones et al. 2009), such as when the source is similar to the target. Thus, I hypothesized that flirting with competing brands will increase attraction to a salient favored brand when the brand with which individuals flirt is similar rather than dissimilar to their favored brand.

In study 1, I showed that appreciating a competitor brand's favorable characteristics induced participants to consume greater amounts of their favorite brand in the near future. Participants committed to Coca-Cola who rated favorable features of Pepsi intended to consume more of their favored soft drink in the upcoming week, compared to committed participants who rated the same favorable features of Coca-Cola. Moreover, in this study I provided evidence that a favored brand's salience is positively related to commitment, in line with prior research.

In study 2, I tested whether the effect of flirting depends on the similarity between one's favorite brand and a competing brand, as hypothesized. Participants were asked to imagine that their favorite beer, a beer that was similar or dissimilar to their favorite beer, or red wine was chosen by experts as the best beverage to complement a savory meal. Committed participants who read a positive scenario about a similar beer expressed greater love for their favorite beer compared to their counterparts in all other conditions.

In study 3, participants were asked to imagine consuming their favorite potato chips, or another brand of potato chips. Participants next indicated how exciting it would be to eat those chips, and how many bags of their favorite chips they anticipated consuming in the near future. In line with the proposed process, mediation analysis indicated that flirting with a similar brand elicited excitement, and this excitement, in turn, led to greater desire to consume a favorite brand in committed consumers.

In study 4, I addressed a potential alternative explanation for the effect observed. In fact, exposure to a competitor's brand may represent a temptation that causes committed consumers to behave in accordance with the goal of being loyal to their favored brand (Fishbach et al. 2013). The results of this study are not consistent with this alternative explanation: Mere exposure to a competing brand was not sufficient to increase anticipated consumption of a favored brand (as suggested by a goal activation account). Only actively flirting with a competing brand increased anticipated consumption of a favored brand.

Taken together, our findings suggest that brand flirting does not damage committed brand relationships - on the contrary, it can even strengthen the bond between committed consumers and their favored brands. These findings suggest that even when competitors successfully gain the attention and interest of consumers, this apparent success may backfire by increasing

consumers' commitment to their favored brands. If a company is targeting committed consumers, this boomerang effect can be avoided by marketing brands that are clearly different from their competitors.

### *Theoretical contributions and further research*

In general, the availability of attractive alternatives is thought to reduce commitment and to increase the likelihood of relationship dissolution (Drigotas and Rusbult 1992; Lydon et al. 2003; Lydon et al. 2008; Rusbult and Buunk 1993). Consistent with this view of infidelity, research has mostly focused on the strategies that committed individuals employ to protect their relationship when there are available attractive alternatives (Johnson and Rusbult 1989; Lydon, Fitzsimons, and Naidoo 2003; Maner, Gailliot, and Miller 2008; Maner, Rouby, and Gonzaga 2008). In contrast, this research suggests that in the brand relationships context, when individuals do *not* avoid alternatives, committed relationships can even be strengthened, under certain conditions.

Chapter 3 offers different interesting directions for further research. Regarding the brand-flirting effect, it is important to note that we investigated the effect of only one instance of flirting, however we still do not know what the effect of multiple instances of flirting would be. It is possible that continued flirting could damage commitment to an originally favored brand. Moreover, we have focused only on the short-term consequences of flirting. Further research could examine whether repeated instances of flirting and a delay between flirting and consumption moderate the brand-flirting effect.

We also note that in this research we have focused on the effects of flirting on committed relationships, however it is reasonable to expect that the effect can also benefit any type of brand relationships in which a brand is salient, and its consumption does not elicit as much arousal as flirting does. Brand salience can be a result of several factors, other than commitment. Further research could investigate under which conditions salient brands may benefit from flirting-induced arousal, even when consumers are not committed to them.

Even though not the direct focus of this research, there are also some potential implications for misattribution and transfer of affect theories more at large. For example, research on transfer of affect between significant others and another similar unrelated person so far has documented a transfer exactly in that direction: from a significant other to an unrelated target (e.g., Andersen and Berk 1998). However, our research suggests that a reverse direction of affect transfer could also be possible: to the extent that a significant other is salient during an interaction with a similar other person, if this other person elicits affect/arousal, it may be possible that this affect/arousal will be partly transferred to a salient significant other. Further research might examine the conditions under which this “reverse transfer” of affect/arousal is likely to occur.

Finally, we have investigated the effect of flirting in the context of consumer-brand relationships; however, to the best of our knowledge, research has yet to experimentally manipulate flirting and examine its effect on interpersonal relationships. Further research could test whether a similar flirting effect occurs also in the context of romantic relationships. For instance, participants could be asked to write compliments to their partners or to an attractive other person. Subsequently, participants could list activities that they plan to do with their partner in the following week. Participants could be contacted a week later in order to verify how many

of their listed activities they have actually done. Participants who have flirted with another person should wish to spend more time with their partner, thus they should list, and engage in, more activities with their partner in the near future.

Moreover, the benefits of arousal may be particularly significant for relationships that are stable and routinary. Aron et al. (2000) found that couples who share exciting experiences enjoy greater relationship quality because the resulting arousal decreases relationship boredom. Flirting-induced arousal may thus more greatly benefit those individuals who are experiencing relationship boredom (in other words, whose relationship involves low levels of arousal), as the change in arousal level and its impact may be even more dramatic for individuals with low rather than high levels of relationship-related arousal. Therefore, further research in the domain of interpersonal and consumer-brand relationships may examine whether the predicted positive effect of flirting is more likely to emerge among individuals experiencing relationship boredom.

## **Chapter 4**

In this research I investigated the effect of the crowdedness of the environment in which consumers are situated on the likelihood that they share information.

Research reveals that individuals who are in more (vs. less) crowded places experience a loss of perceived control (e.g., Baum, Aiello, and Calesnick 1978). Importantly, when their sense of control is threatened, individuals are likely to engage in behaviors aimed at restoring control (e.g., Kay et al. 2010; Langer 1975). I proposed that engaging in word-of-mouth (WOM) can represent one important means for individuals to reaffirm their sense of control when they are in crowded spaces. Indeed, individuals engage in WOM to shape the impression others have of

them, to affirm their self (e.g., self-enhance) or to advise others. Each of these functions might contribute to reestablish a sense of control. I presented three experiments and two surveys that offer evidence for the proposed positive effect of crowdedness on information sharing, as well as for the role of perceived control as the underlying mechanism.

In study 1, participants were assigned to one of two conditions: in the *crowdedness* condition all attending participants were seated in the same 24-person classroom; in the *control* condition, participants were divided into two adjacent 24-person classrooms. Participants read an article about a product and indicated how likely they would be to share this content with other people. Participants in the *crowdedness* condition indicated that they were more likely to share the content of the article with others than were participants in the *control* condition.

In study 2, participants in the *crowdedness* condition were seated in a 4-person lab room; whereas participants in the *control* condition were seated in two adjacent 4-person lab rooms. Participants completed the same dependent measure as in study 1, and a scale that measured their chronic need for control. Consistent with the proposed process, study 2 results revealed that the effect of crowdedness was moderated by chronic need for control: individuals who had a chronically higher need for control were more likely to share content with others when they were in a crowded room, as compared to their counterparts who were in a less crowded room; individuals who had a lower need for control were not affected by crowdedness.

In study 3, I tested whether the likelihood to engage in information sharing would be attenuated when an alternative way to restore one's threatened sense of control is available. Participants completed an online survey. First, they reported their current location and rated how crowded their location was. Next, they completed an easy a dot-a-dot puzzle. The goal of traditional dot-a-dot puzzles is to reveal a hidden picture by connecting some dots. After

completing this simple task, participants in the *control over outcome* condition saw the correct solution to the puzzle, whereas participants in the *no control over outcome* condition saw a scribble. A manipulation check revealed that participants were equally accurate in both conditions, and that participants in the *no control over outcome* condition perceived to have less control over the outcome than participants in the *control over outcome* condition. Following the control manipulation, participants read an article about an innovative water- and energy-saving tap design, and indicated the likelihood that they would share it with others. As predicted, there was a positive effect of crowdedness on information sharing only when participants did not have an alternative means to restore control.

In study 4, a research assistant blind to the hypothesis approached movie goers in the lobby of a movie theater. Respondents used a tablet to fill in a survey. This study documented that the more the movie theater was crowded, the less control participants perceived to have, which in turn increased the likelihood that participants shared information about a real promotion on social media.

In study 5, I tested the robustness of the role of perceived control as a mediator. In addition, I wanted to test whether the effect of crowdedness on information sharing through perceived control would be moderated by trait reactance. Highly reactant individuals tend to react more strongly to threats to their freedom (e.g., Brehm and Brehm 1981). Thus, the positive indirect effect of crowdedness through perceived control should be observed among those individuals who have a higher chronic reactance, because these individuals should be strongly motivated to reestablish their control. Consistent with this hypothesis, a greater lack of control led to greater likelihood to share, but only among respondents who had high chronic reactance.

This research has important managerial implications. In the era of mobile technology and devices, consumers often post their comments and ideas about products they see in stores, shopping malls or other crowded places on social media. Marketing practitioners can leverage this tendency by addressing targeted real-time communications to consumers when they are in crowded spaces. For instance, companies can reach consumers in specific locations through geofencing, and send them targeted communications.

#### *Theoretical contributions and further research*

This research offers some relevant contributions to the word-of-mouth literature. First, while most past work has focused on the role of WOM valence and content, surprisingly little research examined how environmental factors affect consumers' likelihood to engage in word-of-mouth. We contribute to literature on information sharing by investigating how an unexplored contextual factor, namely crowdedness, affects consumers' propensity to share information with others (e.g., on social media). Second, this research contributes to a growing knowledge about the role of crowdedness in influencing consumer behavior. While prior research has mostly focused on purchase behavior (e.g., Andrews et al. 2015; Levav and Zhu 2009; Maeng, Tanner, and Soman 2013; Xu, Shen, and Wyer 2012), we expand the scope of crowdedness effects by testing them in the context of word-of-mouth communication. Third, we contribute to the research about the psychological motives driving WOM behavior (e.g., Berger 2014) by providing evidence for the role of an underexplored motive: individuals' need to restore their sense of personal control.

This research also has several other theoretical implications, which in turn suggest avenues for further research. First, this research suggests that information sharing can be a means through which individuals can cope when they experience a loss of personal control. However, we have not directly investigated which aspect of information sharing allows consumers to restore their threatened personal control. Information sharing may restore control for three potential reasons: self-affirmation, social bonding, and social influence (e.g., advice giving). Further research could examine whether each of these WOM functions contributes to restoration of control.

Our research is related to a number of previous other findings. For instance, research on crowdedness in subway trains has shown that passengers in more (vs. less) crowded cars are more likely to react to push messages from their mobile carriers (Andrews et al. 2015). Our research complements these findings, as our proposed process (i.e., a crowdedness-induced need to restore control) might have contributed to the observed effect. Indeed, consumer choice is a means through which individuals may restore their personal control (Inesi et. al 2011), so passengers in crowded trains (vs. less crowded trains) might have reacted more often to mobile advertising because making a purchase helped them to satisfy their need to reestablish control. Further research could investigate whether a loss of perceived control induced by crowding also leads to a greater likelihood of making a purchase.

Other related research suggests that crowdedness may be perceived as an invasion of personal space, which is threatening (Graziano and Cooke 2006; Hall 1966) and causes defensive responses (Felipe and Sommer 1966; Sommer and Becker 1969). Unlike this research, we note that crowdedness did not generate great levels of negative arousal in our studies. However, we acknowledge that, at extreme levels of crowdedness, a greater loss of control might indeed

induce higher levels of negative arousal, which in turn might lead to two opposing predictions: it may generate even greater information sharing – as suggested by research showing that arousal is positively related to WOM (Berger 2011) – or it may lead to the opposite effect. Indeed, when crowdedness is threatening, consumers become more conservative in their interpersonal behavior (Maeng et al. 2013), which may reduce information sharing. Thus, further research might examine potential boundaries of the positive effect of crowdedness on WOM.

Furthermore, future research could explore how crowdedness impacts not only the likelihood to engage in WOM, but also the type and valence of the content that consumers share, or the type of recipient with whom consumers share this content. Moreover, there are situations in which consumers enjoy crowded situations, such as music events. Thus, crowdedness is not always aversive. Further research might examine whether the level of identification with a crowd, or the presence of close others (e.g., friends), affects the degree of control the person experiences in crowded environments, and the subsequent likelihood to engage in WOM.

Finally, it would be interesting to investigate whether the positive effect of crowdedness on WOM replicates also at the urban level. Interestingly, recent secondary data analyzed by a private social media intelligence company (SemioCast 2012) showed that the city from which most tweets were generated in 2012 was Jakarta, which is also one of the most densely populated cities in the world. Prior research suggests that crowdedness leads to more perceived uncertainty and less perceived control also at the urban level (Fleming, Baum, and Weiss 1987), thus, it is possible to hypothesize that a higher volume of social media content is shared in more crowded cities, than in relatively less crowded ones. It would be intriguing to observe that the more (vs. less) densely populated a city, the more its citizens use social media to share content with other people on their online networks.



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## Summary (English)

In this dissertation, I explore the intersection between interpersonal and consumer behaviour in three chapters. In chapter 2, I propose that consumers with low self-esteem become wary of new relationships with alternative service providers if they experience service failures in a current service relationship, whilst consumers with high self-esteem do not. In line with this prediction, I document that consumers with high self-esteem are willing to sign contracts with other available alternatives if a service failure occurs, whereas consumers with low self-esteem tend to stick to their current brand. Moreover, consumers with low self-esteem who experience service failures avoid new commitments, and seem to prefer short-term marketing relationships to long-term relationships. In chapter 3, I define brand flirting as consumers' casual interest in or short-term experimentation with a competitor to a favored brand, and I examine the consequences of minor consumer infidelity. I demonstrate that brand flirting can be beneficial for brand relationships, under certain conditions. I propose that flirting is exciting and that consumers who flirt with a competing brand may transfer the flirting-induced arousal to their favored brand – resulting in even greater love and desire for it. In chapter 4, I move away from consumer loyalty and commitment, and examine a different behavioral outcome: information sharing. In this case, I investigate the effect of the presence of others in a given space on the likelihood that consumers engage in word-of-mouth. This paper demonstrates that the higher the number of people surrounding consumers in a given space, the greater the likelihood that consumers will share information with others (elsewhere, e.g., on social media). I propose that this happens because crowdedness decreases perceptions of personal control, and consumers use information sharing as a means to restore it.



## Summary (Dutch)

In deze dissertatie onderzoek ik in 3 hoofdstukken het snijpunt tussen interpersoonlijk - en consumentengedrag. In hoofdstuk 2, stel ik dat consumenten met een negatief zelfbeeld op hun hoede zijn met betrekking tot het aangaan van een nieuwe relatie met andere service providers als zij in een huidige service-relatie problemen ondervinden, terwijl consumenten met een positief zelfbeeld dit niet zijn. Aansluitend op deze aanname, laat ik zien dat consumenten met een positief zelfbeeld geneigd zijn bij een mislukking met andere providers in zee te gaan, terwijl consumenten met een negatief zelfbeeld er juist naar neigen bij hetzelfde merk te blijven. Bovendien vermijden consumenten met een negatief zelfbeeld die service problemen ondervinden, nieuwe verbintenissen en blijken zij de voorkeur te geven aan korte termijn marketing relaties boven lange termijn marketing relaties. In hoofdstuk 3, definieer ik het flirten met merken zoals de oppervlakkige interesse van consumenten in een bepaald merk of het kortstondig uitproberen van een concurrerend merk boven het favoriete merk en onderzoek ik de gevolgen van deze minieme ontrouw van consumenten. Ik laat zien dat het flirten met merken onder bepaalde omstandigheden voordelig kan zijn voor de merkgebondenheid. Ik stel dat flirten opwindend is en dat klanten die flirten met een concurrerend merk de door flirten opgewekte opwinding kunnen overbrengen naar hun favoriete merk – resulterend in een nog grote liefde en verlangen naar dit merk. In hoofdstuk 4, laat ik de loyaliteit van consumenten en hun verbondenheid met een speciaal merk voor wat het is en onderzoek ik een ander gedragseffect namelijk het delen van informatie. In dit geval onderzoek ik het effect van de aanwezigheid van anderen in een bepaalde ruimte op de waarschijnlijkheid dat consumenten “mond tot mond” communicatie toepassen. Deze paper laat zien dat hoe groter het aantal mensen in een bepaalde

ruimte, des te waarschijnlijker het is dat consumenten informatie delen met anderen (ergens anders bijv. op social media). Ik stel dat dit gebeurt, omdat drukke menigtes de persoonlijke controle negatief beïnvloeden en consumenten het delen van informatie gebruiken als middel om de persoonlijke controle weer te herstellen.

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## About the author

Irene Consiglio was born in Palermo, Italy, on August 24<sup>th</sup> 1983. She received her Bachelor Degree (cum laude) in Economics and Management of Arts, Culture, and Communication, at Bocconi University, and her Master's degree (cum laude) in Marketing at Rotterdam School of Management, Erasmus University. Before starting her Ph.D. she worked in the Marketing units of different cultural institutions and associations in Italy and Greece. In 2009, she started her Ph.D. in Marketing at the Erasmus Research Institute of Management. Currently, her main research interests are consumer-brand relationships and transformative consumer research. She has presented her work at several international conferences – such as the Association for Consumer Research, Society for Consumer Psychology, and European Marketing Academy conference. Work reported in chapter 3 is under revision at the Journal of Consumer Psychology. She was a visiting Ph.D. student at Harvard Business School in 2011. In September 2015, she started her new job as an Assistant Professor of Marketing at NOVA School of Business and Economics, Lisbon.



## Portfolio

### MANUSCRIPT UNDER REVIEW

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Consiglio Irene, Daniella Kupor, Michael I. Norton, and Francesca Gino. Brand (In)fidelity: When flirting with the competition strengthens brand relationships.

Revision requested at *Journal of Consumer Psychology*.

### SELECTED RESEARCH IN PROGRESS

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Consiglio Irene, and Stijn M.J. van Osselaer. The devil you know: Service failures, self-esteem, and brand switching. In preparation for submission to *Journal of Consumer Research*.

Consiglio Irene, and Stijn M.J. van Osselaer. Customer abuse: Exploring the abusive brand (relationship) analogue. In preparation for submission to *Journal of Consumer Research*.

Consiglio Irene, and Matteo De Angelis. The effect of crowdedness on information sharing. In preparation for submission to *Journal of Consumer Research*.

Consiglio, Irene, Francesca Gino, and Michael I. Norton. Neutralizing shyness in interpersonal and brand relationships.

Consiglio, Irene, Francesca Gino, and Michael I. Norton. We can work it out: When temptations strengthen relationships.

Consiglio, Irene and Michael I. Norton. Can you see the real me? Authenticity generates pro-social behavior.

Margaret C. Campbell, Consiglio, Irene, and Stijn M.J. van Osselaer. Persuasion and Decision Making in Older consumers.

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---

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Erasmus University Rotterdam TrustFonds Research Visit Grant, 2011

ERIM Travel Grant for visit to Harvard Business School, 2011

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## **PRESENTATIONS**

---

Consiglio Irene, Matteo De Angelis, and Michele Costabile (2016, February). "The effect of crowdedness on information sharing." Society for Consumer Psychology, St. Pete's Beach, FL.

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Consiglio, Irene, Daniella M. Kupor, Michael I. Norton, and Francesca Gino (2015, February). "Brand (In)idelity: When flirting with the competition strengthens brand relationships." Society for Consumer Psychology, Phoenix, AZ.

Consiglio, Irene, Daniella M. Kupor, Michael I. Norton, and Francesca Gino (2014, May). "Brand (In)idelity: When flirting with the competition strengthens brand relationships." Brands and Brand Relationships, Boston, MA.

Consiglio, Irene, Daniella M. Kupor, Michael I. Norton, and Francesca Gino (2013, October). "Brand (In)idelity: When flirting with the competition strengthens brand relationships." Association for Consumer Research, Chicago, IL.

Consiglio, Irene, and Stijn M.J. van Osselaer (2013, June). "Abused and faithful: Customer entrapment in a marketing relationship." EMAC Doctoral Colloquium, Istanbul, Turkey.

## **INVITED TALKS**

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Consiglio Irene, and Stijn M.J. van Osselaer. "The devil you know: Service failures, self-esteem, and behavioral loyalty."

Groningen University, October 2014.

NOVA School of Business and Economics, November 2014.

Grenoble School of Management, November 2014.

Disney Research, December 2014.

Pompeu Fabra University, December 2014.

## TEACHING EXPERIENCE

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### *NOVA School of Business and Economics*

Instructor, Marketing Management Basic Course, Fall/Spring 2015-2016.

### *Rotterdam School of Management Erasmus University*

Supervisor of Bachelor Internships in Marketing, 2013-2014.

Instructor, Thesis Clinic, Spring 2014.

Instructor, Master Thesis, Spring 2014.

Instructor, Master Thesis, Spring 2013.

Instructor, Bachelor Thesis, Spring 2012

Teaching Assistant, Marketing Strategy, Fall 2007.

## SELECTED MEDIA COVERAGE

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“When flirting increases loyalty,” *Scientific American*, February 4, 2014

<http://www.scientificamerican.com/article/when-flirting-increases-loyalty/>

Lizzie O’Leary (Narrator). (February 4, 2014). “When flirting makes you more loyal” [Radio broadcast episode]. In Kai Ryssdal (ed.), *Marketplace*. Washington DC: National Public Radio.

<http://www.marketplace.org/topics/business/final-note/when-flirting-makes-you-more-loyal>

“Flirting with other brands makes you more devoted to your favorite companies,” *The Consumerist*, February 5, 2014

<http://consumerist.com/2014/02/05/study-flirting-with-other-brands-makes-you-more-devoted-to-your-favorite-companies/>

## PROFESSIONAL AND UNIVERSITY SERVICE

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Trainee Reviewer for the Journal of Consumer Research.

Reviewer for the 2015 EMAC conference.

Reviewer for the 2015 AMS World Marketing Congress (Consumer Behavior Track).

Reviewer for the 2015 Society for Consumer Psychology Winter Conference.

Reviewer for the 2014 North American Association for Consumer Research Conference.

Subject pool manager, Rotterdam School of Management, Erasmus University, 2010-2011.

## PROFESSIONAL AFFILIATIONS

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Association for Consumer Research

Society for Consumer Psychology

Society for Judgment and Decision Making

European Marketing Academy

## SELECTED COURSEWORK

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Research Methodology and Measurement	Albert Jolink
Statistical Methods	Patrick Groenen, Alex J. Koning
Web-based surveys (basic and advanced)	Niels van Quaquebeke
Structural equation model (basic and advanced)	Gaetano Miceli, Gian Luca Marzocchi
Covariance-based structural equation modeling	Guido Berens
Steps in the meta-analysis research process	Marc van Essen, Pursey Heugens
Interpretive research methods	Güliz Ger, Lisa Peñaloza
Consumer behavior	Rik Pieters
Consumer behavior	Peeter W.J. Verlegh
Behavioral decision theory	Peter Wakker
The psychology of consumer decision making	Stijn M.J. van Osselaer



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**DISSERTATIONS LAST FIVE YEARS**

Abbink, E.J., *Crew Management in Passenger Rail Transport*, Promotor(s): Prof.dr. L.G. Kroon & Prof.dr. A.P.M. Wagelmans, EPS-2014-325-LIS, <http://repub.eur.nl/pub/76927>

Acar, O.A., *Crowdsourcing for Innovation: Unpacking Motivational, Knowledge and Relational Mechanisms of Innovative Behavior in Crowdsourcing Platforms*, Promotor(s): Prof.dr.ir. J.C.M. van den Ende, EPS-2014-321-LIS, <http://repub.eur.nl/pub/76076>

Akin Ates, M., *Purchasing and Supply Management at the Purchase Category Level: strategy, structure and performance*, Promotor(s): Prof.dr. J.Y.F. Wynstra & Dr. E.M. van Raaij, EPS-2014-300-LIS, <http://repub.eur.nl/pub/50283>

Akpinar, E., *Consumer Information Sharing*, Promotor(s): Prof.dr.ir. A. Smidts, EPS-2013-297-MKT, <http://repub.eur.nl/pub/50140>

Alexander, L., *People, Politics, and Innovation: A Process Perspective*, Promotor(s): Prof.dr. H.G. Barkema & Prof.dr. D.L. van Knippenberg, EPS-2014-331-S&E, <http://repub.eur.nl/pub/77209>

Almeida e Santos Nogueira, R.J. de, *Conditional Density Models Integrating Fuzzy and Probabilistic Representations of Uncertainty*, Promotor(s): Prof.dr.ir. U. Kaymak & Prof.dr. J.M.C. Sousa, EPS-2014-310-LIS, <http://repub.eur.nl/pub/51560>

Bannouh, K., *Measuring and Forecasting Financial Market Volatility using High-frequency Data*, Promotor(s): Prof.dr. D.J.C. van Dijk, EPS-2013-273-F&A, <http://repub.eur.nl/pub/38240>

Ben-Menahem, S.M., *Strategic Timing and Proactiveness of Organizations*, Promotor(s): Prof.dr. H.W. Volberda & Prof.dr.ing. F.A.J. van den Bosch, EPS-2013-278-S&E, <http://repub.eur.nl/pub/39128>

Benning, T.M., *A Consumer Perspective on Flexibility in Health Care: Priority Access Pricing and Customized Care*, Promotor(s): Prof.dr.ir. B.G.C. Dellaert, EPS-2011-241-MKT, <http://repub.eur.nl/pub/23670>

Berg, W.E. van den, *Understanding Salesforce Behavior using Genetic Association Studies*, Promotor(s): Prof.dr. W.J.M.I. Verbeke, EPS-2014-311-MKT, <http://repub.eur.nl/pub/51440>

Betancourt, N.E., *Typical Atypicality: Formal and Informal Institutional Conformity, Deviance, and Dynamics*, Promotor(s): Prof.dr. B. Krug, EPS-2012-262-ORG, <http://repub.eur.nl/pub/32345>

Bliek, R. de, *Empirical Studies on the Economic Impact of Trust*, Promotor(s): Prof.dr. J. Veenman & Prof.dr. Ph.H.B.F. Franses, EPS-2015-324-ORG, <http://repub.eur.nl/pub/78159>

Blitz, D.C., *Benchmarking Benchmarks*, Promotor(s): Prof.dr. A.G.Z. Kemna & Prof.dr. W.F.C. Verschoor, EPS-2011-225-F&A, <http://repub.eur.nl/pub/22624>

Boons, M., *Working Together Alone in the Online Crowd: The Effects of Social Motivations and Individual Knowledge Backgrounds on the Participation and Performance of Members of Online*

*Crowdsourcing Platforms*, Promotor(s): Prof.dr. H.G. Barkema & Dr. D.A. Stam, EPS-2014-306-S&E, <http://repub.eur.nl/pub/50711>

Brazys, J., *Aggregated Macroeconomic News and Price Discovery*, Promotor(s): Prof.dr. W.F.C. Verschoor, EPS-2015-351-F&A, <http://repub.eur.nl/pub/78243>

Burger, M.J., *Structure and Cooptition in Urban Networks*, Promotor(s): Prof.dr. G.A. van der Knaap & Prof.dr. H.R. Commandeur, EPS-2011-243-ORG, <http://repub.eur.nl/pub/26178>

Byington, E., *Exploring Coworker Relationships: Antecedents and Dimensions of Interpersonal Fit, Coworker Satisfaction, and Relational Models*, Promotor(s): Prof.dr. D.L. van Knippenberg, EPS-2013-292-ORG, <http://repub.eur.nl/pub/41508>

Camacho, N.M., *Health and Marketing: Essays on Physician and Patient Decision-Making*, Promotor(s): Prof.dr. S. Stremersch, EPS-2011-237-MKT, <http://repub.eur.nl/pub/23604>

Cancurtaran, P., *Essays on Accelerated Product Development*, Promotor(s): Prof.dr. F. Langerak & Prof.dr.ir. G.H. van Bruggen, EPS-2014-317-MKT, <http://repub.eur.nl/pub/76074>

Caron, E.A.M., *Explanation of Exceptional Values in Multi-dimensional Business Databases*, Promotor(s): Prof.dr.ir. H.A.M. Daniels & Prof.dr. G.W.J. Hendrikse, EPS-2013-296-LIS, <http://repub.eur.nl/pub/50005>

Carvalho, L. de, *Knowledge Locations in Cities: Emergence and Development Dynamics*, Promotor(s): Prof.dr. L. Berg, EPS-2013-274-S&E, <http://repub.eur.nl/pub/38449>

Cox, R.H.G.M., *To Own, To Finance, and To Insure - Residential Real Estate Revealed*, Promotor(s): Prof.dr. D. Brounen, EPS-2013-290-F&A, <http://repub.eur.nl/pub/40964>

Deichmann, D., *Idea Management: Perspectives from Leadership, Learning, and Network Theory*, Promotor(s): Prof.dr.ir. J.C.M. van den Ende, EPS-2012-255-ORG, <http://repub.eur.nl/pub/31174>

Deng, W., *Social Capital and Diversification of Cooperatives*, Promotor(s): Prof.dr. G.W.J. Hendrikse, EPS-2015-341-ORG, <http://repub.eur.nl/pub/77449>

Desmet, P.T.M., *In Money we Trust? Trust Repair and the Psychology of Financial Compensations*, Promotor(s): Prof.dr. D. de Cremer, EPS-2011-232-ORG, <http://repub.eur.nl/pub/23268>

Dollevoet, T.A.B., *Delay Management and Dispatching in Railways*, Promotor(s): Prof.dr. A.P.M. Wagelmans, EPS-2013-272-LIS, <http://repub.eur.nl/pub/38241>

Doorn, S. van, *Managing Entrepreneurial Orientation*, Promotor(s): Prof.dr. J.J.P. Jansen, Prof.dr.ing. F.A.J. van den Bosch, & Prof.dr. H.W. Volberda, EPS-2012-258-STR, <http://repub.eur.nl/pub/32166>

Douwens-Zonneveld, M.G., *Animal Spirits and Extreme Confidence: No Guts, No Glory?* Promotor(s): Prof.dr. W.F.C. Verschoor, EPS-2012-257-F&A, <http://repub.eur.nl/pub/31914>

Duca, E., *The Impact of Investor Demand on Security Offerings*, Promotor(s): Prof.dr. A. de Jong, EPS-2011-240-F&A, <http://repub.eur.nl/pub/26041>

Duyvesteyn, J.G. *Empirical Studies on Sovereign Fixed Income Markets*, Promotor(s): Prof.dr. P.Verwijmeren & Prof.dr. M.P.E. Martens, EPS-2015-361-F&A, [hdl.handle.net/1765/79033](http://hdl.handle.net/1765/79033)

Duursema, H., *Strategic Leadership: Moving Beyond the Leader-Follower Dyad*, Promotor(s): Prof.dr. R.J.M. van Tulder, EPS-2013-279-ORG, <http://repub.eur.nl/pub/39129>

Eck, N.J. van, *Methodological Advances in Bibliometric Mapping of Science*, Promotor(s): Prof.dr.ir. R. Dekker, EPS-2011-247-LIS, <http://repub.eur.nl/pub/26509>

Elemes, A, *Studies on Determinants and Consequences of Financial Reporting Quality*, Promotor: Prof.dr. E.PEEK, EPS-2015-354-F&A, <http://hdl.handle.net/1765/79037>

Ellen, S. ter, *Measurement, Dynamics, and Implications of Heterogeneous Beliefs in Financial Markets*, Promotor(s): Prof.dr. W.F.C. Verschoor, EPS-2015-343-F&A, <http://repub.eur.nl/pub/78191>

Eskenazi, P.I., *The Accountable Animal*, Promotor(s): Prof.dr. F.G.H. Hartmann, EPS-2015-355-F&A, <http://repub.eur.nl/pub/78300>

Essen, M. van, *An Institution-Based View of Ownership*, Promotor(s): Prof.dr. J. van Oosterhout & Prof.dr. G.M.H. Mertens, EPS-2011-226-ORG, <http://repub.eur.nl/pub/22643>

Evangelidis, I., *Preference Construction under Prominence*, Promotor(s): Prof.dr. S.M.J. van Osselaer, EPS-2015-340-MKT, <http://repub.eur.nl/pub/78202>

Faber, N., *Structuring Warehouse Management*, Promotor(s): Prof.dr. MB.M. de Koster, Prof.dr. Ale Smidts, EPS-2015-336-LIS, <http://repub.eur.nl/pub/78603>

Fernald, K., *The Waves of Biotechnological Innovation in Medicine: Interfirm Cooperation Effects and a Venture Capital Perspective*, Promotor(s): Prof.dr. E.Claassen, Prof.dr. H.P.G.Pennings & Prof.dr. H.R. Commandeur, EPS-2015-371-S&E, <http://hdl.handle.net/1765/79120>

Fourne, S.P., *Managing Organizational Tensions: A Multi-Level Perspective on Exploration, Exploitation and Ambidexterity*, Promotor(s): Prof.dr. J.J.P. Jansen & Prof.dr. S.J. Magala, EPS-2014-318-S&E, <http://repub.eur.nl/pub/76075>

Gharehgozli, A.H., *Developing New Methods for Efficient Container Stacking Operations*, Promotor(s): Prof.dr.ir. M.B.M. de Koster, EPS-2012-269-LIS, <http://repub.eur.nl/pub/37779>

Gils, S. van, *Morality in Interactions: On the Display of Moral Behavior by Leaders and Employees*, Promotor(s): Prof.dr. D.L. van Knippenberg, EPS-2012-270-ORG, <http://repub.eur.nl/pub/38027>

Ginkel-Bieshaar, M.N.G. van, *The Impact of Abstract versus Concrete Product Communications on Consumer Decision-making Processes*, Promotor(s): Prof.dr.ir. B.G.C. Dellaert, EPS-2012-256-MKT, <http://repub.eur.nl/pub/31913>

Gkougkousi, X., *Empirical Studies in Financial Accounting*, Promotor(s): Prof.dr. G.M.H. Mertens & Prof.dr. E. Peek, EPS-2012-264-F&A, <http://repub.eur.nl/pub/37170>

Glorie, K.M., *Clearing Barter Exchange Markets: Kidney Exchange and Beyond*, Promotor(s): Prof.dr. A.P.M. Wagelmans & Prof.dr. J.J. van de Klundert, EPS-2014-329-LIS, <http://repub.eur.nl/pub/77183>

Hekimoglu, M., *Spare Parts Management of Aging Capital Products*, Promotor: Prof.dr.ir. R. Dekker, EPS-2015-368-LIS, <http://hdl.handle.net/1765/79092>

Heij, C.V., *Innovating beyond Technology. Studies on how management innovation, co-creation and business model innovation contribute to firm's (innovation) performance*, Promotor(s): Prof.dr.ing. F.A.J. van den Bosch & Prof.dr. H.W. Volberda, EPS-2012-370-STR, <http://repub.eur.nl/pub/78651>

Heyde Fernandes, D. von der, *The Functions and Dysfunctions of Reminders*, Promotor(s): Prof.dr. S.M.J. van Osselaer, EPS-2013-295-MKT, <http://repub.eur.nl/pub/41514>

Heyden, M.L.M., *Essays on Upper Echelons & Strategic Renewal: A Multilevel Contingency Approach*, Promotor(s): Prof.dr.ing. F.A.J. van den Bosch & Prof.dr. H.W.

Volberda, EPS-2012-259-STR, <http://repub.eur.nl/pub/32167>

Hoever, I.J., *Diversity and Creativity*, Promotor(s): Prof.dr. D.L. van Knippenberg,

EPS-2012-267-ORG, <http://repub.eur.nl/pub/37392>

Hogenboom, A.C., *Sentiment Analysis of Text Guided by Semantics and Structure*,

Promotor(s): Prof.dr.ir. U.Kaymak & Prof.dr. F.M.G. de Jong, EPS-2015-369-LIS,

<http://hdl.handle.net/1765/79034>

Hogenboom, F.P., *Automated Detection of Financial Events in News Text*, Promotor(s):

Prof.dr.ir. U. Kaymak & Prof.dr. F.M.G. de Jong, EPS-2014-326-LIS,

<http://repub.eur.nl/pub/77237>

Hollen, R.M.A., *Exploratory Studies into Strategies to Enhance Innovation-Driven International Competitiveness in a Port Context: Toward Ambidextrous Ports*, Promotor(s) Prof.dr.ing. F.A.J.

Van Den Bosch & Prof.dr. H.W.Volberda, EPS-2015-372-S&E,

[hdl.handle.net/1765/78881](http://hdl.handle.net/1765/78881)

Hoogendoorn, B., *Social Entrepreneurship in the Modern Economy: Warm Glow, Cold*

*Feet*, Promotor(s): Prof.dr. H.P.G. Pennings & Prof.dr. A.R. Thurik, EPS-2011-246-STR,

<http://repub.eur.nl/pub/26447>

Hoogervorst, N., *On The Psychology of Displaying Ethical Leadership: A Behavioral*

*Ethics Approach*, Promotor(s): Prof.dr. D. de Cremer & Dr. M. van Dijke, EPS-2011-

244-ORG, <http://repub.eur.nl/pub/26228>

Hout, D.H. van, *Measuring Meaningful Differences: Sensory Testing Based Decision Making in an Industrial Context; Applications of Signal Detection Theory and Thurstonian Modelling*, Promotor(s): Prof.dr. P.J.F. Groenen & Prof.dr. G.B. Dijksterhuis, EPS-2014-304-MKT, <http://repub.eur.nl/pub/50387>

Houwelingen, G.G. van, *Something To Rely On*, Promotor(s): Prof.dr. D. de Cremer & Prof.dr. M.H. van Dijke, EPS-2014-335-ORG, <http://repub.eur.nl/pub/77320>

Hurk, E. van der, *Passengers, Information, and Disruptions*, Promotor(s): Prof.dr. L.G. Kroon & Prof.mr.dr. P.H.M. Vervest, EPS-2015-345-LIS, <http://repub.eur.nl/pub/78275>

Hytonen, K.A., *Context Effects in Valuation, Judgment and Choice: A Neuroscientific Approach*, Promotor(s): Prof.dr.ir. A. Smidts, EPS-2011-252-MKT, <http://repub.eur.nl/pub/30668>

Iseger, P. den, *Fourier and Laplace Transform Inversion with Applications in Finance*, Promotor(s): Prof.dr.ir. R. Dekker, EPS-2014-322-LIS, <http://repub.eur.nl/pub/76954>

Jaarsveld, W.L. van, *Maintenance Centered Service Parts Inventory Control*, Promotor(s): Prof.dr.ir. R. Dekker, EPS-2013-288-LIS, <http://repub.eur.nl/pub/39933>

Jalil, M.N., *Customer Information Driven After Sales Service Management: Lessons from Spare Parts Logistics*, Promotor(s): Prof.dr. L.G. Kroon, EPS-2011-222-LIS, <http://repub.eur.nl/pub/22156>

Kappe, E.R., *The Effectiveness of Pharmaceutical Marketing*, Promotor(s): Prof.dr. S. Stremersch, EPS-2011-239-MKT, <http://repub.eur.nl/pub/23610>

Karreman, B., *Financial Services and Emerging Markets*, Promotor(s): Prof.dr. G.A. van der Knaap & Prof.dr. H.P.G. Pennings, EPS-2011-223-ORG, <http://repub.eur.nl/pub/22280>

Khanagha, S., *Dynamic Capabilities for Managing Emerging Technologies*, Promotor(s): Prof.dr. H.W. Volberda, EPS-2014-339-S&E, <http://repub.eur.nl/pub/77319>

Kil, J., *Acquisitions Through a Behavioral and Real Options Lens*, Promotor(s): Prof.dr. H.T.J. Smit, EPS-2013-298-F&A, <http://repub.eur.nl/pub/50142>

Klooster, E. van 't, *Travel to Learn: the Influence of Cultural Distance on Competence Development in Educational Travel*, Promotor(s): Prof.dr. F.M. Go & Prof.dr. P.J. van Baalen, EPS-2014-312-MKT, <http://repub.eur.nl/pub/51462>

Koendjibharie, S.R., *The Information-Based View on Business Network Performance: Revealing the Performance of Interorganizational Networks*, Promotor(s): Prof.dr.ir. H.W.G.M. van Heck & Prof.mr.dr. P.H.M. Vervest, EPS-2014-315-LIS, <http://repub.eur.nl/pub/51751>

Koning, M., *The Financial Reporting Environment: The Role of the Media, Regulators and Auditors*, Promotor(s): Prof.dr. G.M.H. Mertens & Prof.dr. P.G.J. Roosenboom, EPS-2014-330-F&A, <http://repub.eur.nl/pub/77154>

Konter, D.J., *Crossing Borders with HRM: An Inquiry of the Influence of Contextual Differences in the Adoption and Effectiveness of HRM*, Promotor(s): Prof.dr. J. Paauwe & Dr. L.H. Hoeksema, EPS-2014-305-ORG, <http://repub.eur.nl/pub/50388>

Korkmaz, E., *Bridging Models and Business: Understanding Heterogeneity in Hidden Drivers of Customer Purchase Behavior*, Promotor(s): Prof.dr. S.L. van de Velde & Prof.dr. D. Fok, EPS-2014-316-LIS, <http://repub.eur.nl/pub/76008>

Kroezen, J.J., *The Renewal of Mature Industries: An Examination of the Revival of the Dutch Beer Brewing Industry*, Promotor(s): Prof.dr. P.P.M.A.R. Heugens, EPS-2014-333-S&E, <http://repub.eur.nl/pub/77042>

Kysucky, V., *Access to Finance in a Cross-Country Context*, Promotor(s): Prof.dr. L. Norden, EPS-2015-350-F&A, <http://repub.eur.nl/pub/78225>

Lam, K.Y., *Reliability and Rankings*, Promotor(s): Prof.dr. Ph.H.B.F. Franses, EPS-2011-230-MKT, <http://repub.eur.nl/pub/22977>

Lander, M.W., *Profits or Professionalism? On Designing Professional Service Firms*, Promotor(s): Prof.dr. J. van Oosterhout & Prof.dr. P.P.M.A.R. Heugens, EPS-2012-253-ORG, <http://repub.eur.nl/pub/30682>

Langhe, B. de, *Contingencies: Learning Numerical and Emotional Associations in an Uncertain World*, Promotor(s): Prof.dr.ir. B. Wierenga & Prof.dr. S.M.J. van Osselaer, EPS-2011-236-MKT, <http://repub.eur.nl/pub/23504>

Legault-Tremblay, P.O., *Corporate Governance During Market Transition: Heterogeneous responses to Institution Tensions in China*, Promotor: Prof.dr. B. Krug, EPS-2015-362-ORG, <http://repub.eur.nl/pub/78649>

Lenoir, A.S. *Are You Talking to Me? Addressing Consumers in a Globalised World*, Promotor(s) Prof.dr. S. Puntoni & Prof.dr. S.M.J. van Osselaer, EPS-2015-363-MKT, , <http://hdl.handle.net/1765/79036>

Leunissen, J.M., *All Apologies: On the Willingness of Perpetrators to Apologize*, Promotor(s): Prof.dr. D. de Cremer & Dr. M. van Dijke, EPS-2014-301-ORG, <http://repub.eur.nl/pub/50318>

Li, D., *Supply Chain Contracting for After-sales Service and Product Support*, Promotor(s): Prof.dr.ir. M.B.M. de Koster, EPS-2015-347-LIS, <http://repub.eur.nl/pub/78526>

Li, Z., *Irrationality: What, Why and How*, Promotor(s): Prof.dr. H. Bleichrodt, Prof.dr. P.P. Wakker, & Prof.dr. K.I.M. Rohde, EPS-2014-338-MKT, <http://repub.eur.nl/pub/77205>

Liang, Q.X., *Governance, CEO Identity, and Quality Provision of Farmer Cooperatives*, Promotor(s): Prof.dr. G.W.J. Hendrikse, EPS-2013-281-ORG, <http://repub.eur.nl/pub/39253>

Liket, K., *Why 'Doing Good' is not Good Enough: Essays on Social Impact Measurement*, Promotor(s): Prof.dr. H.R. Commandeur & Dr. K.E.H. Maas, EPS-2014-307-STR, <http://repub.eur.nl/pub/51130>

Loos, M.J.H.M. van der, *Molecular Genetics and Hormones: New Frontiers in Entrepreneurship Research*, Promotor(s): Prof.dr. A.R. Thurik, Prof.dr. P.J.F. Groenen, & Prof.dr. A. Hofman, EPS-2013-287-S&E, <http://repub.eur.nl/pub/40081>

Lovric, M., *Behavioral Finance and Agent-Based Artificial Markets*, Promotor(s): Prof.dr. J. Spronk & Prof.dr.ir. U. Kaymak, EPS-2011-229-F&A, <http://repub.eur.nl/pub/22814>

Lu, Y., *Data-Driven Decision Making in Auction Markets*, Promotor(s): Prof.dr.ir. H.W.G.M. van Heck & Prof.dr. W. Ketter, EPS-2014-314-LIS, <http://repub.eur.nl/pub/51543>

Manders, B., *Implementation and Impact of ISO 9001*, Promotor(s): Prof.dr. K. Blind, EPS-2014-337-LIS, <http://repub.eur.nl/pub/77412>

Markwat, T.D., *Extreme Dependence in Asset Markets Around the Globe*, Promotor(s): Prof.dr. D.J.C. van Dijk, EPS-2011-227-F&A, <http://repub.eur.nl/pub/22744>

Mees, H., *Changing Fortunes: How China's Boom Caused the Financial Crisis*, Promotor(s): Prof.dr. Ph.H.B.F. Franses, EPS-2012-266-MKT, <http://repub.eur.nl/pub/34930>

Mell, J.N., *Connecting Minds: On The Role of Metaknowledge in Knowledge Coordination*, Promotor: Prof.dr.D.L. van Knippenberg, EPS-2015-359-ORG, <http://hdl.handle.net/1765/78951>

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**OTHERS****ESSAYS ON INTERPERSONAL AND CONSUMER BEHAVIOR**

Consumers rarely realize how much principles governing the way they interact with other people may affect not only their interpersonal behavior, but even their consumer behavior. In this dissertation, I investigate this general issue in three chapters. In chapter 2, I propose that consumers with low self-esteem become wary of new relationships with alternative service providers if they experience service failures in a current service relationship, whilst consumers with high self-esteem do not. In chapter 3, I define brand flirting as consumers' casual interest in or short-term experimentation with a competitor to a favored brand, and I examine the consequences of minor consumer infidelity. In chapter 4, I move away from consumer loyalty and commitment, and examine a different behavioral outcome: information sharing. In this case, the context of the research is completely social, as I investigate the effect of the presence of others in a given space on the likelihood that consumers engage in information sharing, which is a form of interpersonal communication that is very relevant for marketing purposes.

This research has important managerial implications for professionals in the area of marketing and public policy. From a theoretical point of view, this dissertation contributes to research on brand relationships, by identifying tensions between multiple brand relationships (with current and alternative brands), and by investigating consumers' vulnerabilities that shape these relationships. Moreover, this research contributes to literature on information sharing by investigating how an unexplored contextual factor, namely crowdedness, affects consumers' propensity to share information with others (e.g., on social media).

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