SOCIAL AUDIENCES IN A RETAIL SETTING: AN INVESTIGATION OF THEIR INFLUENCE ON CONSUMERS' EMOTIONS, COGNITIVE PERFORMANCE, AND SELF-PRESENTATION BEHAVIOURS

by

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ABSTRACT

Social influences are important to understand in consumer behaviour. Although researchers have focused on the impact of an interacting social influence, consumers often find themselves in a store where another shopper is present but with whom they do not interact. Three field experiments investigate how a mere social presence, which varies in size (i.e., number), physical proximity, and perceived similarity, impact consumers' emotions, cognitions, and behaviours while in a shopping aisle.

Results demonstrated that consumers were more annoyed, anxious, and uncertain when either no one or a large social presence existed versus when the social presence was small in size, although this pattern did not replicate for either cognitive performance or self-presentation behaviours. Instead, as the size of a social presence increased, consumers recalled less information about the product display and were more likely to select the market-leading brand and avoid interacting with a display than when a social presence did not exist. They also appeared to prefer a social presence that was perceived to be similar versus dissimilar. Not only were they happier and more certain when the social presence was similar but they also recalled more information. However, the proximity of the social presence moderated the impact of both social size and perceived similarity. When the social presence was close by, its size perceived similarity influenced consumers as described above, but when it was further away, neither size nor perceived similarity differed in how they impacted consumers. Finally, tests for mediation on crowding, distraction, and reactions to the social presence were conducted. The dissertation concludes with a discussion on the theoretical and managerial implications, limitations of the research, and future avenues for research.

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CHAPTER ONE

INTRODUCTION

I. The Nature of the Research Problem

As a species, humans are gregarious animals that are attracted to, aroused by, and persuaded by other people in their social environment (Aronson 1995). Although the psychology literature that studies the impact of social influences dates back to the 1800s, researchers in marketing have only begun to investigate their impact. The early marketing studies that focused on the role of social influences have been carried out in a variety of areas including sales force management (e.g., Busch and Wilson 1976; Reingen and Kernan 1977; Woodside and Davenport 1974; Friestad and Wright 1995), satisfaction and word-of-mouth (e.g., Brown and Reingen 1987; Gilly, Graham, Wolfinbarger, and Yale 1998), product development and diffusion (e.g., Berning and Jacoby 1974; Gatignon and Robertson 1985), channel relationships (e.g., Boyle, Dwyer, Robicheaux, and Simpson 1992; Hunt and Nevin 1974; Lusch 1976), and advertising (e.g., Dholakia and Sternthal 1977; Martin and Gentry 1997; Richins 1991; Ritson and Elliott 1999).

In an early conceptualization of the theory of buyer behaviour, Howard and Sheth (1969) proposed that social influences might also impact consumers' behaviours. However, even though social influences are often mentioned in consumer behaviour textbooks, little is known regarding how other shoppers influence a consumer. The researchers who have investigated the impact social influences have on consumers' behaviours have primarily studied the influence of a social presence that interacts with a consumer (i.e., verbal communication; e.g., Moschis 1976; Sternthal, Philips, and

Dholakia 1977). However, while this research has demonstrated the relevance of understanding the impact of an interacting social influence in the marketing context, it also underscores the fact that consumer behaviouralists do not yet have an understanding of how a non-interacting social presence influences a consumer. This dissertation demonstrates that the need for research that investigates the impact of a social presence in the consumption context is central to understanding the role social influences play in marketing. This is particularly relevant given that individuals regularly engage in consumption in the presence of people with whom they do not interact. For example, when a consumer shops in a grocery store, there are often other shoppers who are present doing their own shopping but who do not talk to or interact with the consumer. This research attempts to understand whether and how the physical presence of these other shoppers influences the consumer.

II. The Scope of the Research

The purpose of this research is to investigate the impact that a social presence has on a consumer in a retail context. More specifically, this dissertation investigates the influence that a social presence in a shopping aisle has on a consumer during product selection and acquisition. This is considered to be an appropriate choice of a consumption context because other shoppers are often present when an individual is making a product/brand selection in a shopping aisle. Further, although the individual may be cognitively aware that others are nearby, this does not imply that an interaction between the social presence and the individual will occur. In fact, more often than not a consumer will not interact with a social influence that is shopping for another product in the same aisle, especially if the two parties do not know one another.

To enhance our understanding of the impact of a non-interacting social presence, this dissertation investigates three characteristics of the presence: its size (number of people present), its proximity (physical distance) to the consumer, and its perceived similarity with the consumer. These three central social characteristics have been selected because even though social psychologists have indicated the importance of understanding the influence of these social forces, consumer behaviour researchers have not investigated their impact on how a consumer thinks, feels and behaves. This is surprising given that consumers often shop in a retail outlet in the presence of other shoppers, who differ in these characteristics.

The central dependent variables of this proposed research reflect both internal and external factors relevant to a consumer. The internal factors that are investigated are twofold: first the intensity of various emotions consumers experience, and second, the cognitive processing that they engage in related to the task. The emotional outcomes that are studied in this research include two positive emotions, happiness and certainty, and two negative emotions, annoyance and anxiety. Emotions were investigated because atmospherics research (Kotler 1973/1974) has shown that consumers' emotional experiences within a store can impact intended shopping behaviours and in turn influence the amount of money they spend (Donovan and Rossiter 1982). Thus, from a managerial perspective it is important to understand conditions that create optimal emotions.

Cognition was assessed through the amount of information consumers recalled about the product display. This measure was considered important as it is directly related to information search.

The external factor investigated in this research is self-presentation behaviours. The two behaviours investigated in this dissertation include a consumer's interaction with a product testing display and brand selection. This research hypothesizes that the dependent variables will be uniquely impacted by the size, the proximity, and the perceived similarity of a social presence. To test the hypotheses presented in this research, three field experiments in a retail environment are conducted.

III. Contributions of the Research

This dissertation contributes to the existing consumer behaviour research in a number of ways. First, it demonstrates that the mere social presence of another person influences individuals in the consumption context. Thus, a social presence does not need to interact with a consumer to influence him/her; rather its physical presence is sufficient in eliciting emotions, cognitive, and behavioural responses. This dissertation also investigates three social presence characteristics, including, size, proximity, and perceived similarity, and determines their impact on another consumer. In addition, it explores the theoretical drivers of why the above-mentioned social characteristics are important in the consumption context. Another contribution of this dissertation is that it redefines an existing social psychology theory called social impact theory by identifying a condition under which the theory does not apply. This dissertation also demonstrates that counter to earlier research findings, a social presence influences a consumer even during the acquisition of a product that is low in visibility (i.e., privately consumed) and perceived risk. Finally, the relationships of interest are tested using field experiments. The use of real world situations enables researchers to gain a better understanding of how a social presence influences consumers when they shop.

IV. Organization of this Document

The remainder of this document is divided into seven chapters. Chapter Two reviews and integrates the literature on social influences in both marketing and social psychology. Chapter Three explores the impact of three social influence characteristics in the consumer context and proposes formal hypothesis pertaining to the impact of these influences on emotional, cognitive, and behavioural outcomes. Chapter Four presents six pre-tests and their respective results. Chapter Five describes the research methodology that was used to test the impact of social size in Study One, including the research design, the independent and dependent variables investigated, the procedure that was used, and reports and discusses the findings. Chapter Six presents the research methodology of the second study that examined the impact of social size and proximity on consumers' emotions, cognition, and behaviours. Chapter Seven presents the third study that investigated the influence of proximity and perceived similarity on consumers. Finally, Chapter Eight discusses the findings of the research, identifies limitations, highlights implications, and proposes avenues for future research.

CHAPTER TWO

SOCIAL INFLUENCES

In this chapter, the nature of social influences is discussed and a general review and integration of the literature in consumer behaviour and social psychology is presented. The purpose of this literature review is to delineate the importance of understanding social influences in consumer behaviour, while also presenting an overview of the theories pertinent to the proposed investigation.

I. Social Influences in Consumer Behaviour

Researchers have found that the shopping environment influences consumer behaviours in a pervasive manner (Belk 1975; Park, Iyer, and Smith 1989; Schlosser 1998; Spangenberg, Crowley, and Henderson 1996; Yoo, Park, and MacInnis 1998). In an early marketing article, Belk (1975) proposed a taxonomy of situational/environmental characteristics that influence consumers. One characteristic that was identified was social surroundings, which includes the other people present and their specific characteristics, the roles these people play, and their interpersonal interactions that occur while in this environment (Belk 1975).

Given that other people are often present during a purchase or consumption experience, consumers commonly find themselves in an environment that contains potential social influences. Although an understanding of the impact of these influences may provide valuable insight to consumer behaviourists, relatively little attention in the literature has focused on this issue. In fact, in a recent article, Bagozzi (2000) made a call for more research to focus on the social aspects of consumer behaviour.

The limited research conducted in this area can be divided into two main categories. The first category focuses on the influence of an interacting social influence on an individual and/or group (e.g., Bearden and Etzel 1982; Childers and Rao 1992; Dahl, Honea, and Manchanda 2003; Dholakia and Sternthal 1977; Palan and Wilkes 1997; Park and Lessig 1977; Witt 1969; Witt and Bruce 1970). Examples of this type of social influence include a salesperson greeting a consumer, a friend providing an opinion, or a group of people debating amongst themselves about a purchase. The second stream of research focuses on the influence of a social presence that exists physically but with whom an individual does not interact (e.g., Dahl, Manchanda, and Argo 2001; Lupfer, Kay and Burnette 1969). An example of this type of social influence would involve a consumer shopping in an aisle in which another shopper is present but not interacting with the consumer.

The research on interacting social influences is primarily drawn from two areas of consumer behaviour research: persuasion and decision-making. The first area of research is centred on the persuasion literature where researchers have found that a social influence impacts consumers' attitudes and beliefs. For example, a central tenet of Fishbein's extended multi-attribute model of behavioural intentions postulates that normative beliefs play an important role in predicting behaviours (Fishbein 1967). According to this model, an individual's behaviour is determined, not only by one's attitudes, but also by one's social or subjective norms. These norms suggest that an individual's motivation to behave in a certain manner is influenced by others.

Additional persuasion research has investigated the impact of the characteristics of the persuasion source on one's attitudes and behaviours. Researchers in this area

found that the credibility of an influencing source was key to the success of an influence attempt (Dholakia and Sternthal 1977; Sternthal, Dholakia, and Leavitt 1978); highly trustworthy and expert spokespeople tended to create a more positive attitude toward the position they supported than spokespeople with less credibility (Sternthal, et al. 1977). Furthermore, information from a credible source was internalized and thereby accepted more easily than information provided by a non-credible source (Kelman 1961).

The second area of consumer behaviour where researchers have investigated the impact of an interacting social influence is found in the decision-making literature. In general, this research has indicated that the individuals with whom a consumer interacts have a substantial impact on decision-making strategies and outcomes (e.g., Bearden and Etzel 1982; Blood and Wolfe 1960; Filiatrault and Ritchie 1980; Moschis 1976; Park and Lessig 1977). The discussion pertaining to the findings of the impact of a social influence on decision-making will be divided into two subsections: group decision-making and individual decision-making. First, in the literature on group decision-making, one of the most predominant groups studied is the family unit (e.g., Blood and Wolfe 1960; Burchinal and Bauder 1965; Davis 1971; Filiatrault and Ritchie 1980; Palan and Wilkes 1997; Wilkes 1975). A large portion of this research has focused on the role structure of the family and on the influence or power of the husband and wife while making decisions. The results of this research have been quite mixed with some investigators finding that husbands and wives were equally influential (Blood and Wolfe 1960; Burchinal and Bauder 1965), while others showed that the influence was not so uniform (Davis 1971; Wilkes 1975). Despite the extensive interest in husband-wife influences, other researchers have suggested that the influence during family decision-

making lied not only with the parents, but also extended to include the rest of the family members such as small children and adolescents. Overall, the findings of this research have indicated that young children have limited influence in the family decision-making process when the purchases were not for their personal use (Filiatrault and Ritchie 1980). However, teenagers were more influential in family purchase decisions especially when they imitated adults' influence strategies (Palan and Wilkes 1997).

Research has also studied the impact of a social influence on an individual's choice behaviour and decision-making (e.g., Ariely and Levav 2000; Bearden and Etzel 1982; Childers and Rao 1992; Park and Lessig 1977; Witt 1969; Witt and Bruce 1970). A significant amount of this research is found in the reference group literature. The concept of reference groups dates back to Hyman (1942), who defined them as a point of reference for individuals to use in evaluating given situations. Sherif (1953) stated that there were two different types of reference groups – one in which an individual was already a member (i.e., a membership group) and one in which an individual was not currently a member but aspired to be (i.e., an aspiration group). After this initial work, a third reference group was identified that was a group with which an individual did not want to be associated (i.e., a dissociative group).

Two primary processes or functions of reference groups have been identified in the literature (Kelley 1955). The first process was referred to as the normative function and involves setting and enforcing group norms. Following this process, an individual's willingness to comply, identify, and internalize the group standards determined whether the individual would be rewarded (i.e., accepted as a member) or punished (i.e., not accepted; Stafford and Cocanougher 1977). The second process identified was the

comparison function (Kelley 1955). This function proposed that a reference group served as a comparison point (cue) against which an individual could evaluate him/herself. Since this early work, Park and Lessig (1977) have reconceptualized the functions of reference groups into three categories: utilitarian (this is similar to the normative function), informational (this reflects the idea of the comparison function), and value-expressiveness (involves an individual's psychological need for social association). While all three functions can occur in the presence of an interaction between an individual and a social influence, they may also occur in the presence of a non-interacting social influence. For example, one study found that distant others, which could include movie and athletic stars, served as an informational reference group influence even though they were not physically present (Cocanougher and Bruce 1971).

Overall, reference group findings have indicated that reference groups were influential when a consumer made a decision (e.g., Cocanougher and Bruce 1971; Moschis 1976; Park and Lessig 1977; Reingen, Foster, Brown, and Seidman 1984; Stafford 1966; Witt 1969). This influence was especially prominent when consumers were choosing a product that was highly visible to others, such as a car or clothes (Bearden and Etzel 1982; Childers and Rao 1992) as opposed to when the product, such as bread, was low in visibility and perceived risk (Ford and Ellis 1980; Robertson 1971). Additional research has shown that the influence of reference groups depended on who exercised the power (i.e., peer group members or family members: Childers and Rao 1992) and who completed the survey (i.e., housewives or students: Park and Lessig 1977). One final point that should be made pertains to the methodology that has been used to investigate the impact of reference groups. In a typical reference group study,

participants were presented with a list of products and were instructed to assess the extent to which their alternative selection would be influenced by the various reference groups identified above (for an example see Bearden and Etzel 1982; Childers and Rao 1992). Thus, reference groups were not often physically present with the participants. Furthermore, during the few select times that the reference group was present, there was some level of interaction that occurred between the reference group and the participant (see Stafford 1966; Witt 1969; Witt and Bruce 1970; Woodside 1972).

A second stream of social influence literature in consumer behaviour has focused on the impact of a non-interacting social presence (Dahl et al. 2001; Lufner et al. 1969). This research differs from the previously mentioned research because it suggests that a social influence, such as another shopper who is physically present, can have an impact on an individual even in the absence of any interaction between the two parties. Although it is a common occurrence that other people with whom one does not interact are present in a consumption situation, there has been only a limited amount of research done in this area to test the impact of this social presence. Further, evidence in one of the few studies conducted with a non-interacting social presence found that participants experienced more embarrassment when they purchased condoms in the presence of someone else, as compared to when no one else was there (Dahl et al., 2001). Therefore, it appears that a social presence can influence consumers even in the absence of an interaction.

This dissertation attempts to further the understanding of social influences in the consumer context by moving beyond social influences with whom an individual interacts and determining the impact of a non-interacting social presence. It differs from the

limited research previously conducted by investigating the impact of different characteristics of the social presence on emotions, cognitions, and behaviours. It is argued that the mere presence of another individual will influence a consumer in a number of different ways and exploring these influences will provide a more enriched understanding of consumer behaviour. In the next section, relevant literature to the proposed research from the social psychology discipline will be briefly reviewed.

II. Social Influences in Psychology

Social psychologists have found that the social environment plays a central role in influencing our emotions, cognition, and behaviours. These environmental influences can result from an actual interaction between an individual and a social influence or by the mere physical presence of another person. A number of areas of research have investigated the effects of social influences on individuals in interacting and non-interacting environments and the ones reviewed in this dissertation include the following: conformity (Asch 1951; Sherif 1935), crowding (Geen and Bushman 1989; Langer and Saegert 1977; Schmidt and Keating 1979; Sundstrom 1978), social facilitation/inhibition (Cottrell 1968, 1972; Zajonc 1965, 1980), social impact theory (Latané 1981; Latané and Wolf 1981).

Conformity

Most of the research conducted in the social influence area has followed from the early work of Sherif's (1935, 1936) research on norm development and Asch's (1951, 1952, 1956) work on conformity. First, Sherif (1935) studied the process of norm development through the use of an optical illusion test. When participants were placed in a group, after having earlier responded to the test independently, the presence of others

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(i.e., confederates) caused the participants to progressively change their earlier estimates to be more similar to the estimates of others. Moreover, the greater the uncertainty participants experienced about the situation, the more quickly they were influenced by the group's responses. This was especially apparent when the respondents appeared to be confident in their assessment. This implies that when one feels uncertain in a given situation, other people can serve as influential sources of information to help shape their reality and interpret the situation.

In another line of social influence research that studied conformity, Asch (1951; 1952, 1956) investigated the effects of group pressure on an individual's behaviours. In this research, participants were first presented with the picture of a line and then presented with a second picture of three lines of various lengths. They were told that their task was to indicate publicly which of the three lines was the same length as the first line they had seen. The real participant was seated with a group of six other "participants", who were actually confederates placed in the study, with instructions to respond in a predetermined manner. The real participant first heard the responses of five of the confederates prior to making a judgment. Although the correct response was obvious, the confederates unanimously indicated the same incorrect line. Asch found that in over one-third of the trials the participants conformed to the confederates' responses by indicating the same response, even though it was obviously incorrect.

The research conducted by Sherif and Asch suggests that there may be two different sources of influence (Aronson, Wilson, and Akert 1998). In the Sherif situation, participants complied with a social influence in the presence of uncertainty; however, in the Asch condition, although uncertainty was minimal, conformity still occurred. To

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explain these different findings, Deutsch and Gerard (1955) proposed the potential existence of normative and informational social influences. Normative social influences occur when an individual complies with others to avoid punishment (i.e., to avoid being excluded from the group, negative evaluation, or ridiculed) or to gain rewards (i.e., to be liked and accepted). It should be noted that the normative function in the reference group literature is based upon this influence. Applying the notion of normative social influences to Asch's studies, the participants may have complied to the pressures of the other group members because they were concerned with looking silly in front of a group of strangers. Informational social influences occur when individuals look to others as a source of useful information when they experience uncertainty in a situation. In this situation, conformity happens because an individual believes that others' interpretations of an ambiguous situation are more correct than his/her and would provide relevant information for choosing an appropriate course of action. Referring back to Sherif's research where the task created a lot of uncertainty, informational social influences may explain the participants' tendency to comply with the responses of others.

Common to both of the studies is that in each case the social presence interacted at some level with the participants. However, in many situations, interactions do not always occur between two parties. This has led social researchers to investigate the impact of a non-interacting social presence. In the next section research on crowding will be presented in a discussion on the influence of a social presence.

Crowding

Environmental stressors have been shown to have an impact on an individual (Griffit and Veitch 1971). One type of stressor that has been identified in the psychology

literature is crowding, which results from an increase in social density (total number of people present) and a decrease in spatial density (amount of space available per person regardless of the number of people present: Geen and Bushman 1989). Two theoretical explanations have been proposed to explain why people become crowded: behavioural constraints and stimulus overload (Schmidt and Keating 1979). Behavioural constraints occur when an individual's objectives and goals become blocked. For example, if an individual sitting in the aisle seat on an airplane prevents the person who is sitting next to the window from getting up and moving around, the person next to the window will feel crowded. This explanation suggests that crowding occurs at a physical level (Sundstrom 1975). In contrast, stimulus overload involves an interference that occurs at the perceptual or cognitive level. According to this explanation, crowding is experienced when the level of social stimulation and psychological demands placed on an individual in a crowded environment exceed the level of stimulation that an individual desires and perceives to be controllable (Milgram 1970; Nesbitt and Steven 1974; Saegert 1978; Schmidt and Keating 1979).

Crowding has been shown to occur in a wide variety of contexts ranging from prisons (Paulus, Cox, McCain, and Chandler 1975) to colleges (Baron, Mandel, Adams, and Griffen 1976) to naval ships (Dean, Pugh, and Gunderson 1975) to department stores (Langer and Saegert 1977). Crowding has also been shown to produce a number of different negative outcomes including an increase in illnesses and negative emotions such as stress, tension, and anxiety, and a decrease in satisfaction (Baum, Aiello, and Calesnick 1978; Griffit and Veitch 1971). A more specific discussion on the outcomes of crowding will be conducted in the next chapter.

It should be noted that the research on crowding is a subsection of a broader line of literature on the effects of the mere presence of a social influence. A popular theory that studies the effects of a mere presence is called social facilitation/inhibition.

Social Facilitation/Inhibition

The first study conducted on social facilitation/inhibition demonstrated that an individual's performance was enhanced while in the presence of another person who was doing the same simple motor task (Triplett 1898). In the decades following this early work, several researchers investigated this phenomenon but came to different conclusions (for a review, see Cottrell 1972). This disjointed study of social facilitation/inhibition continued until the late 1930s when interest in the topic subsided. It was not until the 1960s that a seminal article by Zajonc revitalized interest in the topic. Zajonc's (1965) formulation of social facilitation/inhibition used a drive-theory framework that was based on two assumptions. The first assumption was that the physical presence of other people increased an individual's drive or level of arousal. The second assumption was that the tendency for individuals to make a response was a multiplicative function of one's familiarity with the response and one's level of drive. Based on these two assumptions, Zajonc concluded that when a task is familiar (i.e., easy) performance would be facilitated by the presence of another individual. In contrast, when the task is not familiar (i.e., difficult) performance would be hindered by the presence of another person. Zajonc proposed that the mixed findings from earlier researchers could be explained by the nature of the response elicited in the studies. Support for his findings was found in later research (e.g., Zajonc and Sales 1966).

Two explanations have been forwarded to explain why individuals become aroused in the presence of other people. The first explanation is based on the notion that other people may serve as evaluators and as a result, people become concerned with what others are thinking of them. According to this explanation, people feel that others may judge how well or poorly they are performing and this may cause them to feel nervous or aroused (Bond, Atoum, and VanLeeuwen 1996; Cottrell 1968). This explanation is found in the first elaboration that was proposed to Zajonc's drive-theory of social facilitation (Cottrell 1968; Cottrell, Wack, Sekerak, and Rittle 1968). It is argued that the drive created by a social presence is a learned drive, and results from the anticipation of either positive or negative outcomes. Thus, an audience of potential evaluators causes more arousal than one that is "merely" present. Support for this contention has been found by a number of other researchers (e.g., Bond 1982; Cottrell, et al. 1968; Henchy and Glass 1968; Paulus and Murdoch 1971). The second explanation that has been forwarded is that other people serve as a distraction (Baron 1986; Sanders 1983). Following this explanation, people are aware of what is going on around him/her and as a result heightened awareness creates more arousal and in turn makes it difficult for the individual to focus on the task at hand because of increased arousal. Given that it is difficult to concentrate on two things simultaneously, dividing one's attention produces arousal. Regardless of the explanation for the increase in arousal, the outcome is consistent: people perform better on simple and well-learned tasks and perform worse on complex and unfamiliar tasks. The discussion on social facilitation will be reviewed in more detail in the next chapter.

Social Impact Theory

Social impact theory (SIT; Latané 1981) makes predictions pertaining to the impact of a social influence in either an interacting or a mere presence situation. Unlike the research previously discussed, SIT is much broader in scope and more general in nature (Latané and Nida 1980). Latané (1981) described a social impact as any of a number of effects including motives and emotions, cognitions and beliefs, and values and behaviour that the real, implied, or imagined presence or actions of an individual could have on a target. These effects of social influence could be understood as resulting from "social forces (like the physical forces of light, sound, gravity, and magnetism)" that operate within a "social force field"(Latané 1981, pg. 343). The social forces described in SIT were number, immediacy, and social source strength.

Number. Number (referred to in the present document as the size of the social presence) is how many people are present in a given situation. Of the three social characteristics, the size of the social influence has received the most attention in social psychology and has been studied in a variety of different social contexts. For example, Milgram, Bickman, and Berkowitz (1969) investigated the effects of various sized crowds on a passer-by's tendency to imitate the crowd's behaviour. In this study, confederates walked along a sidewalk of a busy New York City street and at a predetermined location stopped and looked up at a window in a building. The authors were interested in whether the number of confederates executing these behaviours would impact how many other people would also stop and/or look up. They found that while 4% of the pedestrians stopped and 42% looked up when there was one confederate present, 40% stopped and 86% of the pedestrians looked up when there were fifteen

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confederates present. Thus, the size of the crowd affected the proportion of people who imitated the crowd's behaviour. In a different context, researchers studied the tendency for individuals to behave in a chivalrous manner in the presence of various sized social influences (Latané and Dabbs 1975). In this research, confederates entered an elevator pretending to be a fellow passenger and then "accidentally" dropped a handful of pencils or coins on the floor. The researchers were interested in whether the likelihood of passengers offering assistance in picking up the dropped items was a function of size. They found that as the number of passengers in the elevator increased, the probability that someone was willing to help the clumsy confederate decreased. Consistent with the findings of the above-mentioned examples, researchers have found that the impact of a social presence increased with the number of social presence members (Latané, Williams, and Harkins 1979; Petty, Harkins, Williams, and Latané 1977; Williams, Harkins, and Latané 1981). Further, the impact of each additional person grew smaller as the size of the social influence increased (Milgram et al. 1969).

It should be noted that there has been a debate among social psychologists over whether or not the greatest impact occurs with the first social influence. One group of researchers, comprised mainly of SIT researchers, has found that the greatest impact of a social influence occurs with the presence of one individual (Campbell, Tesser, and Fairey 1986; Gerard, Wilhelmy, and Conolley 1968; Latané, et al. 1979; Petty, et al. 1977; Williams, et al. 1981). The second group of researchers, comprised of early conformity researchers and those who have proposed an alternative model to SIT, have argued that the most influence occurs with the second or third individual (Asch 1955; Tanford and Penrod 1984). In a study designed to determine whether certain conditions explained this

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disparity, Campbell and Fairey (1989) found that the size of the social presence with the greatest impact depended on whether informational or normative social influences were present. They proposed and later found that when the influence was based on information, consistent with SIT, the first individual had the greatest impact. They explain this by suggesting that the first source would provide an individual with the most information and that any additional sources would have less of an impact because the information they would provide would be somewhat redundant. In contrast, if the influence process was governed by normative mechanisms, they predicted that consistent with the social influence model, the second and third sources would have more impact than the first source. They explain this by stating that normative pressures from a group of people would have more impact than the pressure exerted by only one person.

Immediacy. The second social force identified in SIT is immediacy (referred to in the text of this dissertation as proximity). Immediacy refers to the closeness of the source of the influence to the target in terms of proximity and time. Some of the findings have indicated that physical distance impacted an individual's tendency to be obedient (Milgram 1974) and influenced an individual's recall of memorable experiences (Latané, Liu, Nowak, Bonvento, and Zheng 1995). Although SIT predicts that the closer the social force is, the larger the impact it will have on an individual, the findings from the research that have studied immediacy are not conclusive. While some studies have found support in favour of SIT's prediction for immediacy (e.g., Harkins and Latané 1998; Latané, et al. 1995), several others have not (e.g., Hart, Stasson, and Karau 1999; Knowles 1983; Williams and Williams 1983). A discussion on the limitations of the

theory, which may explain the inconsistency in findings, is presented at the end of the review of SIT.

      Social Source Strength. The last social force in SIT is social source strength and this refers to the importance or salience of the source. In the SIT literature, social source strength has been studied in a variety of ways including status (Jackson and Latané 1981), age (Latané and Harkins 1976), and expertise (Hart et al., 1999; Wolf and Latané 1983). However, Latané (1981) proposed that social source strength was not limited to the facets previously studied but could also include a variety of other facets such as socio-economic standings. Overall, researchers have found that sources of influence that were high in social source strength (e.g., high in status) were more influential on a target than a source low in social source strength (e.g., low in status), regardless of the facet of social source strength that was studied (Hart et al., 1999; Latané and Harkins 1976; Seta, Crisson, Seta, and Wang 1989; Williams and Williams 1989). For example, Williams and Williams (1989) found that participants approached by a high-strength requester for a monetary donation were more likely to comply than those approached by a low-strength requester. In another study, Wolf and Latané (1983) found that when sources with more expertise provided positive information about their preferences, participants rated a restaurant's desirability higher than when the information was provided by sources with less expertise. In the current research social source strength will be investigated as the perceived similarity (i.e., the shared characteristics that exist between the social presence and the consumer). The justification for this operationalization of social source strength, as well as a more extensive discussion on perceived similarity, will be presented in Chapter Three.

Based on the three social forces identified above, Latané (1981) proposed three principles of SIT that explained how the theory functioned and predicted the relationships between the three forces. The first principle stated that the amount of impact a target (i.e., the individual upon which the impact was exerted) experienced was the multiplicative function of the social source strength (S), immediacy (I), and number (N) of the social presence, represented by the equation $impact = f(SIN)$. Therefore, the impact that a target experienced from a social influence would be greater the higher its social source strength, the closer it was to the target, and the more people present.

The second principle proposed that an increase in the number of sources to a social force field was a power function, where each additional individual would have a marginally decreasing effect on the target. This function was expressed by the equation $impact = sN^t$ where a constant s was equal to the impact of a single source and t was a value less than one. As mentioned earlier, the first person in the social force field would create the largest impact on the target individual and although the second and third sources of influence would increase the impact on the target, their contribution to the influence would be less than that of the first person (Latané and Wolf 1981).

SIT's third principle focused on a differentiation between a multiplication and a division of impact. The premise of this principle was that when other people stand with the target (i.e., the target of the social influence consisted of at least two individuals) an increase in social source strength, immediacy, or the number of other social sources would produce a division of impact where each target individual would feel less of the impact than if he/she were standing alone. Consistent with the second principle, the

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increase of additional members to the target group would have a marginally decreasing

effect. This relationship was represented by *impact* $= sN^{-t}$.

Although SIT has only a few basic principles, it still applies to a wide assortment

of social phenomena. It has been used to explain research findings in conformity (Asch

1951, 1952, 1956), social facilitation/inhibition (Zajonc 1965), tipping behaviour in

restaurants (Freeman, Walker, Borden, and Latané 1975), stage fright (Jackson and

Latané 1981; Latané and Hawkins 1976), bystander intervention in an emergency (Latané

and Darley 1968; Williams and Williams 1989), chivalry (Latané and Dabbs 1975), and

imitation (Milgram, et al. 1969). For example, the findings from the conformity literature

showed that as the number of group members increased, there was an increased

likelihood that a participant would conform (e.g., Asch 1951, 1952, 1956; Campbell and

Fairey 1989). Another example of the applicability of SIT to earlier work in social

psychology involved social facilitation/inhibition. As discussed previously, the presence

of a social influence has been shown to either hinder or facilitate one's performance

depending on the familiarity of the task (Zajonc 1965). Later research in this area also

found that the relationship between the target and the social influence impacted

performance in the direction predicted by SIT (Henchy and Glass 1968; Sasfy and Okun

1974).

Despite SIT's ability to predict a wide range of social events, it has received some

criticism. For example, Mullen (1983) argued that the theory was only descriptive and *a*

posteriori and as a result, it ignored the psychological processes of social influence.

Stated differently, the theory did not explain *why* effects occurred, but rather it predicted

what should happen. Further, in a later article, Mullen (1985) critiqued researchers who

have studied SIT for overlooking two characteristics, namely proximity and source strength. He argued that understanding the impact of these two characteristics was central to the theory as they were key factors that separated SIT from alternative explanations of group influence. In his article he conducted a meta-analysis on the limited studies that investigated these two distinguishing social characteristics of SIT and evaluated their effectiveness in predicting social influence in a group setting. His results indicated that although the effects were significant, they were low in magnitude and were inconsistent. Finally, in another article Tanford and Penrod (1984) criticized the absence of a limit to the influence that a social presence could exert on an individual. Further, they argued that SIT failed to incorporate characteristics of the experimental situation or individual differences into its predictions.

Although the present chapter discussed a number of different topics related to the influence of a social presence, in the remainder of the dissertation only three of these research areas will be drawn upon: SIT, crowding, and social facilitation/inhibition. These three areas of research are perceived to be the most relevant to the present dissertation. The other topics were only discussed to provide the reader with a broader understanding of the research conducted on social influences. The next chapter discusses the impact of the three social characteristics, size, proximity, and perceived similarity on consumer emotions, cognitions, and behaviours in a retail context. Hypotheses will be proposed that utilize the SIT framework and that incorporate research findings from a number of different areas. A more detailed discussion on the research findings on crowding and social facilitation/inhibition will be presented relative to the specific hypotheses forwarded in this dissertation. In addition, the formulation of the hypotheses

will also draw upon other areas of social psychology including distraction, attraction, and impression management. Finally, given the criticism that SIT is predictive in nature, mediation analyses will be conducted in Chapters Six and Seven, that draw upon the literature presented in the both the present and next chapter. Although no formal hypothesis will be forwarded regarding mediation, crowding, distraction, and attraction will be tested to determine whether they can provide insight into *why* a social presence influences a consumer in the retail context.

CHAPTER THREE

THEORY AND HYPOTHESES

In this chapter, the relationship between the three social characteristics to be studied in this research, size, proximity, and perceived similarity, and the key dependent variables including emotional, cognitive, and behavioural responses will be delineated. This research proposes that the type of social influence that is present during product selection and acquisition will determine the impact the consumer experiences in terms of the dependent variables mentioned above. Formal hypotheses pertaining to these relationships will be forwarded.

I. Social Size

As discussed in Chapter Two, research has found that the impact of a social presence on individuals varies based on its size. In the following sections, the predicted impact of different sized social presences on consumers' emotions, cognitions, and behaviours will be discussed.

Emotions

A fundamental human motivation is the need to belong (Baumeister and Leary 1995). This desire for interpersonal attachment has been prevalent in the psychology literature for many years. For example, Maslow (1968) indicated in his motivational hierarchy a need for love and belongingness. Further, Bowlby (1969) posited in his attachment theory that individuals have a need to form and maintain relationships. In an integration of the literature that investigates the need to belong, Baumeister and Leary (1995) go so far as to say that a human's need to belong is almost as important as his/her need for food. Although most researchers have investigated the need to belong in well-

developed relationships, evidence also exists that this need may be present in situations with limited contact. For example, in one study simply living in close proximity to another person was found to create a sense of attachment (Festinger, Schachter, and Back 1950).

The primary implication of an individual's need to belong is that a change to someone's perceived belongingness status will create emotional responses (Baumeister and Leary 1995). These responses will be positive in nature when an individual begins to feel more of a sense of belonging. It should be noted that research has also demonstrated that it takes very little to create an initial level of social attachment (Baumeister and Leary 1995). Thus, it could be argued that if an individual is in the presence of another person in an otherwise empty environment, the presence of this other person will create some sense of belonging. This in turn will begin to satisfy the need to belong and will create an increase in the intensity of positive emotions that are experienced. Stated differently, the presence of another person will lead a consumer to experience more intense positive emotions than if the consumer was alone.

The impact of a social presence on a consumer's emotions is not new or unique to the literature related to a person's psychological need to belong. In fact, research has demonstrated that a social presence can create, intensify or reduce emotional experiences (e.g., Dahl et al., 2001; Miller and Leary 1992; Schachter 1959). As mentioned earlier, people are social animals who enjoy the presence of other individuals (Aronson 1995); therefore, a person should experience more intense positive emotions when someone else is present. However, research has found that the presence of others not only increases the intensity of positive emotions experienced, but also decreases the intensity of negative

emotions under certain situations. For example, in one study when participants were given the option, they preferred to wait for an unpleasant situation in the presence of another individual as compared to waiting alone because while the presence of another person increased a sense of comfort it also decreased their feelings of nervousness, tension, fear, and anxiety (Buck and Parke 1972; Cottrell and Epley 1977; Schachter 1959; Zimbardo and Formica 1963). Therefore, this suggests that the mere presence of another individual can decrease the intensity of negative emotions.

Based on the above discussion it is expected that when a consumer is in the presence of another individual, in a shopping aisle, it is likely that the consumer will experience more intense positive emotions and less intense negative emotions than when no social presence exists. The question now becomes, "What happens to the intensity of emotions when the size of the social presence increases?" Following SIT, the intensity of emotions one experiences should increase as the size of the social presence increases. Evidence for this has been found in research on stage fright where people experienced more intense anxiety, nervousness, tension, and embarrassment as the size of a social audience increased (Beatty and Payne 1983; Jackson and Latané 1981; Latané and Harkins 1976; Seta, et al. 1989). One similarity in these studies is that the social audience viewed the participant from a safe distance (with the exception of Latané and Harkins (1976) who had participants imagine stage fright). However, it is argued that these findings are situation specific and that in a different situation the same findings might not exist. An example of a situation in which SIT might not predict the impact of a social presences' size on an individual's emotions is in a store. The reason that the same findings may not exist is two-fold. First, in a situation in which a person experiences

stage fright, the audience to whom they are performing may be either evaluating them and/or supporting them. Often during a presentation, the audience is supportive of the presenter. This is made obvious through body gestures of nodding, smiling, and apparent interest. In a shopping situation, a social presence is unlikely to be supportive of what a consumer is doing. In the latter situation, the social presence is in the aisle for his/her/their own needs that are completely unrelated to the consumer. Thus, it is more probable that they would be perceived as an evaluative presence as opposed to a supportive presence. The second reason why SIT may not apply to the specific situation investigated in the present research is that in a store aisle, "safe distances" are limited because there are often several people present in a given aisle. Moreover, store aisles contain physical constraints such as the shelves. Thus, to understand the implications of more people in a smaller location, it is important to consider the crowding literature.

As defined earlier, social density refers to the number of people in a given area. The crowding research has found that an increase in social density increased negative emotions, stress, and discomfort (Griffitt and Veitch 1971; Nogami 1976; Sundstrom 1978). It also created a decrease in levels of satisfaction (Baum, et al. 1978) and served as an intensifier of an emotional state (Freedman, Heshka, and Levy 1975; Freedman, Klevansky and Ehrlich 1971; Freedman, Levy, Buchanan, and Price 1972). For example, in one study, researchers found that increasing the number of students in a dorm room from two to three led to negative affective reactions, increased stress, and poorer health (Baron, et al. 1976). In the consumer context, retail crowding has been linked to a decrease in shopping satisfaction (Machleit, Kellaris, and Eroglu 1994) and a decrease in feelings of comfort (Langer and Saegert 1977).

Although at first glance the crowding literature might appear to conflict with an individual's need to belong (i.e., people would be more likely to feel like they belong when there are several people present), the need to belong research has indicated that once the initial need was satisfied, it reduced the need individuals have to belong with another individual (Baumeister and Leary 1995). Thus, the addition of other individuals to a situation will not lead to further increases in the intensity of positive emotions. It is probable that in a situation where no interaction occurs, one individual will be sufficient for the need to belong to be satisfied. Based on the above discussion one could conclude that when the size of a social presence increases beyond one person, it is probable that an individual will experience a decrease in the intensity of positive emotions and an increase in the intensity of negative emotions. More formally:

H1a: A consumer will experience more intense positive emotions when in the presence of one other shopper as compared to when the consumer is alone.

H1b: A consumer will experience less intense positive emotions when the size of the social presence increases beyond one.

H2a: A consumer will experience more intense negative emotions when alone than when one other shopper is present.

H2b: A consumer will experience more intense negative emotions when the size of the social presence increases beyond one.

Cognition

Researchers have shown that when people come in contact with another individual, they perceive that person as a cognitive unit of analysis (Pryor and Ostrum 1981). However, the impact of a social presence on an individual's cognition has been demonstrated to depend on such factors as the complexity of the task and the presence of a minority versus majority member. In this section the task will be discussed in relation to social facilitation/inhibition theory, while the membership findings will be addressed in the perceived similarity section.

To understand the impact of social influences on an individual's cognitive performance, this research refers to the findings in the social facilitation literature. As mentioned earlier, a social presence creates a level of arousal in an individual and this arousal influences performance. Further, it has been shown that an individual's performance is enhanced when he/she completes a simple task in the presence of others but is hindered as the task becomes more complicated (Zajonc 1965). According to social facilitation, an individual should perform a complex task best when no one else is around (Laughlin and Jaccard 1975). One explanation, discussed earlier, that explains the impact of the social environment on the facilitation/inhibition phenomena is that the presence of others creates arousal, which serves as a distraction (Baron 1986; Sanders 1983). Following this explanation, in a simple routine task, the presence of a distraction would have minimal impact on performance since the individual would not be required to devote much cognitive effort to the task. In contrast, a more complex task requires more cognitive effort. Given that it is difficult to focus on two things simultaneously, performance will become impaired.

Additional support consistent with social facilitation/inhibition's predictions of an expected decline in cognitive performance when a social presence exists is found in parallel literature on distractions (Seta, Hayes, and Seta 1994; Shamo and Meador 1969). Individuals become distracted from a task when their attention is redirected to another source in the environment. Given that this distraction will likely decrease one's ability to remain completely focused on the task at hand, any cognitive performance that is based on the task should become impaired. Distractions can arise from either the physical or the social environment. First, Sanders and Baron (1975) found that a signal present in the physical environment distracted participants and impaired their performance on a complex number task. Second, the theory of self-awareness suggests that the social environment can serve as a distraction. According to this theory, in any given social situation an individual's attention can be directed to one of two sources: self or others (Duval and Wicklund 1972; Wicklund 1979, 1980). Regardless of the source, the point that should be clear is that the individual is still distracted from processing the information relevant to the task (Duval and Wicklund 1972). Therefore, the presence of other people in the environment should lead to impaired cognitive performance.

Although neither social facilitation/inhibition research nor the distraction literature have directly studied the impact of an increase in the size of a social presence, it logically follows that cognitive performance will be more impaired when the presence is large as compared to small. Support for this idea is found in the crowding literature, which suggests that when customers are situated in a dense environment (i.e., there are a number of other people around) there are many external cues available for processing. In fact, researchers have demonstrated that consumers in a socially dense environment

recalled fewer details about a store than consumers who were in a lower density

environment (Saegert 1973). In one study Langer and Saegert (1977) found that when

participants were presented with a shopping list and asked to go into a store to find and

indicate the brand and size of an item that would cost the least amount of money, the

number of people in the store impacted their performance. When the store was crowded,

task performance was impaired and participants reported fewer items on the list in the

given time and fewer correct items were completed as opposed to when the store was

empty. Finally, the notion that cognitive performance will decrease as the size of the

social presence increases is also consistent with SIT. As mentioned earlier, one of the

theory's predictions is that an increase in the size of a social influence will have an

increasing impact on an individual (Latané 1981). Therefore, in the present context, it is

expected that an increase in the size of the social presence will negatively impact

cognitive performance.

H3: A consumer's cognitive performance will be increasingly impaired as the size

of the social presence increases.

Behaviours

Self-presentation is one of the central processes through which people negotiate

their identities in their social surroundings. In general, people have a pervasive desire to

be viewed in a positive light (James 1890; Leary and Kowalski 1990). To achieve this

desire they often engage in self-presentation techniques. Research that investigates self-

presentation dates back to early symbolic interactionists (Mead 1934) who posited that

people regulate information about themselves by imagining themselves in the role of others, anticipating other's responses to various situations, and determining an appropriate behaviour. Goffman (1959) further enhanced the notion of self-presentation when he compared a social interaction to a theatrical performance. During the "performance" Goffman argued that the people who were interacting with others were actors fulfilling roles in a play. While people were "on-stage" they attempted to maintain appropriate and competent self-presentations. The work conducted by the above-mentioned researchers has provided a starting point in the understanding of self-presentation. The point that arises from this early work is that individuals try to construct and manage the impressions they make on other people in social situations (Baumeister 1982; Jones and Pittman 1982; Leary and Kowalski 1990; Schlenker and Weigold 1992; Tedeschi 1981).

Although the type of impression one wants to make depends on the situation, normally, people have a strong desire to make a positive impression on others (Leary and Kowalski 1990). This desire to make a good impression is motivated by the need people have to maximize the expected rewards (i.e., social acceptance) and minimize the expected punishments (i.e., looking foolish, being ostracized: Schlenker 1980). In fact, researchers in consumer behaviour have found that consumers will go to great lengths to maintain a positive impression. For example, in one study, results indicated that to create and maintain a positive self-image, participants engaged in misrepresentative behaviours by falsely reporting whether a product was purchased at a regular or a discount price (Sengupta, Dahl, and Gorn 2002). Given that people are willing to engage in negative

behaviours to maintain a positive image, it is not unlikely that they would be willing to forgo positive experiences as well, if this maintained or improved an image.

Evidence also exists that people will try and manage their self-presentations through nonverbal behaviours (DePaulo 1992). The attempts to monitor non-verbal self-presentation behaviours have been found in interactions with close others, friends, acquaintances, and strangers (Baumeister and Leary 1995). In social psychology, examples of nonverbal behaviours that individuals engage in to convey certain images include body orientations, facial expressions, and touching. There are several reasons why the nonverbal behaviours of individuals are important to understand (DePaulo 1992). First, they are irrepressibly influential; it is virtually impossible for people to refrain from nonverbal behaviours. Second, nonverbal behaviours are often less accessible to the actors as compared to the observers. People who execute the behaviours are often not consciously aware of what they have done, whereas those people who see the behaviours will be much more aware of their existence. Third, nonverbal behaviours in everyday life cannot be recorded. Unlike verbal interactions where one member of the exchange can ask another member to repeat something that was said, one cannot ask someone to repeat a nonverbal behaviour such as their body movement. Fourth, the meanings that are conveyed using nonverbal behaviours are unique in nature. Finally, nonverbal behaviours often occur quickly – especially facial expressions. Although these characteristics do not all apply to all forms of nonverbal behaviours, they do underscore the importance of understanding how individuals behave and convey images about themselves in the absence of verbal communication.

It is especially important to understand nonverbal where consumers are in the presence of other people with whom they do not verbally communicate (i.e., two strangers in an aisle together). There has been a limited amount of research in the consumer behaviour literature that investigates nonverbal self-presentation behaviours. In one research endeavour that studied symbolic interactionism, it was proposed that the product a person buys or owns conveys a certain image (Leigh and Gabel 1992). This image in turn can facilitate impression management especially if the image is positive. Extending this idea to the brand of a product, symbolic interactionism would suggest that the brand of a product purchased can also express an image and thus can be used to manage impressions. For example, when a consumer buys a brand-name product as opposed to a generic alternative, different images may be expressed by this behaviour; one might perceive someone who buys a generic version to be a cheap shopper.

Based on the above discussion one can conclude that when others are around people are more likely to engage in nonverbal behaviours that monitor their self-presentation as compared to when one is alone. Following SIT, one's tendency to monitor self-presentation behaviours will increase as the size of the social presence increases but the greatest impact will occur with the first individual (Latané 1981). More formally,

H4: A consumer will be increasingly likely to engage in nonverbal behaviours to monitor their self-presentation images as the size of the social presence increases.

Before leaving the discussion on behaviours, it is important to briefly discuss the individual difference of self-monitoring (Snyder 1987). Although everyone uses self-

presentation strategies to some extent, some individuals are more likely to employ them than others. These differences are related to a personality trait referred to as self-monitoring (Snyder 1987) which is the tendency for people to use cues provided by other individuals to control their own self-presentation. Individuals high in self-monitoring tend to spend a lot of time attempting to learn about others, are highly sensitive to the social cues provided by others, and are very concerned about executing the correct behaviour in a given situation. Individuals who are low in self-monitoring are not as concerned with other individual's behaviour and are not as worried about behaving correctly (Snyder 1974). Marketing research results have shown that the behaviour of high self-monitors was closely related to situational cues whereas low self-monitors' behaviour was related to dispositional variables (Becherer and Richard 1978). Therefore, high self-monitors tend to employ impression management strategies more in their social encounters than low self-monitors (Fiske and vonHendy 1992; John, Cheek, and Klohnen 1996). Although no formal hypothesis pertaining to self-monitoring will be forwarded, tests for its effects on the behavioural measures studied in this research will be conducted.

II. Proximity

In the present research, proximity refers to the physical distance that exists between a social presence and the consumer. In the following section, hypotheses pertaining to the expected impact of proximity on a consumer's emotions, cognitions, and behaviours will be forwarded.

Emotions

Most of the research that has investigated the impact of the proximity of a social presence on one's emotions is found in the literature on personal space. Personal space is defined as "the distance that the organism customarily places between itself and other organisms" (Sommer 1959, p. 247) and as an "area with invisible boundaries surrounding a person's body into which intruders may not come" (Sommer 1969, p. 26). In one of the earliest empirical investigations of personal space, Little (1965) found that interactions between two people including friends, acquaintances, and strangers occurred in an increasing rank order of distance; friends were closest in proximity, acquaintances were further apart, and strangers were the furthest apart. Further he found that the impersonality of the setting also increased interaction distances.

In early discussions on the impact of personal space on emotions, Sommer (1969) and Evans and Howard (1973) suggested that the invasion of one's personal space could create stress, discomfort, and arousal. Several others have found empirical support for these propositions (e.g., Dabbs 1971; Efran and Cheyne 1974; McBride, King, and James 1965; Porter, Argyle, and Salter 1971). For example, one study, which investigated the impact of an intrusion into one's personal space in a men's lavatory, found that as interpersonal distances decreased an individual experienced an increase in arousal (Middlemist, Knowles, and Matter 1976). In another study, researchers found that an increase in the distance between the participant and a social presence decreased galvanic skin responses (McBride et al., 1965).

As mentioned earlier, crowding is created by both social and spatial density, where social density is the number of people present and spatial density refers to the

amount of space per person. It has been demonstrated that individuals respond differently to social and spatial antecedents (e.g., Baum and Koman 1976); thus, both the number and the proximity of a social presence can be independent contributors of crowding (Saegert 1973). Spatial density, which can infer proximity, is commonly manipulated through the size of the room in which the experiment is conducted. Researchers that have studied spatial density have found that, consistent with the personal space literature, individuals reported feeling more pressured, disagreeable, and unfriendly when they were situated in a small room as compared to when they were located in a larger room (Dabbs 1971). In a similar manner, Nogami (1976) found that participants reported more positive emotions and less negative emotions when situated with other people in large rooms as compared to smaller rooms. Based on the above discussion one would expect that a consumer would experience more intense positive emotions and less intense negative emotions when a social presence is further away as compared to close by.

It is also expected that proximity will moderate the effect of social size. In one article, Saegert (1978) suggested that a large social presence that was situated in close proximity to another person would be more arousing and intense than when either one person was in close proximity or the group was located farther away. Additionally, researchers have found that when participants were placed in a close condition they preferred to maintain a greater distance from a larger social presence as compared to a smaller social presence, but when they were in the distant condition, they were unaffected by the size of the group (Knowles, Kreuser, Haas, Hyde, and Schuchart 1976). Support for this suggestion has also been found in the crowding literature; there was an increase

in the probability that crowding would occur when a social presence was comprised of several people in close proximity to an individual versus when the social presence consisted of only one person (Mackintosh, West, and Saegert 1975). As discussed earlier, a crowded situation creates a decrease in positive emotions and an increase in negative emotions (Griffitt and Veitch 1971; Nogami 1976; Sundstrom 1978). Therefore:

H5: A consumer who is in close proximity to a social presence will experience a higher intensity of positive emotions when the size of the social presence is small (vs. when the size of the social presence is large) but when the social presence is further away, the intensity of the positive emotions that the consumer experiences will not differ when the social presence is small as opposed to large.

H6: A consumer who is in close proximity to a social presence will experience a lower intensity of negative emotions when the size of the social presence is small (vs. when the size of the social presence is large) but when the social presence is further away, the intensity of the negative emotions that the consumer experiences will not differ when the social presence is small as opposed to large.

Cognition

Some researchers who have studied social facilitation have extended the theory to investigate the effects of the proximity of a social presence on one's performance. In general, the findings from this research have indicated that the close proximity of a social presence improved both an individual's and a group's performance on simple tasks but

impaired performance on more complex tasks (e.g., Barefoot and Kleck 1974; Evans 1979; Paulus, Annis, Seta, Schkade, and Matthews 1976; Worchel and Teddlie 1976). For example, Sinha and Sinha (1991) found that when participants completed a simple vowel cancellation task, proximity did not have an impact on their performance. However, when the complexity of the task increased (i.e., they completed a consonant cancellation task), their performance was significantly better when the social presence was located further away as compared to when it was close by.

Evans (1979) proposed that the amount of arousal that was created by a social presence explained the close proximity impairment of performance for complex but not simple tasks. He suggested that when a social presence was close by, it created a high level of arousal such that it limited the amount of attention a target could devote to the task. This arousal also created a situation in which it became more important for the target of a social influence to focus on important information cues present in the task as compared to when the target was not limited in attention capacity. Because a complex task required more attention and had more cues as compared to the simple task, it was more likely that for a complex task the target would ignore one of the task's salient cues and this would create an impaired level of performance.

Although, not all researchers have found that proximity impacts performance (e.g., Freedman, et al. 1971; Stokols, Rall, Pinner, and Schopler 1973), Paulus (1980) demonstrated that the conflicting findings may be the direct result of experimental conditions. All of the studies that failed to find effects for proximity provided participants with an opportunity to interact with or they were already acquaintances with the social presence. Conversely, the studies that did find proximity effects did not

involve social interactions or utilize previous acquaintances. Given that the present research focuses on the effects of a non-interacting social presence (comprised of strangers), it is expected that proximity will play a role in influencing cognitive performance.

Findings from research in social psychology suggest that when a large number of people, as opposed to a small number, are within close proximity to an individual, there is a greater likelihood that the individual will perform worse on a cognitive task. For example in one study, researchers found that the close proximity of a number of people caused study participants to develop less detailed and less accurate images of their surroundings and caused them to complete fewer tasks (Mackintosh, et al. 1975). This impaired performance can be attributed to the distraction that a large and close social presence creates. When there are several people near a consumer it is expected that the consumer will devote some of his/her attention, either consciously or unconsciously, to the social presence. This lack of focus on the task will in turn negatively influence their ability to process product display information. Thus, it is expected that an individual's cognitive performance will be more impaired when there is a large social presence nearby as compared to when the social presence is small. Finally, based on the above discussion, it is expected that a social presence will have little impact on cognitive performance when it is located further away regardless of its size. More formally:

H7: A consumer's cognitive performance will be impaired less when a social
presence is in close proximity and is small as compared to when the social
presence is larger. However, when the social presence is further away, the
consumer's cognitive performance will not differ when the social presence is
small or large.

Behaviours

Proximity has been shown to impact an individual's behaviour (e.g., Baum, Riess,
and O'Hara 1974; Felipe and Sommer 1966). For example, it has been found that people
were willing to forgo certain benefits (e.g., getting a drink from a water fountain) if
someone else was located next to it but not in the way (Baum, et al., 1974). Other studies
demonstrated that when an individual's personal space was invaded, there was a tendency
for the individual to leave the situation more quickly than if the space had not been
invaded (e.g., Felipe and Sommer 1966; McDowell 1972). To illustrate, in one study,
which took place in a library, results showed that when a confederate sat down in a chair
that was adjacent to an individual, the individual left the library more quickly than when
the confederate sat down in a chair that was located across the table (Felipe and Sommer
1966). However, despite these findings it should be noted that research has not always
found that individuals have the tendency to flee a situation in which personal space has
been violated (Ruback 1987). Research has shown that when the task the target was
completing was a controlling factor in the situation, the participant stayed even under
conditions when the social presence was in close proximity. Thus, if a consumer had to
purchase a certain product and it was only available in a place that was in close proximity

to a social presence, the task of making the product selection would prevent him/her from fleeing the situation.

Although no research has directly studied the impact of proximity on self-presentation behaviours, it is expected that it will be influential. It is hypothesized that a consumer will be more likely to monitor self-presentation behaviours when a social presence is in close proximity as compared to one that is further away. This prediction is based on the notion that individuals are more concerned with what is happening close by as compared to what is happening at a distance (Lundberg, Bratfisch, and Ekman 1972). This is not surprising, given that the greater the distance between a social presence and an individual, the more environmental noise that will exist between the two parties and the more difficult it will be for the social presence to notice, or to even care about, the individual's behaviours. In contrast, when a social presence is immediately present, there are fewer obstacles to prevent the social presence from observing the nonverbal behaviours of the individual. In support of this expectation, Kraut (1982) found that when visual accessibility was great (as would be the case in a close situation) participants monitored their facial expressions more than when visual accessibility was hindered (which would often be the case in a far away situation).

Research has also indicated that people are naturally motivated to monitor their impressions, especially when the impression they create is relevant to the achievement of a goal (e.g., being accepted, avoiding looking foolish). One determinant of how relevant one's impressions are to goal fulfillment is the publicity of the behaviour. Publicity is defined as the probability that others will notice one's behaviour (Leary and Kowalski 1990). As argued above, a social presence that is close has a greater probability of

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noticing one's behaviour than one located further away; therefore, one's behaviour is more public and this should create an increase in the tendency to monitor self-presentation behaviours. More formally:

> H8: A consumer will be more likely to engage in nonverbal behaviours to monitor his/her self-presentation images when a social presence is close as opposed to further away.

As with the other dependent variables investigated in this research, it is expected that proximity will moderate consumers' tendency to monitor their self-presentation behaviours. Following an earlier discussion, it is expected that as the size of the social presence increases, an individual's tendency to monitor self-presentation behaviours will also increase when the social presence is close in proximity (as compared to further away). This increased tendency to monitor behaviours when a large social presence is located nearby is based on the increase in exposure that an individual would receive (i.e., there are more people to notice and evaluate the individuals behaviour) that would not exist if a small social presence existed. More formally,

> H9: A consumer who is in close proximity to a social presence will monitor his/her self-presentation behaviours more when the social presence is large as compared to when the social presence is small. However, when the social presence is further away, a consumer's tendency to monitor self-presentation behaviours will not differ when the social presence is small as opposed to large.

III. Social Source Strength (Perceived Similarity)

Previous research has shown that as the strength of social sources increases, so does its impact on the individual (Latané 1981). A number of different facets of social source strength have been studied in the social psychology literature including status (Jackson and Latané 1981), age (Latané and Harkins 1976), and expertise (Hart, et al. 1999; Wolf and Latané 1983). In the present research, the facet of social source strength that is investigated is perceived similarity. Perceived similarity refers to the extent to which an individual believes that another person shares common attributes and/or opinions and beliefs. Perceived similarity has been primarily studied in the context of social comparisons and has received little attention in other areas of social influence. The motivation for studying this facet of social source strength in the present research is three-fold. First, the only study in the SIT literature that has investigated the role of perceived similarity as a facet of social source strength was interested in testing the impact of the perceived similarity within a social presence, as opposed to between the study participant and the social influence (Knowles and Bassett 1976). In the study, perceived similarity was manipulated within the group of social sources by having all of the sources wear the same jersey or different clothes. Second, although previous research in marketing has indicated the importance of considering perceived similarity, it has primarily focused on the similarity between product categories (Martin and Stewart 2001) and brands (Mishra, Umesh, and Stern 1993) and has not considered people. Third, the limited research in marketing that has considered the role of perceived similarity between people has focused on social influences that either interacted with the consumer, or were not physically present. For example, research has shown that the shared similarity

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between an interacting salesperson and a consumer influenced buying behaviours (Crosby, Evans, and Cowles 1990; Brock 1965). Given that a salesperson can impact a consumer, it is also likely that other consumers may be influential. In the word-of-mouth area, a study on referral behaviour in networks found that homophilous (similar) ties were activated more than heterophous (dissimilar) ties for the flow of referral information (Brown and Reingen 1987; Gilly et al. 1998). Thus, similar sources facilitated the spreading of word-of-mouth referral information more than dissimilar sources. Finally, in a research endeavour investigating the relationship between perceived similarities and the self-positivity bias in the context of one's self-perception of contracting AIDS, it was found that as a participant's perceived similarity with a target increased, self-perceptions of risk decreased (Raghubir and Menon 1998). Although none of these marketing studies directly investigated SIT, the findings are consistent with the social source strength principle. The purpose of the next section is to delineate the relationships between perceived similarity and consumers' emotions, cognition, and behaviours.

Emotions

Research in the SIT literature has found that a social presence that was high in social source strength produced more intense emotions than a social presence that was low in social source strength (Latané 1981). For example, in one study, participants were instructed to imagine that they had to present a memorized poem to an audience of older (i.e., high strength) versus younger individuals (i.e., low strength), and to adjust the intensity of a 1,000-Hz tone or the luminance of a screen to match the estimated amount of anxiety or tension they thought they would experience (Latané and Harkins 1976). They found that participants estimated they would experience more anxiety when the

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audience was comprised of older adults as compared to when it consisted of teenagers. Findings in other research endeavours have also found, consistent with SIT, that the strength of a social source impacted individuals. For example, Seta et al. (1989) manipulated social source strength using social status and found that a high status social presence had a larger impact on the amount of anxiety one experienced from stage fright than a low status social presence. In a separate study, Williams and Williams (1983) manipulated social source strength through dress-wear and found that when participants were in the presence of someone dressed professionally (high strength) they reported greater feelings of stress and discomfort than when in the presence of someone dressed sloppily (low strength).

Literature in two other areas of social psychology, attraction and the need to belong, provide additional insight into the effects a similar source should have on one's emotions. First, it has been shown that people were attracted to someone who was similar as opposed to someone who was dissimilar (Berscheid and Reis 1998). Two potential explanations exist to explain why similarity is important to attraction. The first explanation is that a similar person provides an individual with important social validation; if another person agrees with one's opinion then one must be right (Byrne and Clore 1970). Conversely, if someone disagrees and holds dissimilar views, individuals tend to make negative inferences about him/her, because this raises the question as to whether the individual was right, and this leads to a decrease in attraction (Rosembaum 1986). The second explanation for the importance of similarity to attraction is based on the rewards-of-interaction notion (Berscheid and Hatfield 1978). According to this explanation, if someone shares the same opinion as another individual, then one can

assume that it would be more enjoyable to spend time with this person as compared to spending time with someone else who disagrees. Regardless of the explanation, if someone is attracted to another person it is likely that they will like him/her more than if there is no attraction.

Both of the explanations for the relationship between perceived similarity and attraction are based on shared similarities in attitudes and beliefs. However, people often rely on external cues to provide insights into another person's character in the absence of internal sources of information. According to Burnstein, Stotland, and Zander (1961) there are two levels of perceived similarities: "first similar attributes" and "derived similar attributes". First similar attributes are those characteristics that an individual initially perceives to have in common with a source. These attributes could include such external cues as one's gender, age, ethnicity, and overt behaviours. Derived similar attributes are those attributes that an individual then perceives that the source also has based on the fact that they share first similar attributes. Thus, when an individual perceives another person to share one similar characteristic, this can lead the individual to believe that additional similarities must also exist (Rosekrans 1967).

Referring back to the discussion on similarities and attraction, one would expect that an individual would like and be attracted to a source that was perceived to be similar, even if those similarities were limited to external cues. Given that people enjoy being around those whom they are similar to and they tend to feel good when they are in the presence of someone they like, it logically follows that they will experience more intense positive emotions and less intense negative emotions when they are in the presence of a similar source as compared to a dissimilar source. Conversely, it is expected that an

individual will dislike and be less attracted to a dissimilar source as compared to a similar source and will experience more intense negative emotions and less intense positive emotions.

The second stream of research that provides insight into the impact of perceived similarity on consumers' emotions is the natural human desire to belong (Baumeister and Leary 1995). As discussed previously, individuals have a need to feel like they belong and are accepted by others. Although this psychological desire is central to an individual, people do not have aspirations of forming bonds/creating relationships (i.e., feeling like they belong) with just anyone who is available. Instead, there is a tendency for them to feel the need to belong when similarities exist between the two parties. In one study, Locksley, Ortiz, and Hepburn (1980) demonstrated that when a similarity was created amongst complete strangers (i.e., they would share a reward), people felt an automatic bond with those to whom they were similar. It is argued here that shared external characteristics such as how an individual looks can also create a natural bond even between non-interacting strangers (Festinger et al., 1950). As per an earlier discussion, when people's need to belong is satisfied, they are expected to experience more intense positive emotions and less intense negative emotions. Given that they are likely to bond more with similar others as opposed to dissimilar others it is expected that more intense positive emotions and less intense negative emotions will be experienced when the social presence is similar and vice-versa for a dissimilar social presence.

However, proximity is expected to moderate the magnitude of the impact of perceived similarity. In early work on personal space, it was shown that the distances that were maintained between two parties depended on who was involved in the

interaction (Little 1965); friends interacted closer than acquaintances and acquaintances interacted more closely than strangers. Therefore, the people involved in an interaction are related to comfortable levels of proximity. In terms of the impact of the perceived similarity between two parties and distance required for comfort, it has been found that similar others tend to approach one another more closely than dissimilar others. For example, Fisher (1974) found that participants who interacted with a social presence that was 2.0 ft and 5.5 ft away felt significantly less crowded when a social presence shared similar attitudes as compared to dissimilar ones but there was no significant difference when the social presence was 13.0 ft. away. In another experiment that examined external perceived similarity, Willis (1966) found that peers approached one another more closely than they approached older individuals. Finally, in a third investigation, Glick, DeMorest, and Hotze (1988) demonstrated that perceived similarities and proximity influenced the intensity with which one experiences negative affect. In this experiment they found that more participants reported anxiety when an out-group (dissimilar) confederate was near as compared to an in-group (similar) confederate but there was no difference in the number of people reporting anxiety when the confederates were further away regardless of their group membership. Therefore, it is hypothesized that a consumer will experience less intense positive emotions and more intense negative emotions when a dissimilar social presence is close in proximity as compared to a similar social presence. Moreover, when the social presence is further away it is expected that perceived similarity will not influence the intensity of emotions experienced. More formally:

H10: A consumer who is in close proximity to a social presence will experience more intense positive emotions when the social presence is perceived to be similar (vs. perceived to be dissimilar) but when the social presence is further away, perceived similarity will not influence the intensity of positive emotions that the consumer experiences.

H11: A consumer who is in close proximity to a social presence will experience less intense negative emotions when the social presence is perceived to be similar (vs. perceived to be dissimilar) but when the social presence is further away, perceived similarity will not influence the intensity of negative emotions the consumer experiences.

Cognition

The impact of a similar social presence on an individual's cognitive performance is not clear. Some researchers' findings suggest that an individual's cognitive performance will be more impaired when in the presence of a similar source as compared to a dissimilar source (e.g., Henchy and Glass 1968; Linville and Jones 1980). Other findings would support a prediction that cognitive performance will be hindered more when the social presence is dissimilar than when it is similar (e.g., Nesbitt and Steven 1974; Osborne and Gilbert 1992).

First, consistent with SIT, research has demonstrated that the social strength of social presence members was a determinant of an individual's performance (Henchy and Glass 1968; Sasfy and Okun 1974). In one study, Sasfy and Okun (1974) found that

participants' motor task performance was hindered when a social presence consisted of experts, as compared to when the social presence was comprised of non-experts or when there was no social presence. Thus, high-strength sources had a greater impact on performance than low-strength sources. Similarly, one would expect that the presence of a similar source (high strength) would impair cognitive performance more as compared to a dissimilar social presence (low strength).

Additional support that similar sources should have the most negative impact on cognitive performance is found in research that investigates the way individuals cognitively process information. This research has demonstrated that the presence of social bonds influenced the manner in which social information that was present in the environment was cognitively processed. Linville and Jones (1980) found that the presence of social bonds (i.e., in-group members) created more complex information processing whereas information about out-group members was processed in a more simplistic, black-and-white manner. It has also been shown that even the way the information was stored in memory differs depended on the type of person present in the environment. In one study, Ostrum, Carpenter, Sedikides, and Li (1993) demonstrated that information related to out-group members (dissimilar others) was processed and stored in memory based on attribute characteristics, such as traits and preferences. Conversely, information was processed and stored in person categories for in-group members (similar others). Assuming that it requires more cognitive effort to store information on person categories as opposed to attribute characteristics, it logically follows that information processing of other tasks will be impaired more when there is a similar social presence as compared to a dissimilar social presence.

In contrast, researchers have also found that a dissimilar social presence can impair performance more than a similar social presence. Moreover, it has been demonstrated that environmental stimuli interfere with one's ability to accurately process other information related to the task (Osborne and Gilbert 1992). Given that individuals only have a finite cognitive limit to absorb and process information at a given time, a distraction is expected to impair cognitive performance on the task at hand.

In a creative study that was designed to demonstrate the impact of an over-stimulating environment, Nesbitt and Steven (1974) had confederates enter line-ups for attractions at an amusement park wearing clothes of various stimulation levels. They found that when the confederates wore loud, brightly coloured clothes that were dissimilar from the clothes worn by the others in the line, people immediately behind the confederate stood further away than when the confederates wore conservative clothes (i.e., similar clothes). Although this study did not directly test the level of distraction amusement park attendees experienced from the presence of the "novel" confederates, the fact that they moved further away when the dissimilar confederate was present may suggest that his/her presence was more salient than the similar social presence member. Applying this to consumer behaviour, in the context of a shopping aisle, it is possible that a dissimilar social presence will serve as a larger distraction than a similar social presence. Further, if the dissimilar social presence distracts consumers more than a similar social presence it is likely that they will not perform as well on a cognitive task.

Given that these two different conflicting bodies of literature exist, no formal hypothesis will be forwarded for the impact of perceived similarity on cognitive performance.

Behaviours

Marketing researchers have found that a salesperson's perceived similarity to a consumer impacted purchase behaviour. For example, Evans (1963) found that a customer who perceived a salesperson to be similar to him/her was more likely to purchase life insurance than when the salesperson was perceived to be dissimilar. In later research, Woodside and Davenport (1974) and Brock (1965) found respectively that a salesperson's perceived similarities with a customer also influenced the consumer's likelihood of buying cleaning equipment for 8-track tape players and the consumer's intentions of purchasing paint.

Based on this discussion, it is clear that perceived similarities in the consumer context can impact behaviours. However, these studies once again involved interactions between a social presence and an individual. Therefore, this raises the question of whether the characteristics of a social presence will influence an individual's behaviours in the absence of an interaction. In one study, when participants were first presented with information about a social source that was negative, the participants initially formed negative impressions about the target source. However, when the participants were then informed that they were low, moderate or high in personality similarities with this individual, those participants in the moderate and high conditions changed their initial impressions of the individual to a more favourable light (Alimaras 1976). Therefore, impressions are impacted and changed based on shared similarities.

Additionally, findings in the self-presentation literature indicated that people were more motivated to manage their impressions when in the presence of others who they perceive to be attractive and/or more likeable than for people who were less so

(Schlenker 1980). This finding implies that they would also manage their impressions more when there was a similar social presence as compared to a dissimilar one. Based on the discussion that similar individuals tend to be attracted to one another more than dissimilar individuals (Berscheid and Reis 1998), it is expected that when a similar social presence exists a consumer will be more likely to engage in nonverbal behaviours to monitor their self-presentation behaviours (versus when the social presence is dissimilar).

Research has shown that people enjoyed being in closer proximity (Little 1965) and conveyed a friendly impression (Lott and Sommer 1967) to a social presence that they liked as compared to one they disliked. Based on these findings, and drawing from the earlier discussion that people tend to like those people with whom they are more similar (Berscheid and Reiss 1998), it is expected that consumers will attempt to manage their impressions more when the social presence is close and similar as compared to dissimilar. However, when the social presence is further away, the social presence will be less relevant to consumers and their tendency to monitor self-presentation behaviours will not be influenced by the perceived similarity of the social presence. More formally:

H12: A consumer who is in close proximity to a social presence is more likely to engage in nonverbal self-presentation behaviours when the social presence is perceived to be similar (vs. dissimilar), but when the social presence is further away, perceived similarity will not impact a consumer's likelihood of engaging in self-presentation behaviours.

CHAPTER FOUR

PRETESTS

In the first study, social size is manipulated at three levels to establish whether the number of other shoppers present influences a consumer. In the second study, the impact of other shoppers is further investigated by adding an additional variable into the design to investigate whether the proximity of the social presence moderates the impact of social size. Finally, the third study tests the impact of the relationship between proximity and perceived similarity on how consumers think, feel and behave. However, before implementing the experimental designs it is important to address a number of methodological issues.

The present chapter describes a set of seven pre-tests. The first pre-test identified a product that is privately consumed and low in perceived risk. The second pre-test examined the perceptions related to the quality of various brands of selected product. The third pre-test involved determining whether interacting with the tester display was a self-presentation behaviour. The fourth pre-test assessed the effectiveness of the research procedure to ensure that participants would not become suspicious to any aspect of the study, to determine whether the instructions for the task were clear, and to assess the effectiveness of the social size manipulation. The fifth pre-test assessed whether three confederates talking together were perceived to be more like a group than three confederates who were not talking. The sixth pre-test determined appropriate distances for the proximity manipulation. The seventh pre-test assessed whether confederates with different appearances would be perceived to be similar or dissimilar to participants.

I. Product

Previous research demonstrated that consumers were more susceptible to social influences when they purchased products that were publicly consumed, luxury items as opposed to privately consumed necessities (Bearden and Etzel 1982; Ford and Ellis 1980). One objective of the present research is to demonstrate, counter to previous research, that social surroundings influence consumers regardless of the type of product that is purchased. Therefore, to demonstrate that a product's characteristics do not determine whether or not a consumer is impacted by the social presence, the experiments in the present research utilize a product that is privately consumed. It is believed that using a private product in the present research will provide a stringent test for the impact of a social presence. If a mere presence can influence consumers when they buy products that are privately consumed it can be assumed that it is likely that they will be influenced when they purchase publicly consumed products as well. To identify such a product, a pre-test was conducted.

Research Design

A between-subjects factorial design with product as the factor was used to identify a low visibility. Initially, a list of ten different products was developed. This list was later reduced to three products by identifying those products that the population from which the sample would be drawn would both purchase and could afford.

Participants

Twenty-nine undergraduates drawn from the main study population participated in the pre-test. They received course credit in exchange for their participation.

Procedure

Participants were required to complete a short survey (see Appendix A) that asked them to indicate their perception of one of three products: batteries, bread, and cameras. These three products were chosen for the reasons identified above. In addition, bread was used because in the earlier research that investigated consumer susceptibility to social influences (Ford and Ellis 1980), when this product was tested a social presence did not influence the consumer. Therefore, the pre-test was designed to find a product that shared similar characteristics to bread. Bread was not used as the principal product in the present research because the location where the research was to be conducted (i.e., a bookstore) did not carry the product and it was not consistent with their other lines of merchandise. Therefore, bread was included in the pre-test to serve as a benchmark item.

Dependent Variables

The dependent measures asked the participants to indicate the extent to which they disagreed (1) or agreed (7) with a number of statements using seven-point Likert scales. To assess private versus public consumption, participants indicated the extent that they agreed with the following statements: no one ever sees me use (a) *"product"*, *"product"* is/are low in visibility, I'm not at all obvious when I use (a) *"product"* (α = .69). A second index referred to as perceived risk was also used based on previous research (Ford and Ellis 1980). Perceived risk was measured by two questions: *"product"* is/are a low risk purchase and the consequences of making a poor purchase decision are low for *"product"* (r = .71, p < .001).

Results

Using a one-way analysis of variance (ANOVA), results indicated that the products differed in terms of visibility and perceived risk (visibility: $F_{(2, 26)} = 3.94$, $p < .05$, means: batteries = 4.22, bread = 3.41, cameras = 2.69; perceived risk: $F_{(2, 26)} = 5.13$, $p < .05$, means: batteries = 6.33, bread = 6.42, cameras = 4.85) (see Table 4-1). Least squared difference tests indicated that batteries were perceived to be lower in visibility and perceived risk than cameras but did not differ significantly from bread (visibility: batteries versus cameras, $t_{(26)} = 2.81$, $p < .01$, batteries versus bread, $t_{(26)} = 1.57$, $p > .05$, bread versus cameras, $t_{(26)} = -1.38$, $p > .05$ (Table 4-2); perceived risk: batteries versus cameras, $t_{(25)} = 2.20$, $p < .05$, batteries versus bread, $t_{(25)} = -.720$, $p > .05$, bread versus cameras, $t_{(2)} = -3.12$, $p < .01$ (Table 4-3). Based on these results, one can conclude that batteries do not differ significantly from bread in publicity or perceived risk. Given that previous research (e.g., Ford and Ellis 1980; Robertson 1971) has found that the consumption of bread is low in susceptibility to social influences one can also expect the same for batteries.

II. Perceptions of the Quality of Battery Brands

A dependent variable in the present research is a consumer's likelihood of engaging in non-verbal self-presentation behaviours. One of the measures of self-presentation behaviours is the brand that consumers select. It is expected that consumers will be more likely to purchase more expensive/higher quality brands when there is a social presence versus when no one else is present (when they would be expected to purchase the cheaper/lower quality brand). However, prior to conducting this research it

was important to select brands that ranged in perceived quality. To determine how the population perceived different brands of batteries a pre-test was conducted.

Participants

Twenty-two undergraduates participated individually in this pre-test and received $2.00 for their participation.

Procedure

Participants were presented with five different brands of AA batteries (i.e., Duracell (D), Energizer (E), Rayovac (R), Panasonic (P), and Chateau (CH). They were then asked to complete a short survey in which they rated each of the brands on a number of items (see Appendix B).

Dependent Variable

To indicate their perceptions of each brand of batteries they were asked to complete three 7-point item scales with the following anchors: cheap/expensive, low quality/high quality, and low value/high value. These items were combined together to form separate measures for each brand of batteries. The reliability of the items ranged from $\alpha = .85$ for Energizer to $\alpha = .94$ for Panasonic.

Results

Paired samples t-tests between each of the different brands indicated that Duracell and Energizer were not significantly different from each other but were significantly different from all of the other brands (D and E: $t = .29$, $p > .05$; D and R: $t = 5.44$, $p < .001$; D and P: $t = 3.70$, $p = .001$; D and C: $t = 9.65$, $p < .001$; E and R: $t = 6.83$, $p < .001$; E and P: $t = 5.77$, $p < .001$; E and C: $t = 8.79$, $p < .001$; means: D = 5.88, E = 5.96, R = 4.12, P = 4.65, and C = 2.85). Rayovac and Panasonic were also perceived to be similar

to one another but different from Chateau (R and P: $t = 1.92$, $p > .05$; R and C: $t = 3.99$, $p = .001$; P and C: $t = 7.85$, $p < .001$). Finally, Chateau was significantly different from all of the other brands (see Table 4-4). Based on these findings, the prices that were assigned to the brands matched quality perceptions. Duracell and Energizer were the most expensive because they were perceived to be the best brands available, Rayovac and Panasonic were the second most expensive because they were average in quality, and Chateau was the cheapest because it was rated poorly in terms of quality.

A second pre-test related to brand perceptions was conducted using the same participants to establish that a sixth brand, Classics (CL), was perceived to be similar to the Chateau brand but significantly different from all of the other brands (CL and D: $t = 8.87$, $p < .001$; CL and E: $t = 7.89$, $p < .001$; CL and R: $t = 2.46$, $p < .05$; CL and P: $t = 4.10$, $p = .001$; CL and C: $t = -1.64$, $p > .05$) (Table 4-5). This brand is not introduced until Study Two.

III. Battery Testing Display

Another non-verbal self-presentation behaviour that is of interest in the present research is a consumer's likelihood of interacting with a battery testing display. The display will provide consumers with the opportunity to test the charge of the different brands of batteries. It is expected that consumers will attempt to manage their self-presentation behaviours (i.e., avoid looking foolish) and be less likely to interact with the battery testing display when there is a social presence as compared to when no one else is present (when they would be expected to interact with the display). However, prior to conducting this research it was important to assess whether interacting with the display would, in fact, cause consumers to feel foolish when others were present. To determine

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how the population would feel if they interacted with the battery testing display a pre-test was conducted.

Participants

Fifteen undergraduates participated individually in this pre-test and received $2.00 for their participation.

Procedure

Participants were shown the battery testing display. They were then asked to complete a short survey (see Appendix C) in which they rated how they would feel if they were to use the display while in the University Bookstore.

Dependent Variable

To indicate how interacting with the display while in the presence of others would make them feel, participants were asked to complete three 7-point item scales with the following anchors: not at all foolish/very foolish, not at all silly/very silly, and not at all ridiculous/very ridiculous. These items were combined together to form an overall measure of how foolish they felt ($\alpha = .85$).

Results

A one-sample t-test was conducted with foolish as the dependent variable and a test value of 3.5 (the midway point on the seven-point scale). The results of the analysis indicated that participants felt significantly more foolish if they interacted with the display than the midpoint ($t = 2.76$, $p < .05$: mean = 4.38) (Table 4-6). Based on this finding, it is expected that interacting with the display, while in the shopping aisle and in the presence of others, will cause consumers to feel foolish. Therefore, they will attempt to manage their self-presentation behaviours by not using the battery testing display.

IV. Effectiveness of the Research Procedure

A pre-test was conducted to establish the effectiveness of the procedure to be used in the three field experiments. The pre-test was designed to determine whether the cover story for the experiment was convincing, the observer (who will be discussed shortly) was noticeable, the instructions for the task were clear, the questions in the questionnaire were effective, and the social size manipulation was successful.

Participants

Nineteen participants were drawn from the sample population. They received course credit in exchange for their participation.

Procedure

Participants were run individually in the study. Upon arrival, they were told the cover story (which will be described in Study One) and then went to the Bookstore to purchase a package of batteries. As will be discussed in more detail in the procedure outlined in the first experiment, the social presence was achieved through the use of confederates. When a social presence existed, either one or three confederates were situated in the shopping aisle next to the battery display. While the participants were in the aisle, an observer recorded their behaviours. After the product was purchased and the participant returned to the experimenter they completed a short survey (see Appendix D) that asked them questions pertaining to the cover story, the social size manipulation, and a suspicion probe. In the question that asked about the social presence, participants were asked to indicate how many people, if any, were present in the shopping aisle when they made their purchase selection.

Results

Based on cognitive responses to an open-ended question, a suspicion probe, and a verbal probing it was concluded that all of the participants believed the cover story. Also, none of the participants indicated "noticing the observer" and they were all able to correctly complete the task. With regards to the social size manipulation, participants responded to a question that asked them to indicate the number of people who were present in the aisle during product selection. A one-way ANOVA determined that the size manipulation was effective ($F_{(2, 16)} = 32.68$, $p < .001$; means: no one = .14, one person = 1.16, three people = 3.5) (Table 4-7). Post-hoc tests indicated that each of the conditions were significantly different from each other (no one versus one person: $t_{(16)} = -2.43$, $p < .05$, no one versus three people: $t_{(16)} = -7.96$, $p < .001$, one person versus three people: $t_{(16)} = -5.33$, $p < .001$) (Table 4-8). Therefore, the procedure used in the field experiment was shown to be effective in achieving its goals.

V. Group Activity

One objective of Study Two is to test an alternative explanation for Study One's findings. This explanation proposes that the activity of a group of confederates (i.e., if they are interacting versus not-interacting) may drive the results as opposed to the predicted role of social size. Therefore, prior to conducting Study Two a pre-test was done to assess whether a group of confederates was more likely to be perceived as a group when they talked and interacted amongst one another versus when they shopped independently.

Research Design

The pre-test involved two experimental conditions. The first condition involved three confederates who quietly talked to each other while examining a package of film. The second condition involved three confederates who did not talk to each other and looked at separate packages of film.

Participants

The pre-test was conducted with a sample of twenty-two participants who were run individually and received course credit in exchange for their participation.

Procedure

Participants were individually sent to the store to purchase a package of batteries. When they were in the designated aisle they were in the presence of either an interacting or a non-interacting group of confederates. After they made their product selection and returned to the experimenter, they completed a short questionnaire that assessed group activity (see Appendix E).

Dependent Variable

Group activity was assessed through four seven-point item scales that asked participants the extent to which they thought the other people in the aisle knew one another (definitely did not know one another/definitely knew one another), the other people in the aisle talked to one another (did not talk at all/talked a lot), the other people appeared to be together (did not appear to be together at all/definitely appeared to be together), and if the other people were perceived to be a group (definitely were not a group/definitely were a group). A factor analysis of these scale items indicated that they

were related to one underlying dimension (78% of variance explained) (Table 4-9) and

they were averaged to form a group activity index ($\alpha = .90$).

Results

An independent-samples t-test indicated that participants perceived the two

conditions to be significantly different ($t(20) = -3.51$, $p < .01$; means: group not

interacting = 3.56, group interacting = 5.83) (Table 4-10). Participants perceived the

confederates to be a group more when they were interacting than when they were not

interacting.

VI. Proximity

The fifth pre-test was used to determine the appropriate distances that were

required between a social presence and a participant to create close and far conditions

that are manipulated in both Study Two and Study Three.

Design

The pre-test used two separate experimental conditions. Participants in the first

condition went to a shopping aisle in which a social presence was located two feet away

while those in the second condition went to an aisle in which the social presence was

located eight feet away. Research on personal space has indicated that there exists

various zone boundaries for personal space (Hall 1966). In general, an intimate distance

(involves visual, olfactory, and thermal sensations) ranges from zero – eighteen inches,

personal distance (a close distance which comfortably separates individuals) ranges from

eighteen inches – four feet, and social distance (reduction of involvement between the

individuals) ranges from four – twelve feet. It was felt that an intimate distance between

the social presence and the participant would not create a realistic situation, especially

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given that the two parties were strangers. Therefore, for the close condition a distance that fell within the personal distance seemed more reasonable. One common distance that is used in the personal space literature to create a close situation is two feet (e.g., Dabbs 1971; Konecni, Libuser, Morton, and Ebbesen 1975); therefore, it seemed appropriate to pre-test that distance in the present research. Eight feet was chosen to represent the far condition because it was the midway point in the social distance category and eight feet represented the size of two shelving units used in retail outlets. Further, Sommer (1969) has suggested that personal space does not extend in all direction equally; strangers can stand closer together if positioned at each other's sides as opposed to directly in front of one another. Therefore, it was believed that eight feet was far enough away from the participants given that both the social presence and the participant would be facing the display rather than one another.

Participants

A pre-test using fifty-three undergraduates was conducted to determine the appropriate distances for the manipulation. Participants were run individually and received course credit in exchange for their participation.

Procedure

Following the same procedure used for the group activity pre-test, participants went to buy a package of batteries. Confederates were located various distances from the display. When the participants returned they completed a short questionnaire (see Appendix F) that asked them to assess the distance they felt existed between them and the social presence when they were in the aisle.

Dependent Variables

The variable of interest in this pre-test was the distance that existed between the social presence and the participant. Distance was assessed using three seven-point Likert item scales with the following anchors: close/far, near/distant, next to me/away from me. These items were averaged together to form a proximity index ($\alpha = .94$).

Results

Results of the pre-test indicated that participants perceived the distances to be significantly different ($t (50) = -6.97, p < .001$; means: close = 1.63, far = 3.65); a distance of two feet was perceived to be significantly closer than a distance of eight feet (Table 4-11). Although, the mean for the close condition is the midpoint on the scale this was still considered close enough because if the confederates stood any closer to the participants they would have physically obstructed the participant from being able to see the various brands of batteries.

VII. Perceived Similarity

In Study Three, social source strength is operationalized using perceived similarity. The manipulation of perceived similarity is achieved through the appearance of the social presence because image is an important factor to the population from which the sample is drawn. Therefore, the last pre-test assessed participants' perceived similarity to a social presence that appeared like typical students versus a social presence that was dressed more alternatively.

Design

The pre-test was a between-subjects design with two experimental conditions. In the first condition, two confederates (one male and one female) were dressed in a similar

manner to participants in the sample population (i.e., jeans, t-shirt). In the second condition, the two confederates presented themselves in dress-wear that was dissimilar to what the sample population would wear (i.e., darker clothes, darker makeup, unique hairstyles, body piercings).

Participants

A total of forty-nine undergraduates drawn from the sample population participated in the pre-test. They received course credit for their participation.

Procedure

The two confederates used in the actual experiment entered a classroom and stood at the front facing the participants. Half of the participants were exposed to the confederates when they appeared as a typical student, whereas the other participants were exposed to the confederates when they appeared more alternatively.

Dependent Variable

Participants completed a short questionnaire (see Appendix G) that asked them to rate how similar they perceived themselves to be to both confederates using five seven-point item scales with the following anchors: not at all similar/very similar, not at all alike/very alike, not at all comparable/very comparable, not at all similar in dress-wear/very similar in dress-wear, and not at all similar in style/very similar in style. A factor analysis indicated that these items were related to one underlying dimension (62% or variance accounted) (Table 4-12) and were therefore combined to form a single index ($\alpha_{female} = .92$, $\alpha_{male} = .87$).

Results

Two one-way ANOVAs indicated that both confederates were perceived to be more similar when they dressed like the participants than when they dressed more alternatively (F_{female} (1, 46) = 5.43, p < .05, means: similar = 3.83, dissimilar 3.08; F_{male} (1, 47) = 19.60, p < .001, means: similar = 4.05, dissimilar = 2.69) (Table 4-13 and Table 4-14, respectively).

Table 4-1

Means and Analysis of Variance Results for Product Perceptions

Criteria	Means			df	F-value	p-value
	Batteries	Bread	Camera			
Visibility	4.22	3.41	2.69	2, 26	3.94	< .05
Perceived Risk	6.33	6.42	4.85	2, 26	5.13	< .05

Table 4-2

Independent-Samples T-Test for Visibility

Product	t-values		
	Batteries	Bread	Camera
Batteries	N/A	1.57	2.81*
Bread		N/A	-1.38
Camera			N/A

Note: * p ≤ .01

Table 4-3

Independent-Samples T-Test for Perceived Risk

Product	t-values		
	Batteries	Bread	Camera
Batteries	N/A	-.72	2.20*
Bread		N/A	-3.12**
Camera			N/A

Note: * p ≤ .05
      ** p ≤ .01

Table 4-4

Perceptions of Battery Brands

	Mean Difference	Std. Deviation	t	df	Sig. (2-tailed)
Duracell – Energizer	7.58E-02	1.23	.29	21	.776
Duracell - Panasonic	1.23	1.56	3.70	21	.001
Duracell - Rayovac	1.76	1.52	5.44	21	.000
Duracell - Chateau	3.03	1.47	9.65	21	.000
Energizer - Panasonic	1.30	1.06	5.77	21	.000
Energizer - Rayovac	1.83	1.26	6.83	21	.000
Energizer - Chateau	3.11	1.66	8.79	21	.000
Panasonic - Rayovac	.53	1.30	1.92	21	.069
Panasonic - Chateau	1.80	1.08	7.85	21	.000
Rayovac - Chateau	1.27	1.50	3.99	21	.001

Table 4-5

Perceptions of Classics Versus the Other Brands of Batteries

	Mean Difference	Std. Deviation	t	df	Sig. (2-tailed)
Duracell – Classics	2.56	1.36	8.87	21	.000
Energizer - Classics	2.64	1.57	7.89	21	.000
Panasonic – Classics	1.33	1.53	4.10	21	.001
Rayovac- Classics	.80	1.53	2.46	21	.023
Chateau – Classics	-.47	1.34	-1.64	21	.116

Table 4-6

One-Sample T-Test for Battery Testing Display

	t	df	Sig. (2-tailed)
Foolish	2.76	14	.015

Table 4-7

Analysis of Variance for Social Size Manipulation

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig.
Social Size	37.55	2	18.77	32.68	.000
Error	9.19	16	.57		
Total	46.74	18			

Table 4-8

Post-hoc Tests for Social Size Manipulation

Social Size	t-value		
	No one present	One person present	Three people present
No one	N/A	-2.43*	-7.96**
One person		N/A	-5.33**
Three people			N/A

Note: * p ≤ .05
       ** p ≤ .001

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Table 4-9

Factor Analysis of Group Activity Items

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.13	78.23	78.23	3.13	78.23	78.23
2	.51	12.76	90.99			
3	.23	5.82	96.80			
4	.13	3.20	100.00			

	Component
	1
Knew each other	.92
Talked	.78
Together	.94
Group	.89

Table 4-10

Independent-Samples T-Test for Group Activity

	t- value	df	Sig. (2-tailed)
Group Activity	-3.51	20	.002

Table 4-11

Independent-Samples T-Test for Proximity

	t- value	df	Sig. (2-tailed)
Proximity	-6.97	50	.000

Table 4-12

Factor Analysis of Perceived Similarity Items

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.10	62.03	62.03	3.10	62.03	62.03
2	.83	16.59	78.62			
3	.47	9.31	87.94			
4	.39	7.71	95.64			
5	.22	4.36	100.00			

Component Matrix

	Component
Perceived Similar	.83
Perceived Alike	.85
Comparable	.70
Dress Similar	.75
Same Clothes	.79

Table 4-13

Analysis of Variance for the Female Perceived Similarity Manipulation

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig.
Perceived Similarity	6.55	1	6.55	5.43	.024
Error	54.32	45	1.21		
Total	60.87	46			

Table 4-14

Analysis of Variance for the Male Perceived Similarity Manipulation

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig.
Perceived Similarity	22.19	1	22.19	19.60	.000
Error	52.09	46	1.13		
Total	74.28	47			

CHAPTER FIVE

STUDY ONE

The purpose of this chapter is to present a field experiment that tested the first four hypotheses of this dissertation related to social size. This chapter is divided into seven sections. The first section presents the research design. The second section describes the study participants and the product they purchased. The third section is designed to explain how the independent variable, social size, was manipulated. The fourth section describes the procedure that was employed in this study. The fifth section identifies the relevant manipulation check and the dependent variables of interest, and their measurements are described. The purpose of the sixth section is to present the results. Finally, the seventh section discusses the findings of the study.

I. Research Design

The purpose of the first experiment was to determine the impact of the size of a social presence on a consumer's emotions, cognition, and behaviours by testing H1 – H4. The study used a between-subjects factorial design that involved the manipulation of social size at three levels (no person present vs. one person present vs. three people present).

II. Participants and Product

Participants

Ninety undergraduate students (males = 50, females = 40, mean age = 20.5) participated in this experiment in exchange for course credit. This research received human ethics approval.

Product

Based on the pre-test described earlier, the product that was chosen for this experiment was a package of four AA batteries. In the experiment, the price of each of the brands was set to reflect the difference in the perceived quality reported in the pre-test: Duracell and Energizer were both priced at $4.29, Rayovac and Panasonic were both priced at $3.99, and Chateau was priced at $3.69. These prices were selected for a number of reasons. First, participants were provided with $5.00 to make a purchase and therefore, the price of the batteries had to be less than or equal to $5.00 after tax. When applicable taxes were added to the price of the product, the most expensive brands produced $0.11 change and the cheapest brands created $0.80 change. Second, to create a realistic situation where high quality products cost more the three levels of brand quality were represented by different prices. Finally, this downward trend in price provided the participants with an incentive to purchase the cheapest alternative because they were allowed to keep any remaining change.

III. Independent Variable

Manipulation of Social Size

Social size was manipulated through the use of trained confederates (one male/two females) who assumed the role of shoppers throughout the study. In the two conditions that had a social influence present, a confederate (*three confederates*) was situated in the aisle prior to the participant's arrival in the store. The confederates were instructed to pretend to examine the product next to the battery display (i.e., film) and to avoid any interaction with the study participant. To ensure realism, when there were three confederates present in the aisle at the same time, they were directed to quietly

discuss the film using a predetermined script. Once the participant had made his/her

purchase selection and had left the aisle to go to the checkout counter, the confederate

(*three confederates*) left the aisle in the opposite direction. Before the study began, the

confederates were required to complete a rigorous training session. This training session

gave them an opportunity to practice conversing amongst themselves about film so that

they would use the same basic approach with each participant. Feedback was provided

throughout these sessions to ensure that their behaviour was consistent yet natural. In the

condition where there was no social presence, a confederate was not present in the aisle

when participants made the purchase selection.

IV. Procedure

Participants were run individually (see Appendix H and I) at the university

student center and were randomly assigned to the experimental conditions. When they

arrived at the center, they were told that the objective of the study was to gather

marketing research information for the bookstore. They were informed that to obtain the

information, they would be required to visit the bookstore, take a few minutes to look

around to obtain an impression of the store, make an assigned purchase, and then come

back and complete a questionnaire that would assess their experience. They were then

told that there were a number of different products that they could potentially purchase

(e.g., chocolate bars, pens, batteries, magazines, maps, and coffee mugs). To determine

which product they would buy, they selected an envelope and inside the envelope the

name of the product was identified. Unknown to the participants, all of the envelopes

contained a piece of paper that identified the same product, a package of four AA

batteries. Participants were provided with $5 to make their purchase and were told that

both the purchased product and any remaining change was theirs to keep. The participants then went to the store, made their purchase, and returned to the experimenter. In the bookstore, the batteries were located in a low-traffic aisle away from the view of the cashiers. The support of the store management ensured that the store employees treated the participants as typical customers.

Once the participants made the assigned purchase and returned to the experimenter, they were presented with a questionnaire to complete (see Appendix J). The questionnaire was filled with questions relevant to both the research study and to the cover story (e.g., impressions of the store's atmosphere and service). In addition, participants were asked to complete the self-monitoring scale (Snyder 1987), and indicate their gender, age, and student status. The responses to these items did not have any significant effect on the results and are therefore, not discussed further. Finally, participants completed an open-ended suspicion probe question that asked them to try and guess the purpose of the research. A total of three participants were unable to correctly complete the study (e.g., bought the wrong product, noticed they were being watched by an observer). No one guessed the true purpose of the research. This resulted in a total of 87 usable responses (cell sizes ranged from 28 to 30).

V. Manipulation Checks and Dependent Variable Measures

Manipulation Checks

Social Size. Participants were asked to estimate how many people, if any, were present in the aisle when they made their product selection.

Dependent Variable Measures

Emotions. In the questionnaire, participants indicated on a number of 7-point Likert item scales, with one representing "not at all" and seven representing "very", the emotions that they felt during their purchase experience. Exploratory factor analysis was conducted and indicated that these scale items were related to four underlying dimensions (72% of variance explained) (Table 5-1). Two of the dimensions were positive and the other two dimensions were negative. The first positive dimension consisted of four items that were anchored using the following labels: not at all good/very good, not at all happy/very happy, not at all excited/very excited, and not at all interested/very interested. These scores were averaged to form a happiness index ($\alpha = .81$). The second positive dimension was comprised of three items that had the following anchors: not at all confident/very confident, not at all sure/very sure, and not at all certain/very certain. These scores were averaged to form a certainty index ($\alpha = .81$). The first negative dimension used two items that were anchored using the following labels: not at all annoyed/very annoyed and not at all frustrated/very frustrated. These scores were highly correlated ($r = .55$, $p < .001$) and were averaged to form an annoyance index. Finally, the second negative dimension had three items with the following anchors: not at all anxious/very anxious, not at all self-conscious/very self-conscious, and not at all awkward/very awkward. These scores were averaged to form an anxiety index ($\alpha = .87$). Follow-up confirmatory factor analysis revealed that the four-factor model of emotions fit the best (one-factor model: χ^2 (54) = 360.86, $p < .001$, Comparative Fit Index (CFI) = .88, Tucker-Lewis Index (TLI) = .83, Root Mean Square Error of Approximation (RMSEA) = .26; two-factor model: χ^2 (53) = 215.54, $p < .001$, CFI = .94, TLI = .91,

RMSEA = .19; four-factor model: χ^2 (48) = 90.69, p < .001, CFI = .98, TLI = .97, RMSEA = .10). The results show that the four-factor model had the best fit for the data. To further confirm that the four-factor model was statistically better than the one- and two-factor models, χ^2 difference tests were conducted (one-factor vs. four-factor: χ^2 difference test (6) = 270.17, p < .001); two-factor vs. four-factor: χ^2 difference test (5) = 124.85, p < .001). The findings of this additional analysis lend further support to the notion that the four-factor model fits the data the best.

Cognition. To assess the impact of a social influence on cognition, participants' recall of the product display information was measured. Participants were asked to identify the different brands of batteries that were available in the store and their corresponding prices (excluding the brand they had purchased). To code the responses, the number of correctly identified brands and prices were added together to establish an overall recall measure. The total score that a participant could possibly receive was a value of eight (i.e., four brands and four prices).

Behaviours. Previous research has shown that the use of direct observation of purchase behaviours is more advantageous over self-reports because participants are often not cognitively aware of their behaviours (Wells and Lo Sciuto 1966). Further, Mullen (1983) proposes that self-report measurements engage a demand characteristic whereas behavioural measures do not. Therefore, measures of the participants' behaviours during product acquisition were recorded through the use of an observer (see Appendix K). The observer was an individual whose task was to remain inconspicuous while recording the participants' actions during the time they were in the aisle. In addition to recording behaviours, the observer was also required to record whether

anything unusual happened (e.g., other people) while the participant was in the aisle. Given that other people entered the aisle rarely, a low-traffic aisle was selected, all of the participants were included in the analysis as it was expected that these incidents would be randomized across the various conditions. To ensure that the observation was done accurately and inconspicuously, the observer received extensive training and instruction prior to the start of the study. Situated a couple of aisles away from the designated aisle, but within clear view of the product display the observer recorded three behaviours.

The first behaviour that was recorded was the extent to which the participant interacted with the battery testing display. A battery testing display was constructed for the research and was placed next to and at the same eye level as the batteries. The display gave the participants the opportunity to test the charge on some batteries that had already been removed from their packaging. A three-point interval scale was used to assess the participants' interaction with the tester: did not touch or use tester (0), tested one battery (1), tested multiple batteries (2). This measure was considered an assessment of impression management because an interaction with the testing display did not provide participants with any additional information that would assist in their brand selection (i.e., the charge on the open packages of batteries would not necessarily be the same charge as those batteries still in the their packages). Instead, the display provided them an opportunity to have some fun and play with the batteries, and following the results of the pre-test, cause the participant to feel silly/foolish if someone else was present. Thus, it was expected that participants would monitor their self-presentation behaviours when a social presence existed by refraining from interacting with the battery testing display.

The second behaviour that the observer recorded was the brand of batteries that the participant selected. As mentioned earlier, Duracell and Energizer were perceived to be of higher quality than the other brands (but not significantly different from each other), thus, they were assigned a value of one to indicate the best batteries available. Rayovac and Panasonic were perceived to be second in perceptions in terms of quality and were therefore designated a value of two. Finally, the generic version of batteries, Chateau, received the poorest ratings and was assigned a value of three. Brand selection was also considered an assessment of impression management as discussed earlier. It was expected that participants would monitor their self-presentation behaviours by purchasing the more expensive/better quality brands when there was someone else present (so they would not look cheap) but choose the cheaper/poorer quality brand when no one else was present. To provide an incentive for the participants to choose the cheapest alternative, as mentioned earlier they were informed that they could keep any leftover change. Given that it would have been in all of the participants' best interest to choose the cheapest batteries so they could keep the most change a decision to select more expensive brands could imply a desire to manage impressions.

Finally, the total amount of time that participants spent in the aisle was the last behaviour that was recorded. To achieve this measure the observer began a stop-watch the moment the participant entered the aisle and stopped the clock the moment the participant exited the aisle with the selected product. Although this behaviour is not a measure of a self-presentation behaviour and no formal hypothesis are forwarded, it was recorded to determine whether it provided additional insight into the findings.

VI. Results

Preliminary Analyses. A one-way Analysis of Variance (ANOVA) with a measure of the perceived number of people in the aisle as the dependent variable and the condition as the independent factor produced a main effect for social size ($F_{(2, 84)}$ = 139.06, ω^2 = .76; means: no person present = 0.37 (sd = .72), one person present = 1.45 (sd = .74), three people present = 3.54 (sd = .74)) (Table 5-2). Post-hoc tests were conducted and indicated that each of the conditions was significantly different from the others (no person present versus one person present, $t_{(114)}$ = -3.47, p = .001, no person present versus three people present, $t_{(114)}$ = -15.03, $p < .001$, one person present versus three people present, $t_{(84)}$ = -14.25, $p < .001$) (Table 5-3). Thus, the manipulation of social size was successful.

Tests of Hypotheses. H1-H4 were tested in one-way ANOVAs based on the three levels of social size. The means, standard deviations, and cell sizes are presented in Table (5-4).

Emotions. Consistent with H1 and H2, the size of the social presence significantly influenced the intensity with which participants experienced emotions (happiness: ($F_{(2, 84)}$ = 4.02, $p < .05$, ω^2 = .07; means: no person present = 4.63 (sd = 1.18), one person present = 5.23 (sd = .94), three people present = 4.54 (sd = .85)) (Table 5-5 and Figure 5-1); certainty: ($F_{(2, 83)}$ = 5.61, $p < .01$, ω^2 = .10; means: no person present = 4.93 (sd = 1.21), one person present = 5.85 (sd = .76), three people present = 5.19 (sd = 1.16)) (Table 5-7 and Figure 5-2); annoyance: ($F_{(2, 84)}$ = 3.51, $p < .05$, ω^2 = .05; means: no person present = 2.45 (sd = 1.40), one person present = 1.71 (sd = .88), three people present = 2.48 (sd = 1.42)) (Table 5-9 and Figure 5-3); anxiety ($F_{(2, 84)}$ =

5.66, p < .01, ω^2 = .10; means: no person present = 3.18 (sd = 1.63), one person present = 2.01 (sd = 1.05), three people present = 2.71 (sd = 1.26)) (Table 5-11 and Figure 5-4). Post-hoc tests were conducted for each of the emotions and the results were in the predicted directions. Participants felt more intense positive emotions when there was one person present as compared to when there was no one or a social presence of three existed (happiness: no person present versus one person present t (84) = -2.29, p < .05, one person present versus three people present t (84) = 2.59, p < .05 (Table 5-6); certainty: no person present versus one person present t (83) = -3.26, p < .01, one person present versus three people present t (83) = 2.30, p < .05 (Table 5-8)). Conversely, participants reported significantly more intense negative emotions when there was no one present or three people present as compared to when there was one person present (annoyance: no person present versus one person present t (84) = 2.27, p < .05, one person present versus three people present t (84) = -2.32, p < .05 (Table 5-10); anxiety: no person present versus one person present t (84) = 3.35, p = .001, one person present versus three people present t (84) = -1.98, p < .05 (Table 5-12)). Finally, there were no significant differences in the intensity of any of the emotions when there was no social presence as compared to a social presence of three (happiness: no person present versus three people present t (84) = .330, p > .05; certainty: no person present versus three people present t (83) = -.920, p > .05; annoyance: no person present versus three people present t (84) = -.097, p > .05; anxiety: no person present versus three people present t (86) = .920, p > .05) .

Cognition. H3 predicted that consumers would recall the most information when there was no one else present in the shopping aisle. However, as the size of the social

presence increased, it was expected that recall would decline. The results of an ANOVA produced a main effect for size (F (2, 84) = 8.79, p < .001, ω^2 = .15; means: no person present = 3.47 (sd = 1.68), one person present = 2.55 (sd = 1.27), three people present = 1.93 (sd = 1.22)) (Table 5-13 and Figure 5-5). Consistent with expectations, post-hoc tests indicated that participants recalled significantly more product display information when there was no social presence than when a social presence existed (no person present versus one person present t (84) = 2.37, p < .05, no person present versus three people present t (84) = 4.16 p < .001). Further, consumers recalled marginally more information when there was one person present as compared to three (one person present versus three people present t (84) = 1.89, p < .06) (Table 5-14).

Behaviours. Finally, H4 predicted that consumers would be increasingly likely to monitor their self-presentation behaviours as the size of the social presence increased. The first measure of self-presentation behaviours, interaction with the battery testing display, was assessed using an ANOVA. This analysis produced a main effect for participants' interaction with the product display (F (2, 84) = 5.35, p < .01, ω^2 = .09; means: no person present = 0.33 (sd = .47), one person present = .10 (sd = .31), three people present = .00 (sd = .00)) (Table 5-15 and Figure 5-6). Post-hoc tests indicated that, consistent with expectations, participants interacted with the testing display less (i.e., managed self-presentation behaviours more) when a social presence existed as compared to when there was no one present. However, there were no significant differences in the participants' level of interaction with the display when there was a social presence of one versus three (no person present versus one person present t (84) = 2.21, p < .05, no person

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present versus three people present t (84) = 3.18, p < .01, one person present versus three people present t (84) = .98, p > .05) (Table 5-16).

A similar finding occurred with the participants' brand selection. Chi-square analysis indicated that social size was significantly associated with brand selection (χ^2 = 10.9, p < .05) (Table 5-17). Analyzing the different number of brands selected for each social size indicated that when no one was present, participants purchased the lower quality brand more often than when there was a social presence of one or three. Further, regardless of whether there was one person or three people present in the aisle, there was no significant difference in the frequency with which the higher quality brands were purchased (Table 5-18 and Figure 5-7). Finally, mediation analysis was conducted to determine whether any of the emotion indices or consumers' recall of the product display information mediated the relationship between social size and brand selection. The results of the analysis did not produce any significant mediation effects.

Although a hypothesis was not forwarded regarding the amount of time that participants would spend in the aisle, this dependent variable was used to provide further insight into some of the other findings. Prior to analysis, to correct for a positive skew that was present in the data (skewness = 1.72), the variance was normalized using a reciprocal transformation ($\frac{1}{x}$) following Darke and Freedman (1993). An ANOVA produced a marginally significant main effect for time (F (2, 86) = 2.70, p < .08, ω^2 = .02; means (transformed): no one present = 2.04E-02 (sd = 1.63E-02), one person present = 2.25E-02 (sd = 1.61E-02), three people present = 3.28E-02 (sd = 3.01E-02)) (Table 5-19 and Figure 5-8). Post-hoc tests indicated that participants spent significantly less time in the aisle when there was no one present as compared to when there was three people (t

(84) = -2.18, p < .05). Further, participants spent marginally more time in the aisle when there were three people present as compared to one (t (84) = -1.80, p < .08). Finally, there was no significant difference in the time spent in the aisle when no one was present versus one person (t (84) = -.37, p > .20) (Table 5-20).

One final analysis was conducted to determine whether the amount of time participants spent in the aisle predicted the amount of information participants could recall. A median split was done on the transformed time data and then an ANOVA was conducted. Results indicated that participants were able to recall more information about the product display when they spent less time in the aisle as compared to when they were in the aisle for a longer period of time (F (1, 69) = 4.93, p < .05, ω^2 = .05; means: short time = 2.96 (sd = 1.59), long time = 2.13 (sd = 1.26)) (Table 5-21). There are a number of alternative explanations that may explain this counterintuitive finding. First, participants may have spent less time making a purchase decision and more time paying attention to the social presence. Second, when participants spent more time in the aisle they may not have remained focused on the task at hand and their attention may have wandered to other products. Finally, additional time in the aisle provided participants with the opportunity to absorb more information from the environment (e.g., characteristics of the social presence) and this additional environmental information may have dominated their short-term memory, instead of the information in the product display. In Study Two, more detailed assessments of time were done to gain a better understanding of how participants were spending their time in the shopping aisle.

VII. Discussion

The results of Study One indicated that two distinct patterns arose when the social presence varied in size. While cognitive performance and self-presentation behaviours followed the predictions of SIT (i.e., as the size of the social presence increases so does its impact on a target individual), emotional responses did not differ in intensity when there was no one or three people present but did differ when one person was present. This finding is interesting because, not only does it suggest a context in which SIT's predictions do not appear to hold, but it also indicates that a social presence may impact a consumer's emotions differently than cognition and behaviours. Another conclusion that can be drawn from the results of the first study is that consumers appear to be susceptible to social influences even when they purchase a product that is a necessity and is privately consumed.

In addition to providing insight into the influence of social size on emotions, cognition, and behaviours, Study One also generated new questions related to the mechanisms that drove some of the findings. First, when the confederates in Study One were trained for their role, they were instructed to quietly interact amongst themselves. This instruction was conveyed to create a more realistic situation for the participant. However, research in psychology has found that the activity of a group can actually influence those around it. In one study, Knowles and Bassett (1976) manipulated group activity by having confederates talk amongst themselves in half of the conditions and gaze at the ceiling in the other half. They found that when the confederates were interacting, participants tended to stay further away from them than when the confederates were gazing up. It is suggested that when the confederates were simply

gazing at the ceiling, the participants may not have perceived the confederates to be a group but rather a number of separate individuals. As a result the participant felt less threatened by the situation – i.e., a minority versus majority situation was not created. In another investigation, Cheyne and Efran (1972) found that when a group of confederates were engaged in conversation, passers-by walked around the group more often than when the confederates were turned facing opposite ends of the hall. Although the earlier research studies investigated the impact of a group's activity on behaviours, it is possible that the group's activity may also influence emotions (Barden, Garber, Leiman, Ford, and Masters 1985; Horney 1945). Several researchers have found that being excluded, rejected, or ignored leads to an individual experiencing negative emotions. Thus, in the present research it is possible that when the confederates were interacting amongst themselves, the participants may have realized they were in a minority position and this realization may have created the emotional response patterns (i.e., more intense negative emotions and less intense positive emotions). This raises the question as to whether it is social size or group activity or both that drove the earlier findings.

To determine whether consumers' emotions are influenced differently in the presence of a group of strangers that interact versus a group that does not interact, and to establish whether group activity explained the findings of Study One, the next study incorporates an additional cell into its design. This cell is designed to test the minority versus majority effect. It is predicted that if no differences exist in the reported emotions between an interacting social presence of three and a non-interacting social presence of three, then support would exist for the social size explanation. In contrast, if the results indicate that the pattern of emotional outcomes does not exist when the social presence is

not interacting, then support will be found for the alternative explanation. That is, a minority versus majority situation created the change in emotions as opposed to the size of the social presence.

A second question that arose from Study One involved brand selection. Initially in Study One, it was predicted that consumers would purchase the more expensive, brand-name alternative when a social presence existed because consumers would be motivated to create a good impression. However, it could be argued that consumers selected the most expensive, brand-name alternative when others were around because the social presence was distracting the consumers' thought process. This distraction in turn, could have limited the amount of information processing consumers could engage in and as a consequence they chose a familiar brand or used price as a cue for quality. Following this reasoning, the same results would arise as predicted by the self-presentation literature. However, again based on the above reasoning, one would expect that when a social presence of three exists, a participant would process less information than when a social presence of one individual is present because in the former condition there are more environmental stimuli present; therefore, there is a greater likelihood of distraction. Contrary to the distraction explanation, no differences existed in brand choice when the size of the social presence differed. This provides some initial support for the notion that the brand selection is based on self-presentation behaviours.

Analyzing the amount of time the participants spent in the shopping aisle provided additional support in favour of the self-presentation behaviours explanation of brand selection motivation as opposed to distraction. In particular, if brand selection were the result of the amount of information consumers processed relative to the product

display, then it would be expected that the time the consumer spends in the aisle would be minimal, given that consumers would not need to process information related to all of the alternatives. Thus in the present context, when three people were present in the aisle, participants should have processed less information and should have remained in the aisle for the shortest period of time. However, the results indicated the exact opposite. Participants actually spent the most amount of time in the aisle when there was a social presence of three. Further, there was no significant difference in the time when there was no one present versus one person present. This finding lends support to the self-presentation behaviour argument.

One limitation to using total time spent in the aisle as a measure for the influence of a social presence is that it does not separate the consumer's actions before (pre-brand selection) and after product selection (post-brand selection). In other words, the participants may have made their choice in a very short period of time and then just not have been in a rush to exit the aisle or vice-versa; either way, no difference would be present in the amount of time the participants spent in the aisle when the size of the social presence varied. Thus, to further explore whether self-presentation behaviours or distraction explains consumers' motivation for selecting a brand name product over a cheaper generic version, in Study Two, distraction is directly assessed and pre-brand and post-brand selection times will also be measured.

There are four objectives to the second study. First, it will introduce a second social force identified in social impact theory, proximity, and test it simultaneously with social size. Second, it will attempt to replicate the findings from Study One to demonstrate the robustness of the results. It should be noted that due to the constraints

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inherent in the nature of field experiments, in Study One the confederate(s) ultimately had to be situated a fixed distance (i.e., two feet) from where the participants made their product selection. According to the personal space literature (Sommer 1969), two feet is a close proximity, especially between strangers; therefore, it is expected that the replication of Study One's findings will occur in the close condition. Third, Study Two will test the two alternative explanations that were identified in the discussion of Study One: 1) whether the social size or the group activity explains the v- and inverted-v relationships found between social size and emotions and 2) whether the brand participants selected is an outcome of impression management or distraction. Finally, it will assess potential mediators of emotions and cognition to gain a better understanding of the influence of a social presence in a consumption context. In the theoretical development, it was suggested that consumers would experience a decrease in the intensity of positive emotions (and an increase in the intensity of negative emotions) as the size of a social presence increased because consumers would become crowded. To test whether crowding is in fact a driver of emotions, mediation analysis will be conducted. In Chapter Three it was also proposed that the size of the social presence would influence cognitive performance because consumers would become crowded and distracted; therefore, both of these factors will be analyzed as potential mediators of social presence characteristics and cognitive performance.

Table 5-1

Exploratory Factor Analysis of Emotion Items

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.11	29.37	29.37	3.40	24.31	24.31
2	3.23	23.04	52.41	2.50	17.88	42.20
3	1.52	10.85	63.26	2.48	17.73	59.93
4	1.26	9.03	72.30	1.73	12.37	72.30
5	.96	6.88	79.17			
6	.60	4.26	83.44			
7	.54	3.83	87.27			
8	.41	2.94	90.21			
9	.34	2.43	92.64			
10	.28	2.03	94.67			
11	.26	1.83	96.50			
12	.20	1.41	97.91			
13	.18	1.27	99.18			
14	.11	.82	100.00			

Varimax Rotated Component Matrix

	Component			
	1	2	3	4
Anxious	.73	.17	-.25	-2.20E-02
Awkward	.91	8.23E-02	-.11	.13
Annoy	.12	-5.19E-02	-9.38E-02	.89
Sure	-.17	4.34E-02	.85	-.150
Interest	9.57E-02	.86	.22	-8.43E-02
Certain	1.88E-02	.12	.86	-7.38E-02
Excited	.20	.87	-2.30E-02	7.39E-02
Frustrated	.10	-3.40E-02	-.18	.81
Happy	-.10	.86	.17	-.11
Confident	-.28	.167	.72	-9.05E-02
Self-conscious	.91	-5.14E-02	-.15	3.87E-02
Good	-8.17E-02	.65	-.19	-.41
Uncomfortable	.47	3.20E-02	.12	.19
Stimulated	-.42	.32	.11	-2.91E-02

Table 5-2

Analysis of Variance for Social Size Manipulation Check

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	149.33	2	74.67	139.06	.000
Error	45.10	84	.54		
Total	194.44	86			

Table 5-3

Post-hoc Tests for Social Size Manipulation

	t	df	Sig. (2-tailed)
control vs. one	-5.71	57	.000

	t	df	Sig. (2-tailed)
control vs. three	-16.50	56	.000

	t	df	Sig. (2-tailed)
one vs. three	-10.64	55	.000

Table 5-4

Means, Standard Deviations, and Cell Sizes

Dependent Variable	Social Size		
	Control	One-person	Three-people
Happiness	4.63 (1.18)[a] {30}[b]	5.23 (.94) {29}	4.54 (.85) {28}
Certainty	4.93 (1.21) {30}	5.85 (.76) {28}	5.19 (1.16) {28}
Annoyance	2.45 (1.40) {30}	1.71 (.88) {29}	2.48 (1.42) {28}
Anxiety	3.18 (1.63) {30}	2.01 (1.05) {28}	2.71 (1.26) {28}
Information Recalled	3.47 (1.68) {30}	2.55 (1.27) {29}	1.93 (1.22) {28}
Interaction with Tester	.70 (.47) {30}	.90 (.31) {29}	1.00 (.00) {28}
Total Time (seconds)	1.63E-02 (1.63E-02) {30}	1.61E-02 (1.61E-02) {29}	3.01E-02 (3.01E-02) {28}

[a] Standard deviations

[b] Cell sizes

Table 5-5

Analysis of Variance for Happiness

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	8.09	2	4.04	4.02	.022
Error	84.59	84	1.01		
Total	92.68	86			

Figure 5-1

Happiness

Table 5-6

Post-hoc Tests for Happiness

	t	df	Sig. (2-tailed)
control vs. one	-2.15	57	.036

	t	df	Sig. (2-tailed)
control vs. three	.33	56	.746

	t	df	Sig. (2-tailed)
one vs. three	2.91	55	.005

Table 5-7

Analysis of Variance for Certainty

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	12.68	2	6.34	5.61	.005
Error	93.85	83	1.13		
Total	106.52	85			

Figure 5-2

Certainty

Table 5-8

Post-hoc Tests for Certainty

	t	df	Sig. (2-tailed)
control vs. one	-3.42	56	.001

	t	df	Sig. (2-tailed)
control vs. three	-.83	56	.412

	t	df	Sig. (2-tailed)
one vs. three	2.51	54	.015

Table 5-9

Analysis of Variance for Annoyance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	11.14	2	5.57	3.51	.034
Error	133.18	84	1.59		
Total	144.32	86			

Figure 5-3

Annoyance
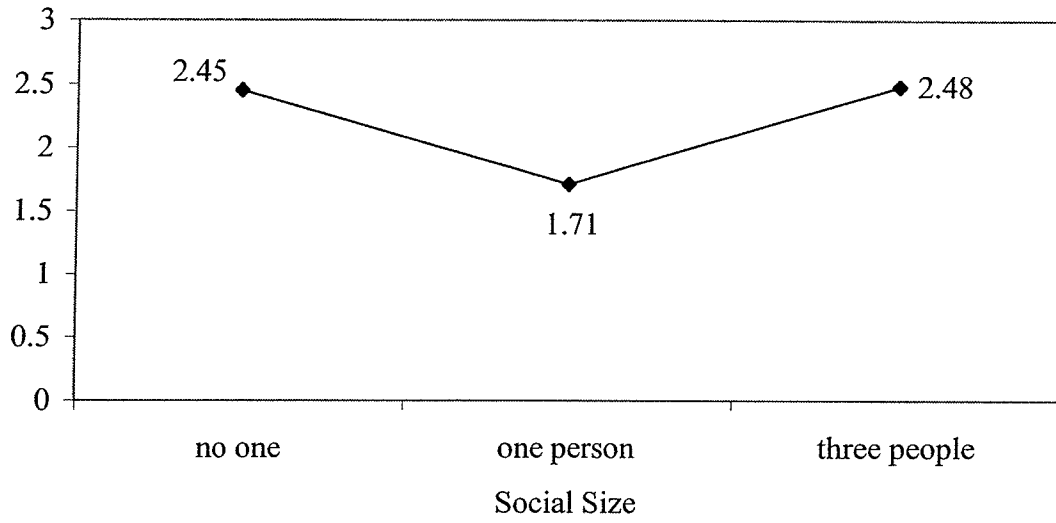
Table 5-10

Post-hoc Tests for Annoyance

	t	df	Sig. (2-tailed)
control vs. one	2.43	57	.019

	t	df	Sig. (2-tailed)
control vs. three	-.09	56	.931

	t	df	Sig. (2-tailed)
one vs. three	-2.49	55	.016

Table 5-11

Analysis of Variance for Anxiety

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	20.29	2	10.14	5.66	.005
Error	150.43	84	1.79		
Total	170.72	86			

Figure 5-4

Anxiety
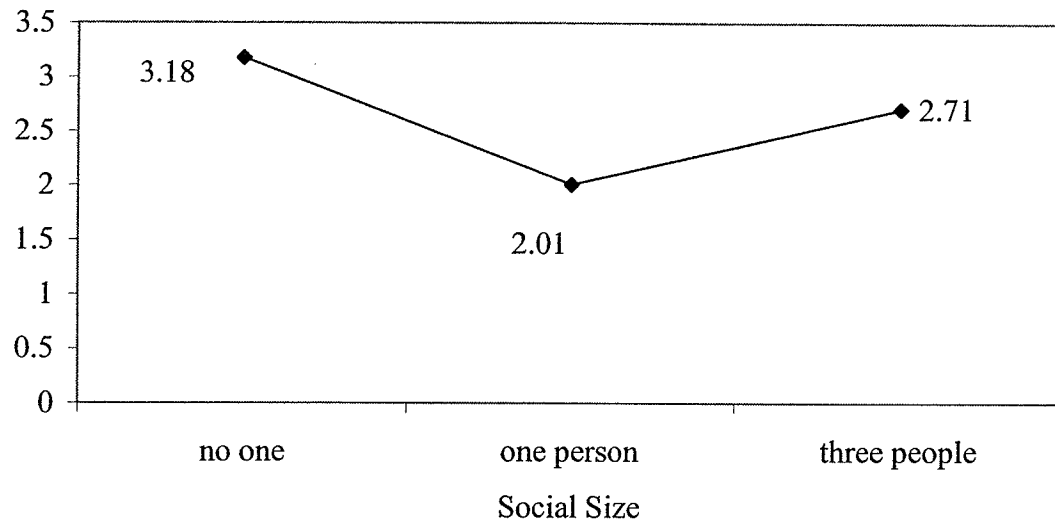
Table 5-12

Post-hoc Tests for Anxiety

	t	df	Sig. (2-tailed)
control vs. one	3.26	57	.002

	t	df	Sig. (2-tailed)
control vs. three	1.21	56	.233

	t	df	Sig. (2-tailed)
one vs. three	-2.29	55	.026

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Table 5-13

Analysis of Variance for Recall of Product Display Information

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	34.84	2	17.42	8.79	.000
Error	166.50	84	1.98		
Total	201.33	86			

Figure 5-5

Recall of Product Display Information
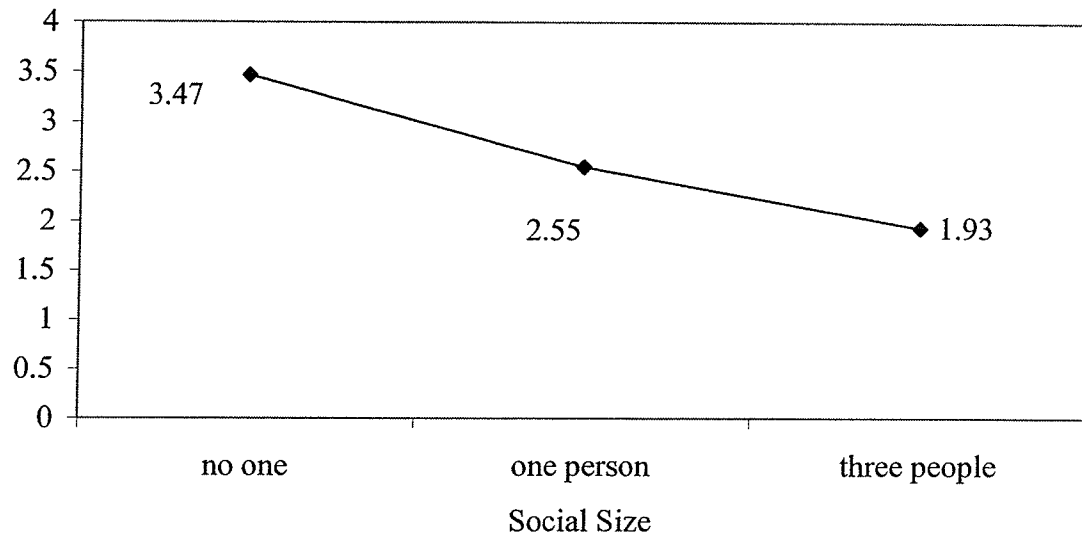
Table 5-14

Post-hoc Tests for Recall of Product Display Information

	t	df	Sig. (2-tailed)
control vs. one	2.36	57	.022

	t	df	Sig. (2-tailed)
control vs. three	3.98	56	.000

	t	df	Sig. (2-tailed)
one vs. three	1.89	55	.064

Table 5-15

Analysis of Variance for Self-Presentation Behaviour
(Interaction with Battery Testing Display)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	1.70	2	.85	5.35	.007
Error	13.36	84	.16		
Total	15.06	86			

Figure 5-6

Self-Presentation Behaviour (Interaction with Battery Testing Display)
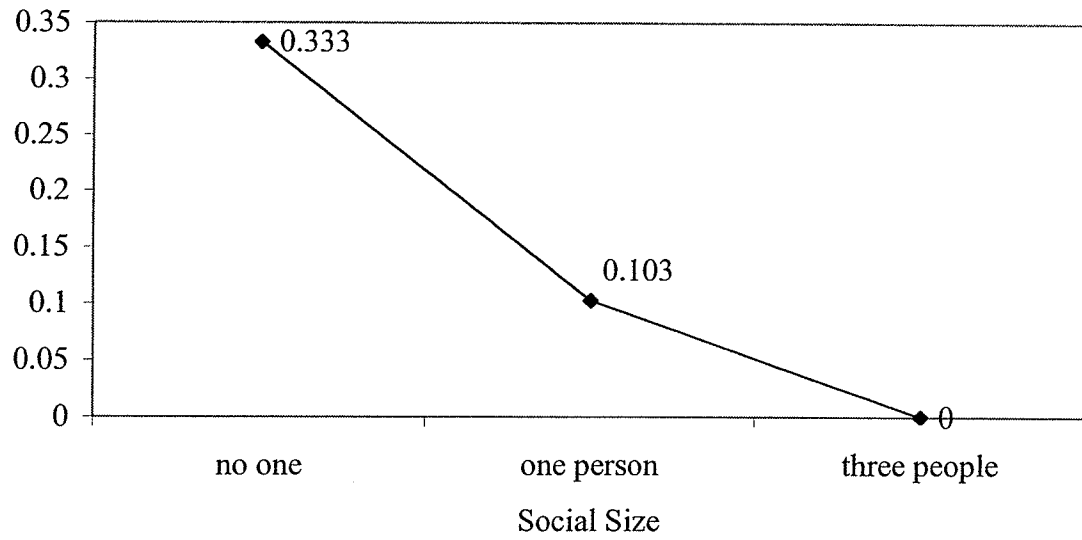
Table 5-16

Post-hoc Tests for Self-Presentation Behaviour
(Interaction with Battery Testing Display)

	t	df	Sig. (2-tailed)
control vs. one	-1.90	57	.062

	t	df	Sig. (2-tailed)
control vs. three	-3.40	56	.001

	t	df	Sig. (2-tailed)
one vs. three	-1.77	55	.083

Table 5-17

Chi-Square Analysis for Self-Presentation Behaviour (Brand Selection)

	Value	df	Sig. (2-sided)
Pearson Chi-Square	10.93	4	.027

Table 5-18

Self-Presentation Behaviour Frequency
(Brand Selection)

Brand	Social Size			Total
	No one present	One person present	Three people present	
Duracell/Energizer	8	14	17	39
Rayovac/Panasonic	10	11	6	27
Chateau	12	4	4	20
Total	30	29	27	86

Figure 5-7

Self-Presentation Behaviour (Brand Selection)
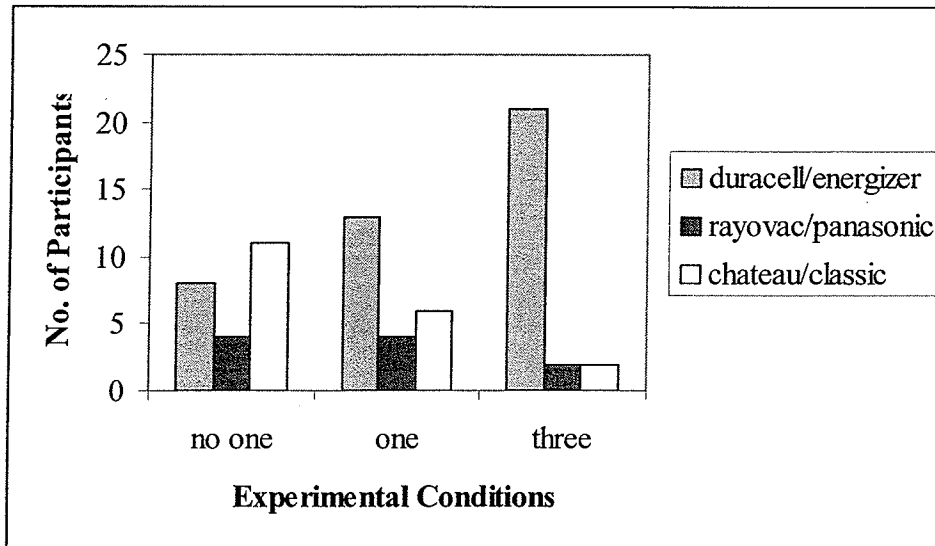
Table 5-19

Analysis of Variance for Total Time Spent in the Aisle

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	2.53E-03	2	1.27E-03	2.70	.073
Error	3.94E-02	84	4.68E-04		
Total	9.65E-02	87			

Figure 5-8

Total Time Spent in the Aisle
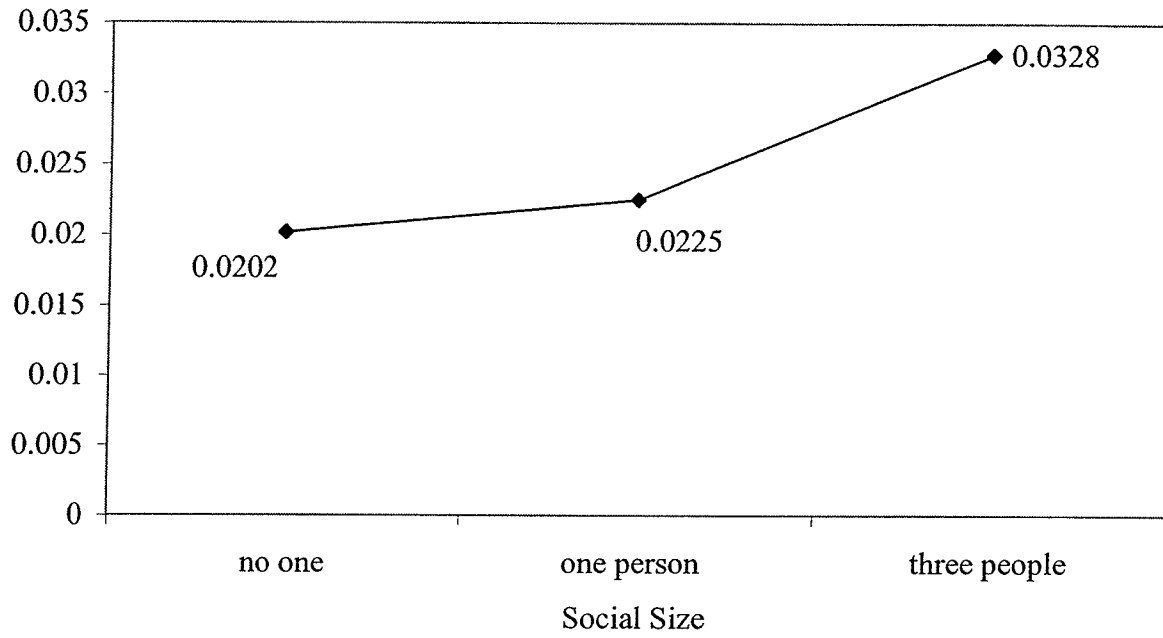
Table 5-20

Post-hoc Tests for Total Time Spent in the Aisle

	t	df	Sig. (2-tailed)
control vs. one	-.49	57	.626

	t	df	Sig. (2-tailed)
control vs. three	-1.97	56	.053

	t	df	Sig. (2-tailed)
one vs. three	-1.63	55	.109

Table 5-21

Analysis of Variance for Recall of Product Display Information

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Total Time	10.91	1	10.91	4.93	.030
Error	150.54	68	2.21		
Total	161.44	69			

CHAPTER SIX

STUDY TWO

This chapter presents a second field experiment that tested the hypotheses related to social size and proximity and answers questions raised in Study One. The chapter is divided into the same seven sections as Chapter Five: research design, study participants and product, independent variable manipulations, procedure, manipulation checks and dependent variables, results, and discussion.

I. Research Design

Study Two was designed to test H5 – H9. The design of the study was a 2 (proximity: close versus far) x 2 (social size: one versus three (interacting)) + 2 (control group + three (close and not interacting)) between-subjects factorial design. The control group made their purchase in the absence of a social presence (i.e., social size equals zero). The additional cell with three confederates that were close and not interacting was included to determine whether group activity and/or social size drove the results in Study One. The results of this cell are compared to those from the results of the three close and interacting group.

II. Participants and Product

Participants

One hundred and forty-four undergraduate students (males = 59, females = 85, mean age = 20.4) participated in this experiment in exchange for course credit. This research received human ethics approval.

Product

Batteries were again purchased in this study. However, unlike Study One, a sixth brand was added to the display. This brand, Classics, which a pre-test indicated was perceived to be low in price and quality, was included to create an equal balance in the number of brands that represented the different qualities of batteries (i.e., two high quality, two average quality, and two low quality).

III. Independent Variables

Manipulation of Social Size

As described in Study One, social size was manipulated using three confederates (two females and one male). Again in this study, a social presence of one or three confederate(s) was located in the designated shopping aisle pretending to buy film when the participants arrived to make their purchase selection. As in Study One, the confederates were instructed to avoid interacting with the participant. Group activity was manipulated by instructing the three confederates to either talk quietly amongst themselves while shopping for film (i.e., creating an interacting social presence) or to look at rolls of film separately and pretend to be shopping by themselves (i.e., creating a non interacting social presence).

Manipulation of Proximity

Proximity was manipulated by locating the confederates either close to or further down the aisle from the participant. Based on the findings from a pre-test and previous research (e.g., Sommer 1969), the close condition was manipulated by a distance of two feet between the social presence and participants while in the far condition the social presence was situated eight feet from the participant.

IV. Procedure

The same procedure was used as outlined in Study One with one notable difference: the experiment was conducted in a new retail outlet, the Commerce Connection, a new student-run store that had recently opened in the Faculty of Business. The justification for the new store was that it enhanced the experimenters' control over the study and it allowed for the use of cameras to record the participants' behaviours (which will be discussed shortly). As in Study One, participants completed the self-monitoring scale (Snyder 1987) and indicated their gender, age, and student status. The responses to these items did not have any significant effect on the results and are therefore, not discussed further.

V. Manipulation Checks and Dependent Variable Measures

Manipulation Checks

Social Size. The manipulation check for social size was the same as that described in Study One. Participants were asked to indicate how many, if any, other people were present in the aisle where they made their product selection.

Group Activity. To assess the participants' perceptions of whether the three confederates appeared as a group or not two types of questions were asked. First, they completed the same four seven-point Likert item scales used in the pre-test. The scales asked them about the activity of the social presence using the following anchors: the other people in the aisle knew one another (definitely did not know one another/definitely knew one another), the other people in the aisle talked to one another (did not talk at all/talked a lot), the other people appeared to be together (did not appear to be together at all/definitely appeared to be together), and the other people were perceived to be a group

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(definitely were not a group/definitely were a group). These items were combined to form an overall index of activity ($\alpha = .89$). Second, they were asked in an open-ended question to indicate what the other people in the aisle were doing.

Proximity. Three seven-point Likert item scales asked the participants to indicate their perceptions of the distance between the social presence and themselves using the following anchors: close/far, near/distant, and next to me/away from me. These items were combined to form an overall measure of proximity ($\alpha = .95$).

Control Group. The control group made a purchase in the absence of a social presence and then completed the same questionnaire as the participants in the manipulated conditions. The purpose of the control group was to establish a baseline of how participants would react in a situation in which a social presence did not exist.

Dependent Variables

Emotions. Similar to Study One, participants were asked a number of questions related to their experience in the store (see Appendix L). They were asked to indicate on a battery of seven-point scale items how they felt during their shopping experience. A factor analysis of these items indicated that the emotions loaded on the same four dimensions that existed in Study One, with two dimensions representing positive emotions and two dimensions representing negative emotions (65.13% of variance explained) (Table 6-1). The scale items that assessed the two positive indices (happiness and certainty), and one of the indices for negative emotions (annoyance) did not change from the earlier study (happy: not at all good/very good, not at all happy/very happy, not at all excited/very excited, and not at all interested/very interested ($\alpha = .73$); certainty: not at all confident/very confident, not at all sure/very sure, and not at all

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certain/very certain (α = .79); annoyance: not at all frustrated/very frustrated and not at all annoyed/very annoyed (r = .55, p < .001)). However, to expand the emotion measures, additional items were included in the battery of scale items and they produced an improved index for anxiety (not at all anxious/very anxious, not at all self-conscious/very self-conscious, not at all awkward/very awkward, not at all nervous/very nervous, not at all uncomfortable/very uncomfortable, and not at all uneasy/very uneasy (α = .85)). Follow-up confirmatory factor analysis revealed that the four-factor model of emotions fit the data the best (one-factor model: χ^2 (90) = 403.74, p < .001, CFI = .95, TLI = .93, RMSEA = .14; two-factor model: χ^2 (89) = 309.75, p < .001, CFI = .96, TLI = .95, RMSEA = .12; four-factor model: χ^2 (84) = 170.00, p < .001, CFI = .99, TLI = .98, RMSEA = .08). Further, χ^2 difference tests lent additional support to the finding that the four-factor model was the best fit for the data (one-factor vs. four-factor: χ^2 difference test (6) = 233.74, p < .001; one-factor vs. four-factor: χ^2 difference test (5) = 139.75, p < .001).

Cognition. Cognition was studied by asking participants to recall information about the product display (i.e., the brands that were available and their corresponding prices excluding the brand they purchased). An overall recall measure was again established by adding the total number of brands recalled and the number of correctly identified prices together. The total possible score that a participant could receive was a value of ten (i.e., five brands and five prices).

Behaviours. Various behaviours were again assessed in the present study; however, as mentioned above in Study Two, the behaviours were recorded using two hidden cameras as opposed to an observer. The reason for this change in recording

behaviour was primarily due to the fact that more detailed behaviours could be assessed with the use of cameras as opposed to an observer (i.e., one can rewind a tape but cannot review a live situation). The hidden cameras were mounted on the wall behind the display and slightly off on an angle so that the actions of the participants were in clear view of at least one of the cameras at all times. As in the first study, the two primary measures for self-presentation behaviours were: the participants' interaction with the battery testing display and brand selection. The amount of time the participants spent in the aisle was also recorded; however, unlike Study One, three different times were measured. Two coders worked independently to code the footage recorded on the cameras (see Appendix M). Any discrepancies reported in the coding were resolved through discussion between the coders. Initial reliability between the two coders ranged from 97.1% to 100% (Table 6-2).

The first self-presentation behaviour that was observed was the extent to which the participant interacted with the battery testing display. As in Study One, the display provided participants with an opportunity to test the charge of batteries that were no longer in their packaging. The testing display was placed next to and at the same eye level as the batteries. A three-point interval scale was used to measure the extent to which people interacted with the tester: ignored the tester (0), examined the tester but did not try to use it (1), and tested the batteries (2). This behaviour served as a measure of self-presentation behaviours for the reasons identified in Study One. It was expected that participants would refrain from using the display when a social presence existed and was close by as opposed to if the social presence was further away.

The second self-presentation behaviour that was recorded was the brand of batteries the participants selected. As mentioned earlier, Duracell and Energizer were perceived to be higher in quality than the other brands (but not significantly different from each other) and therefore, they were assigned a value of one. Rayovac and Panasonic were perceived to be second in perceptions of quality and received a value of two. Finally, Chateau and Classics were perceived to be the worst batteries and were assigned a value of three. It was predicted that participants would purchase the most expensive/best quality batteries when a social presence was close and large in number as compared to small but when the social presence was further away, the size of the social presence was not expected to influence the brand that was selected.

The last behavioural variable that was observed in this study was the amount of time participants spent in the designated aisle. This behaviour was measured using a stopwatch. Unlike Study One, in the present study, three separate times were recorded: the total time spent in the aisle, pre-brand selection time (i.e., the time from when the participant enters the aisle up to when the participant makes his/her brand selection), and post-brand selection time (i.e., the time from when the participant makes his/her brand selection until s/he leaves the aisle). This information provided more insight into how the consumer spent his/her time in the aisle. Do consumers quickly select their brand and then spend the rest of the time in the aisle doing something else, or do they spend the entire time engaged in their brand selection?

Additional Measures for Mediation Analysis

To test for mediation and to gain more insight into the mechanisms of a social influence in a consumption context two measures were recorded: crowding and

distraction. First, to assess crowding, participants were asked to indicate on three seven-point item scales the extent to which the aisle was cramped (not at all cramped/very cramped), spacious (not at all spacious/very spacious – this was reverse-scored), and jam-packed (not at all jam packed/very jam packed). The items were combined to form an overall crowding index ($\alpha = .79$). The crowding index was used to determine whether it mediated the relationship between social presence characteristics and emotions.

Second, participants completed an open-ended cognitive response question that was used to determine how distracted they were while in the shopping aisle. Participants were given a couple of minutes to list all of the thoughts that they had while trying to decide which brand to select. The responses were coded by assigning a value of one to each unique factor that the participant identified related to the purchase decision. These thoughts were then added together to determine the overall amount of information that was processed. Following Chaiken and Maheswaran (1994), it was proposed that the more thoughts the participants had regarding the purchase decision, the more in-depth the level of processing they employed when selecting a brand and the less distracted they would be. Thus, distraction would be indicated when limited processing occurred. The distraction index was used to determine whether it explained the impact the social presence had on consumers' cognitive performance and self-presentation behaviours.

VI. Results

Preliminary Analyses. The manipulation of social size was effective. An ANOVA with a measure of the number of people in the aisle as the dependent variable and social size and proximity as the two independent factors showed only a main effect for social size ($F (1, 93) = 248.2$, $p < .001$, $\omega^2 = .70$; means: one person present = 1.09

(sd = .58), three people present = 3.11(sd = .63)) (Table 6-3). Participants reported that there were significantly more people in the aisle when there were three confederates present than when there was only one confederate. A one-way ANOVA for social size, including the control group, was also conducted to determine whether perceptions of the size of the social presence (i.e., no one present, one person present, three people present) were significantly different across conditions. Results provided further support that the social size manipulation was significant (F (2, 116) = 152.75, p < .001 ω^2 = .72; control group mean = 0.48 (sd = .48)) (Table 6-4). Post-hoc tests indicated that participants perceived that there were significantly fewer people in the aisle when there was no social presence (i.e., control group) as compared to when a social presence of one or three existed (no one present versus one person present: t (114) = -3.47, p = .001; no one present versus three people present: t (114) = -15.03, p < .001) (Table 6-5).

The manipulation of proximity was also successful. An ANOVA with a measure of the distance participants perceived between them and the social presence as the dependent variable and social size and proximity as the two independent variables produced only a main effect for proximity (F (1, 88) = 91.31, p < .001, ω^2 = .51; means: close = 1.78 (sd = .87), far = 4.02 (sd = 1.27)) (Table 6-6). Thus, participants indicated that they perceived the social presence to be significantly closer when the social presence was located two feet away from them as compared to when the social presence was eight feet away.

Finally, a manipulation check was conducted for group activity. Because group activity was only manipulated in the conditions in which three confederates were present, a one-way ANOVA with perceptions of the presence of a group as the dependent variable

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and group activity as the independent variable was conducted. Results indicated that when the three confederates interacted amongst themselves they were perceived to be a group significantly more than when they did not interact (F (1, 72) = 25.78, p < .001, ω^2 = .25; means: interacting = 6.49 (sd = .69), not talking = 5.22 (sd = 1.36)) (Table 6-7). Therefore, the manipulation was successful. Interestingly, in the non-interacting condition, when the confederates did not shop together or interact with one another, group activity was still rated quite high on the seven-point scale.

Tests of Hypotheses. In this section, tests of H5 – H9 are presented. The mean scores, the standard deviations, and the cell sizes from the analyses are presented in Table 6-8.

Emotions

Happiness. Consistent with H5's predictions, an ANOVA with social size and proximity as independent variables and happiness as the dependent variable revealed a significant interaction (F (1, 92) = 5.09, p < .05, ω^2 = .04; means: one person close = 5.43 (sd = .86), one person far = 5.05 (sd = .64), three people close = 4.61 (sd = .88), three people far = 5.02 (sd = .99)) (Table 6-9 and Figure 6-1). A simple effects test showed that, as predicted, participants were happier when there was one person in close proximity versus when there were three people close by (t (41) = 3.07, p < .01) (Table 6-10).

A second simple effects test indicated when the social presence was located further away, the size of the social presence did not significantly differ in its influence on how participants' happiness (t (48) = -.11, p > .20). In other words, participants reported

the same level of happiness when the social presence was further away regardless of whether there was one person or three people present.

Finally, to provide a comprehensive reporting of the impact of social size and proximity on how happy people are while in a shopping aisle, two more simple effects were conducted. Results indicated that the intensity of happiness participants experienced did not differ when the social presence was comprised of three people and was close as opposed to further away (t (45) = 1.50, p > .10). Thus, proximity appears to influence how happy one feels when a large social presence exists. Furthermore, the results demonstrated that participants only reported feeling marginally more happy when one person was further away as compared to close to the participant (t (44) = 1.75, p < .09). Hence, it appears that consumers feel happy when one person is present regardless of whether the person is right next to them or further away.

In an effort to replicate the results of Study One, a control group was added to the design and a one-way ANOVA was conducted using social size as the independent variable (i.e., no one present, one person present, three people present) and the intensity of happiness experienced as the dependent variable. It should be noted that only the close conditions were utilized in this analysis because in Study One a far condition did not exist. Results of the ANOVA produced a main effect for social size (F (2, 66) = 4.66, p < .05, ω^2 = .10; control group mean = 4.79 (sd = 1.00)) (Table 6-11). Post-hoc tests between the control group and the social presence conditions indicated that consumers reported feeling significantly more happy when a small social presence existed as compared to when there was no one present (t (64) = -2.27, p < .05) (Table 6-12). Further, there was no significant difference in consumers' happiness when there was no

one present as compared to when there was a large social presence (t (64) = 0.67, p > .20). These findings are consistent with the results in Study One.

Finally, in Chapter Three it was implied that consumers would experience a decrease in their happiness as the size of the social presence increased. This decrease was predicted to occur because a large social presence would cause consumers to feel crowded, and as mentioned earlier, crowding has been shown to increase negative emotions, tension, and anxiety and to decrease positive emotions. To test this proposition, mediation analysis was conducted to determine whether crowding did in fact serve as the mechanism that caused consumers to feel less happiness when there was a large and close social presence as compared to when there was only one other person. Following the procedure outlined in Baron and Kenny (1986), there are three statistical conditions that must be met to indicate the presence of a mediating variable: 1) the effect of the independent variable(s) and/or their interaction term on the dependent variable must be significant, 2) the effect of the independent variable(s) and/or their interaction term on the mediating variable must be significant, and 3) when the mediating variable is added to the original analysis as a covariate, the previously significant effect of the independent variable(s) and/or their interaction term on the dependent variable must no longer be present whereas the mediator should produce a significant effect. In the present analysis, the first condition for mediation analysis was successfully met because both the interaction between social size and proximity (F (1, 92) = 5.09, p < .05) and a main effect for social size (F (1, 92) = 5.74, p < .05) predicted happiness (Table 6-13a). The second condition was also met; when the potential mediator, crowding, served as the dependent variable and social size and proximity were the independent variables, the interaction

between the two variables (F (1, 86) = 9.16, p < .01) and two main effects (social size: F (1, 86) = 11.06, p = .001; proximity: F (1, 86) = 5.85, p < .05) significantly influenced crowding (Table 6-13b). Finally, the inclusion of crowding as a covariate served as a significant predictor of happiness (F (1, 84) = 3.83, p = .05) and the significant interaction and main effects for social size and proximity disappeared (F's > .20) (Table 6-13c) (Figure 6-2). Therefore, consistent with previous literature, crowding appears to be a significant mediator for happiness.

Certainty. The second positive emotion that was of interest in this research was how certain consumers feel. Testing the impact of social size and proximity on certainty produced a similar interaction to the one described for happiness (F (1, 94) = 7.46, p < .01, ω^2 = .06; means: one person close = 5.67 (sd = .74), one person far = 4.90 (sd = 1.39), three people close = 4.35 (sd = 1.46), three people far = 4.99 (sd = 1.07)) (Table 6-14 and Figure 6-3). Again consistent with H5, the results of a simple effects test indicated that consumers felt more certain when a close social presence was small (i.e., one) as compared to large (t (42) = 3.59, p = .001) (Table 6-15).

In contrast, a second simple effects test indicated that when a social presence was located further away, the size of the social presence did not influence consumers' certainty (t (49) = -0.23, p > .20). Thus, it does not appear to matter whether one person or three people are standing further down the aisle from the consumers with regards to how certain they feel. This finding is also consistent with expectations.

Although they are not of theoretical interest, two additional simple effects tests were conducted to provide a complete report of the findings. The results of these tests indicated that consumers felt more certain when the social presence was small and close

as compared to when the small social presence was located further away (t (45) = 2.19, p < .05). However, when a large social presence was close as opposed to further away there was a marginally significant difference in the intensity of the certainty the consumers feel (t (46) = -1.70, p < .10). Consumers reported feeling more certain when the large social presence was further away as compared to when it was next to them.

Again in an effort to replicate the results of Study One, a one-way ANOVA was conducted that included the control group. In this analysis, social size (i.e., no one present, one person present, three people present) was the independent variable and certainty was the dependent variable. Results produced a significant main effect for social size (F (2,67) = 5.96, p < .01, ω^2 = .13; control group mean = 4.90 (sd = 1.32)) (Table 6-16); therefore, post-hoc tests were conducted to determine where the differences existed. Consistent with Study One and in a similar pattern to the findings for happiness, the results of these tests indicated that participants reported feeling marginally more certain when there was a small social presence as compared to when no one else was present (t (65) = -1.94, p < .06) (Table 6-17) but there was no significant difference when there was no one present as opposed to three people present (t (65) = 1.53, p > .10).

Mediation analysis was also conducted using crowding for the same reasons identified in the results section for happiness. Three tests were conducted to determine whether or not crowding mediated the relationship between the social presence characteristics and certainty. As indicated earlier, the first analysis produced a significant interaction between social size and proximity (F (1, 94) = 7.46, p < .01) and a main effect for social size (F (1, 94) = 5.83, p < .05) (Table 6-18a); therefore the first condition, that the independent variable(s) and/or their interaction term must significantly predict the

dependent variable of interest, was satisfied. As indicated in the positive emotion section, when crowding served as the dependent variable and social size and proximity were the independent variables, the interaction of the two variables $(F (1, 86) = 9.16, p < .01)$ and two main effects (social size: $F (1, 86) = 11.06, p = .001$; proximity: $F (1, 86) = 5.85, p < .05$) (Table 6-18b) were significant, thereby satisfying the second condition. Finally, by including crowding as a covariate in the first analysis, partial mediation was demonstrated: the significant main effect for social size disappeared $(F (1, 86) = 2.62, p > .10)$, the interaction between social size and proximity, although still a significant predictor of certainty, was marginally less significant $(F (1, 86) = 4.61, p < .05)$, and crowding was a significant predictor of certainty $(F (1, 86) = 6.68, p < .05)$ (Table 6-18c) (Figure 6-4). Therefore, crowding appears to partially mediate the certainty a consumer feels when there is a social presence.

Annoyance. H6 predicted that consumers would experience significantly more intense negative emotions (e.g., annoyance) when a social presence was close to them and was comprised of several people as compared to only one other person. Further, when the social presence was further away, the number of people who were present was not expected to influence the intensity of negative emotions differently. To test this hypothesis, an ANOVA with social size and proximity as the independent variables and annoyance as the dependent variable was conducted. Consistent with the hypothesis, the results produced an interaction between social size and proximity $(F (1, 93) = 10.47, p < .01, \omega^2 = .09$; means: one person close = 1.08 (sd = .25), one person far = 1.76 (sd = 1.21), three people close = 2.52 (sd = 1.54), three people far = 1.70 (sd = .85)) (Table 6-19 and Figure 6-5). To gain a better understanding of the interaction, a simple effects test

was conducted that tested the means for the two close proximity conditions. The results indicated that, as expected, consumers were more annoyed when the close social presence was comprised of people as compared to only one person (t (42) = -4.02, p < .001) (Table 6-20).

A second simple effects test was conducted to investigate the impact of a social presence that was further away but varied in size on how annoyed consumers would feel. Similar to the pattern of results for both of the positive emotion measures and again as predicted, when the social presence was eight feet away the size of the social presence did not influence the intensity of annoyance consumers experienced (t (48) = .21, p > .20). Thus, participants reported experiencing the same amount of annoyance when there was either one person or three people present when the social presence was further down the aisle.

The remaining two simple effects tests were also conducted. The results of the first test indicated that when a social presence was large and close by, consumers were more annoyed than when the social presence was further away (t (46) = 2.26, p < .05). The findings from the second test demonstrated that consumers were more annoyed when the social presence of one person was further away as compared to close by (t (44) = - 2.40, p < .05).

Additional analysis was again conducted to determine whether or not the pattern of means for annoyance replicated those found in Study One. Therefore, with the addition of the control group, social size was tested in a one-way ANOVA. Results indicated that the size of the social presence significantly influenced how annoyed consumers felt (F (2, 66) = 7.25, p = .001, ω^2 = .16; control group mean = 2.33 (sd =

1.55)) (Table 6-21). Consistent with Study One, the post-hoc tests indicated that consumers were more annoyed when there was no one present as compared to when a small social presence existed (t (64) = 3.05, p < .01) (Table 6-22); however there was no significant difference in how annoyed they felt when there was no one else present versus a large social presence (t (65) = -.51, p > .20).

In Chapter Three it was suggested that consumers would experience more negative emotions (e.g., annoyance) as the size of the social presence increased and was in close proximity to the consumer because consumers would become crowded. To test this notion, mediation analysis was conducted to determine whether crowding mediated the relationship between social presence characteristics and annoyance. Following Baron and Kenny (1986), the three statistical tests for mediation were conducted. As indicated earlier, the first condition for mediation analysis was successfully met because both the interaction between social size and proximity (F (1, 93) = 10.47, p < .01) and a main effect for social size (F (1, 93) = 8.77, p < .01) (Table 6-23a) predicted annoyance. The second condition for mediation was also successfully met because, as demonstrated earlier, when crowding was designated as the dependent variable and social size and proximity were the independent variables, the interaction of the social size and proximity variables (F (1, 86) = 9.16, p < .01) and their main effects (social size: F (1, 86) =11.06, p = .001; proximity: F (1, 86) = 5.85, p < .05) significantly predicted crowding (Table 6-23b). Finally, the last condition for mediation was partially met; the inclusion of crowding as a covariate was a significant predictor of annoyance (F (1, 86) = 4.01, p < .05), the significant main effect for social size was reduced (F (1, 86) = 4.10, p < .05) and the significant effect of the interaction between social size and proximity on annoyance

was reduced (F (1, 86) = 6.22, p < .05) (Table 6-23c) (Figure 6-6). Therefore, crowding appears to be a partial mediator of the relationship between social presence characteristics and how annoyed consumers feel.

Anxiety. The last emotion that was investigated in this study was the intensity with which consumers reported feeling anxious when there was a social presence. Similar to annoyance it was expected that proximity would moderate social size such that when the social presence was close by, consumers would report more anxiety when it was large as compared to small, but when the social presence was further away its size would not effect the intensity of anxiety consumers experienced. As expected, an ANOVA that tested the impact of social size and proximity on anxiety produced the hypothesized interaction (F (1, 92) = 7.89, p < .01, ω^2 = .07; means: one person close = 2.07 (sd = 1.05), one person far = 3.27 (sd = 1.64), three people close = 3.39 (sd = 1.64), three people far = 2.97 (sd = 1.35)) (Table 6-24 and Figure 6-7). A simple effects test of the impact of social size when the social presence was in close proximity lends further support to H6. The results indicated that when the social presence was close, participants experienced more intense anxiety when the social presence was comprised of three people as compared to when there was only one person (t (42) = -3.60, p = .001) (Table 6-25).

Additional support for the hypothesized moderation was found in a second simple effects test. The results of this test indicated that when the social presence was located further away, the size of the social presence did not influence the intensity with which anxiety was experienced (t (48) = 0.69, p > .05). This finding is consistent with the results for the other emotions that were assessed in this study.

To provide a full analysis of the significant interaction, two more simple effects tests were conducted. Results from these tests showed that more intense anxiety was experienced when one person was located further away as compared to when it was near the participant (t (44) = -2.80, p < .01) and there was no significant difference in how anxious consumers felt when a large social presence was close as opposed to further away (t (46) = 1.09, p > .05).

As with the other emotions, the two close conditions (i.e., a social size of one versus a social size of three) were compared to the control group to determine whether the findings of Study One were robust. Again, a one-way ANOVA produced a significant main effect for social size (F (2, 64) = 7.32, p = .001, ω^2 = .16; control group mean = 3.09 (sd = 1.32)) (Table 6-26). Post-hoc tests demonstrated that, as in Study One, participants experienced more anxiety when there was no one present as compared to when there was a small social presence (t (62) = 3.17, p < .01) (Table 6-27) but that anxiety did not differ when there was no one present as opposed to three people present (t (62) = -0.23, p > .20).

For the same reasons forwarded for annoyance, mediation analysis was also conducted to test whether crowding mediated the relationship between social presence characteristics and anxiety. As presented earlier, the first condition for mediation to exist was successfully achieved because the interaction between social size and proximity significantly impacted anxiety (F (1, 92) = 7.89, p < .01) (Table 6-28a). Also, as previously indicated, when crowding was analyzed as the dependent variable and social size and proximity were the independent variables, the interaction of the two variables (F (1, 86) = 9.16, p < .01) and their main effects (social size: F (1, 86) =11.06, p = .001;

proximity: F (1, 86) = 5.85, p < .05) (Table 6-28b) significantly predicted crowding. Finally, using crowding as a covariate in an analysis to test the impact of social size and proximity on anxiety, the results indicated that crowding was a partial mediator because it served as a significant covariate (F (1, 86) = 4.43, p < .05), the interaction term became marginally significant (F (1, 86) = 3.48, p < .10) and a main effect for proximity was produced (F (1, 86) = 4.63, p < .05) (Table 6-28c) (Figure 6-8). Therefore, a consumer's sense of being crowded drives the relationship between social presence characteristics and anxiety.

To summarize, the findings for emotional outcomes were consistent with the predictions forwarded in H5 and H6. The intensity of both positive emotions was greatest when a close social presence was comprised of one person as compared to three whereas, when the close social presence was large, consumers reported significantly more intense negative emotions than when it was smaller. However, for all four emotions, when the social presence was further away the number of people present did not influence consumers' emotional outcomes. In separate analysis, the inclusion of the control group produced results for all four emotions that were consistent with the findings in Study One; there was a significant difference in the intensity of the emotions between no one present versus one person present and one person present versus three people present but no significant difference between the no one present and three person present conditions. This robust finding is partially inconsistent with the prediction proposed in SIT that as the size of the social presence increases so should its impact on the individual. Instead the findings are consistent with the notion that as the size of the social presence

increases beyond a certain point, consumers begin to feel crowded and this sense of crowding drives the emotional outcomes.

Cognition

Recall of Product Display Information. H7 predicted that the impact of social size on cognition would be moderated by proximity. It was expected that consumers would be able to recall more information about the product display when a social presence was close and small as compared to when it was larger, but when the social presence was situated further away, the number of people present would not influence recall. An ANOVA, with social size and proximity as the independent variables and the amount of information that consumers could recall about the product display as the dependent variable, produced the predicted interaction (F (1, 94) = 9.60, $p < .01$, $\omega^2 = .08$; means: one person close = 3.89 (sd = 1.49), one person far = 2.11 (sd = 1.73), three people close = 2.48 (sd = 1.36), three people far = 2.65 (sd = 1.47)) (Table 6-29 and Figure 6-9). A simple effects test of this finding indicated that, consistent with expectations, consumers were able to remember more information about the display (i.e., they performed better on the recall task) when the social presence was close and small as compared to when it was larger (t (42) = 3.29, $p < .01$) (Table 6-30).

A second simple effects test also indicated again, consistent with expectations, that when the social presence was further away, participants performed a cognitive task at the same level regardless of the size of the social presence (t (49) = -1.20, $p > .05$). It appears that when a social presence is far away, the number of people who are present does not influence the consumer.

Although they are not of theoretical interest, simple effects tests were conducted for the remaining comparisons to provide a comprehensive review of the findings. These tests indicated that consumers were able to recall more information about the product display when a small social presence was in close proximity as compared to when it was further away (t (45) = 3.68, p = .001) but there was no significant difference in the impact of proximity when a social presence was large and close as opposed to further away (t (46) = -0.42, p > .20).

In an effort to replicate the results from Study One for the amount of information consumers recalled about the display, the control group was included in a one-way ANOVA. Using social size as the independent variable and the amount of information that consumers recalled as the dependent variable, the ANOVA produced a significant main effect for social size (F (2, 67) = 4.82, p < .05, ω^2 = .10; control group mean = 3.61 (sd = 1.95)) (Table 6-31). Given the significant finding, post-hoc tests were conducted. Unlike Study One, consumers did not recall significantly more information when there was no one present as compared to when there was a social presence of one, although there was a significant difference between no one present and three people present condition (control group vs. one person present: t (65) = -.49, p > .05; control group vs. three people present: t (65) = 2.43, p < .05) (Table 6-32). This inconsistent finding will be elaborated upon in the discussion section.

In Chapter Three it was implied that consumers' cognitive performance would be impaired by the presence of a large social presence because consumers would begin to feel crowded. To test this proposition, mediation analysis was conducted. First, an ANOVA with social size and proximity as the independent variables and the amount of

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information consumers recalled about the product display as the dependent variable produced a significant interaction between social size and proximity ($F (1, 94) = 9.60$, $p < .01$) and a main effect for proximity ($F (1, 94) = 6.52$, $p < .05$) (Table 6-33a). Therefore, the first test for mediation was successful. Second, as shown in the results section on emotions, when the potential mediator, crowding, served as the dependent variable and social size and proximity were the independent variables, the interaction of the two variables ($F (1, 86) = 9.16$, $p < .01$) and two main effects (social size: $F (1, 86) = 11.06$, $p = .001$; proximity: $F (1, 86) = 5.85$, $p < .05$) (Table 6-33b) significantly predicted crowding; thus, the second required test for mediation was met. Third, the last condition that is necessary for mediation to exist is that the once significant predictors of the cognition become non-significant, while the inclusion of crowding as a covariate in the analysis is significant. The inclusion of crowding as a covariate did not serve as a significant predictor of total recall ($F (1, 86) = .26$, $p > .20$) and the significant interaction and main effects for social size and proximity did not disappear ($F (1, 86) = 5.59$, $p < .05$; proximity: $F (1, 86) = 9.53$, $p < .01$) (Table 6-33c) (Figure 6-10). Therefore, crowding does not appear to mediate the relationship between social presence characteristics and the amount of information that consumers recall about a product display.

It was also suggested in Chapter Three that distraction could mediate the impact of social presence characteristics on cognitive performance. Therefore, analysis was also conducted to determine whether distraction was a mediator of cognition. As mentioned above the first test for mediation was successful. An ANOVA with social size and proximity as the independent variables and the amount of information consumers recalled about the product display as the dependent variable produced a significant interaction

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between social size and proximity (F (1, 94) = 9.60, p < .01) and a main effect for

proximity (F (1, 94) = 6.52, p < .05) (Table 6-34a). An ANOVA that included

distraction as the dependent variable and social size and proximity as the independent

variable also produced significant findings. The results of the analysis indicated that

distraction was influenced by a main effect for social size (F (1, 94) = 8.52, p < .01), a

main effect for proximity (F (1, 94) = 4.08, p < .05), and an interaction between the two

factors (F (1, 94) = 10.59, p < .01) (Table 6-34b). Therefore, the second condition for

mediation was present. Finally, the inclusion of distraction as a covariate in the first

analysis indicated that although distraction significantly influenced recall (F (1, 94) =

12.67, p < .001), the main effect for proximity and the interaction lost significance

(proximity: F (1, 94) = 3.67, p < .06; interaction: F (1, 94) = 3.86, p = .05) (Table 6-34c)

(Figure 6-11). This finding indicates that distraction successfully mediates the

relationship between social presence characteristics and the amount of information that

consumers recall about the product display.

In summary, overall it appears that a social presence appears to influence

consumers' cognition in a similar pattern as that for emotions. Again, the results suggest

that the size of a social presence only influences consumers' cognitive processing when it

is in close proximity as opposed to when it is further away. The findings indicate that a

close social presence appears to impair cognition more when it is large versus small.

However, when the social presence is further away, the number of people present does

not influence how much information consumers can recall about the product display.

One finding that was inconsistent with the results from Study One was that there was no

significant difference between recall when there was no one present as compared to when

one other person present. Finally, tests for mediation indicated that while crowding mediated the relationship between social presence characteristics and emotions, it did not mediate cognition. Instead, cognition and social presence characteristics were mediated by distraction.

Behaviours

Interaction with Battery Testing Display. The last set of outcomes that were investigated in this study was the consumers' behaviours. The first behaviour that was studied was the degree to which consumers interacted with a battery testing display. It was predicted that consumers would try to engage in self-presentation behaviours by refraining from interacting with a battery testing display when a social presence was nearby as compared to when it was further away. An ANOVA was conducted with social size and proximity as the independent variables and level of interaction with the battery testing display as the dependent variable. Support was found for H8 ($F (1, 86) = 5.76$, $p < .05$, $\omega^2 = .05$; means: close = .08 (sd = .27), further away = .34 (sd = .59)) (Table 6-35) (Figure 6-12). The findings indicated that consumers were more likely to interact with the display when the social presence was further away as compared to when it was close by.

However, the results were not consistent with H9 prediction that an interaction should occur between social size and proximity. It was expected that consumers would monitor their self-presentation behaviours (i.e., not use the tester) more when a close social presence was large (versus small), but when it was further away, the size of the social presence was not expected to differ in its impact. Specifically, the interaction did not reach significance ($F (1, 86) = .71$, $p > .20$). The lack of empirical support for the

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predicted interaction may not be all that surprising given the findings from Study One. To recap, in Study One the results indicated that it was not the size of the social presence that appeared to influence the likelihood that consumers would interact with the tester display, but rather it was the actual presence (i.e., one or three people) versus the absence (i.e., no one present) of a social presence. To determine whether the same pattern existed in Study Two, a one-way ANOVA with the inclusion of the control group was conducted, with social size as the independent variable and the use of the tester display as the dependent variable. The findings indicated that, consistent with Study One, the inclusion of the control group produced a significant main effect for size (F (2, 50) = 3.16, p = .05, ω^2 = .08; control group mean = 1.36 (sd = .50)) (Table 6-36). Post-hoc tests showed that participants interacted with the display significantly more when there was no one else present as compared to when there was a social presence (control group versus one person present t (48) = 2.29, p < .05, control group versus three people present t (48) = 2.15 p < .05) (Table 6-37).

Brand Selection. The second behaviour that was analyzed was brand selection. Ordinal regression analysis was conducted to test the influence of social size and proximity on brand selection, with brand as the dependent variable and proximity, social size, and their interaction term as predictor variables (Aiken and West 1993). The findings of the ordinal regression are shown in Table 6-38. Results indicated that, as predicted in H9, social size and proximity interacted to impact brand selection (β = -1.81, Wald = 3.81, p = .05) (Figure 6-13). A simple regression test was conducted to determine which results drove the interaction. Consistent with expectations, when the social presence was close, the size of the social presence predicted brand selection (β =

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1.75, Wald = 6.21, p < .05) (Table 6-39). This means that consumers choose higher quality/more expensive brands of batteries when a close social presence was comprised of three people as compared to when it only consisted of one person.

In a separate simple regression test, results indicated that when the social presence was further away, the size of the social presence did not influence brand selection, which is again consistent with expectations (β = -6.69E-02, Wald = .01, p > .20). Thus, consumers do not purchase one quality of battery more often than another when the social presence is further away because there is less motivation to monitor self-presentation behaviours.

Finally, two additional simple regression tests were conducted to assess the remaining comparisons. Results indicated that when the social presence was comprised of either one person or three people, proximity did not influence brand selection (one: β = .97, Wald = 2.61, p > .10; three: β = -.84, Wald = 1.42, p > .20).

A chi-square test was done next to determine whether the inclusion of the control group as a condition of social size would replicate the findings from Study One. The results indicated that brand selection was significantly associated with social size (χ^2 (4) =13.07, p < .05) (Table 6-40). Analyzing the different number of brands selected per each level of social size indicated that when no one was present, participants purchased the lower quality brand significantly more often than when there was a social presence of one or three. Further, there was no significant difference in the frequency with which the higher quality brands were purchased regardless of whether there was a social presence of one person or three people (Table 6-41).

Finally, analysis was conducted to determine whether any of the emotion indices or consumers' recall of the product display information mediated the relationship between social presence characteristics and brand selection. The results of the analysis did not show any significant mediation effects.

Tests of Alternative Explanations. Two questions arose from Study One related to the mechanisms that drove some of the findings. The first question dealt with whether or not the pattern of emotional responses was the outcome of group size or group activity. To test this alternative, data was collected in an additional cell in which the three confederates were instructed to pretend to independently shop for film and to avoid interacting with one another. This cell was then compared to the condition in which the three confederates talked amongst themselves. Independent-samples t-tests were conducted with group activity (close and interacting vs. close and not interacting) as the independent variable and the various emotional responses as the outcome variables. The results of the tests indicated that none of the emotions were impacted differently regardless of whether the group interacted or not (happiness: t (48) = -.75 p > .20, means: interacting = 4.61 (sd = .88) not interacting = 4.41 (sd = 1.01); certainty: t (49) = .77 p > .20, means: interacting = 4.35 (sd = 1.46) not interacting = 4.63 (sd = 1.08); annoyance: t (49) = -.46 p > .20, means: interacting = 2.06 (sd = 1.54) not interacting = 1.92 (sd = 1.43); anxiety: t (48) = .07 p > .20, means: interacting = 3.49 (sd = 1.32) not interacting = 3.47 (sd = 1.30)) (Table 6-42.1, 6-42.2, 6-42.3, 6-42.4). This supports the original proposition that social size, as opposed to the group's activity, caused the change in the pattern of emotional responses as the size of the social presence increased beyond one. Additional analysis was also conducted to determine whether the group's activity

influenced cognition or behaviours. The results of this analysis indicated that both total

recall and brand selection were marginally influenced by the activity of the group (recall:

t (45) = -1.97, p = .05, means: interacting = 2.46 (sd = 1.36) not interacting = 3.38 (sd =

1.88); brand selection: $\chi2$ (2) = 5.64, p < .10) whereas, consumers' interaction with the

battery testing display was not (t (45) = -1.59, p > .10, means: interacting = .10 (sd = .03)

not interacting = .31 (sd = .05)) (Table 6-43, 6-44.1, 6-44.2, 6-44.3). Thus, consumers

recalled more and purchased the average quality brand marginally more often when the

social presence did not interact as compared to when it was interacting.

The second question that arose from Study One involved the driving mechanism

of brand selection. Initially it was proposed that brand selection would be the outcome of

consumers' motivation to monitor self-presentation behaviours – people would select the

best quality/most expensive brands when others were around to avoid looking cheap.

However, it could also be argued that brand selection is the outcome of the amount of

information that consumers processed. Stated differently, consumers may have selected

the best quality/most expensive brands when others were around because the social

presence distracted them and as a consequence they had fewer thoughts related to the

display. Mediation analysis was conducted to test the potential role of distraction on

brand selection. Ordinal regression demonstrated that both social size and the interaction

between social size and proximity significantly predicted brand selection (social size: β

= 1.75, Wald = 6.21, p < .05; interaction term: β = -1.81, Wald = 3.81, p = .05) (Table 6-

45a); therefore, the first condition for mediation was achieved. The second test for

mediation was also successful because the results of an ANOVA produced an interaction

between social size and proximity and the main effects for social size and proximity were

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all significant predictors of distraction (interaction: (F (1, 94) = 10.59, p < .01; social

size: F (1, 94) = 8.52, p < .01; proximity: F (1, 94) = 4.08, p < .05) (Table 6-45b).

Finally, to test the third condition for mediation, ordinal regression was conducted with

social size, proximity, and their interaction term as predictor variables, distraction as a

covariate, and brand selection as the dependent variable. As can be seen from Table 6-

45c the third test for mediation did not hold (Figure 6-14) because the interaction

between social size and proximity and the main effect for social size remained

significant, and a main effect for proximity became significant with the introduction of

the mediator to the analysis (interaction: β = -1.59, Wald = 3.74, p = .05; social size: β =

1.60, Wald = 7.07, p < .01; proximity: β = 1.77, Wald = 6.96, p < .01). Further,

distraction did not significantly predict brand selection (β = -.60, Wald = 1.45, p > .20).

Therefore, brand selection does not appear to occur because consumers become distracted

when others are present, and instead, the findings lend support to the original hypothesis

that brand selection is a self-presentation behaviour.

Additional Behavioural Measures

Time. Finally, three different times were recorded: total time, pre-brand selection

time, and post-brand selection time. Prior to the analysis, to correct for a positive skew

that was present in the data (skewness: Total Time = 1.91, Pre-Selection Time = 2.41,

Post-Selection Time = 3.61), the variance was normalized using a reciprocal

transformation (Darke and Freedman 1993). Next, three separate ANOVAs were

conducted for each transformed time measure to assess the influence of social size and

proximity.

The first ANOVA that was conducted used social size and proximity as independent variables and total time spent in the aisle as the dependent variable. Results of this analysis produced a marginally significant interaction between the social presence characteristics (F (1, 92) = 3.64, p = .06, ω^2 = .03; means (transformed): one close = 3.28E-02 seconds (sd = 1.43E-02), one far = 5.60E-02 seconds (sd = 5.75E-02), three close = 4.40E-02 seconds (sd = 4.97E-02), three far = 3.01E-02 seconds (sd = 1.51E-02)) (Table 6-46 and Figure 6-15). A simple effects test indicated that when the social presence was further away, consumers spent marginally more time in the aisle when there was one person as compared to when there were three people (t (36) = -1.79, p < .10) (Table 6-47). The results of the other simple effects tests were not significant (one close versus three close: t (35) = -.87, p > .05; one close versus one far: t (34) = -1.57, p > .05; three close versus three far: t (37) = -1.08, p > .05). Thus, it appears that when the social presence is close, the number of people in the aisle does not appear to impact the amount of time consumers spend in the aisle.

In an effort to replicate the findings from Study One, the control group was added to the design and a one-way ANOVA with social size (no one present, one person present, three people present) as the independent variable and total time spent in the aisle as the dependent variable, was conducted. The results indicated that social size did not significantly predict the amount of time consumers spent in the aisle (F (2, 53) = 1.08, p > .20; control group mean = 2.71E-02 seconds (sd = 1.23E-02)) (Table 6-48). Although not consistent with Study One's results, which produced a marginally significant effect between social size and total time, the absence of a significant difference emphasizes the

importance of gaining a better understanding of how participants spend their time in the aisle. This will be addressed momentarily.

As in Study One, an analysis was conducted to determine whether the amount of time that consumers spent in the aisle impacted the amount of information they could recall about the product display. Following the earlier study, a median split was conducted on the transformed time data to create short time and long time conditions. A one-way ANOVA was then conducted with the time data serving as the independent variable and the amount of information participants recalled as the dependent variable. Similar to Study One, results indicated that when consumers spent the least amount of time in the aisle they were able to recall the most amount of information presented in the product display ($F (1, 63) = 5.12$, $p < .05$, $\omega^2 = .06$; means: short time $= 3.22$ (sd $= 1.70$), long time $= 2.30$ (sd $= 1.46$)) (Table 6-49). The fact that consumers were recalling more information when they were in the aisle for a shorter period of time suggests that when more time is spent in the aisle they are not devoting their attention to the display per se. To understand how consumers do spend their time while in the aisle two new measures of time are assessed.

The first new time measure that was observed was the pre-brand selection time. This measure was used to represent the amount of time that consumers spent in the aisle prior to choosing a brand of batteries. An ANOVA for this dependent variable with social size and proximity as the independent variables also produced a marginally significant interaction ($F (1, 74) = 3.63$, $p < .07$, $\omega^2 = .03$; means (transformed): one close $= 4.58\text{E-}02$ seconds (sd $= 2.03\text{E-}02$), one far $= 7.13\text{E-}02$ seconds (sd $= 6.76\text{E-}02$), three close $= 5.22\text{E-}02$ seconds (sd $= 4.90\text{E-}02$), three far $= 3.75\text{E-}02$ seconds (sd $= 2.38\text{E-}02$))

(Table 6-50 and Figure 6-16). Simple effects tests indicated that similar to findings reported for total time, when the social presence was further away, participants spent more pre-selection time in the aisle when there was one person versus three people (t (35) = -2.02, p < .05) (Table 6-51); however, all of the other tests were not significant (one close versus three close: t (36) = .40, p > .20; one close versus one far: t (34) = -1.44, p > .10; three close versus three far: t (37) = -1.15, p > .20). Thus, once again, when the social presence was close, consumers did not make a brand selection more quickly when there was one person or three people present.

The other new time measure that was assessed in this study was the post-brand selection time. This time measure referred to the amount of time that consumers remained in the aisle after making their brand selection. An ANOVA of this dependent variable did not produce any significant findings (F (1, 92) = 2.72, p > .05) (Table 6-52). Therefore, neither social size nor proximity influenced consumers' likelihood of staying in the aisle longer or leaving the aisle earlier after the product was selected.

In summary, a social presence influences consumers' behaviours. Consumers are more likely to monitor their self-presentation behaviours more when a social presence is nearby as opposed to further away and/or when the social presence is large versus small. Finally, distraction did not serve as a significant mediator of the relationship between social presence characteristics and self-presentation behaviours.

VI. Discussion

The first objective of Study Two was to test the impact of social size and proximity on consumers. Overall, the results of this study demonstrated that regardless of the dependent variable, when a social presence was close to a consumer, the size of the

social presence influenced how the consumer thought, felt and behaved. However, when the social presence was further away, the size of the social presence had less of an impact on the individual. Recapping the specific outcomes of interest, the results for emotions indicated that consistent with predictions, consumers were happiest and felt the most certain when a close social presence was small as compared to when it was large. Conversely, when the close social presence was large, consumers felt more annoyed and anxious than when it was small. However, when the social presence was further away, the number of people in the social presence did not influence consumers' emotional responses.

In terms of the impact of social size and proximity on consumers' cognitive performance, results demonstrated that proximity moderated the influence of social size. This pattern was similar to that found for emotions. The results demonstrated that a close social presence impairs consumers' cognition more when it was small versus large; however, when the social presence was further away, the number of people present did not influence cognition.

Finally, the results for behaviours indicated that consumers were more likely to manage their self-presentation behaviours by not interacting with a battery testing display and selecting the most expensive/highest quality brand of batteries when a social presence exists. Although, the hypothesized interaction between proximity and social size did not occur for consumers' use of the battery testing display, the result may not be all that surprising. When the control group was included into the analysis, the results produced the same pattern that was found in Study One. In both studies, the results indicated that it was not the size of the social presence when it was present that appeared

to influence the participants' interaction with the tester display but rather it was the presence (i.e., one or three people) versus the absence (i.e., no one present) of a social influence that mattered most.

The second objective was to replicate the findings from Study One. When the control group was included into the analysis of the present study, it produced the same pattern for emotions that arose in Study One. A significant difference was found in the intensity of the emotions between no one and one person present and one person and three people present, but there were no significant differences between the no one and the three-person conditions. This robust finding is interesting because it is consistent with the prediction that as the size of the social presence increases consumers experience a decrease in positive emotions and an increase in negative emotions but it is inconsistent with SIT's principle. Similarly, as mentioned above, the findings for behavioural outcomes were also consistent with the earlier results. The only finding that was inconsistent with Study One's results was the amount of information consumers recalled about the product display. In the first study, consumers recalled significantly more information when there was no one else present as compared to when there was a small or large social presence; however, in Study Two there was no significant difference in the amount of information recalled when there was no one present (control group) and the small social presence. One explanation for this inconsistent finding may be related to the environment in which the second experiment was conducted. Unlike Study One, which was conducted in a large and busy University Bookstore, the present experiment was conducted in a much smaller, significantly lower traffic student-run store in the Faculty

of Management. The latter environment may have made it more difficult for the participants to concentrate on the task at hand.

Another objective of Study Two was to test whether the pattern of emotions that arose was the result of the group's activity as opposed to the group's size. To test which mechanisms created the emotional response, data was collected for an additional condition, in which the large social presence did not interact. The results indicated that consumers' emotional responses to the presence of a large social presence did not differ when the social presence was interacting (i.e., talking amongst themselves) or not interacting (i.e., avoided interacting amongst one another). The non-significant findings lend support to the earlier proposition that the findings are influenced by social size as opposed to the activity of the group.

This study also tested new measures to determine whether the crowding and distraction created by the social presence mediated the dependent variables. The results of the analysis indicated that, as predicted by the literature, overall, emotions appeared to be driven by crowding. To gain a better understanding of the mechanism that drove the results for cognition, crowding and distraction were tested as mediators. The results demonstrated that although crowding mediated emotions it did not mediate cognition – rather, cognition was mediated by distraction.

Finally, distraction was also utilized as a potential mediator for brand selection to rule out the second alternative explanation that was forwarded in Study One. In Chapter Three it was proposed that consumers would purchase the most expensive/best quality brand when a social presence existed in order to convey a positive impression (i.e., they were not cheap). However, it was argued at the end of Study One that brand selection

could actually be the outcome of the distraction the social presence created and this distraction would make it difficult for consumers to process information about brand alternatives. The results of this mediation analysis indicated that distraction was not a significant mediator of the relationship between social characteristics and brand selection and was therefore, ruled it out as the motivator for brand selection.

Clearly two of the three social sources, social size and proximity, identified by SIT appear to influence individuals in the retail environment. In the next experiment, the third social source, social strength, will be tested. The operationalization of this factor will be achieved through the perceived similarity that exists between the consumer and the social presence. The primary objective of the third study is to investigate the impact of the proximity and perceived similarity of a social presence on a consumer in the consumption context. A second objective is to again replicate earlier findings. Given that both Study One and Study Two were field experiments, the nature of the studies made it necessary to determine the confederates perceived similarity relative to the participants. Thus, in the earlier studies, it was decided to use confederates that were perceived to be similar to the participants, so, the replication from the earlier studies is expected to occur in the similar cells, and the new component introduced in the third study is the dissimilar social presence. The last objective of the third study is to conduct mediation analysis to provide a more complete picture of the mechanisms that drive the impact of a social presence. Distraction will again be tested as a mediator of social presence characteristics and cognitive performance. In addition, it will also be reanalyzed as a potential mediator of the relationship between social presence characteristics and brand selection. Finally, in Chapter Three it was predicted that

consumers would experience more intense positive emotions and less intense negative emotions when another person was present because consumers would like the presence of and be attracted to the other person if they shared similarities. Therefore, in Study Three, a new factor, how consumers react to the social presence, is assessed and tested as a potential mediator of the relationship between social presence characteristics and consumers' emotions.

Table 6-1

Factor Analysis of Emotion Items

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.14	34.26	34.26	3.49	23.27	23.27
2	2.22	14.83	49.09	2.42	16.14	39.41
3	1.30	8.65	57.73	2.15	14.32	53.73
4	1.11	7.40	65.13	1.71	11.40	65.13
5	.83	5.55	70.68			
6	.72	4.83	75.51			
7	.63	4.17	79.68			
8	.56	3.76	83.43			
9	.54	3.57	87.01			
10	.46	3.04	90.05			
11	.39	2.61	92.66			
12	.32	2.11	94.77			
13	.29	1.95	96.72			
14	.26	1.71	98.43			
15	.24	1.57	100.00			

Table 6-1 Continued

Varimax Rotated Component Matrix

	Component			
	1	2	3	4
Anxious	.68	.18	-.17	2.30E-02
Interest	7.80E-03	.80	.11	7.47E-02
Uneasy	.77	-1.91E-02	-8.97E-02	5.77E-03
Frustrated	.16	-8.63E-02	-.24	.82
Good	-.12	.60	.19	-.25
Annoy	.15	-7.10E-02	-6.35E-02	.87
Certain	-.16	.13	.78	-4.41E-02
Excited	3.89E-02	.89	-2.20E-02	3.47E-02
Nervous	.77	-3.24E-02	-.31	.12
Sure	-.17	.13	.77	-.15
Uncomfortable	.68	-5.53E-02	1.37E-02	.28
Happy	-.15	.62	.30	-.22
Self-conscious	.71	-.16	-.31	.13
Awkward	.80	-.24	-.17	.13
Confident	-.34	.178	.71	-.17

Table 6-2

Coding Reliability

Behaviour	Reliability (%)
Tester	97.1
Brand	100

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Table 6-3

Analysis of Variance for Social Size Manipulation

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	91.30	1	91.30	248.20	.000
Proximity	.62	1	.62	1.68	.198
Social Size * Proximity	.42	1	.42	1.14	.289
Error	33.11	90	.37		
Total	543.00	94			
Corrected	130.14	93			

Table 6-4

Analysis of Variance for Social Size with the Control Group Included

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	144.36	2	72.18	152.75	.000
Error	53.87	114	.47		
Total	198.22	116			

Table 6-5

Post-hoc Tests for Social Size with the Control Group Included

	t	df	Sig. (2-tailed)
control vs. one	-3.47	114	.001
control vs. three	-15.03	114	.000
one vs. three	-14.25	114	.000

Table 6-6

Analysis of Variance for Proximity Manipulation

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	.21	1	.21	.17	.678
Proximity	110.62	1	110.62	91.31	.000
Social Size * Proximity	3.34E-02	1	3.34E-02	.03	.869
Error	102.97	85	1.21		
Total	971.89	89			
Corrected	214.29	88			

Table 6-7

Analysis of Variance for Group Activity Manipulation

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Group Activity	29.80	1	29.80	25.78	.000
Error	82.08	71	1.16		
Total	111.88	72			

Table 6-8

Means, Standard Deviations, and Cell Sizes

Dependent Variable	Proximity	Social Size		
		Control	One-person	Three-people
Happiness				
	Control	4.79 (1.0)[a] {23}[b]		
	Close		5.43 (.86) {22}	4.61 (.88) {24}
	Far		5.05 (.64) {24}	5.02 (.99) {23}
Certainty				
	Control	4.90 (1.32) {23}		
	Close		5.67 (.74) {23}	4.35 (1.46) {25}
	Far		4.90 (1.39) {24}	4.99 (1.07) {23}
Annoyance				
	Control	2.33 (1.55) {23}		
	Close		1.08 (.25) {23}	2.52 (1.54) {25}
	Far		1.76 (1.21) {24}	1.70 (.85) {23}
Anxiety				
	Control	3.09 (1.32) {22}		
	Close		2.07 (1.05) {23}	3.27 (1.64) {25}
	Far		3.39 (1.64) {24}	2.97 (1.35) {23}

Table 6-8 Continued

Means, Standard Deviations, and Cell Sizes

Information Recalled		Control	One-person	Three-people
	Control	3.61 (1.95) {23}		
	Close		3.89 (1.49) {23}	2.48 (1.36) {25}
	Far		2.11 (1.73) {24}	2.65 (1.47) {23}
Interaction with Tester				
	Control	.36 (.50) {19}		
	Close		.06 (.24) {22}	.10 (.30) {23}
	Far		.42 (.64) {22}	.26 (.54) {22}
Total Time (seconds)	Control	2.71E-02 (1.23E-02) {22}		
	Close		3.28E-02 (1.43E-02) {23}	4.40E-02 (4.97E-02) {25}
	Far		5.60E-02 (5.75E-02) {24}	3.01E-02 (1.51E-02) {22}
Pre-Selection Time (seconds)	Control	3.32E-02 (1.64E-02) {22}		
	Close		4.70E-02 (2.03E-02) {23}	5.22E-02 (4.90E-02) {25}
	Far		7.16E-02 (6.76E-02) {24}	3.75E-02 (2.38E-02) {22}
Post-Selection Time (seconds)				
	Control	.14 (8.24E-02) {22}		
	Close		1.14 (.14) {23}	.16 (.14) {25}
	Far		.22 (.16) {24}	.13 (.12) {22}

[a] Standard deviations   [b] Cell sizes

Table 6-9

Analysis of Variance for Happiness

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	4.08	1	4.08	5.74	.019
Proximity	2.12E-03	1	2.12E-03	.00	.957
Social Size * Proximity	3.62	1	3.62	5.09	.027
Error	63.22	89	.71		
Total	2402.94	93			
Corrected	70.43	92			

Means for Happiness

	Control	One-person	Three-people
Control	4.79		
Close		5.43	4.61
Far		5.05	5.02

Figure 6-1

Happiness
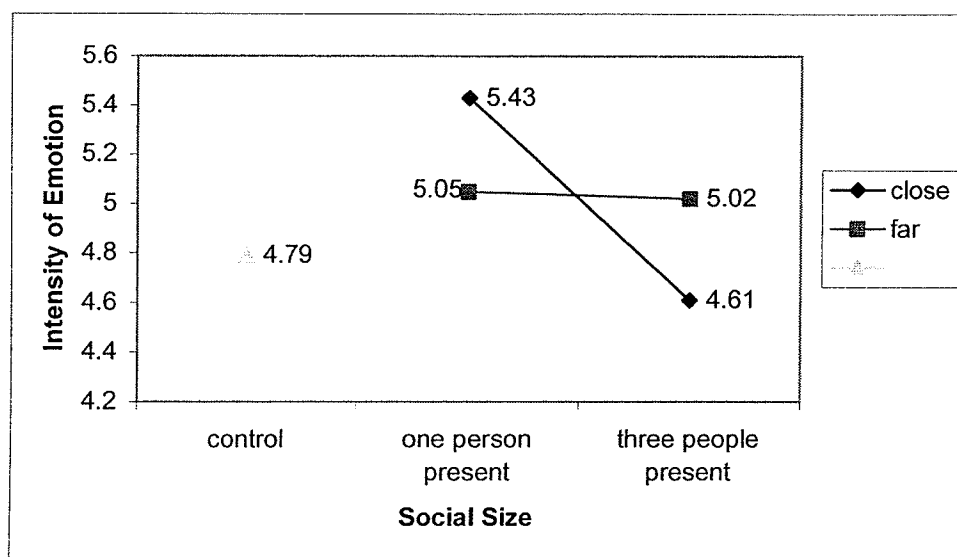
Table 6-10

Simple Effects Tests for Happiness

	t	df	Sig. (2-tailed)
one close vs. three close	3.07	41	.004

	t	df	Sig. (2-tailed)
one close vs. one far	1.75	44	.087

	t	df	Sig. (2-tailed)
three close vs. three far	1.50	45	.141

	t	df	Sig. (2-tailed)
one far vs. three far	-.11	48	.916

Table 6-11

Analysis of Variance for Happiness with the Control Group Included

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	7.71	2	3.85	4.66	.013
Error	52.97	64	.83		
Total	60.67	66			

Table 6-12

Post-hoc Tests for Happiness with the Control Group Included

	t	df	Sig. (2-tailed)
control vs. one	-2.27	64	.027
control vs. three	.67	64	.503

Table 6-13a

Analysis of Variance for Happiness
Test One for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	4.08	1	4.08	5.74	.019
Proximity	2.12E-03	1	2.12E-03	.00	.957
Social Size * Proximity	3.62	1	3.62	5.09	.027
Error	63.22	89	.71		
Total	2402.94	93			
Corrected	70.43	92			

Table 6-13b

Analysis of Variance for Crowding
Test Two for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	15.28	1	15.28	11.06	.001
Proximity	8.08	1	8.08	5.85	.018
Social Size * Proximity	12.66	1	12.66	9.16	.003
Error	114.64	83	1.38		
Total	1011.00	87			
Corrected	150.16	86			

Table 6-13c

Analysis of Variance for Happiness
Test Three for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Crowding	2.63	1	2.63	3.83	.054
Social Size	1.12	1	1.12	1.64	.204
Proximity	.47	1	.47	.69	.408
Social Size * Proximity	.69	1	.69	1.00	.320
Error	54.85	80	.69		
Total	2207.13	85			
Corrected	62.08	84			

Figure 6-2

Mediation Analysis for Happiness
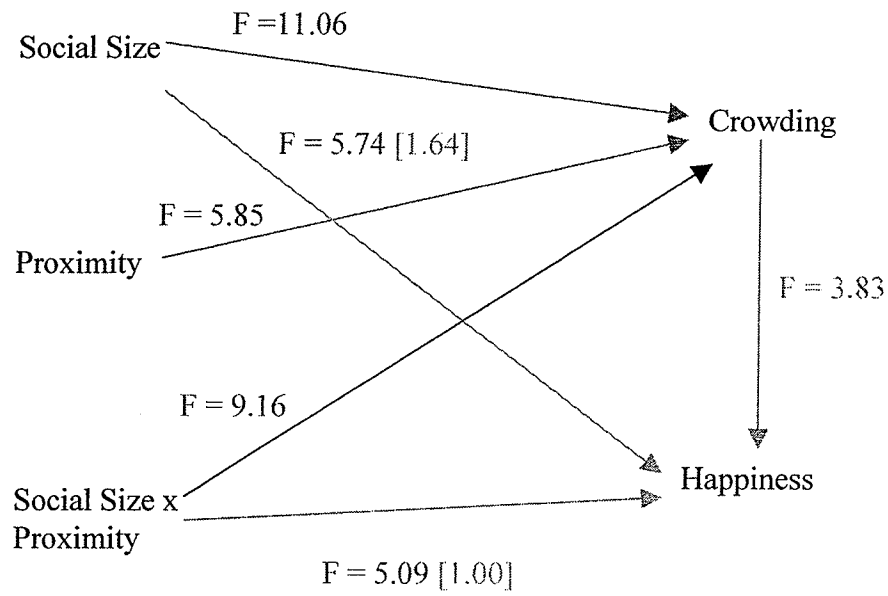
Table 6-14

Analysis of Variance for Certainty

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	8.84	1	8.84	5.83	.018
Proximity	9.80E-02	1	9.80E-02	.07	.800
Social Size * Proximity	11.31	1	11.31	7.46	.008
Error	137.98	91	1.52		
Total	2467.14	95			
Corrected	156.69	94			

Means for Certainty

	Control	One-person	Three-people
Control	4.90		
Close		5.67	4.35
Far		4.90	4.99

Figure 6-3

Certainty
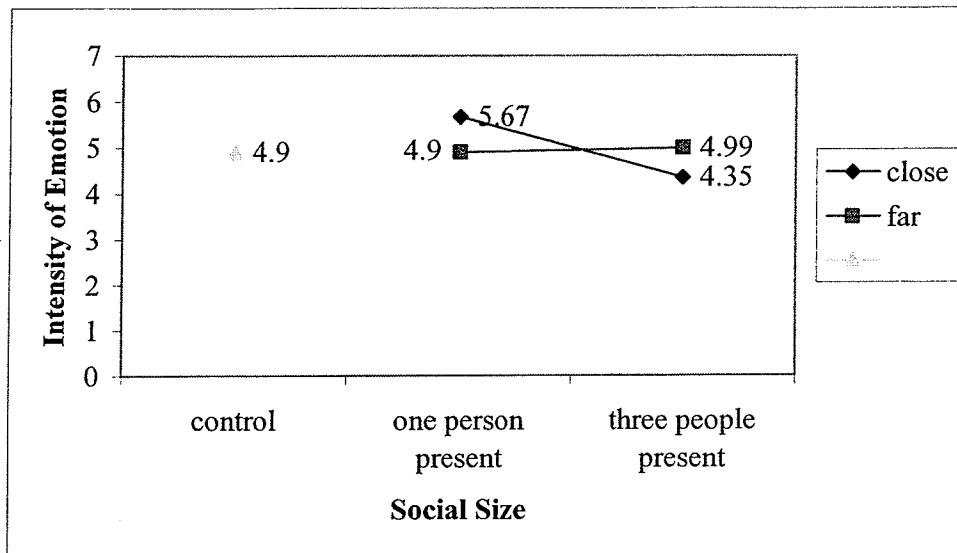
Table 6-15

Simple Effects Tests for Certainty

	t	df	Sig. (2-tailed)
one close vs. three close	3.59	42	.001

	t	df	Sig. (2-tailed)
one close vs. one far	2.19	45	.034

	t	df	Sig. (2-tailed)
three close vs. three far	-1.70	46	.096

	t	df	Sig. (2-tailed)
one far vs. three far	-.23	49	.820

Table 6-16

Analysis of Variance for Certainty with the Control Group Included

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	18.21	2	9.11	5.96	.004
Error	99.31	65	1.53		
Total	117.53	67			

Table 6-17

Post-hoc Tests for Certainty with the Control Group Included

	t	df	Sig. (2-tailed)
control vs. one	-1.94	65	.056
control vs. three	1.53	65	.132

Table 16-18a

Analysis of Variance for Certainty
Test One for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	8.84	1	8.84	5.83	.018
Proximity	9.80E-02	1	9.80E-02	.07	.800
Social Size * Proximity	11.31	1	11.31	7.46	.008
Error	137.98	91	1.52		
Total	2467.14	95			
Corrected	156.69	94			

Table 6-18b

Analysis of Variance for Crowding
Test Two for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	15.28	1	15.28	11.06	.001
Proximity	8.08	1	8.08	5.85	.018
Social Size * Proximity	12.66	1	12.66	9.16	.003
Error	114.64	83	1.38		
Total	1011.00	87			
Corrected	150.16	86			

Table 6-18c

Analysis of Variance for Certainty
Test Three for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Crowding	9.49	1	9.49	6.68	.012
Social Size	3.73	1	3.73	2.62	.109
Proximity	.67	1	.67	.47	.495
Social Size * Proximity	6.56	1	6.56	4.61	.035
Error	116.57	82	1.42		
Total	2215.47	87			
Corrected	147.46	86			

Figure 6-4

Mediation Analysis for Certainty
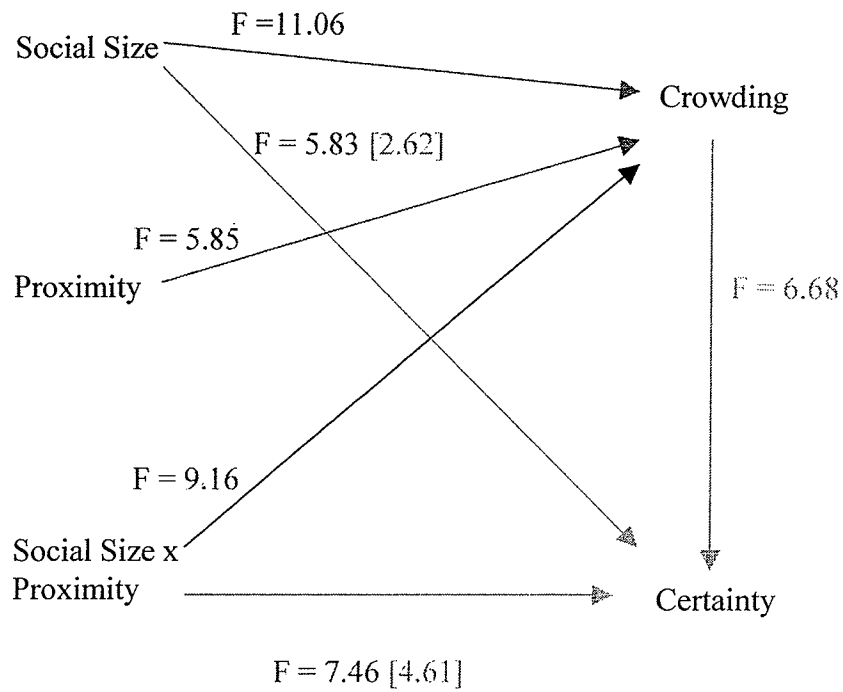
Table 6-19

Analysis of Variance for Annoyance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	10.96	1	10.96	8.77	.004
Proximity	.12	1	.12	.10	.757
Social Size * Proximity	13.08	1	13.08	10.47	.002
Error	112.43	90	1.25		
Total	443.00	94			
Corrected	135.55	93			

Means for Annoyance

	Control	One-person	Three-people
Control	2.33		
Close		1.08	2.52
Far		1.76	1.70

Figure 6-5

Annoyance
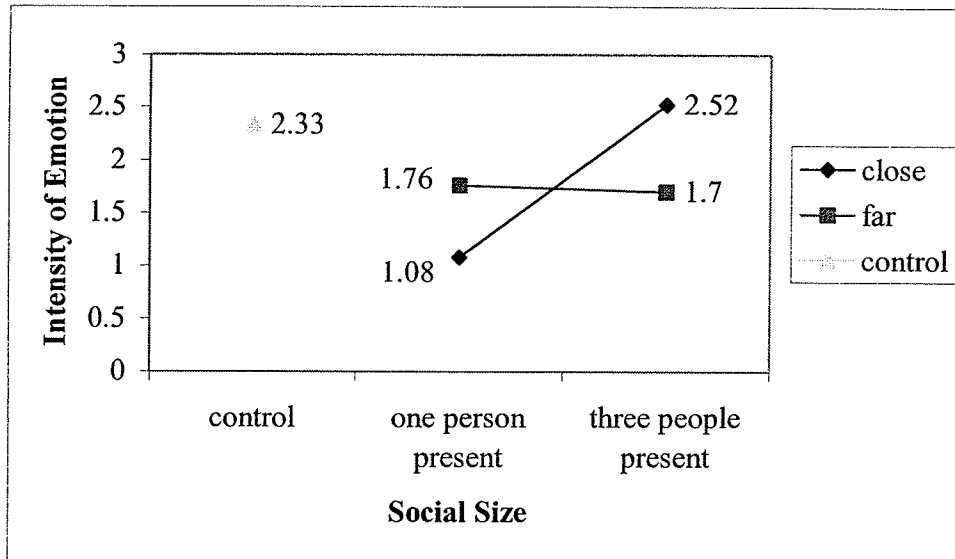
Table 6-20

Simple Effects Tests for Annoyance

	t	df	Sig. (2-tailed)
one close vs. three close	-4.02	42	.000

	t	df	Sig. (2-tailed)
one close vs. one far	-2.40	44	.021

	t	df	Sig. (2-tailed)
three close vs. three far	2.26	46	.028

	t	df	Sig. (2-tailed)
one far vs. three far	.21	48	.834

Table 6-21

Analysis of Variance for Annoyance with the Control Group Included

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	25.19	2	12.60	7.25	.001
Error	111.18	64	1.74		
Total	136.37	66			

Table 6-22

Post-hoc Tests for Annoyance with the Control Group Included

	t	df	Sig. (2-tailed)
control vs. one	3.05	64	.003
control vs. three	-.51	64	.612

199

Table 6-23a

Analysis of Variance for Annoyance
Test One for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	10.96	1	10.96	8.77	.004
Proximity	.12	1	.12	.10	.757
Social Size * Proximity	13.08	1	13.08	10.47	.002
Error	112.43	90	1.25		
Total	443.00	94			
Corrected	135.55	93			

Table 6-23b

Analysis of Variance for Crowding
Test Two for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	15.28	1	15.28	11.06	.001
Proximity	8.08	1	8.08	5.85	.018
Social Size * Proximity	12.66	1	12.66	9.16	.003
Error	114.64	83	1.38		
Total	1011.00	87			
Corrected	150.16	86			

Table 6-23c

Analysis of Variance for Annoyance
Test Three for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Crowding	5.03	1	5.03	4.01	.049
Social Size	5.14	1	5.14	4.10	.046
Proximity	5.51E-02	1	5.51E-02	.04	.834
Social Size * Proximity	7.80	1	7.80	6.22	.015
Error	101.50	81	1.25		
Total	419.50	86			
Corrected	129.22	85			

Figure 6-6

Mediation Analysis for Annoyance
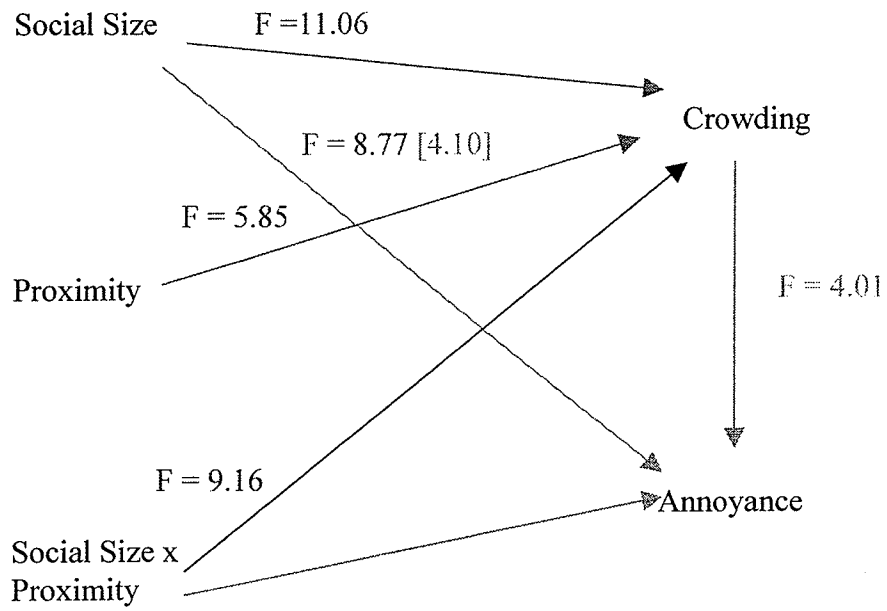
Table 6-24

Analysis of Variance for Anxiety

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	5.96	1	5.96	3.12	.081
Proximity	3.45	1	3.45	1.81	.182
Social Size * Proximity	15.08	1	15.08	7.89	.006
Error	170.17	89	1.91		
Total	1022.47	93			
Corrected	192.46	92			

Means for Anxiety

	Control	One-person	Three-people
Control	3.09		
Close		2.07	3.39
Far		3.27	2.97

Figure 6-7

Anxiety
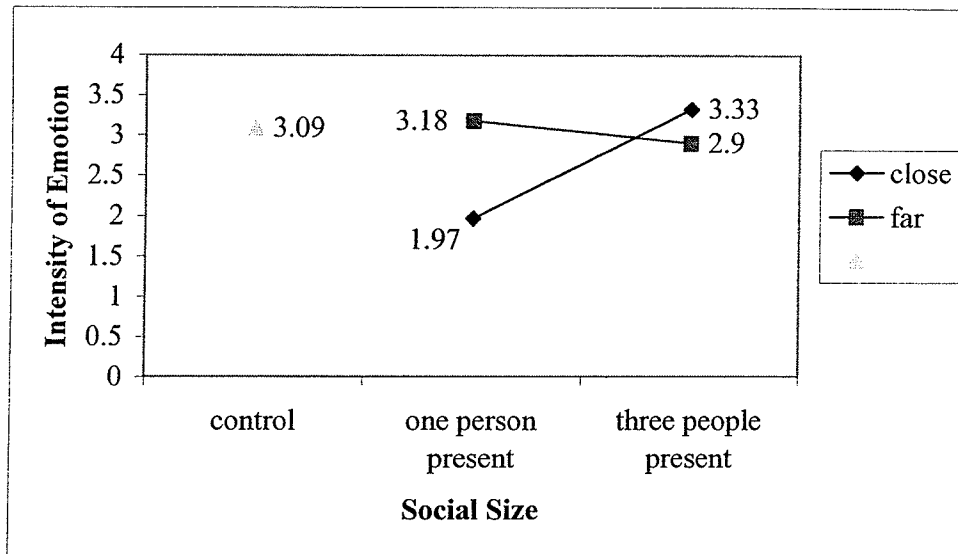
Table 6-25

Simple Effects Tests for Anxiety

	t	df	Sig. (2-tailed)
one close vs. three close	-3.60	42	.001

	t	df	Sig. (2-tailed)
one close vs. one far	-2.80	44	.007

	t	df	Sig. (2-tailed)
three close vs. three far	1.09	45	.283

	t	df	Sig. (2-tailed)
one far vs. three far	.69	47	.493

Table 6-26

Analysis of Variance for Anxiety with the Control Group Included

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	22.28	2	11.14	7.32	.001
Error	94.42	62	1.52		
Total	116.70	64			

Table 6-27

Post-hoc Tests for Anxiety with the Control Group Included

	t	df	Sig. (2-tailed)
control vs. one	3.17	62	.002
control vs. three	-.23	62	.819

Table 6-28a

Analysis of Variance for Anxiety
Step One for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	5.96	1	5.96	3.12	.081
Proximity	3.45	1	3.45	1.81	.182
Social Size * Proximity	15.08	1	15.08	7.89	.006
Error	170.17	89	1.91		
Total	1022.47	93			
Corrected	192.46	92			

Table 6-28b

Analysis of Variance for Crowding
Test Two for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	15.28	1	15.28	11.06	.001
Proximity	8.08	1	8.08	5.85	.018
Social Size * Proximity	12.66	1	12.66	9.16	.003
Error	114.64	83	1.38		
Total	1011.00	87			
Corrected	150.16	86			

Table 6-28c

Analysis of Variance for Anxiety
Test Three for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Crowding	8.26	1	8.26	4.43	.038
Social Size	2.39E-02	1	2.39E-02	.01	.910
Proximity	8.63	1	8.63	4.63	.034
Social Size * Proximity	6.49	1	6.49	3.48	.066
Error	151.01	82	1.86		
Total	977.75	87			
Corrected	186.66	86			

Figure 6-8

Mediation Analysis for Anxiety
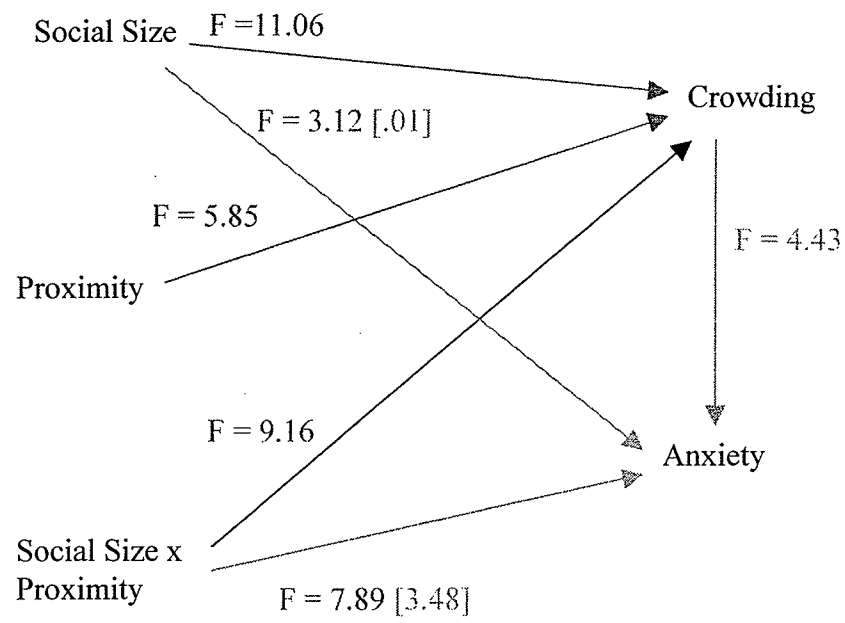
Table 6-29

Analysis of Variance for Recall of Product Display Information

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	4.40	1	4.40	1.80	.173
Proximity	15.19	1	15.19	6.51	.012
Social Size * Proximity	22.35	1	22.35	9.60	.003
Error	211.93	91	2.33		
Total	940.00	95			
Corrected	250.15	94			

Means Recall of Product Display Information

	Control	One-person	Three-people
Control	3.61		
Close		3.89	2.48
Far		2.11	2.65

Figure 6-9

Recall of Product Display
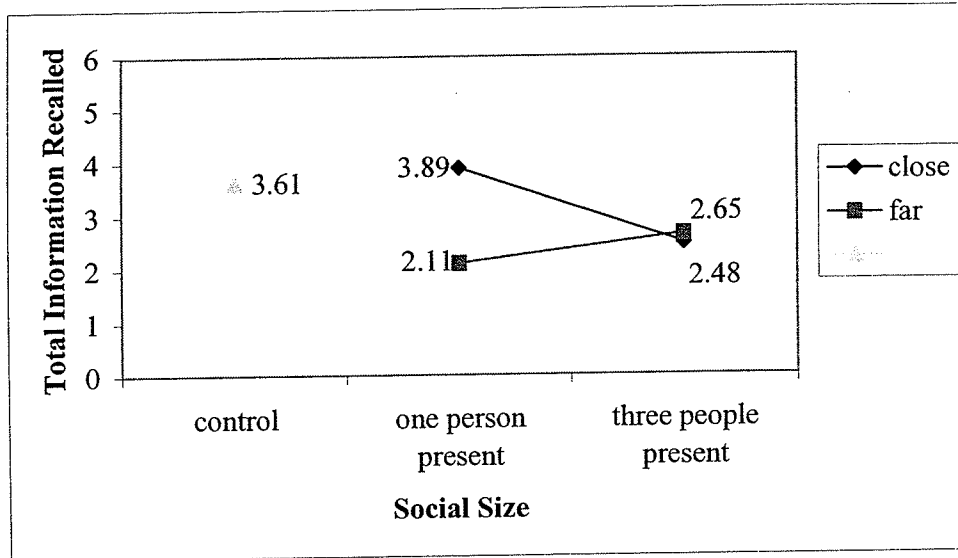
Table 6-30

Simple Effects Tests for Recall of Product Display Information

	t	df	Sig. (2-tailed)
one close vs. three close	3.29	42	.002

	t	df	Sig. (2-tailed)
one close vs. one far	3.68	45	.001

	t	df	Sig. (2-tailed)
three close vs. three far	-.42	46	.675

	t	df	Sig. (2-tailed)
one far vs. three far	-1.20	49	.236

Table 6-31

Recall of Product Display Information with the Control Group Included

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	24.97	2	12.48	4.82	.011
Error	168.27	65	2.59		
Total	193.24	67			

Table 6-32

Post-hoc Tests for Recall of Product Display Information with the
Control Group Included

	t	df	Sig. (2-tailed)
control vs. one	-.49	65	.625
control vs. three	2.43	65	.018

Table 6-33a

Analysis of Variance for Recall of Product Display Information
Test One for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	4.40	1	4.40	1.89	.173
Proximity	15.19	1	15.19	6.52	.012
Social Size * Proximity	22.35	1	22.35	9.60	.003
Error	211.93	91	2.33		
Total	940.00	95			
Corrected	250.15	94			

Table 6-33b

Analysis of Variance for Crowding
Test Two for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	15.28	1	15.28	11.06	.001
Proximity	8.08	1	8.08	5.85	.018
Social Size * Proximity	12.66	1	12.66	9.16	.003
Error	114.64	83	1.38		
Total	1011.00	87			
Corrected	150.16	86			

Table 6-33c

Analysis of Variance for Recall of Product Display Information
Test Three for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Crowding	.54	1	.54	.26	.612
Social Size	.21	1	.21	.10	.752
Proximity	20.02	1	20.02	9.53	.003
Social Size * Proximity	11.74	1	11.74	5.59	.020
Error	172.38	82	2.10		
Total	831.00	87			
Corrected	206.99	86			

Figure 6-10

Mediation Analysis for Recall of Product Display
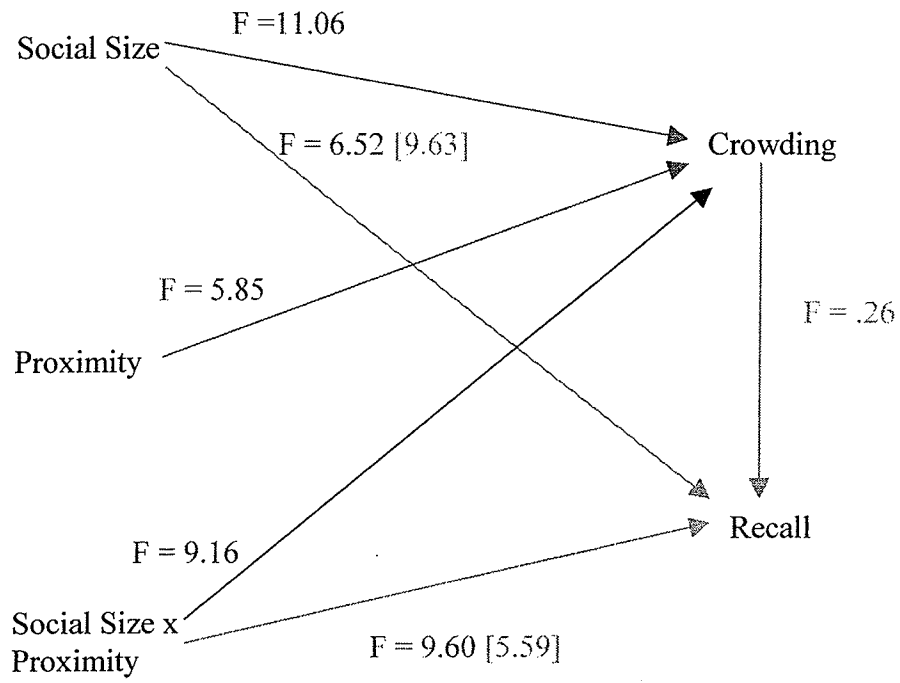
Table 6-34a

Analysis of Variance for Recall of Product Display Information
Test One for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	4.40	1	4.40	1.89	.173
Proximity	15.19	1	15.19	6.52	.012
Social Size * Proximity	22.35	1	22.35	9.60	.003
Error	211.93	91	2.33		
Total	940.00	95			
Corrected	250.15	94			

Table 6-34b

Analysis of Variance for Distraction
Test Two for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	19.104	1	19.104	8.516	.004
Proximity	9.161	1	9.161	4.084	.046
Social Size * Proximity	23.743	1	23.743	10.585	.002
Error	204.125	91	2.243		
Total	1081.000	95			
Corrected	249.832	94			

Table 6-34c

Analysis of Variance for Recall of Product Display Information
Test Three for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Distraction	26.147	1	26.147	12.667	.001
Social Size	.261	1	.261	.126	.723
Proximity	7.578	1	7.578	3.671	.059
Social Size * Proximity	7.976	1	7.976	3.864	.052
Error	185.778	90	2.064		
Total	940.000	95			
Corrected	250.147	94			

Figure 6-11

Mediation Analysis for Recall of Product Display Information
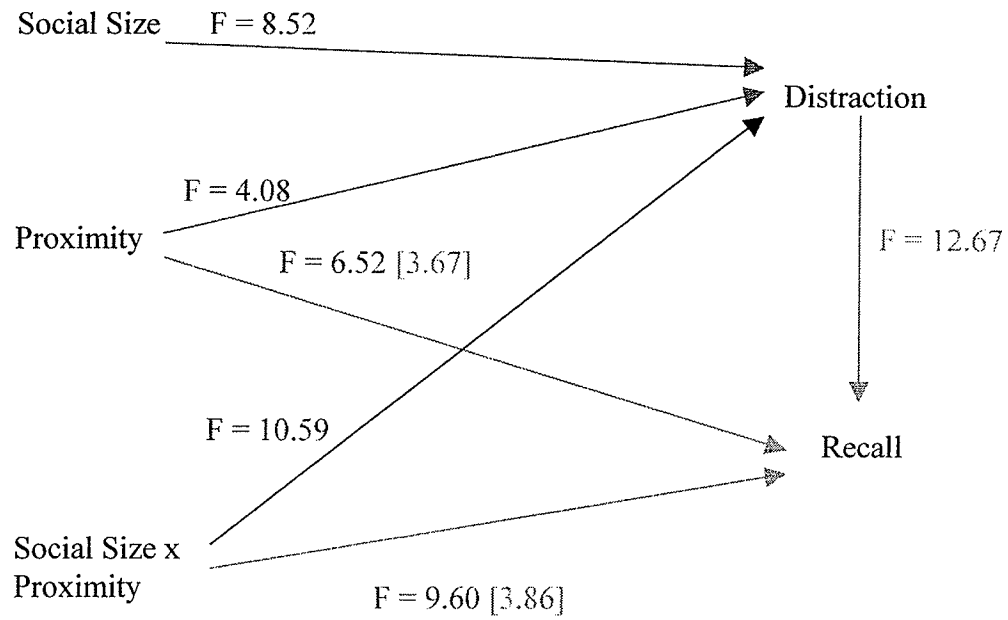
Table 6-35

Analysis of Variance for Self-Presentation Behaviour
(Interaction with the Battery Testing Display)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	6.79E-02	1	6.79E-02	.29	.594
Proximity	1.37	1	1.37	5.76	.019
Social Size * Proximity	.17	1	.17	.71	.402
Error	19.70	83	.24		
Total	153.00	87			
Corrected	21.40	86			

Means for Self-Presentation Behaviour (Interaction with the Battery Testing Display)

	Control	One-person	Three-people
Control	.36		
Close		.06	.10
Far		.42	.26

Figure 6-12

Self-Presentation Behaviour (Interaction with the Battery Testing Display)
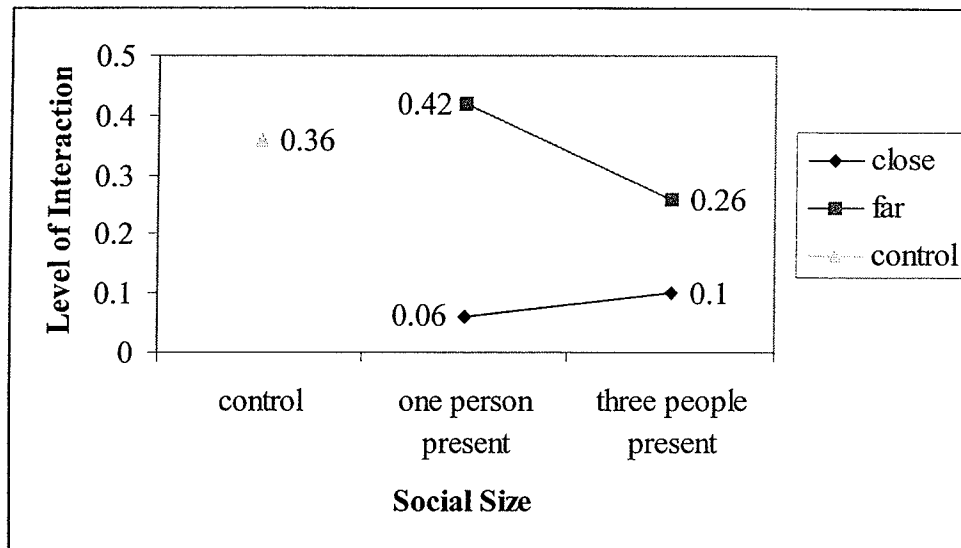
Table 6-36

Self-Presentation Behaviour with the Control Group Included
(Interaction with the Battery Testing Display)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	.78	2	.39	3.16	.052
Error	5.96	48	.12		
Total	6.75	50			

Table 6-37

Post-hoc Tests for Self-Presentation Behaviour with the Control Group Included
(Interaction with the Battery Testing Display)

	t	df	Sig. (2-tailed)
control vs. one	2.29	48	.027
control vs. three	2.15	48	.036

Table 6-38

Ordinal Regression for Self-Presentation Behaviour (Brand Selection)

Source	Estimate	SE	Wald	df	Sig
Social Size	1.74	.70	6.23	1	.013
Proximity	.96	.60	2.55	1	.110
Social Size * Proximity	-1.81	.93	3.81	1	.051

Figure 6-13

Self-Presentation Behaviour (Brand Selection)
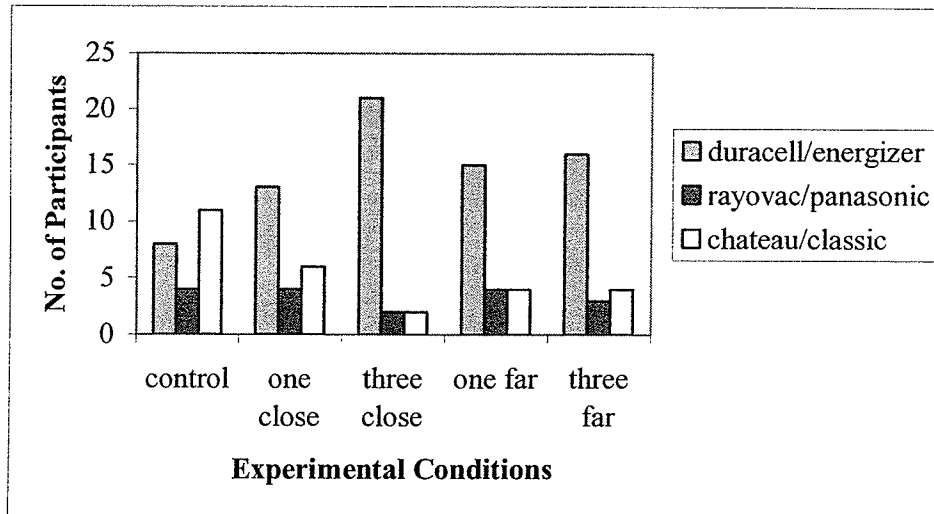
Table 6-39

Simple Regression Tests for Self-Presentation Behaviour (Brand Selection)

Source	Estimate	SE	Wald	df	Sig
one close vs. three close	1.75	.70	6.21	1	.013

Source	Estimate	SE	Wald	df	Sig
one far vs. three far	-6.69E-02	.61	.01	1	.913

Source	Estimate	SE	Wald	df	Sig
one close vs. one far	.97	.60	2.61	1	.106

Source	Estimate	SE	Wald	df	Sig
three close vs. three far	-.84	.70	1.42	1	.234

Table 6-40

Chi-Square Analysis for Self-Presentation Behaviour with the Control Group Included
(Brand Selection)

	Value	df	Sig. (2-sided)
Pearson Chi-Square	13.07	4	.011

Table 6-41

Self-Presentation Behaviour Frequency with the Control Group Included
(Brand Selection)

Brand	Social Size			Total
	No one present	One person present	Three people present	
Duracell/Energizer	8	13	21	42
Rayovac/Panasonic	4	4	2	10
Chateau/Classics	11	6	2	19
Total	23	23	25	71

Table 6-42.1

Group Activity for Happiness

Activity	Mean	t	df	Sig. (2-tailed)
Not interacting	4.42			
Interacting	4.61	-.75	48	.458

Table 6-42.2

Group Activity for Certainty

Activity	Mean	t	df	Sig. (2-tailed)
Not interacting	4.63			
Interacting	4.35	.77	49	.447

Table 6-42.3

Group Activity for Annoyance

Activity	Mean	t	df	Sig. (2-tailed)
Not interacting	2.33			
Interacting	2.52	-.46	49	.645

Table 6-42.4

Group Activity for Anxiety

Activity	Mean	t	df	Sig. (2-tailed)
Not interacting	3.41			
Interacting	3.33	.23	49	.823

Table 6-43

Group Activity for Recall of Product Display Information

Activity	Mean	t	df	Sig. (2-tailed)
Not interacting	3.38			
Interacting	2.46	1.97	48	.054

Table 6-44.1

Group Activity for Self-Presentation Behaviour (Brand Selection)

	Value	df	Sig. (2-sided)
Pearson Chi-Square	5.642	2	.060

Table 6-44.2

Frequency for Self-Presentation Behaviour (Brand Selection)

Brand	Social Size		Total
	Not Interacting	Interacting	
Duracell/Energizer	14	20	34
Rayovac/Panasonic	3	2	5
Chateau/Classics	9	2	11
Total	26	24	50

Table 6-44.3

Group Activity for Self-Presentation Behaviour
(Interaction with Battery Testing Display)

Activity	Mean	t	df	Sig. (2-tailed)
Not interacting	.31			
Interacting	.10	1.59	45	.119

Table 6-45a

Ordinal Regression for Self-Presentation Behaviour (Brand Selection)
Test One for Mediation Analysis

Source	Coefficient	SE	Wald	df	Sig.
Social Size	1.74	.70	6.23	1	.013
Proximity	.96	.60	2.55	1	.110
Social Size * Proximity	-1.81	.93	3.81	1	.051

Table 6-45b

Analysis of Variance for Distraction
Test Two for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	19.10	1	19.10	8.52	.004
Proximity	9.16	1	9.16	4.08	.046
Social Size * Proximity	23.74	1	23.74	10.59	.002
Error	204.13	91	2.24		
Total	1081.00	95			
Corrected	249.83	94			

Table 6-45c

Ordinal Regression for Self-Presentation Behaviour (Brand Selection)
Test Three for Mediation Analysis

Source	Coefficient	SE	Wald	df	Sig.
Distraction	.60	.50	1.45	1	.229
Social Size	1.60	.60	7.07	1	.008
Proximity	1.78	.67	6.96	1	.008
Social Size * Proximity	-1.59	.83	3.74	1	.053

Figure 6-14

Mediation Analysis for Self-Presentation Behaviour
(Brand Selection)
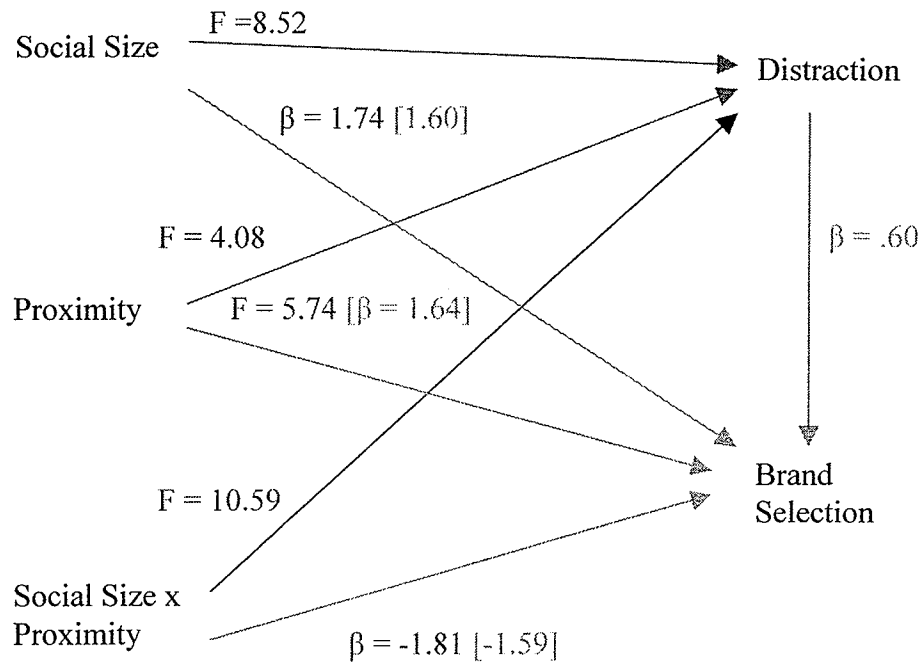
Table 6-46

Analysis of Variance for Total Time Spent in Aisle

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	8.95E-04	1	8.95E-04	.53	.468
Proximity	4.70E-04	1	4.70E-04	.28	.599
Social Size * Proximity	6.11E-03	1	6.11E-03	3.64	.060
Error	.12	71	1.68E-03		
Total	.26	75			
Corrected	.13	74			

Means for Total Time Spent in the Aisle

	Control	One-person	Three-people
Control	2.71E-02		
Close		3.28E-02	4.40E-02
Far		5.60E-02	3.01E-02

Figure 6-15

Total Time Spent in the Aisle
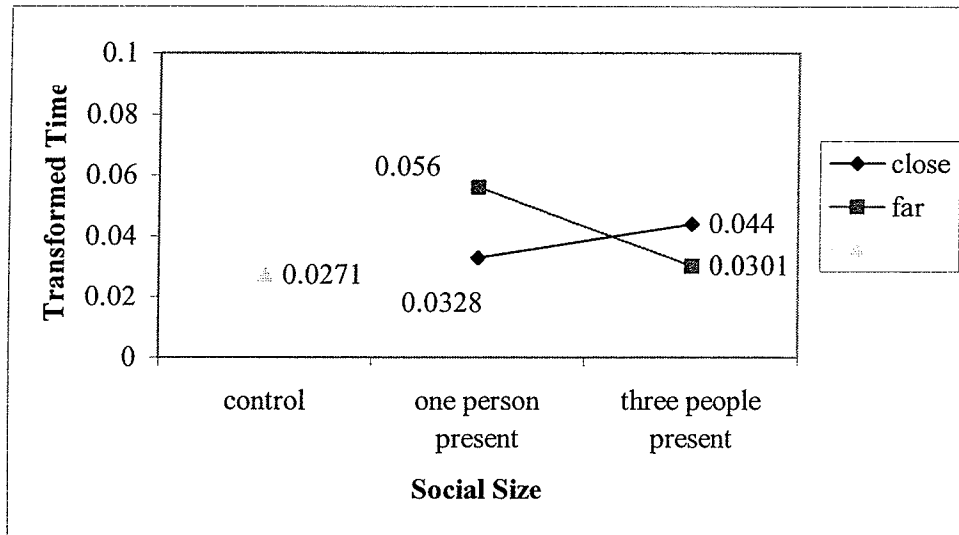
Table 6-47

Simple Effects Tests for Total Time Spent in Aisle

	t	df	Sig. (2-tailed)
one close vs. three close	-.87	35	.389

	t	df	Sig. (2-tailed)
one close vs. one far	-1.57	34	.126

	t	df	Sig. (2-tailed)
three close vs. three far	-1.08	37	.289

	t	df	Sig. (2-tailed)
one far vs. three far	-1.79	36	.081

Table 6-48

Analysis of Variance for Total Time Spent in the Aisle with the Control Group Included

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	4.56E-03	2	2.28E-03	1.08	.348
Error	.11	51	2.12E-03		
Total	.11	53			

Table 6-49

Analysis of Variance for Recall of Product Display Information

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Total Time	13.21	1	13.21	5.12	.027
Error	159.90	62	2.58		
Total	173.11	63			

Table 6-50

Analysis of Variance for Pre-Brand Selection Time

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	3.49E-03	1	3.49E-03	1.70	.197
Proximity	5.51E-04	1	5.51E-04	.27	.606
Social Size * Proximity	7.47E-03	1	7.47E-03	3.63	.061
Error	.15	71	2.06E-03		
Total	.36	75			
Corrected	.16	74			

Means for Pre-Brand Selection Time

	Control	One-person	Three-people
Control	3.32E-02		
Close		4.58E-02	5.22E-02
Far		7.13E-02	3.75E-02

Figure 6-16

Pre-Brand Selection Time
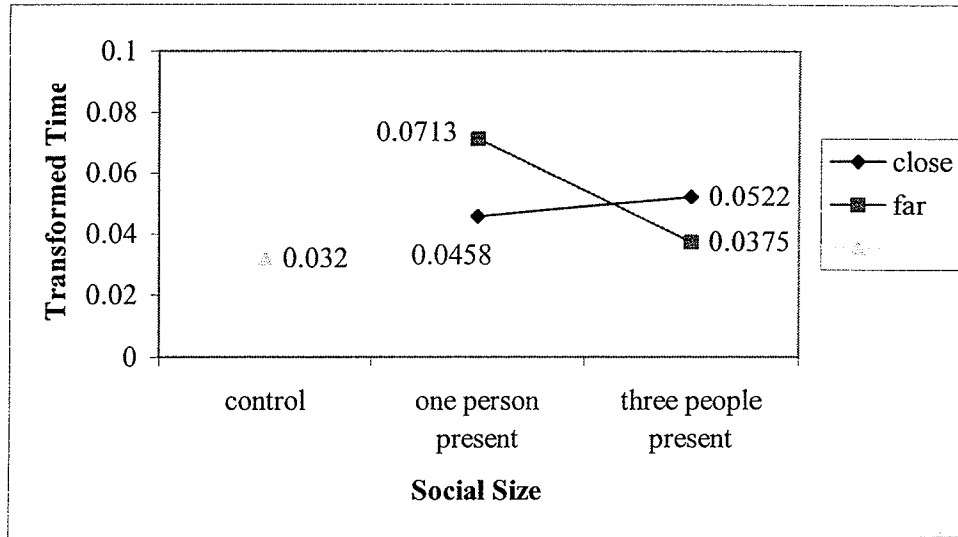
Table 6-51

Simple Effects Tests for Pre-Brand Selection Time

	t	df	Sig. (2-tailed)
one close vs. three close	-.40	36	.689

	t	df	Sig. (2-tailed)
one close vs. one far	-1.44	34	.160

	t	df	Sig. (2-tailed)
three close vs. three far	-1.15	37	.256

	t	df	Sig. (2-tailed)
one far vs. three far	-2.02	35	.051

Table 6-52

Analysis of Variance for Post-Brand Selection Time

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Social Size	2.07E-02	1	2.07E-02	1.07	.305
Proximity	1.14E-02	1	1.14E-02	.59	.446
Social Size * Proximity	5.28E-02	1	5.28E-02	2.72	.103
Error	1.38	71	1.94E-02		
Total	3.53	75			
Corrected	1.47	74			

CHAPTER SEVEN

STUDY THREE

This chapter presents the last of three field experiments that investigated the impact of social presence characteristics on consumers. The present study investigated the impact of proximity and perceived similarity on consumer emotions, cognitive performance, and self-presentation behaviours. As in the preceding chapters, this chapter is divided into seven sections including: research design, study participants and product, independent variable manipulations, procedure, manipulation checks and dependent variables, results, and discussion.

I. Research Design

The third study tested H10-H12. The design of this study was a 2 (proximity: close versus far) x 2 (perceived similarity: similar versus dissimilar) + 1 (control group) between-subjects factorial design. In the control group condition, participants made their product selection in the absence of a social presence.

II. Participants and Product

Participants

One hundred and ten undergraduate students (males = 40, females = 70; mean age = 20.1) participated in exchange for a $10 honorarium. This research received human ethics approval.

Product

One package of four AA batteries was again purchased in this experiment and the same six different brands used in Study Two (i.e., Duracell, Energizer, Rayovac,

Panasonic, Chateau, and Classics) were displayed in a low-traffic aisle of the Commerce Connection.

III. Independent Variables

Manipulation of Proximity

Social presence was again achieved through the use of a confederate who pretended to be a shopper (either one female or one male). As in Study Two, the proximity manipulation was achieved by situating the confederate in the designated aisle either two feet (close) or eight feet (far) away from the display where the participants would come to make their purchase selection.

Manipulation of Perceived Similarity

In this research, the type of perceived similarity that was manipulated was visually noticeable (i.e., dress wear): in the similar condition the confederate was dressed like a typical student from the participant population, whereas in the dissimilar condition, the confederate was dressed in a more alternative manner (e.g., nose rings, dark clothes, non-traditional hairstyles). This type of manipulation was chosen for two reasons. First, this research was interested in the effects of a mere social presence; therefore, no interaction could occur between the participants and the confederate. In the absence of an interaction, participants would be limited to the external characteristics. The use of external characteristics as sources for perceived similarity manipulations is not new to the marketing literature. For example, in marketing word-of-mouth, referral behaviours were influenced by external similarities such as age (Brown and Reingen 1987; Gilly et al., 1998). Second, in the past, researchers found that dress-wear was sufficient in creating a strength manipulation (Jackson and Latané 1981; Williams and Williams 1989). In one

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study, social strength was manipulated by having confederates dress either neat and professional (i.e., high strength) or sloppy and unprofessional (i.e., low strength; Williams and Williams 1989). Finally, dress-wear was considered a relevant and salient characteristic for the population of interest.

IV. Procedure

The procedure for this experiment was the same as that described in Study Two. Participants again completed the self-monitoring scale and indicated their gender, age, and student status. Age and student status did not influence any of the findings, and self-monitoring did not impact the participants' behaviours; therefore, these factors will not be discussed further. However, gender was significant for two of the emotions and will be discussed in the appropriate sections.

V. Manipulation Checks and Dependent Variable Measures

Manipulation Checks

Proximity. The same questions from Study Two were used to determine the effectiveness of the proximity manipulation. Participants indicated on three seven-point scales the extent to which the social presence was close/far, near/distant, and next to me/away from me. These items were again combined to form an overall measure of proximity ($\alpha = .92$).

Perceived Similarity. Participants responded to the five seven-point scale items used in the pre-test that asked them how similar they perceived the social presence to be to them using the following anchors: not at all similar/very similar, not at all alike/very alike, not at all comparable/very comparable, not at all similar in dress-wear/very similar

in dress-wear, and not at all similar in style/very similar in style. These five items were combined to form an overall index of perceived similarity ($\alpha = .84$).

Control Group. As in the earlier studies, the participants in the control group made their purchase selection in the absence of a social presence but completed the same questionnaire as those participants in the manipulated conditions. The purpose of this group was to establish a baseline of how the participants would react in a situation in which no social presence existed.

Dependent Variables

Emotions. Participants were asked to indicate how they felt during their shopping experience on the same scale items used in the previous studies (see Appendix N). Also included in the battery of emotions were three new measures that asked participants to indicate the extent to which they felt rushed (not at all rushed/very rushed), hurried (not at all hurried/very hurried), and pressured (not at all pressured/very pressured). These new items were included in the battery of affect measures to determine whether a social presence made consumers feel rushed and if this influenced the other dependent variables of interest. Factor analysis of all of the emotion items indicated that they were related to five underlying dimensions (67.8% of variance explained) (Table 7-1). The items were combined to form five separate indices: two positive emotions, happiness ($\alpha = .78$) and certainty ($\alpha = .71$), two negative emotions, annoyance ($r = .26$, $p < .01$) and anxiety ($\alpha = .84$), and time pressure ($\alpha = .85$).)). Follow-up confirmatory factor analysis revealed that the five-factor model of emotions fit the best (one-factor model: χ^2 (135) = 528.89, $p < .001$, CFI = .90, TLI = .88, RMSEA = .16; two-factor model (positive versus negative and time pressure): χ^2 (134) = 409.48, $p < .001$, CFI = .93, TLI = .91, RMSEA = .13;

three-factor model (positive versus negative versus time pressure): χ^2 (132) = 309.82, p <

.001, CFI = .96, TLI = .94, RMSEA = .11; five-factor model: χ^2 (125) = 216.64, p < .001,

CFI = .98, TLI = .97, RMSEA = .08). Additional χ^2 difference tests lent further support

to the finding that the five-factor model fit the data the best (one-factor vs. five-factor: χ^2

difference test (10) = 312.25, p < .001; two-factor vs. five-factor: χ^2 difference test (9) =

192.84, p < .001; three-factor vs. five-factor: χ^2 difference test (7) = 93.18, p < .001).

Cognition. Cognition was again assessed by the amount of correct information

consumers could recall about the product display (i.e., brand availability and

corresponding prices). To code this variable, the number of brands and corresponding

prices that were correctly remembered were totalled to serve as an overall indicator of

recall.

Behaviours. The behaviours observed in Study Two that were again recorded in

the present study, using two hidden cameras, included: the brand consumers selected

(Duracell and Energizer = 1, Rayovac and Panasonic = 2, and Chateau and Classics = 3)

and the amount of time consumers spent in the aisle (total time, pre-brand selection time,

and post-brand selection).

Two coders worked independently to code the footage recorded on the camera

(see Appendix O). No discrepancies were reported in the coding (i.e., reliability between

the two coders was 100% (Table 7-2)).

Additional Measures for Mediation Analysis

As in Study Two, additional measures were taken to determine the presence of

potential mediators. In this study, distraction was again assessed through the use of

thought listings. Participants were provided with a few minutes to list all of the thoughts

they had while making their purchase selection. The total number of thoughts related to the purchase decision was totalled to serve as an overall indicator of distraction. The distraction variable was used for two different mediation analyses. First, it was expected that when consumers become distracted and, therefore, had fewer thoughts related to the purchase, they would not be able to recall as much information about the product display as compared to if they were not distracted. Thus, it was tested as a mediator of social presence characteristics and cognition. Second, distraction was again tested as a potential mediator of the relationship between social presence characteristics and brand selection to demonstrate the robust findings from Study Two.

In addition to distraction, one other potential mediator that was assessed was how the consumer reacted to the social presence. This potential mediator was measured using two items (was attracted to the other person/people in the aisle and liked the presence of the other person/people) on seven-point scales with the anchor: not at all/very much, which were combined to form an overall reactions to the social presence index ($r = .22$, $p < .05$). The purpose of this variable was to determine whether consumers' reactions to the social presence mediated the relationship between social presence characteristics and positive and negative emotions.

Finally, it should be noted that crowding was not included as a potential mediator because there were no theoretical basis to predict that it would play a role in impacting the relationship between social presence characteristics and the emotional outcomes in this study.

VI. Results

Preliminary Analyses. The manipulation of proximity was effective. An ANOVA with a measure of the social presence's perceived distance as the dependent variable, and proximity and perceived similarity as the two independent factors showed only a main effect for proximity ($F (1,80) = 57.19$, $p < .001$, $\omega^2 = .41$; means: close = 1.66 (sd = 1.06), far = 3.57 (sd = 1.17)) (Table 7-3). Participants reported that a social presence that was next to them was significantly closer than a social presence that was located further down the aisle.

The manipulation of perceived similarity was also successful. An ANOVA with a measure of the similarity the participant perceived between them and the social presence as the dependent variable, and proximity and perceived similarity as the two independent variables only produced a main effect for perceived similarity ($F (1, 88) = 6.78$, $p < .05$, $\omega^2 = .06$; means: similar = 3.30 (sd = .87), dissimilar = 2.76 (sd = 1.05)) (Table 7-4). Thus, participants indicated that they perceived a social presence that was dressed as a typical student to be more similar to them one that was dressed more alternatively.

Tests of Hypotheses. In this section, tests of H10-H12 are presented. The mean scores, the standard deviations, and the cell sizes are presented in Table 7-5.

Emotions

Happiness. H10 predicted that consumers would be happier when a close social presence was perceived to be similar to them as opposed to dissimilar. However, when the social presence was further away, the perceived similarity between the social presence and the consumer was not expected to influence how happy consumers felt. Consistent with the hypothesis, an ANOVA with proximity and perceived similarity as

independent variables and happiness as the dependent variable revealed a significant interaction (F (1, 88) = 5.84, p < .05, ω^2 = .05; means: close and similar = 5.01 (sd = .79), close and dissimilar = 4.26 (sd = 1.20), far and similar = 4.68 (sd = 1.17), far and dissimilar = 5.02 (sd = 1.06)) (Table 7-6 and Figure 7-1). A simple effects test showed that, as predicted, participants were happier when there was a similar social presence in close proximity as compared to when the social presence was perceived to be dissimilar (t (43) = 2.46, p < .05) (Table 7-7). Thus, they appeared to enjoy the presence of a similar close other more than someone who was dressed differently.

A second simple effects test indicated that, as expected, when the social presence was located further away, there was no significant difference in the intensity of happiness consumers experienced regardless of the social presence's perceived similarity to the consumers (t (42) = -1.02, p > .20). Stated differently, participants reported feeling the same intensity of happiness when the social presence was further away regardless of whether the social presence was perceived to be similar or dissimilar.

Finally, to provide a comprehensive reporting of the impact of proximity and perceived similarity on the intensity of happiness, two more simple effects were conducted. Results indicated that participants did not experience different intensities of happiness when the social presence was perceived to be similar and was close as opposed to further away (t (41) = 1.10, p > .20). Although, more happiness was experienced when a dissimilar social presence was further away as compared to when it was close by (t (44) = -2.28, p < .05). This finding is not surprising given that the consumers did not appear to feel good when a dissimilar social presence was close to them as compared to a similar other.

In an effort to replicate the results of the earlier studies, a control group was added to the design. An independent-samples t-test was then conducted that compared the control group means to the similar close condition means (the same condition that was used in both Study One and Study Two) for happiness. Results of the t-test indicated that consumers were happier when the similar social presence was within close proximity as compared to when a social presence did not exist ($t (41) = 3.15$, $p < .01$; control group mean = 4.15 (sd = .96)) (Table 7-8). This finding is consistent with earlier results and indicates the robustness of the finding.

In Chapter Three it was suggested that consumers would be happier when there was a social presence that was close and similar because as social beings, we like the presence of others who share common characteristics. To determine the extent to which consumers' reactions to a social presence mediated the above-mentioned findings, additional analysis was conducted. Following the procedure outlined in Baron and Kenny (1986), results indicated that the first condition for mediation was met. An ANOVA with proximity and perceived similarity as independent variables and happiness as the dependent variable revealed a significant interaction ($F (1, 88) = 5.84$ $p < .05$) (Table 7-9a). To test the second condition, another ANOVA was conducted with proximity and perceived similarity as the independent variables and the mediator, consumers' reactions to the social presence, as the dependent variable. Results of this analysis produced a significant interaction as well ($F (1, 88) = 4.09$, $p < 05$) (Table 7-9b); therefore, the second condition for mediation was satisfied. Finally, the last test provided evidence for mediation because the inclusion of consumers' reactions to the social presence as a covariate was a significant predictor of happiness ($F (1, 88) = 5.72$, p

< .05), whereas the significant interaction between proximity and perceived similarity disappeared (F (1, 88) = 3.66, p < .60) (Table 7-9c) (Figure 7-2). Therefore, it appears that consumers' reaction to the social presence mediates the relationship between social presence characteristics and happiness.

Certainty. The second positive emotion of interest was certainty. This emotion was expected to produce similar findings as those for happiness. In an ANOVA that tested the impact of proximity and perceived similarity on certainty, a similar interaction to the one described for happiness occurred (F (1, 88) = 6.58, p < .05, ω^2 = .06; means: close and similar = 5.59 (sd = 1.02), close and dissimilar = 4.70 (sd = 1.37), far and similar = 4.94 (sd = 1.13), far and dissimilar = 5.30 (sd = 1.06)) (Table 7-10 and Figure 7-3). Again consistent with H10, the results of a simple effects test indicated that participants felt marginally more certain when the social presence was close and similar as compared to when it was dissimilar (t (43) = 1.80, p < .08) (Table 7-11). Therefore, it can be said that the close presence of someone who appears different from the consumer creates a sense of uncertainty.

In contrast, a second simple effects test showed that when the social presence was further away, perceived similarity had a marginal impact on certainty (t (42) = -1.84, p < .08). Thus, when the social presence is dressed differently than the consumer but is located further away, consumers experienced slightly more certainty than when the social presence is dressed in a similar way.

The remaining two simple effects tests were also conducted. The results of the first test indicated that participants experienced more certainty when the social presence was close and similar as compared to when it was further away (t (41) = 2.72, p < .01). It

appears that a similar close social presence increases one's confidence more than if the social presence is not close by. The second simple effects test demonstrated that proximity did not appear to matter when the social presence was dissimilar (t (44) = -1.01, p > .05). In other words, regardless of whether a dissimilar social presence was close to the consumer or further away, the consumer still experienced the same level of certainty.

Again, in an effort to replicate the findings from the earlier studies, the control group was compared to the close similar social presence condition to determine whether or not the two conditions elicited significantly different amounts of certainty. Results of an independent-samples t-test revealed that consumers reported experiencing significantly more intense certainty when in the presence of another person as compared to when they were by themselves (i.e., no social presence; t (41) = 3.13, p < .01; control group mean = 4.49 (sd = 1.21)) (Table 7-12). As with happiness, this finding is consistent with the findings from Study One and Study Two.

Finally, although no hypothesis was forwarded, when gender was included in an ANOVA with proximity and social size, it produced a main effect (F (1, 88) = 7.17, p < .01; means: females = 4.94, males = 5.52). These results demonstrate that males felt more certain when there was a social presence as compared to females.

Annoyance. H11 predicted that consumers would experience more intense annoyance when they were in close proximity to a dissimilar social presence as compared to a similar social presence, but when the social presence was further away, similarity was not expected to influence their intensity of annoyance. To test this hypothesis, an ANOVA with proximity and perceived similarity as the independent variables, and

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annoyance as the dependent variable was conducted. Consistent with expectations, the results produced an interaction between proximity and perceived similarity (F (1, 88) = 5.85 $p < .05$, $\omega^2 = .05$; means: close and similar = 1.25 (sd = .67), close and dissimilar = 1.72 (sd = .95), far and similar = 1.48 (sd = 1.13), far and dissimilar = 1.17 (sd = 1.06)) (Table 7-13 and Figure 7-4). To gain a better understanding of the interaction, a simple effects test was conducted to test the means for the two close proximity conditions. The results of this analysis indicated that, as predicted, consumers were marginally more annoyed when a dissimilar social presence was in close proximity as compared to when a similar presence was close by (t (43) = -1.90, $p = .06$) (Table 7-14).

A second simple effects test was conducted to determine the impact that a social presence has on consumers' emotions when it is further away but varies in perceived similarity. The results of this test showed that when the social presence was eight feet away, the perceived similarity of the social presence did not influence how annoyed participants felt (t (42) = 1.51, $p > .10$). Thus, consistent with expectations, consumers appear to experience the same level of annoyance when the social presence is further away regardless of whether it is perceived to be similar or dissimilar to the consumer.

The remaining two simple effects were also conducted to provide a comprehensive summary of the results. The findings of the first test indicated that consumers were more annoyed when the social presence was dissimilar and in close proximity as compared to when it was further away (t (44) = 2.59, $p < .05$). It appears that consumers do not appear to enjoy the presence of a close dissimilar other. Finally, the findings from the second test demonstrated that when the social presence was similar, consumers experienced the same intensity of annoyance regardless of the proximity (t

(41) = -.94, p > .20). This suggests that regardless of whether the social presence was next to the consumer or further down the aisle, when the social presence was perceived to be similar, consumers experienced the same intensity of annoyance.

Additional analysis was again conducted to determine whether or not the pattern of means for annoyance replicated that of Studies One and Two. This led to the control group condition being compared to the similar close social presence condition in an independent-samples t-test. Results of this analysis demonstrated that consumers reported feeling more annoyed when a social presence did not exist versus when someone else was present (t (41) = -3.26, p = .01; control group mean = 2.00 (sd = .84)) (Table 7-15). This finding is consistent with the results from the earlier studies.

Chapter Three proposed that consumers would experience less intense negative emotions when there was a social presence that was close and similar because people would like the presence of similar others and be attracted to those who share common characteristics. Mediation analysis was conducted to determine if consumers' reactions to a social presence mediated the above-mentioned findings. Again following the procedure outlined in Baron and Kenny (1986), the first condition for mediation was met because an ANOVA with proximity and perceived similarity as independent variables and annoyance as the dependent variable revealed a significant interaction (F (1, 88) = 5.85 p < .05) (Table 7-16a). The second condition for mediation was also satisfied because the independent variables, proximity and perceived similarity, interacted to influence consumers' reactions to the social presence (F (1, 88) = 4.09, p < 05) (Table 7-16b). The last test for mediation was also successful and suggests the presence of mediation. The inclusion of consumers' reactions to the social presence as a covariate

was a significant predictor of annoyance (F (1, 88) = 4.09, p < .05), whereas the significant interaction between proximity and perceived similarity disappeared (F (1, 88) = 3.02, p < .10) (Table 7-16c) (Figure 7-5). It appears that consumers' reactions to the social presence mediated the relationship between social presence characteristics and annoyance.

Anxiety. The second negative emotion that was investigated in this study was anxiety. Similar to annoyance, proximity was expected to moderate perceived similarity. Stated differently, when the social presence was close by, consumers were expected to report more anxiety when the social presence was dissimilar as compared to similar, but when the social presence was further away the perceived similarity of the social presence would not influence consumers' anxiety. As expected, an ANOVA that tested the impact of proximity and perceived similarity on anxiety produced the hypothesized interaction (F (1, 86) = 4.55, p < .05, ω^2 = .04; means: close and similar = 2.13 (sd = 1.38), close and dissimilar = 3.16 (sd = 1.44), far and similar = 2.39 (sd = 1.27), far and dissimilar = 2.32 (sd = 1.23)) (Table 7-17 and Figure 7-6). Simple effects tests produced the same pattern of results for anxiety as for annoyance and lend some support to H11. The results of the first simple effects test indicated that when the social presence was close, participants experienced more anxiety when they perceived the social presence to be dissimilar as compared to when they perceive it to be similar (t (42) = -2.47, p < .05) (Table 7-18).

Additional support for the hypothesized moderation was also found in a second simple effects test which indicated that when the social presence was located further away, the intensity of consumers' anxiety was not influenced by perceived similarity (t (41) = .51, p > .20). In other words, the same level of anxiety was experienced when the

social presence was perceived to be similar or dissimilar when the social presence was located eight feet away. This finding is consistent with the results for the other emotions.

Two final simple effects tests were conducted to provide a full analysis of the significant interaction. Results showed that participants experienced more anxiety when the social presence was dissimilar and close than when the dissimilar social presence was further away (t (42) = 2.03, $p < .05$). However, when the social presence was similar, consumers' anxiety did not differ when the social presence was close versus further away (t (41) = -.96, $p > .20$). Both of these produced the same pattern as those for annoyance.

As with the other emotions, a comparison of the control condition to the similar, close social presence was conducted to determine whether the results from Study One and Study Two were robust. An independent-samples t-test was conducted and results indicated that consumers experienced marginally more anxiety when in the shopping aisle alone (i.e., in the control group) as compared to when someone else was present (t (41) = -1.96, $p < .06$; control group mean = 3.06 (sd = 1.31)) (Table 7-19). This finding is consistent with the results of both of the earlier studies.

Gender was again included in the analysis and produced a main effect (F (1, 86) = 5.02, $p < .05$; means: females = 2.90, males = 2.35) where females felt significantly more anxious than males when there was a social presence.

Feelings of Time Pressure. The last emotion that was investigated in this study was the extent to which the social presence caused the consumer to feel pressed for time. Although no formal hypotheses were forwarded regarding consumers' feelings of time pressure, this emotion was assessed to determine whether it might serve as a potential mediator of the other emotions and the cognitive and behavioural measures. An

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ANOVA was conducted with proximity and perceived similarity as the independent variables and how pressed for time consumers felt when making a purchase decision as the dependent variable. Results of the analysis indicated that neither variable was a significant predictor of time pressure (F (1, 88) = .41, p > .20) (Table 7-20). Therefore, this variable will not be used at a later time as a potential mediator of the other outcomes.

In summary, the findings for the emotions consumers experience when the social presence varies in proximity and perceived similarity were consistent with the predictions forwarded in H10 and H11. In other words, proximity moderates the impact of perceived similarity. The results show that the intensity of both positive emotions was greatest when the social presence was close and was similar as opposed to dissimilar, whereas the most intense negative emotions occurred when a close social presence was perceived to be dissimilar rather than similar. However, when the social presence was further away the perceived similarity of the social presence did not influence the intensity of any of the emotions that consumers experienced. In addition, the inclusion of the control group into the analysis produced a pattern of results for all four emotions that was consistent with the findings in Study One and demonstrates the robustness of the results. To recap, consumers experienced more positive emotions when in the presence of a close similar social presence as compared to when no one else was present. In contrast, more intense negative emotions were experienced when no one was present versus a close similar presence. Finally, the impact of social presence characteristics on both happiness and annoyance was mediated by their reactions to the social presence.

Cognition

Recall of Product Display Information. As mentioned in Chapter Three, no

hypotheses were forwarded for cognitive performance because previous research has

produced mixed results. Findings from the literature on SIT would lead one to predict

that cognitive performance would become more impaired when the social presence is

similar, whereas literature on distraction would predict that one should perform worse

when the social presence is dissimilar. An ANOVA, with proximity and perceived

similarity as the independent variables and the amount of information that consumers

recall about the product display as the dependent variable, produced an interaction

between the two independent variables ($F (1, 88) = 5.79$, $p < .05$, $\omega^2 = .05$; means: close

and similar = 2.95 (sd = 1.36), close and dissimilar = 2.00 (sd = 1.45), far and similar =

2.57 (sd = 1.42), far and dissimilar = 3.26 (sd = 2.03)) (Table 7-21 and Figure 7-7). A

simple effects test indicated that participants were able to recall more information about

the product display (i.e., they performed better on the recall task) when they were in close

proximity to a similar social presence as compared to a dissimilar social presence ($t (43)$

$= 2.28$, $p < .05$) (Table 7-22). Stated differently, a dissimilar social presence impaired

consumers' ability to recall information about the product display more than the presence

of a similar other. This finding is consistent with the distraction literature and

inconsistent with SIT.

Another simple effects test was conducted to determine whether the perceived

similarity of a social presence influenced recall when the social presence was further

away. Results indicated that when the social presence was further away, consumers'

cognitive performance did not differ when the social presence was similar or dissimilar (t

(41) = 1.04, p > .20). The result is consistent with the findings in Study Two that when a social presence is further away, the characteristics of the social presence do not appear to influence consumers differently.

To provide a complete review of the results, the two remaining simple effects were conducted. While the first of these two tests indicated that consumers were able to recall more information about the product display when a dissimilar presence was situated further away as compared to next to the participant (t (44) = 2.43, p < .05), the second test demonstrated that this impairment does not carry over when a similar social presence is present. The results of the second test showed that when the social presence was similar, consumers' recall of the product display information did not differ when the social presence was close as opposed to further away (t (40) = .59, p > .20). These tests provide additional support to the suggestion that a close dissimilar other distracts the consumer which in turn impairs consumers' recall performance.

In Study One, the results for cognition showed that consumers recalled more information about the product display when no one was around as compared to if another person was present. In Study Two, however, this difference did not exist (i.e., consumers recalled the same amount of information in the two conditions). The explanation that was forwarded in Study Two to justify the conflicting findings was based on the idea that the retail outlet, in which the second field experiment was conducted, created a slightly different type of environment (i.e., it was smaller and there was less traffic in the store) and this influenced recall. In an effort to determine whether or not the store is a viable justification for the inconsistent findings between the earlier studies, in the present study, which used the same store as in Study Two, the control group was again compared to the

similar and close social presence. The results of an independent-samples t-test determined that the two conditions were not significantly different (t (41) = -.50, p > .20; control group mean = 3.19 (sd = 1.83)) (Table 7-23). The amount of information consumers could recall about the product display was the same when there was either no one present or a similar close social presence existed. The replication of Study Two's pattern lends support to the notion that the different store environments may explain the contrary findings from Study One.

In Chapter Three the theoretical support for the impact of a social presence on consumers' ability to recall information was based primarily on the idea of distraction. The distraction literature suggests that consumers should perform worse on a cognitive task when there is a social presence because it would distract them and make it difficult for them to process all of the information that is presented in the product display. To determine whether distraction is the mechanism that explains why consumers performed worse on a cognitive task when a dissimilar as compared to a similar social presence, mediation analysis was conducted. First, an ANOVA with the amount of information that consumers recalled about the product display as the dependent variable and proximity and perceived similarity as the independent variables produced a significant interaction (F (1, 88) = 5.79, p < .05) (Table 7-24a); the first condition for mediation was present. Using the measure for distraction, the second condition was tested. This test was also successful because both proximity and the interaction term significantly impacted the extent to which consumers felt distracted (proximity: F (1, 88) = 8.05, p < .01; interaction: F (1, 88) = 4.87, p < .05) (Table 7-24b). Finally, conducting an ANOVA using proximity and perceived similarity as the independent variables, distraction as the

covariate, and total recall as the dependent variable, the third condition was also tested. Complete support for mediation was found for the third condition because although distraction significantly impacted total recall (F (1, 88) = 13.41, p < .001), the interaction between the two independent variables and the main effect for proximity lost their influence (interaction: F (1, 88) = 2.73, p > .10; proximity: F (1, 88) = .06, p > .20) (Table 7-24c) (Figure 7-8). Distraction appears to mediate social presence characteristics on consumers' ability to recall information about the product display.

As in Study Two, consumers' recall about the product display is influenced by a social presence. Further, consistent with the literature on distraction the results indicated that a dissimilar social presence had the most negative impact on cognition. Finally, as in Study Two, mediation analysis demonstrated that distraction mediates the relationship between social presence characteristics and cognition.

Behaviours

Brand Selection. H12 predicted that consumers would be more likely to monitor self-presentation behaviours when a close social presence was perceived to be similar as compared to dissimilar but, when the social presence was further away, its perceived similarity to the consumer would not influence consumers' behaviours. The self-presentation behaviour that was studied in this experiment was brand selection. It was expected that consumers would be more likely to select an expensive/higher quality brand when the social presence was close and similar as opposed to dissimilar; however, when the social presence was further away, brand selection was not expected to be influenced by the perceived similarity between the social presence and the consumer. Ordinal regression analysis was conducted to test the influences of the social presence

characteristics on brand selection with brand as the dependent variable, and proximity, perceived similarity, and their interaction term as predictor variables (Aiken and West 1993). The results of the ordinal regression are shown in Table 7-25 and indicate that proximity and perceived similarity interacted to predict which brand consumers would purchase ($\beta = -2.94$, Wald $= 8.02$, $p < .01$) (Figure 7-9).

To analyze the interaction, a simple regression test was conducted. This test indicated that, consistent with expectations, perceived similarity influenced brand selection when the social presence was in close proximity ($\beta = 1.78$, Wald $= 4.28$, $p < .05$) (Table 7-26). However, an examination of the frequencies with which brands were selected indicated that, counter to predictions, consumers purchased the more expensive/higher quality brands when the social presence was dissimilar as opposed to similar. This finding will be elaborated upon in the discussion. Further, counter to expectations, a second simple effects test indicated that when the social presence was further away, perceived similarity did influence brand selection. Specifically, when the social presence was further away, the consumers purchased the cheaper/lower quality batteries more when there was a dissimilar social presence as compared to one that was similar ($\beta = -1.16$, Wald $= 3.94$, $p < .05$)

Finally, additional simple regression tests indicated that when the social presence was perceived to be dissimilar, their distance from the participant predicted brand selection ($\beta = -2.85$, Wald $= 11.12$, $p = .001$). When the dissimilar social presence was close, the consumers purchased the better quality alternative as compared to when the social presence was further away. In contrast, brand selection was not influenced for proximity when the social presence was similar ($\beta = -0.23$, Wald $= .15$, $p > .20$).

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Chi-square analysis was next conducted to determine whether the results from Study One and Study Two were robust. In this analysis, the brand selection of those consumers in the control group was compared to the brand selection of the consumers in the similar and close social presence condition. Results of the analysis indicated that the brand of batteries that consumers chose was significantly associated with the presence or absence of a social influence (χ^2 (2) =8.24, p < .05) (Table 7-27). Analyzing the different number of brands selected for the two conditions indicated that when no one was present, consumers purchased the lower quality brand more often than when there was a close and similar social presence (Table 7-28). This is consistent with earlier results.

In the discussion section of Study One it was proposed that consumers' motivations for brand selection could be either for impression management reasons or because of the difficulties consumers had in processing information (i.e., the presence of another person distracts the consumer and as a result the consumer relies on simple heuristic processing; hence the purchase of a brand name/high quality option). In Study Two this proposition was tested and the results indicated that distraction was not a driver for brand selection when the social presence characteristics involved social size and proximity. However, given the counterintuitive findings of the present study (i.e., consumers purchase the most expensive brand when a dissimilar social presence exists as opposed to a similar social presence), mediation analysis was again conducted to determine whether the dissimilar social presence distracted the consumer. Results of an ordinal regression indicated earlier that proximity and perceived similarity interacted to predict which brand consumers would purchase (β = -2.94, Wald = 8.02, p < .01) (Table 7-29a), which supports the first condition in mediation analysis. The second condition

was also satisfied because a significant interaction between the two social characteristics (F (1, 88) = 4.87, p < .05) (Table 7-29b) and a main effect for proximity (F (1, 88) = 8.05, p < .01) influenced distraction. The final condition that must be met to indicate the presence of a significant mediator is that the inclusion of the mediator (distraction) as a covariate must significantly predict the dependent variable (brand selection) while reducing the significant influence of the independent variables (proximity and perceived similarity) and/or their interaction term. A second ordinal regression was conducted to assess this condition. The results indicated that distraction was not a significant mediator of brand selection. The inclusion of distraction was not a significant predictor of brand selection (β = .09, Wald = .15, p > .20) while the interaction between proximity and perceived similarity remained significant (β = -2.93, Wald = 7.66, p < .01) (Table 7-29c) (Figure 7-10). Therefore, as in Study Two, brand selection appears to be a measure of consumers' motivation to manage self-presentation behaviours and not distraction.

Finally, additional mediation analysis was conducted to determine if emotions or cognition drove the impact of social presence characteristics on brand selection. The results of this analysis were not significant.

Time. As in Study Two, three different times were assessed which included total time, pre-brand selection time, and post-brand selection time. To correct for a positive skew that was present in the data (skewness: Total Time = 1.34, Pre-Selection Time = 1.62, Post-Selection Time = 1.80), prior to the analysis of the time data the variance was normalized using a reciprocal transformation (Darke and Freedman 1993). Next, three separate ANOVAs were conducted for each transformed time measure to assess the influence of proximity and perceived similarity.

The first ANOVA used proximity and perceived similarity as independent variables and total time spent in the aisle as the dependent variable. Results of this analysis produced a marginally significant main effect for proximity ($F (1, 76) = 3.00$, p $< .09$, $\omega^2 = .03$; means (transformed): close = 6.97E-02 seconds (sd = .14), far = 3.03E-02 seconds (sd = 2.50E-02)) (Table 7-30 and Figure 7-11). Participants spent significantly more total time in the aisle when the social presence was located near them as compared to when it was further away.

The total time that was spent in the aisle by those consumers who were in the control group was then compared to those consumers in the similar, close condition. Consistent with the two earlier studies, the results indicated that the total amount of time consumers spent in the aisle did not differ in absence of a social presence as compared to when there was a close and similar presence ($t (38) = .74$, p $> .20$) (Table 7-31).

Analysis was also conducted to determine whether the total amount of time that participants spent in the aisle impacted the amount of information participants could recall about the product display. The idea behind this analysis was that, as in the earlier studies, time in the aisle could impact the amount of information consumers' could recall. Following the same procedure as in the other studies, a median split was conducted on the transformed time data to create a short time and a long time condition. A one-way ANOVA was then conducted with the time data serving as the independent variable and the amount of information participants recalled as the dependent variable. Similar to both Study One and Study Two, results indicated that when consumers spent the least amount of time total in the aisle they were able to recall the most amount of information presented in the product display ($F (1, 65) = 4.24$, p $< .05$, $\omega^2 = .02$; means: short time =

3.18 (sd = 1.80), long time = 2.29 (sd = 1.66)) (Table 7-32). The fact that participants were recalling more when they were in the aisle for a shorter period of time suggests that when more time is spent in the aisle individuals are not devoting the extra time to the display per se.

The second time measure that was observed in this study was the pre-brand selection time. This measure represents the amount of time that the participant spends in the aisle prior to choosing a brand of batteries. An ANOVA for this dependent variable with proximity and perceived similarity as the independent variables also produced a significant main effect for proximity (F (1, 76) = 6.39, p < .05, ω^2 = .07; means (transformed): close = 9.88E-02 seconds (sd = .17), far = 3.57E-02 seconds (sd = 2.55E-02)) (Table 7-33 and Figure 7-12). Similar to the finding for total time, this analysis indicated that more time was spent in the aisle before the brand was selected when the social presence was close by as compared to when it was further away.

Finally, the last time that was measured was the post-brand selection time. This time measure referred to the amount of time that consumers remained in the aisle after making their brand selection. An ANOVA of this dependent variable produced a marginally significant main effect for perceived similarity (F (1, 77) = 3.03, p < .10, ω^2 = .03; means (transformed): similar = .16 seconds (sd = .20), dissimilar = 9.50E-02 seconds (sd = .12)) (Table 7-34 and Figure 7-13). Therefore, more time was spent in the aisle after the brand selection when the social presence was perceived to be similar as compared to when it is perceived to be dissimilar.

In summary, as in the other two studies, it appears that a social presence influence consumers' behaviours. Further, consumers are more likely to monitor their non-verbal

self-presentation behaviours when they perceive the social presence to be similar to them as opposed to dissimilar.

VI. Discussion

The primary objective of the third field experiment was to assess the impact of proximity and perceived similarity on emotions, cognition, and behaviours. Overall, the results from this study demonstrated that the proximity of a social presence moderated the impact of its perceived similarity. The perceived similarity of the social presence influenced how a consumer thought, felt, and behaved when the social presence was in close proximity to the consumer but when the social presence was further away, its perceived similarity did not appear to matter. The results from the analysis on emotions indicated that consumers experienced the most intense positive emotions when a similar social presence was close as opposed to one that was dissimilar, whereas the most intense negative emotions occurred when a dissimilar social presence was close to the consumer. However, when the social presence was further away the perceived similarity of the social presence did not influence the emotions that consumers experienced. Furthermore, the inclusion of the control group into the analysis produced a pattern of results for all four emotions that was consistent with the findings from the earlier two studies which suggests the results for emotions are robust. Finally, additional analysis indicated that the relationship between social presence characteristics and emotions was mediated by consumers' reactions to the social presence.

As predicted, the results from the analysis on cognition demonstrated that a social presence influenced the amount of information consumers could recall about the product display. The results indicated that a close dissimilar social presence had the most

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negative impact on the amount of information that consumers could recall. Further, a comparison between the control group and the similar, close social presence condition produced the same pattern to that found in Study Two. In particular, consumers recalled the same amount of information when there was a small social presence as compared to when no one else was present. Finally, mediation analysis was conducted to establish whether or not distraction, as suggested by the literature, influenced the relationship between social presence characteristics and the amount of information that was recalled. Results of this analysis provided support for the hypothesis that distraction is in fact the mechanism that drove the relationship between social presence characteristics and recall.

Although, the majority of the results from this experiment were consistent with expectations, one significant finding that was not in line with predictions was the brand consumers selected when there was a social presence. It was predicted that consumers would be most likely to monitor their self-presentation behaviours by purchasing the most expensive/brand name battery when there was a similar and close social presence as opposed to one that was dissimilar, but that when the social presence was further away its perceived similarity would not influence brand selection. As the results demonstrated, when a social presence was close, consumers purchased the most expensive/best quality brand more when the social presence was dissimilar as opposed to similar. One explanation for why they choose the most expensive/brand name alternative was because the dissimilar social presence was distracting so they relied on cues to make their decision. However, results of mediation analysis found that distraction does not in fact influence brand selection. There is at least one other potential explanation that may provide insight into this finding, although it was not tested in the present dissertation.

Following the reference group literature, one could argue that the dissimilar other was a member of a dissociative group, which is a group that an individual does not want to belong to. Consumers might have purchased more expensive/brand name products because they may have thought that the dissimilar other would be more likely to choose the cheaper alternative and since they did not want to be like the dissimilar other, they may have chosen to spend more money. This finding deserves attention in future research endeavours.

Table 7-1

Factor Analysis of Emotion Items

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.21	28.92	28.92	3.20	17.79	17.79
2	2.93	16.27	45.18	2.80	15.58	33.37
3	1.71	9.48	54.66	2.67	14.81	48.18
4	1.29	7.14	61.81	2.13	11.84	60.02
5	1.08	6.02	67.83	1.41	7.81	67.83
6	.82	4.56	72.39			
7	.73	4.04	76.42			
8	.71	3.92	80.34			
9	.62	3.42	83.77			
10	.55	3.07	86.84			
11	.42	2.31	89.15			
12	.40	2.23	91.37			
13	.35	1.96	93.33			
14	.32	1.76	95.09			
15	.29	1.60	96.69			
16	.24	1.33	98.02			
17	.21	1.19	99.20			
18	.14	.80	100.00			

Table 7-1 Continued

Varimax Rotated Component Matrix

	Component				
	1	2	3	4	5
Anxious	.64	.30	9.34E-02	-.33	8.06E-02
Certain	-.11	4.86E-02	-3.01E-02	.65	-.29
Hurried	.120	-2.70E-02	.88	-7.55E-02	3.76E-02
Happy	-2.81E-02	.76	-7.32E-02	.22	-8.44E-02
Uneasy	.67	8.50E-02	8.79E-02	-.40	.35
Frustrated	-2.54E-02	.19	.13	-.23	.79
Good	-7.19E-03	.51	-.15	.33	-8.95E-02
Sure	-.13	.37	-.19	.74	9.97E-02
Uncomfortable	.74	-.12	-1.87E-02	.22	-3.94E-02
Nervous	.76	9.56E-02	.22	-.22	9.33E-02
Self-conscious	.71	2.49E-02	.29	-.28	-1.17E-02
Excited	7.88E-02	.81	8.12E-02	9.48E-02	9.94E-02
Annoyed	.27	-.36	5.95E-03	5.71E-02	.71
Pressured	.15	-1.26E-02	.81	-.18	2.01E-02
Interested	7.36E-02	.87	4.33E-03	-2.11E-02	-9.16E-03
Awkward	.64	-.15	.52	-4.85E-02	.12
Confident	-.34	.34	-.13	.68	-2.39E-02
Rushed	.17	-2.05E-02	.84	-3.12E-02	8.02E-02

Table 7-2

Coding Reliability

Behaviour	Reliability (%)
Brand	100

Table 7-3

Analysis of Variance for Proximity Manipulation Check

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Perceived Similarity	2.34E-03	1	2.34E-03	.00	.966
Proximity	73.05	1	73.05	57.19	.000
Perceived Similarity * Proximity	1.43E-02	1	1.43E-02	.01	.916
Error	98.36	77	1.28		
Total	720.00	81			
Corrected	172.09	80			

Table 7-4

Analysis of Variance for Perceived Similarity Manipulation Check

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Perceived Similarity	6.47	1	6.47	6.78	.011
Proximity	.22	1	.22	.23	.636
Perceived Similarity * Proximity	.26	1	.26	.27	.605
Error	81.07	85	.95		
Total	900.35	89			
Corrected	88.03	88			

Table 7-5

Means, Standard Deviations, and Cell Sizes

Dependent Variable	Proximity	Perceived Similarity		
		Control	Similar	Dissimilar
Happiness				
	Control	4.18 (.96)[a] {23}[b]		
	Close		5.01 (.79) {22}	4.26 (1.20) {23}
	Far		4.68 (1.17) {21}	5.02 (1.06) {23}
Certainty				
	Control	4.36 (1.21) {23}		
	Close		5.59 (1.02) {22}	4.94 (1.37) {23}
	Far		4.70 (1.13) {21}	5.30 (1.06) {23}
Annoyance				
	Control	2.00 (.84) {23}		
	Close		1.25 (.67) {22}	1.72 (.95) {23}
	Far		1.48 (.90) {21}	1.17 (.32) {23}
Anxiety				
	Control	3.13 (1.31) {23}		
	Close		2.13 (1.38) {22}	3.16 (1.44) {23}
	Far		2.39 (1.27) {21}	2.32 (1.23) {23}

Table 7-5 Continued

Means, Standard Deviations, and Cell Sizes

Information Recalled		Control	Similar	Dissimilar
	Control	3.19 (1.83) {23}		
	Close		2.95 (1.36) {22}	2.00 (1.45) {23}
	Far		2.70 (1.42) {20}	3.26 (2.03) {23}
Total Time (seconds)	Control	3.57E-02 (2.37E-02) {19}		
	Close		3.86E-02 (3.58E-02) {20}	.11 (.25) {25}
	Far		3.08E-02 (3.13E-02) {20}	2.98E-02 (1.94E-02) {22}
Pre-Selection Time (seconds)	Control	4.11E-02 (2.65E-02) {19}		
	Close		6.81E-02 (8.36E-02) {20}	.14 (.25) {22}
	Far		3.58E-02 (3.09E-02) {20}	3.57E-02 (2.01E-02) {22}
Post-Selection Time (seconds)				
	Control	.10 (.15) {19}		
	Close		.18 (.23) {21}	6.67E-02 (9.41E-02) {22}
	Far		.14 (.17) {20}	.11 (.14) {22}

[a] Standard deviations

[b] Cell sizes

Table 7-6

Analysis of Variance for Happiness

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Perceived Similarity	.92	1	.92	.81	.370
Proximity	1.02	1	1.02	.90	.347
Perceived Similarity * Proximity	6.64	1	6.64	5.84	.018
Error	96.63	85	1.14		
Total	2106.38	89			
Corrected	105.43	88			

Means for Happiness

Proximity		Perceived Similarity	
	Control	Similar	Dissimilar
Control	4.18		
Close		5.01	4.26
Far		4.68	5.02

Figure 7-1

Happiness
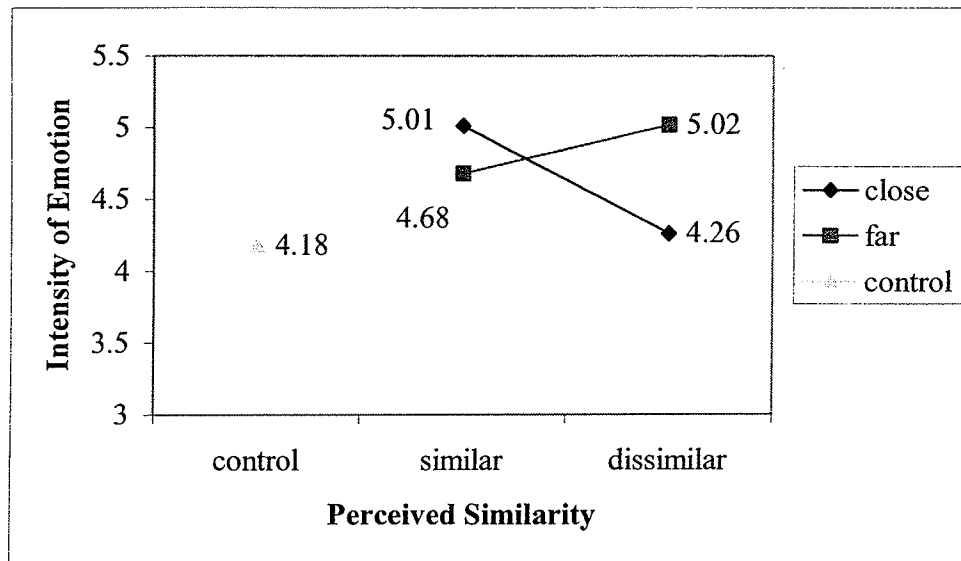
Table 7-7

Simple Effects Tests for Happiness

	t	df	Sig. (2-tailed)
similar close vs. dissimilar close	2.46	43	.018

	t	df	Sig. (2-tailed)
similar close vs. similar far	1.10	41	.278

	t	df	Sig. (2-tailed)
dissimilar close vs. dissimilar far	-2.28	44	.027

	t	df	Sig. (2-tailed)
similar far vs. dissimilar far	-1.02	42	.312

Table 7-8

Independent-Samples T-Tests for Happiness with the Control Group Included

	t	df	Sig. (2-tailed)
control group vs. similar close presence	3.15	41	.01

Table 7-9a

Analysis of Variance for Happiness
Test One for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Perceived Similarity	.92	1	.92	.81	.370
Proximity	1.02	1	1.02	.90	.347
Perceived Similarity * Proximity	6.64	1	6.64	5.84	.018
Error	96.63	85	1.14		
Total	2106.38	89			
Corrected	105.43	88			

Table 7-9b

Analysis of Variance for Reactions to Social Presence
Test Two for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Perceived Similarity	2.35	1	2.35	2.15	.146
Proximity	.19	1	.19	.17	.679
Perceived Similarity * Proximity	4.48	1	4.48	4.09	.046
Error	93.08	85	1.10		
Total	1167.22	89			
Corrected	99.95	88			

Table 7-9c

Analysis of Variance for Happiness
Test Three for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Reactions to a Social Presence	6.16	1	6.16	5.72	.019
Perceived Similarity	1.79	1	1.79	1.66	.201
Proximity	1.25	1	1.25	1.16	.284
Perceived Similarity * Proximity	3.95	1	3.95	3.66	.059
Error	90.47	84	1.08		
Total	2106.38	89			
Corrected	105.43	88			

Figure 7-2

Mediation Analysis for Happiness

Perceived Similarity

Reactions to the
Social Audience

Proximity

F = 4.09

F = 5.72

Perceived Similarity
x Proximity

Happiness

F = 5.34 [3.66]

280
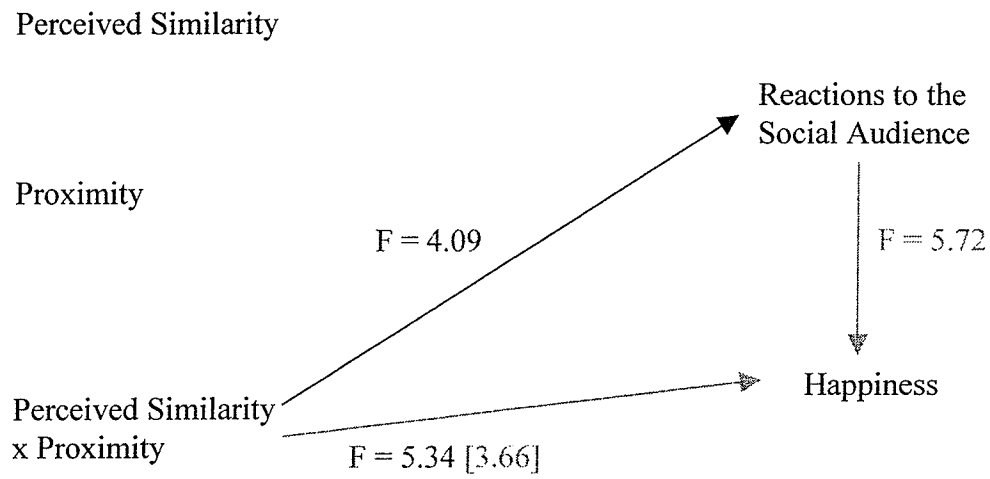
Table 7-10

Analysis of Variance for Certainty

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Perceived Similarity	1.02E-02	1	1.02E-02	.01	.930
Proximity	1.56	1	1.56	1.18	.282
Perceived Similarity * Proximity	8.75	1	8.75	6.58	.012
Error	112.98	85	1.33		
Total	2473.11	89			
Corrected	123.07	88			

Means for Certainty

Proximity		Perceived Similarity	
	Control	Similar	Dissimilar
Control	4.36		
Close		5.59	4.94
Far		4.70	5.30

Figure 7-3

Certainty
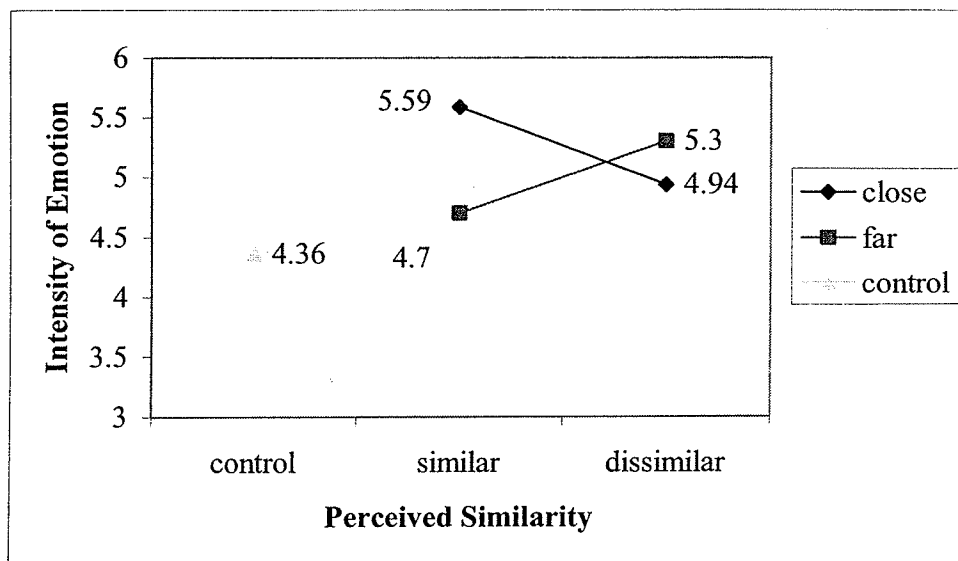
Table 7-11

Simple Effects Tests for Certainty

	t	df	Sig. (2-tailed)
similar close vs. dissimilar close	1.80	43	.079

	t	df	Sig. (2-tailed)
similar close vs. similar far	2.72	41	.009

	t	df	Sig. (2-tailed)
dissimilar close vs. dissimilar far	-1.01	44	.320

	t	df	Sig. (2-tailed)
similar far vs. dissimilar far	-1.84	42	.073

Table 7-12

Independent-Samples T-Tests for Certainty with the Control Group Included

	t	df	Sig. (2-tailed)
control group vs. similar close presence	3.13	41	.01

Table 7-13

Analysis of Variance for Annoyance

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Perceived Similarity	.15	1	.15	.27	.605
Proximity	.56	1	.56	.99	.322
Perceived Similarity * Proximity	3.29	1	3.29	5.85	.018
Error	47.83	85	.56		
Total	227.50	89			
Corrected	51.94	88			

Means for Annoyance

Proximity	Perceived Similarity		
	Control	Similar	Dissimilar
Control	2.00		
Close		1.25	1.72
Far		1.48	1.17

Figure 7-4

Annoyance
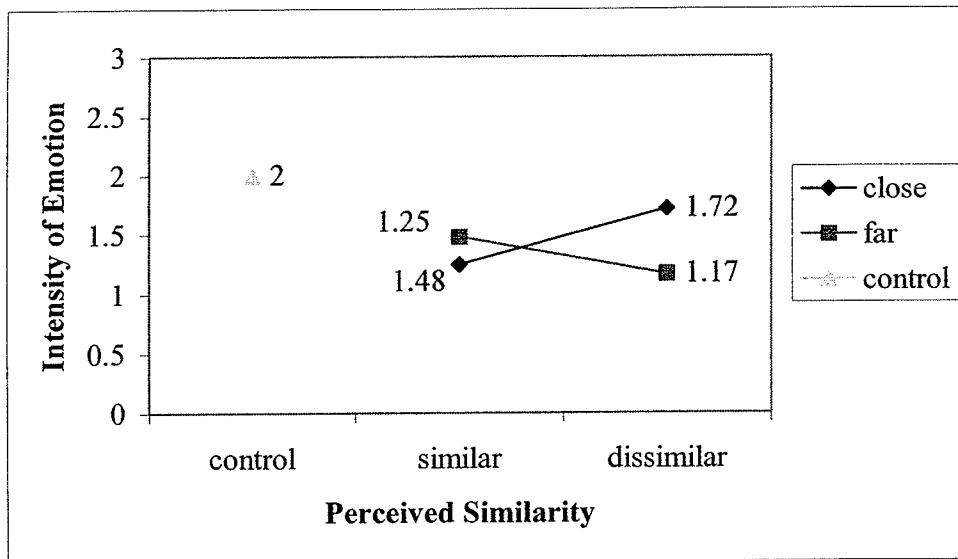
Table 7-14

Simple Effects Tests for Annoyance

	t	df	Sig. (2-tailed)
similar close vs. dissimilar close	-1.90	43	.064

	t	df	Sig. (2-tailed)
similar close vs. similar far	-.94	41	.354

	t	df	Sig. (2-tailed)
dissimilar close vs. dissimilar far	2.59	44	.013

	t	df	Sig. (2-tailed)
similar far vs. dissimilar far	1.51	42	.139

Table 7-15

Independent-Samples T-Tests for Annoyance with the Control Group Included

	t	df	Sig. (2-tailed)
control group vs. similar close presence	-3.26	41	.01

Table 7-16a

Analysis of Variance for Annoyance
Test One for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F- Statistic	Sig
Perceived Similarity	.15	1	.15	.27	.605
Proximity	.56	1	.56	.99	.322
Perceived Similarity * Proximity	3.29	1	3.29	5.85	.018
Error	47.83	85	.56		
Total	227.50	89			
Corrected	51.94	88			

Table 7-16b

Analysis of Variance for Reactions to Social Presence
Test Two for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F- Statistic	Sig
Perceived Similarity	2.35	1	2.35	2.15	.146
Proximity	.19	1	.19	.17	.679
Perceived Similarity * Proximity	4.48	1	4.48	4.09	.046
Error	93.08	85	1.10		
Total	1167.22	89			
Corrected	99.95	88			

Table 7-16c

Analysis of Variance for Annoyance
Test Three for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Reactions to a Social Presence	1.03	1	1.03	4.09	.046
Perceived Similarity	2.21E-02	1	2.21E-02	.09	.768
Proximity	.17	1	.17	.69	.408
Perceived Similarity * Proximity	.76	1	.76	3.02	.086
Error	21.11	84	.25		
Total	174.88	89			
Corrected	23.68	88			

Figure 7-5

Mediation Analysis for Annoyance

Perceived Similarity

Reactions to the
Social Audience

Proximity   F = 4.09

F = 5.72

Perceived Similarity
x Proximity

Annoyance

F = 5.85 [3.02]
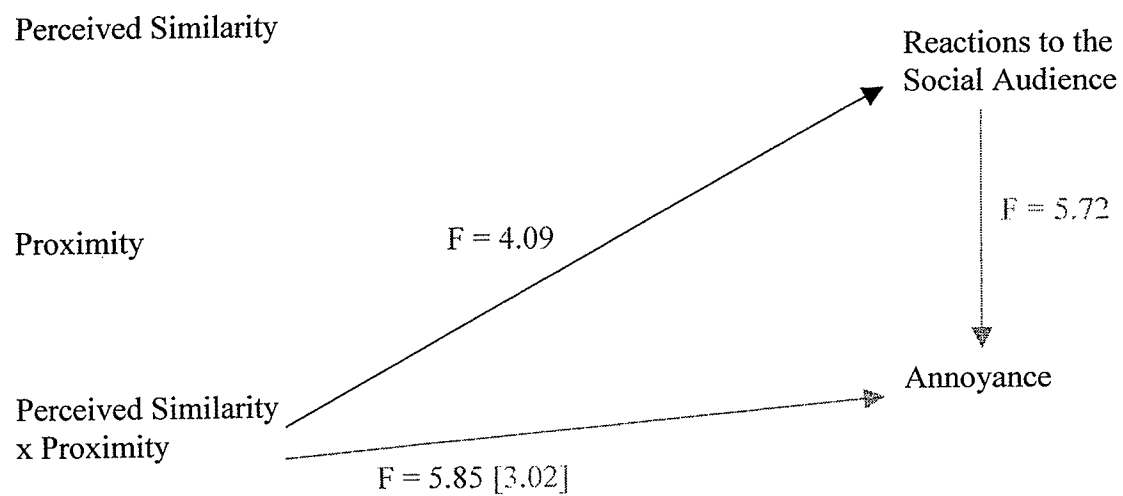
Table 7-17

Analysis of Variance for Anxiety

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Perceived Similarity	3.24	1	3.24	2.04	.157
Proximity	1.04	1	1.04	.66	.420
Perceived Similarity * Proximity	7.22	1	7.22	4.55	.036
Error	131.79	83	1.59		
Total	780.00	87			
Corrected	143.43	86			

Means for Anxiety

Proximity		Perceived Similarity	
	Control	Similar	Dissimilar
Control	3.13		
Close		2.13	3.16
Far		2.39	2.32

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Figure 7-6
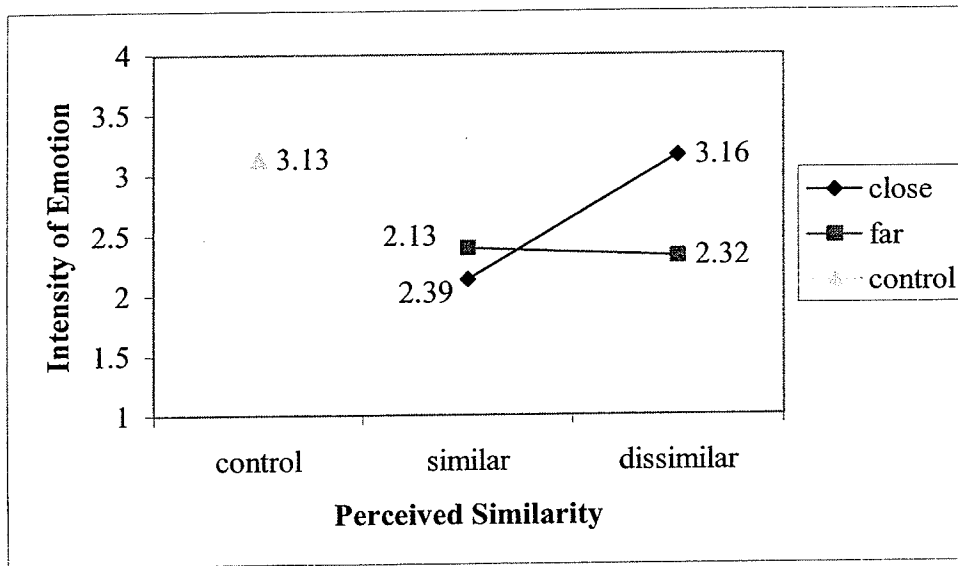
Anxiety

Table 7-18

Simple Effects for Anxiety

	t	df	Sig. (2-tailed)
similar close vs. dissimilar close	-2.47	42	.018

	t	df	Sig. (2-tailed)
similar close vs. similar far	-.96	41	.342

	t	df	Sig. (2-tailed)
dissimilar close vs. dissimilar far	2.03	42	.049

	t	df	Sig. (2-tailed)
similar far vs. dissimilar far	.51	41	.613

Table 7-19

Independent-Samples T-Tests for Certainty with the Control Group Included

	t	df	Sig. (2-tailed)
control group vs. similar close presence	-1.96	41	.057

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Table 7-20

Analysis of Variance for Time Pressure

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Perceived Similarity	9.38E-05	1	9.38E-05	.00	.994
Proximity	2.05E-02	1	2.05E-02	.01	.904
Perceived Similarity * Proximity	.56	1	.58	.41	.526
Error	120.25	85	1.42		
Total	401.33	89			
Corrected	120.84	88			

Table 7-21

Analysis of Variance for Recall of Product Display Information

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Perceived Similarity	.39	1	.39	.15	.699
Proximity	4.28	1	4.28	1.65	.203
Perceived Similarity * Proximity	15.01	1	15.01	5.79	.018
Error	220.53	85	2.59		
Total	888.00	89			
Corrected	240.81	88			

Means for Recall of Product Display Information

Proximity		Perceived Similarity	
	Control	Similar	Dissimilar
Control	3.19		
Close		2.95	2.00
Far		2.70	3.26

Figure 7-7

Recall of Product Display Information
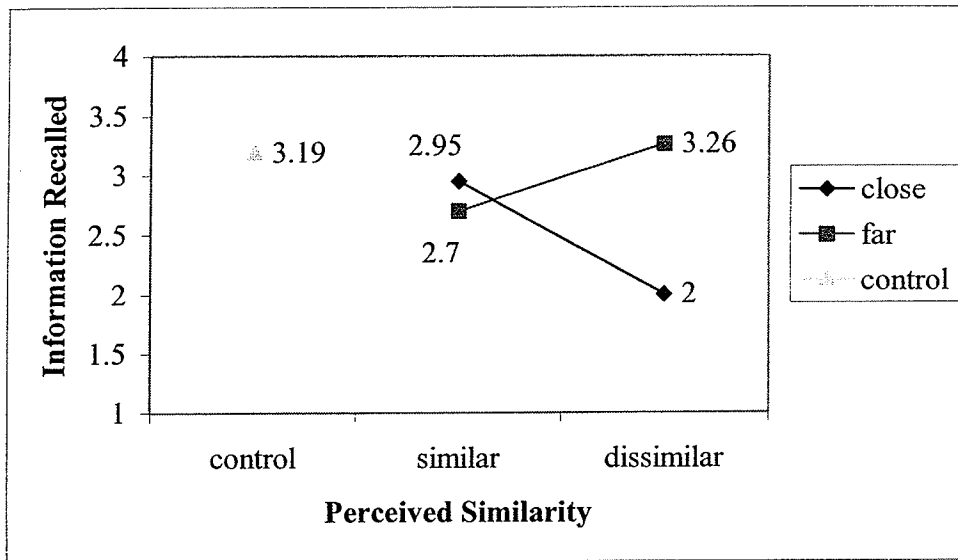
Table 7-22

Simple Effects for Recall of Product Display Information

	t	df	Sig. (2-tailed)
similar close vs. dissimilar close	2.28	43	.028

	t	df	Sig. (2-tailed)
similar close vs. similar far	.59	40	.556

	t	df	Sig. (2-tailed)
dissimilar close vs. dissimilar far	2.43	44	.019

	t	df	Sig. (2-tailed)
similar far vs. dissimilar far	1.04	41	.306

Table 7-23

Independent-Samples T-Tests for Recall of Product Display Information with the Control Group Included

	t	df	Sig. (2-tailed)
control group vs. similar close presence	-.50	41	.623

Table 7-24a

Analysis of Variance for Recall of Product Display Information
Test One for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Perceived Similarity	.39	1	.39	.15	.699
Proximity	4.28	1	4.28	1.65	.203
Perceived Similarity * Proximity	15.01	1	15.01	5.79	.018
Error	220.53	85	2.59		
Total	888.00	89			
Corrected	240.81	88			

Table 7-24b

Analysis of Variance for Distraction
Test Two for Mediation

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Perceived Similarity	2.72	1	2.72	1.20	.276
Proximity	18.20	1	18.20	8.05	.006
Perceived Similarity * Proximity	11.00	1	11.00	4.87	.030
Error	192.22	85	2.26		
Total	1106.00	89			
Corrected	225.10	88			

Table 7-24c

Analysis of Variance for Recall of Product Display Information
Test Three for Mediation Analysis

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Distraction	30.36	1	30.36	13.41	.000
Perceived Similarity	8.98E-04	1	8.98E-04	.00	.984
Proximity	.13	1	.13	.06	.813
Perceived Similarity * Proximity	6.18	1	6.18	2.73	.102
Error	190.18	84	2.26		
Total	888.00	89			
Corrected	240.81	88			

Figure 7-8

Mediation Analysis for Recall of Product Display Information

Perceived Similarity

Distraction

Proximity

F = 8.05

F = 5.72

F = 4.87

Recall

Perceived Similarity
x Proximity

F = 5.79 [2.73]
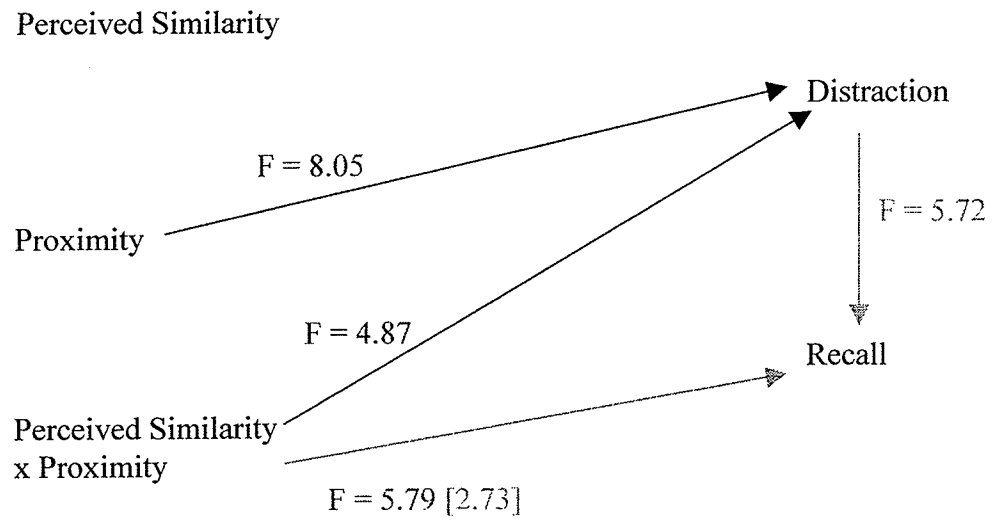
Table 7-25

Ordinal Regression for Self-Presentation Behaviour (Brand Selection)

Source	Estimate	SE	Wald	df	Sig
Perceived Similarity	1.79	.85	4.39	1	.036
Proximity	-.21	.61	.12	1	.729
Perceived Similarity * Proximity	-2.94	1.04	8.02	1	.005

Figure 7-9

Self-Presentation Behaviour (Brand Selection)
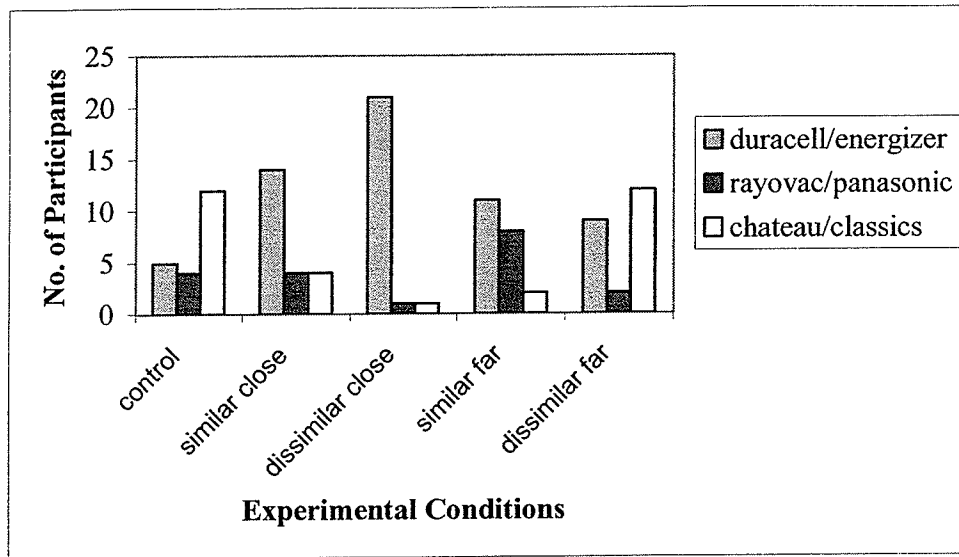
Table 7-26

Simple Regression Tests for Self-Presentation Behaviour (Brand Selection)

Source	Estimate	SE	Wald	df	Sig
dissimilar close vs. dissimilar far	-2.85	.86	11.12	1	.001

Source	Estimate	SE	Wald	df	Sig
similar close vs. similar far	-.23	.60	.15	1	.696

Source	Estimate	SE	Wald	df	Sig
similar far vs. dissimilar far	-1.16	.59	3.94	1	.047

Source	Estimate	SE	Wald	df	Sig
similar close vs. dissimilar close	1.78	.86	4.28	1	.039

Table 7-27

Chi-Square Analysis for Self-Presentation Behaviour with the Control Group Included
(Brand Selection)

	Value	df	Sig. (2-sided)
Pearson Chi-Square	8.24	2	.016

Table 7-28

Self-Presentation Behaviour Frequency with the Control Group Included
(Brand Selection)

Brand	Social Size		Total
	No one present	One person present	
Duracell/Energizer	5	14	19
Rayovac/Panasonic	4	4	8
Chateau/Classics	12	4	16
Total	21	22	43

Table 7-29a

Ordinal Regression for Self-Presentation Behaviour (Brand Selection)
Test One for Mediation

Source	Estimate	SE	Wald	df	Sig
Perceived Similarity	1.79	.85	4.39	1	.036
Proximity	-.21	.61	.12	1	.729
Perceived Similarity * Proximity	-2.94	1.04	8.02	1	.005

Table 7-29b

Analysis of Variance for Distraction
Test Two for Mediation

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Perceived Similarity	2.72	1	2.72	1.20	.276
Proximity	18.20	1	18.20	8.05	.006
Perceived Similarity * Proximity	11.00	1	11.00	4.87	.030
Error	192.22	85	2.26		
Total	1106.00	89			
Corrected	225.10	88			

Table 7-29c

Ordinal Regression for Self-Presentation Behaviour (Brand Selection)
Test Three for Mediation

Source	Estimate	SE	Wald	df	Sig
Distraction	8.90E-03	.15	.00	1	.951
Perceived Similarity	1.78	.87	4.21	1	.040
Proximity	-.21	.61	.12	1	.732
Perceived Similarity * Proximity	-2.93	1.06	7.66	1	.006

Figure 7-10

Mediation Analysis for Self-Presentation Behaviour (Brand Selection)

Perceived Similarity   β = 1.74 [1.78]   Distraction

F = 8.05   β = .09

Proximity

F = 4.87   Brand Selection

Perceived Similarity
x Proximity   β = -2.94 [-2.93]
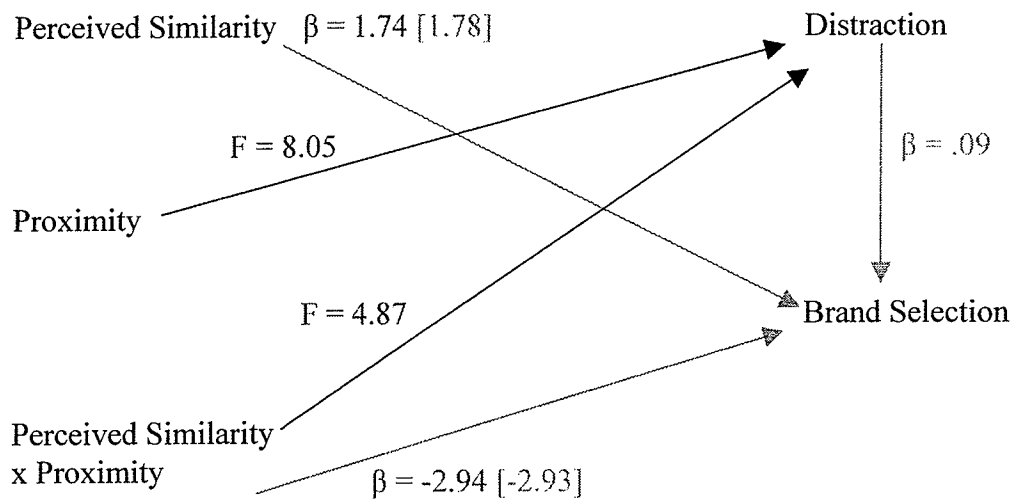
Table 7-30

Analysis of Variance for Total Time Spent in the Aisle

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Perceived Similarity	2.42E-02	1	2.42E-02	1.94	.168
Proximity	3.75E-02	1	3.75E-02	3.00	.087
Perceived Similarity * Proximity	2.54E-02	1	2.54E-02	2.04	.158
Error	.91	73	1.25E-02		
Total	1.17	77			
Corrected	.99	76			

Means for Total Time Spent in the Aisle

Proximity	Perceived Similarity		
	Control	Similar	Dissimilar
Control	3.57E-02		
Close		3.86E-02	.11
Far		3.08E-02	2.98E-02

Figure 7-11

Total Time Spent in the Aisle
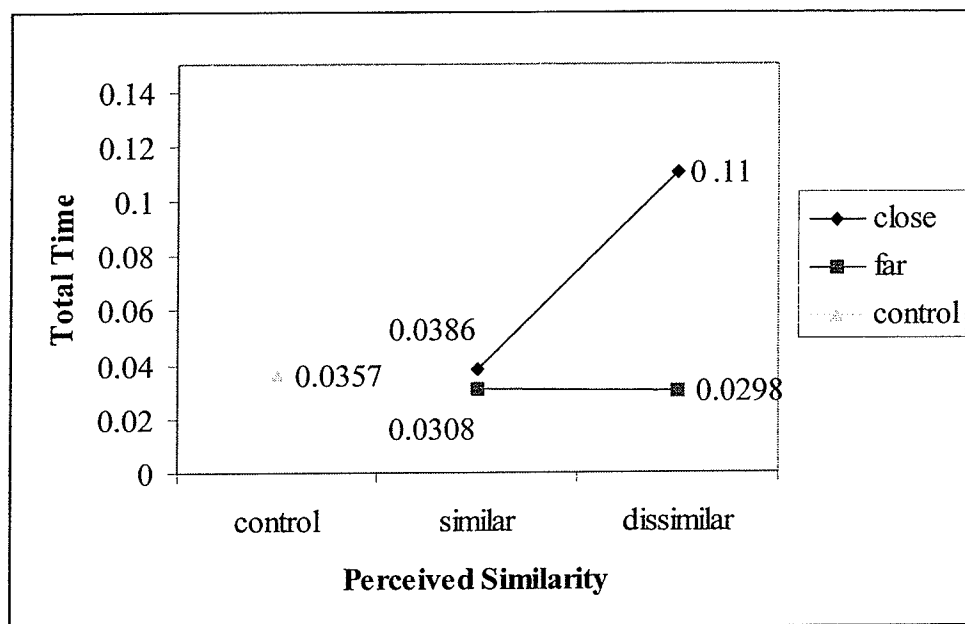
Table 7-31

Independent-Samples T-Tests for Total Time Spent in the Aisle with the Control Group
Included

	t	df	Sig. (2-tailed)
control group vs. similar close presence	.74	38	.463

Table 7-32

Analysis of Variance for Recall of Product Display Information

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig.
Total Time	12.73	1	12.73	4.24	.044
Error	189.33	63	3.01		
Total	695.00	65			

Table 7-33

Analysis of Variance for Pre-Brand Selection Time

Source	Sum of Squares	Degrees of Freedom	Mean Square	F- Statistic	Sig
Perceived Similarity	2.41E-02	1	2.41E-02	1.76	.189
Proximity	8.78E-02	1	8.78E-02	6.39	.014
Perceived Similarity * Proximity	2.43E-02	1	2.43E-02	1.77	.188
Error	1.00	73	1.37E-02		
Total	1.44	77			
Corrected	1.12	76			

Means for Pre-Brand Selection Time

Proximity		Perceived Similarity	
	Control	Similar	Dissimilar
Control	4.11E-02		
Close		6.81E-02	.14
Far		3.58E-02	3.57E-02

Figure 7-12

Pre-Brand Selection Time
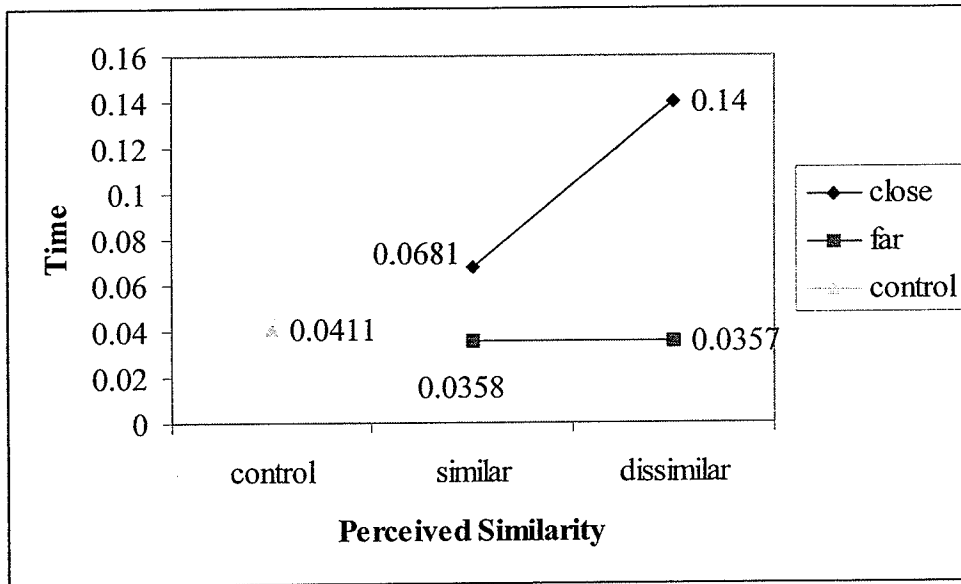
Table 7-34

Analysis of Variance for Post-Brand Selection Time

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Statistic	Sig
Perceived Similarity	8.87E-02	1	8.87E-02	3.03	.086
Proximity	6.27E-04	1	6.27E-04	.02	.884
Perceived Similarity * Proximity	3.35E-02	1	3.35E-02	1.15	.288
Error	2.17	74	2.93E-02		
Total	3.57	78			
Corrected	2.28	77			

Means for Post-Brand Selection Time

Proximity		Perceived Similarity	
	Control	Similar	Dissimilar
Control	.10		
Close		.18	6.67E-02
Far		.14	.11

Figure 7-13

Post-Brand Selection Time
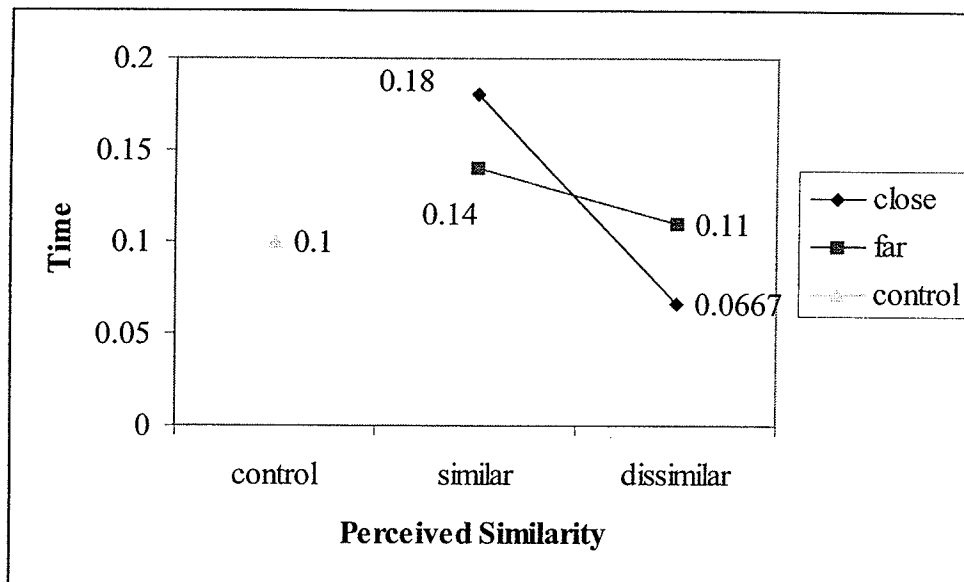
CHAPTER EIGHT

CONCLUSION

This chapter is divided into four sections. In the first section, the findings from three field experiments are discussed. The second section highlights both the theoretical and managerial implications that arise from this research. In the third section, the limitations of this research will be discussed. Finally, the fourth section proposes potential avenues for future research.

I. Discussion of Findings

The aim of this dissertation was to determine how social size (i.e., the number of people present), proximity (i.e., the physical distance between the social presence and the consumer), and perceived similarity (i.e., the shared characteristics between a social presence and the consumer) impact consumers' positive and negative emotions, cognitive performance, and self-presentation behaviours. Further, this research sought to understand the mechanisms that drive the impact of the social presence on the consumer by conducting several tests for mediation.

Using a retail context, the results of three field experiments demonstrate that a non-interacting social presence influences consumers when they were in a shopping aisle. When consumers enter a shopping aisle and another shopper(s) is/are present, the other shopper(s) impacts the way consumers feel, think, and behave. Further, contrary to previous research, this influence exists when consumers purchase batteries, a low visibility and low risk product.

The findings from the studies show that two distinct patterns arise from the impact of a social presence. Specifically, emotions are not influenced by the size of the

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social presence in the same manner as cognition or self-presentation behaviours. Consistent with the premise of SIT, consumers experience more intense positive emotions and less intense negative emotions when in the presence of a similar close shopper, as compared to when they are in the shopping aisle by themselves. However, counter to SIT, as the size of the social presence increases, consumers experience a decrease in the intensity of positive emotions and an increase in the intensity of negative emotions. One explanation that was forwarded to justify the inconsistent results involved the large social presence because when three confederates were present in the aisle they were instructed to interact quietly amongst themselves. Interestingly, this interaction may have had a negative impact on consumers (i.e., it may have annoyed them to have the social presence talking next to them) and provided an alterative explanation to the impact of social size. Although Study Two tests this possibility, the results provide evidence that the change in the pattern of emotions appears to be attributable to the change in the size of the social presence; consumers are happier and more certain when a social presence is small as compared to no one else or a larger group is present. This finding is robust as it is found in both of the studies that manipulate three levels of social size. Additional results also demonstrate that the size and the perceived similarity of the social presence only influences consumers' emotions when the social presence is close by. When the social presence is further away, the number of people present and the degree of similarity that exist between the social presence and the consumer does not vary in influencing consumers' emotions.

One objective of this dissertation was to gain a better understanding of why a social presence influences consumers. Therefore, a number of tests for mediation were

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conducted to determine what caused the impact of the social presence on consumers' emotions. As predicted, results of mediation analysis in Study Two demonstrate that the impact of the size and proximity of the social presence on consumers' emotions is driven by a sense of crowding. Thus, as the size of a close social presence increases, consumers become more crowded and as a consequence experience an increase in the intensity of negative emotions and a decrease in the intensity of positive emotions. Mediation analysis was also conducted in Study Three to determine the mechanism that caused proximity and perceived similarity to influence emotional responses. The findings from this analysis illustrate that consumers' reactions to a social presence (i.e., they like and are attracted to others) impact how they feel; when consumers like and are attracted to the social presence, they experience more intense positive emotions and less intense negative emotions.

As alluded to earlier, a social presence impacts cognitive performance differently than emotions. Although the results show that a social presence influences consumers' ability to recall information about the product display, this impact occurs in a linear fashion. Thus, unlike the emotion findings, but consistent with SIT, as the size of the social presence increases, consumers are increasingly impacted more by the social presence. Results from the first two studies indicate that as the size of a close social presence increases, consumers perform worse on a cognitive recall task. However, as shown in Study Two, when the social presence is further down the aisle, consistent with the outcome pattern for emotions, the size of the social presence does not influence consumers' performance on a cognitive recall task. In Study Three, a hypothesis was not forwarded to predict the impact of proximity and perceived similarity on cognitive

performance. The absence of a hypothesis was due to the fact that findings from two different areas in psychology had produced opposing results. Following research on SIT, one would expect that a high social source (i.e., a similar social presence) would have the most negative impact on performance. Conversely, following research on distraction, one would expect that a dissimilar social presence would be more distracting than a similar social presence and therefore, impair performance more. The analysis demonstrates that consistent with the distraction literature, recall deteriorates the most when the social presence is dissimilar as opposed to similar.

In an attempt to provide a more complete picture of the influence of a social presence, mediation analysis was conducted for cognition. In Study Two, the results indicate that, unlike the case for emotions, crowding does not mediate the impact of social size and proximity on the amount of information consumers can recall about the product display. Instead, the analysis demonstrates that the decline in recall is attributable to the distraction created by a social presence. This latter finding is again replicated in Study Three.

Finally, the results for the impact of a social presence on self-presentation behaviours are similar to those for cognitive performance. The first two studies show that consumers are more likely to manage their self-presentation behaviours when others are present as compared to when they are by themselves. Consumers avoid interacting with a battery testing display and purchase the most expensive/highest quality brands when a social presence exists as compared to when no one else is present. In the discussion section following Study One, it was proposed that one of the self-presentation behaviours, brand selection, could be motivated by another mechanism besides

impression management. It was suggested that a social presence could be distracting and that this distraction would make it difficult and/or impossible for consumers to process display information. As a consequence of this distraction, consumers would rely on simple cues such as brand names and/or price and select the most expensive/highest quality brands. Thus, in Study Two, to assess whether the motivation for brand selection was due to distraction, mediation analysis was conducted. The results of the analysis reject this alternative explanation, as the necessary conditions for mediation are not satisfied.

In Study Three, there was another interesting finding that was counter to expectations and SIT. Initially, it was proposed that consumers would be more likely to engage in self-presentation behaviours and purchase the most expensive/highest quality brand when there was a similar social presence (i.e., one that is important/relevant to the consumer) as compared to a dissimilar presence. However, results of the study show that consumers actually purchase the most expensive/highest quality brand when the close social presence is perceived to be dissimilar. Two explanations were forwarded to justify this finding. The first explanation suggested that a dissimilar social presence might have distracted the consumer, who in turn relied upon cues from the display to make a brand selection. To test this explanation empirically, mediation analysis was conducted to assess whether distraction mediated the impact of proximity and perceived similarity on brand selection. As in the earlier study, the results of this analysis did not support this explanation, as distraction again does not significantly mediate the social presence characteristics and consumers' choice in brand. The second explanation proposed that consumers perceived the dissimilar presence to be a dissociative reference group.

Findings in the reference group literature have shown that consumers are willing to go to great lengths (i.e., lie) to be similar to and liked/accepted by both membership and aspiration groups (Sengupta, et al. 2002). Therefore, it is possible that they would also go to great lengths to avoid being like a dissociative group. Thus, relating this to the present findings, it may suggest that consumers are willing to spend more money if they believe this will separate them from a dissociative group. Stated differently, if consumers believed that the dissociative social presence would be more likely to purchase the cheaper/more generic alternative, they may purchase the more expensive brand in order to remain different in taste/preference. Although the last explanation was not empirically tested in the present dissertation, it warrants further attention in future research.

II. Implications

This research contributes to the literature in both consumer behaviour and psychology. From a theoretical perspective, this research makes four primary contributions. First, to date, previous research in marketing has only focused on the impact of a social presence that interacts with the consumer. This dissertation investigates the impact of a social presence in a new light. It demonstrates that simply the mere presence of another person or group of people is sufficient to elicit emotional, cognitive, and behavioural responses on the part of the consumer. Thus, when a consumer enters into a shopping aisle and another shopper(s) is/are present, the social presence does not have to interact with the consumer to be influential. This is an important contribution to marketing research as often consumers find themselves in a shopping aisle with other shoppers with whom they do not interact.

Second, this research defines and tests the impact of three characteristics of a

social presence, namely social size, proximity, and perceived similarity, on a consumer.

To gain additional insight into the mechanisms that cause the impact of these

characteristics, crowding, distraction, and attraction (i.e., reactions to others) were tested

as potential mediators (Baron and Kenny 1986). Mediation analysis is another important

contribution because SIT, the theoretical framework upon which this dissertation is

based, is a predictive theory in nature and in the past, researchers have only determined

how social presence characteristics impact another person and have not investigated why

these characteristics are influential.

Third, this dissertation refines SIT by identifying a situation in which the theory

does not appear to hold. The refining of the theory is illustrated in three ways. First, the

findings from this research demonstrate that the emotions consumers experience, when

the size of the social presence varies in a shopping aisle, are not influenced in a linear

fashion as predicted by SIT. Instead, while there was a significant increase in the

intensity of positive emotions and a decrease in the intensity of negative emotions when

the size of the social presence increased from no one present to one person present, as the

size of the social presence increased further, there was a decrease in the intensity of the

positive emotions consumers experienced and an increase in the intensity of negative

emotions. Second, counter to SIT's prediction that a high social strength source (i.e., a

similar social presence) would have the largest impact on consumers' recall (i.e.,

consumers should recall less when in the presence of a similar other), the findings of the

third experiment demonstrated that consumers were actually impacted more and recalled

less when in the presence of a low social strength source (i.e., a dissimilar social

presence). Third, findings also indicated that contrary to SIT, consumers managed their impressions more when in the presence of a low social strength source (i.e., they purchased the most expensive brand of batteries when there was a dissimilar social presence) as compared to a high social strength source.

The final theoretical contribution of this dissertation is that it challenges previous marketing research by demonstrating that a social presence can influence consumers even when they purchase privately consumed necessities. Previously, researchers argued that consumers would not be influenced by others when they buy "boring" products because these products tend to be low in visibility and are not important purchases (Bearden and Etzel 1982; Ford and Ellis 1980). This dissertation proves otherwise. In all three studies, participants were influenced at emotional, cognitive, and behavioural levels when they purchased a package of AA batteries.

Given the finding that consumers are influenced by a social presence even when they purchase boring products, it is important for managers to understand the impact of a social presence. The importance of proximity in reducing the impact of the size and perceived similarity of the social presence on emotions, cognition, and behaviours in the purchase context highlights the opportunity marketing managers have to maximize the benefits of a social presence and minimize its consequences. The findings of this dissertation demonstrate that the ideal situation for managers is to create a situation in which there is a small, close social presence that is similar to the consumer because the combination of these characteristics cause consumers to feel good, remember more information, and spend more money. One way to create the ideal social presence situation is through patronage management. Managers might benefit by spreading

promotional or those items that are frequently consumed throughout the store to avoid

select areas within the retail outlet from becoming highly populated. If the items are

limited to one concentrated area, many consumers will go there, which will in turn create

a crowded situation, both in terms of the number of people present and their proximity to

one another. At the other end of the continuum, management should also try and avoid a

situation in which consumers end up by themselves in the store/aisle. This commonly

occurs when a store remains open twenty-four hours a day. The findings from the

research imply that remaining open late may actually be detrimental for a store.

Consumers may not enjoy the shopping experience as much and will spend less money if

they are the only one in the store.

III. Limitations

As with any research endeavour there are several limitations to this dissertation.

The limitations stem primarily from external and internal validity issues as well as from

experimental constraints.

External and Internal Validity

First, one limitation of the present research is related to the generalizability of the

findings as they are limited to a specific context – the shopping aisle of a store. This

context was chosen as a starting point in the investigation of the influence of a social

presence because it is a common setting in which other people are often present (i.e.,

other shoppers) with whom the consumer does not interact. However, although it was

found in the present research that consumers prefer a social presence comprised of

another person in close proximity, a number of situations exist in which this preference

might not hold. For example, if an individual is sitting on an empty bus and another

person comes onto the bus and chooses the empty seat next to the individual, it is likely that the person will not experience intense positive emotions as the other person has potentially violated social norms. Similarly, there are also situations in which even a different location within a store could produce alternative findings. For example, consumers may be influenced by a social presence differently if they are in a line-up to pay for their products as compared to when they are in the shopping aisle.

Another limitation related to the generalizability of the findings is related to the participants recruited for this research. To recap, in the present research university students participated in the studies. Although this particular group was ideal given the location of the retail outlets (both on campus) and given that the operationalization of perceived similarity using dress wear/appearance was considered to be more relevant and salient to them as compared to other segments of the population, it is possible that some of the findings might change if a different group was employed. For example, an older, more mature population might be less concerned with managing their impressions because they have a more established self-identity than teenagers and young adults.

The nature of the product that was purchased also has implications for how generalizable the findings are to other types of products. In all three of the field experiments, consumers purchased a product that was low in publicity and risk (i.e., it was a neutral product). This choice of product class, as indicated earlier, was to demonstrate that consumers are influenced by a social presence regardless of the type of product they are purchasing. However, previous research has shown that the purchase of different types of products, such as condoms, can lead to different emotions responses. For example, one might expect that if a consumer was purchasing an embarrassing

product, the amount of embarrassment the consumer would experience would probably produce a pattern consistent to that predicted by SIT – it would progressively increase as the size of the social presence increased.

Although the use of field experiments increases the external validity of the research by demonstrating what happens in the "real world", field experiments also suffer potential threats to internal validity. For example, even though extreme care was taken to identify a low-traffic aisle in the retail outlets (i.e., through discussion with management and observation), because real stores were used to gather data there was no way to control for the possibility of other shoppers entering the aisle. Fortunately, this rarely occurred and was randomized across the conditions.

Experimental Constraints

As mentioned above, the research also has limitations related to experimental constraints. The first limitation of this nature is related to the self-presentation behaviour of brand selection. Although it was predicted that consumers would purchase more expensive/higher quality brands when there was a social presence because they would be motivated to manage their self-presentation behaviours, this is very difficult to measure. For impression management reasons individuals often do not like to report/admit the motivation for their behaviours. Thus, in the present situation they would not want to indicate that the reason they purchased the more expensive brand when someone else was present was because they did not want to appear cheap. Furthermore, it is possible that individuals engage in self-presentation behaviours without realizing it. For example, when participants were asked in the questionnaire to indicate their motivation for brand selection, those participants who choose the most expensive alternative often left the

question blank or responded with an "I don't know." The difficulty of assessing impression management is not new to the marketing literature. One method that has been relied upon in the past to overcome participants' sensitivity in a questionnaire is to use third-person questioning where they are asked to imagine what someone else would do (for example see Sengupta et al. 2002). However, given the methodology employed in the present dissertation, this alternative method for assessing motivations for self-presentation behaviours was not feasible. In an attempt to overcome this limitation, alternative explanations were tested and were not found to be significant influencers of brand selection, which leaves consumers' motivation to manage their self-presentation behaviours as the default explanation.

Another limitation of the present research was the inability to completely test the notion that consumers experience more intense positive emotions when there is a social presence because they prefer its presence. Although this could be tested between the similar and dissimilar conditions, it could not be tested between the control group (i.e., no social presence condition) and the other conditions because when there was no social presence, participants are unable to respond to questions that ask them how much they liked/disliked the existence of a social presence – as no social presence existed. Therefore, based on the findings between the similar and dissimilar social presence conditions, one has to assume that this also explains the results between the no one present condition and the similar social presence condition.

Finally, in all three experiments participants were required to make their purchase by paying a cashier for their product. Therefore, the cashier may have influenced consumers' emotions and cognitive performance in addition to the impact of the social

presence in the aisle. In an attempt to partially overcome this limitation, when the participants completed questions on the battery of emotions in the questionnaire they were instructed to indicate how they felt during the time they were in the shopping aisle.

IV. Directions for Future Research

In order to refine and extend the contributions of the present research, a number of future research avenues can be pursued.

The Mediating Role of Consumer Expectations

Often when consumers enter stores, they have preconceived expectations (scripts) about what the experience should be like. It is believed that these expectations may mediate the impact of social presence characteristics on emotional, cognitive, and behavioural outcomes. For example, if the individual enters a bargain store versus a higher-end department store, it is likely that the experience that will arise from the two types of stores will be different. In a bargain-store, people are there with the objective of saving money, while quality is often of concern when people shop in a higher-end department store; thus, in the former situation, brand selection might be influenced less than in the latter situation. To take another example, if a consumer is shopping in the back corner of a store it is often expected that there will be far fewer people shopping there then at the front of the store. The preconception that consumers have that there should be fewer people in the back corner might reduce the discomfort people experience if no one else is present. Conversely, if there were a lot of people in the back, this might appear very unusual and create more intense negative emotions.

Dissimilar Others

The counter-intuitive findings in Study Three that consumers are more likely to purchase the most expensive brand when they are close to a dissimilar social presence as compared to a similar social presence highlights the need for future research that investigates the impact of dissimilar social influences. Previous research that has studied perceived similarity has primarily focused on investigating the impact of a similar social presence and has not investigated in detail the impact of different types of dissimilar others – besides suggesting that a dissimilar social presence should have minimal impact on another person because s/he is not relevant. However, the present research has demonstrated that a dissimilar social presence does in fact play a large role in influencing another person. To recap, consumers experienced less intense positive emotions and more intense negative emotions, were able to recall less, and purchased the most expensive/highest quality brand when the social presence was dissimilar as compared to similar. This implies that a dissimilar presence is in fact relevant to us. Thus, it is suggested that more research be devoted to understanding the impact of dissimilar social influences. One way to do this would be to investigate the impact of different degrees of dissimilarity. For example, in this research the dissimilar social presence that was created was one that was perceived in a negative light. The social presence in this study appeared in dark clothes and dark makeup with unique hairstyles and body piercing. The question becomes how would participants respond if the dissimilar social presence was an old lady going about her own business. Although the old lady would be considered dissimilar from a typical student, would she impact consumers the same way as the dissimilar social presence used in the present research?

Social Presence Purchasing the Consumer's Product

This dissertation focused on the impact of a social presence that was purchasing a different product than the consumer (i.e., the confederates looked at film and the participants looked at batteries). Another area for future research would be to determine whether the same pattern of results would arise if a social presence were purchasing the same product as the consumer. One could expect that it would become more important to consumers to appear as smart-shoppers if a social presence were looking at the same product. This would occur because the other shopper would now be presented with all of the same external information available to the consumer; therefore, the other shopper would be able to determine whether the consumer made the best buy possible. This additional knowledge that the social presence could acquire about the consumers ability to shop well might cause consumers to manage their self-presentation behaviours by purchasing the "best buy" as opposed to the most expensive/brand name alternative.

Shopping with a Friend

Finally, in the present research, consumers entered the aisle and shopped alone. However, often a consumer shops in the company of another person. Thus, another avenue for future research would be to investigate the impact of the mere presence of other shoppers on a small group of consumers. As discussed in Chapter Two, SIT has three principles. The third principle of the theory predicts that if there is more than one target (i.e., there are two consumers shopping together) then the impact of the social presence should be divided between the two consumers. Therefore, each individual consumer should only experience half of the impact of the social presence. It would be interesting to test whether this third principle, the division of influence, would exist in a

shopping aisle. For example, if the social presence is comprised of one person and there are two consumers shopping together, how crowded would each of the individual consumers become as a consequence of the social presence and how would this in turn influence how they feel? Further, studying the impact of a single person social influence on a "team" of consumers would allow one to investigate the impact of the consumer being in a majority position as compared to the social presence.

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Appendix A

Product Assessment Pre-Test Survey Instrument

Please respond to the following questions by circling the appropriate response.

1. No one ever sees me use bread (batteries) {a camera}

    Definitely disagree 1   2   3   4   5   6   7   Definitely agree

2. Bread (Batteries) {Cameras}is/are low in visibility

    Definitely disagree 1   2   3   4   5   6   7   Definitely agree

3. I'm not at all obvious when I use bread (batteries) {a camera}

    Definitely disagree 1   2   3   4   5   6   7   Definitely agree

4. Bread (batteries) {Cameras}is/are a low risk purchase

    Definitely disagree 1   2   3   4   5   6   7   Definitely agree

5. The consequences of making a poor purchase are low for bread (batteries) {a camera}

    Definitely disagree 1   2   3   4   5   6   7   Definitely agree

6. Gender (please check):   _____male   _____ female

Appendix B

Battery Perception Pre-Test Survey Instrument

Please respond to the following questions by circling the appropriate response.

1. What are your perceptions (impressions) of Rayovac batteries?

Cheap	1	2	3	4	5	6	7	Expensive
Low quality	1	2	3	4	5	6	7	High quality
Low value	1	2	3	4	5	6	7	High value

2. What are your perceptions (impressions) of Chateau batteries?

Cheap	1	2	3	4	5	6	7	Expensive
Low quality	1	2	3	4	5	6	7	High quality
Low value	1	2	3	4	5	6	7	High value

3. What are your perceptions (impressions) of Panasonic batteries?

Cheap	1	2	3	4	5	6	7	Expensive
Low quality	1	2	3	4	5	6	7	High quality
Low value	1	2	3	4	5	6	7	High value

4. What are your perceptions (impressions) of Duracell batteries?

Cheap	1	2	3	4	5	6	7	Expensive
Low quality	1	2	3	4	5	6	7	High quality
Low value	1	2	3	4	5	6	7	High value

5. What are your perceptions (impressions) of Rayovac batteries?

Cheap	1	2	3	4	5	6	7	Expensive
Low quality	1	2	3	4	5	6	7	High quality
Low value	1	2	3	4	5	6	7	High value

6. What are your perceptions (impressions) of Classsic batteries?

Cheap	1	2	3	4	5	6	7	Expensive
Low quality	1	2	3	4	5	6	7	High quality
Low value	1	2	3	4	5	6	7	High value

7. Gender: ____ male   ____ female

Appendix C

Battery Testing Display Pre-Test Survey Instrument

Please respond to the following questions by circling the appropriate response.

1. If you were to play with this display in the bookstore and someone else was there, you how foolish would you feel?

   Not at all foolish 1   2   3   4   5   6   7   Very foolish

2. If you were to play with this display in the bookstore and someone else was there, how silly would you feel?

   Not at all silly   1   2   3   4   5   6   7   Very silly

3. If you were to play with this display in the bookstore and someone else was there, how ridiculous would you feel?

   Not at all   1   2   3   4   5   6   7   Very
   ridiculous   ridiculous

Research Procedure Pre-Test Survey Instrument

Please respond to the following questions by circling the appropriate response.

PRODUCT DISPLAY

1. How much did you like the way the product you purchased was <u>displayed</u>?

Did not like it at all	1	2	3	4	5	6	7	Liked it very much

2. How easy was it for you to <u>locate</u> the product that you went to buy?

No at all easy	1	2	3	4	5	6	7	Very easy

3. How clearly were the <u>prices</u> of the products displayed?

Not at all clear	1	2	3	4	5	6	7	Very clear

4. To what extent do you feel that the product was located in a good section of the Book Store?

Not a good location at all	1	2	3	4	5	6	7	Very good location

5. How was the <u>lighting</u> in the Book Store?

Too dim	1	2	3	4	5	6	7	Too bright

IMPRESSION OF SERVICE

6. What was the <u>service</u> like in the Book Store?

Very bad	1	2	3	4	5	6	7	Very good
Not at all professional	1	2	3	4	5	6	7	Very professional
Very slow	1	2	3	4	5	6	7	Very fast
Very rude	1	2	3	4	5	6	7	Very polite
Not at all friendly	1	2	3	4	5	6	7	Very friendly

Please respond to the following questions based on your purchase.

7. Did you feel that the **cashier** was attentive in the following ways (please circle the appropriate responses):

    i. Made eye contact   yes   no

    ii. Conducted an appropriate level of communication   yes   no

    iii. Said thank-you   yes   no

8. Did you recognize anyone in the **aisle** where you found your product?

    Yes _____   No _____   If yes, how many people _____

9. Give us your best estimate on how many people were in the **aisle**, excluding yourself, where you made your selection.

    ____ 0   ____ 1   ____ 2   ____ 3   ____ 4   ____ 5+

10. How well do you know the **cashier** who served you?

    Did not know 1   2   3   4   5   6   7   Knew very well
    at all

11. How often have you seen the **cashier** before?

    Never seen   1   2   3   4   5   6   7   Seen several
    before   times

12. How attractive was the **cashier**?

    Not attractive 1   2   3   4   5   6   7   Very attractive
    at all

13. Give us your best estimate on how many people, excluding yourself were in the **Book Store**.

    ____ 0-5   ____ 6-10   ____ 11-15   ____ 16-20   ____ 21+

14. How many people did you see in the **Book Store** that you knew? (Please check)

    ____ 0   ____ 1   ____ 2   ____ 3   ____ 4   ____ 5+

15. Did you recognize anyone in the **check-out line**?

       Yes _____   No _____   If yes, how many people _____

16. Gender (please circle):   Female   Male   Age: _____

17. What do you think was the purpose of this survey?

_____

_____

_____

_____

THANK YOU FOR YOUR PARTICIPATION!

Appendix E

Group Activity Pre-Test Survey Instrument

Please respond to the following questions by circling the appropriate response.

1. Give us your best estimate on how many people were in the **aisle** (don't count yourself), where you made your selection.

    _____ 0   _____ 1   _____ 2   _____ 3   _____ 4   _____ 5+

2. If you indicated in question #1 that there were at least 2 people in the aisle (not counting yourself) please complete the following questions. If you indicated that there was 1 person or less please proceed to question #7.

    Please indicate in the space provided what the other people in the aisle were doing.

    _____

    _____

    _____

    _____

3. To what extent do you think that the other people in the aisle knew one another?

| Definitely did not know one another | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Definitely knew one another |

4. To what extent did the other people in the aisle talk to one another?

| Did not talk at all | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Talked a lot |

5. To what extent did the other people appear to be together?

| Did not appear to be together | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Definitely appeared to be together |

6. To what extent did you perceive the other people to be a group?

| They definitely were not a group | 1 | 2 | 3 | 4 | 5 | 6 | 7 | They definitely were a group |

7. Gender (please circle):   Female   Male   Age: _____

Appendix F

Proximity Pre-Test Survey Instrument

Please respond to the following questions by circling the appropriate response.

1. Give us your best estimate on how many people were in the **aisle** (don't count yourself), where you made your selection.

    ____ 0   ____1   ____ 2   ____ 3   ____ 4   ____5+

2. If there was another person (other people) in the aisle how close were they to you?

Close	1	2	3	4	5	6	7	Far
Near	1	2	3	4	5	6	7	Distant
Next to me	1	2	3	4	5	6	7	Away from me

3. Gender (please circle):   Female   Male   Age: _____

THANK YOU FOR YOUR PARTICIPATION!!!

Perceived Similarity Pre-Test Survey Instrument

Please respond to the following questions by circling the appropriate response.

Person #1

1. How similar do you perceive him/her to be to you?

   Not at all similar 1   2   3   4   5   6   7   Very similar

2. How alike do you perceive him/her to be to you?

   Not at all   1   2   3   4   5   6   7   Very alike
   alike

3. How comparable do you think s/he is to you?

   Not at all   1   2   3   4   5   6   7   Very
   comparable   comparable

4. To what extent does s/he dress similarly to you?

   Not at all similar 1   2   3   4   5   6   7   Very similar

5. To what extent does s/he wear the same style of clothes that you would consider wearing?

   Not at all similar 1   2   3   4   5   6   7   Very similar
   to my style   to my style

6. Have you ever seen this person before (please circle)?   Yes   No

7. To what extent do you know this person?

   Do not know   1   2   3   4   5   6   7   Know very
   at all   well

Person #2

8. How similar do you perceive him/her to be to you?

Not at all similar   1   2   3   4   5   6   7   Very similar

9. How alike do you perceive him/her to be to you?

Not at all   1   2   3   4   5   6   7   Very alike
alike

10. How comparable do you think s/he is to you?

Not at all   1   2   3   4   5   6   7   Very
comparable   comparable

11. To what extent does s/he dress similarly to you?

Not at all similar   1   2   3   4   5   6   7   Very similar

12. To what extent does s/he wear the same style of clothes that you would consider
    wearing?

Not at all similar   1   2   3   4   5   6   7   Very similar
to my style   to my style

13. Have you ever seen this person before (please circle)?   Yes   No

14. To what extent do you know this person?

Do not know   1   2   3   4   5   6   7   Know very
at all   well

15. Gender (please circle):   a. Female   b. Male

16. Age: _____

17. Ethnicity: _____

THANKS FOR YOUR PARTICIPATION!!!

Appendix H

Sample of Sign-up Sheets

Monday March 18

Time Slot	Student Name
9.00	
9.20	
9.40	
10.00	
10.20	
10.40	
11.00	
11.20	
1.00	
1.20	
1.40	
2.00	
2.40	
3.00	
3.20	
3.40	
4.00	
4.20	
4.40	

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Appendix I

Instructions Provided to Participants

1. To find the study location, go to the tables near Tim Hortons in University Centre. The study will be run under the no-smoking sign that hangs above the tables. Look for a person sitting at the table with a sign on the table that indicates your course number 118.221.

2. The study will run every 20 minutes. Only one person can be run at once.

3. It is **very** important that you are a few minutes early. Late arrivals may not be accommodated.

4. Once again, the study is **not** being run in room 469 but instead in University Centre.

5. If you have any questions please contact Jennifer Argo

6. More sign-ups will be posted later. Thanks.

Appendix J

Study One Survey Instrument

1. In the space provided below, please list ALL of the thoughts and feelings you experienced during the shopping situation.

Please write each thought or feeling on a separate line. Please also indicate the importance and strength of each thought and feeling (e.g. somewhat, very).

BE SURE TO STATE ALL OF THE THOUGHTS AND FEELINGS THAT CAME TO MIND, even if you think some are not important. Every thought and/or feeling that came to mind is of importance to us.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Please respond to the questions below based on your shopping experience.

PRODUCT DISPLAY

2. How much did you like the way the product you purchased was <u>displayed</u>?

Did not like it at all	1	2	3	4	5	6	7	Liked it very much

3. How easy was it for you to <u>locate</u> the product that you went to buy?

No at all easy	1	2	3	4	5	6	7	Very easy

4. How clearly were the <u>prices</u> of the products displayed?

Not at all clear	1	2	3	4	5	6	7	Very clear

5. To what extent do you feel that the product was located in a good section of the Book Store?

Not a good location at all	1	2	3	4	5	6	7	Very good location

6. How was the <u>lighting</u> in the Book Store?

Too dim	1	2	3	4	5	6	7	Too bright

IMPRESSION OF SERVICE

7. What was the <u>service</u> like in the Book Store?

Very bad	1	2	3	4	5	6	7	Very good
Not at all professional	1	2	3	4	5	6	7	Very professional
Very slow	1	2	3	4	5	6	7	Very fast
Very rude	1	2	3	4	5	6	7	Very polite
Not at all friendly	1	2	3	4	5	6	7	Very friendly

Please indicate how you felt during the shopping experience. Please circle the appropriate number on the scales below.

FEELINGS WHILE SHOPPING

8. Not at all anxious	1	2	3	4	5	6	7	Very anxious
9. Not at all awkward	1	2	3	4	5	6	7	Very awkward
10. Not at all annoyed	1	2	3	4	5	6	7	Very annoyed
11. Not at all sure	1	2	3	4	5	6	7	Very sure
12. Not at all interested	1	2	3	4	5	6	7	Very interested
13. Not at all certain	1	2	3	4	5	6	7	Very certain
14. Not at all excited	1	2	3	4	5	6	7	Very excited
15. Not at all frustrated	1	2	3	4	5	6	7	Very frustrated
16. Not at all happy	1	2	3	4	5	6	7	Very happy
17. Not at all confident	1	2	3	4	5	6	7	Very confident
18. Not at all self-conscious	1	2	3	4	5	6	7	Very self-conscious
19. Not at all good	1	2	3	4	5	6	7	Very good
20. Not at all uncomfortable	1	2	3	4	5	6	7	Very uncomfortable
21. Not at all stimulated	1	2	3	4	5	6	7	Very stimulated

Please indicate your responses in the appropriate spaces provided below.

PRODUCT INFORMATION

22.   Please indicate the type of product that you purchased. _____

23.   Please indicate the price of the product you purchased (excluding the taxes). _____

24.   Please indicate the brand of the product you purchased.   _____

25.   How many brands of your product were available (including the brand you choose)?
       _____

26.   Please indicate the other brands available and their corresponding prices.

       _____

       _____

       _____

       _____

       _____

       _____

       _____

       _____

Please respond to the following questions based on your purchase.

PURCHASE

27.　　How <u>satisfied</u> are you with your <u>brand</u> selection?

Not satisfied　1　　2　　3　　4　　5　　6　　7　　Very satisfied
at all

28.　　How <u>satisfied</u> were you with your <u>purchase</u> experience?

Not satisfied　1　　2　　3　　4　　5　　6　　7　　Very satisfied
at all

29.　　How much <u>effort</u> did you exert in your purchase?

No effort　　1　　2　　3　　4　　5　　6　　7　　Lots of effort
at all

Did not try　1　　2　　3　　4　　5　　6　　7　　Tried hard
at all

30.　　How <u>important</u> was it to you to make the best buy?

Not important 1　　2　　3　　4　　5　　6　　7　　Very important
at all

Not at all　　1　　2　　3　　4　　5　　6　　7　　Very imperative
imperative

Please indicate your responses in the appropriate spaces provided below.

PERSONAL INTERACTIONS WITHIN THE STORE

31.　　Did you recognize anyone in the **aisle** where you found your product?

Yes _____　　No _____　　If yes, how many people _____

32.　　Give us your best estimate on how many people were in the **aisle**, excluding
yourself, where you made your selection.

_____ 0　　_____ 1　　_____ 2　　_____ 3　　_____ 4　　_____ 5+

Please indicate your responses in the appropriate spaces provided below.

PERSONAL INTERACTIONS WITHIN THE STORE

33. Did you feel that the <u>cashier</u> was attentive in the following ways (please circle the appropriate responses):

     i. Made eye contact   yes   no

     ii. Conducted an appropriate level of communication   yes   no

     iii. Said thank-you   yes   no

34. How well do you know the <u>cashier</u> who served you?

Did not know 1   2   3   4   5   6   7   Knew very well
at all

35. How often have you seen the <u>cashier</u> before?

Never seen 1   2   3   4   5   6   7   Seen several
before   times

36. How attractive was the <u>cashier</u>?

Not attractive 1   2   3   4   5   6   7   Very attractive
at all

37. Give us your best estimate on how many people, excluding yourself were in the **Book Store**.

    ___ 0-5   ___ 6-10   ___ 11-15   ___ 16-20   ___ 21+

38. How many people did you see in the **Book Store** that you knew? (Please check)

    ___ 0   ___ 1   ___ 2   ___ 3   ___ 4   ___ 5+

39. Did you recognize anyone in the **check-out line**?

    Yes _____   No _____   If yes, how many people _____

40. How attractive was (were) the other shoppers you recognized in the store?

Not attractive 1   2   3   4   5   6   7   Very attractive
at all

Please indicate your responses in the appropriate spaces provided below.

PREVIOUS EXPERIENCE

41.   Have you ever before purchased this product before? (please check the appropriate response)

    Yes _____   No _____

        i. (If you checked No please proceed to question 44)

42.   How often do you purchase this product? (please circle)

    Very rarely   1   2   3   4   5   6   7   Very often

43.   Please indicate the last time you purchased this product? (Please check the appropriate response)

    Within the last month   _____
    Between 1 and 3 months   _____
    Between 3 and 6 months   _____
    More than 6 months ago   _____

44.   How familiar are you with purchasing this product? (please circle)

    Not familiar   1   2   3   4   5   6   7   Very familiar
    at all

    Not at all   1   2   3   4   5   6   7   Very
    knowledgeable   knowledgeable

Please indicate the extent to which you agree with the following statements by writing the appropriate number in the blank next to each item. Use the following scale:

0	1	2	3	4	5
Always False	Generally False	Somewhat False	Somewhat True	Generally True	Certainly True

45. _____ In social situations, I have the ability to alter my behaviour if I feel that something else is called for.

46. _____ I have the ability to control the way I come across to people, depending on the impression I wish to give them.

47. _____ When I feel that the image I am portraying isn't working, I can readily change it to something that does.

48. _____ I have trouble changing my behaviour to suit different people and different situations.

49. _____ I have found that I can adjust my behaviour to meet the requirements of any situation I find myself in.

50. _____ Once I know what the situation calls for, it's easy for me to regulate my actions accordingly.

51. _____ I am often able to read people's true emotions correctly through their eyes.

52. _____ In conversations, I am sensitive to even the slightest change in the facial expression of the person I'm conversing with.

53. _____ My powers of intuition are quite good when it comes to understanding others' emotions and motives.

54. _____ I can usually tell when others consider a joke to be in bad taste, even though they may laugh convincingly.

55. _____ I can usually tell when I've said something inappropriate by reading it in the listener's eyes.

56. _____ If someone is lying to me, I usually know it at once from that person's manner of expression.

Demographics

57.   Gender (please circle):   Female   Male   Age: _____

58.   Language most commonly spoken at home with your family: _____

59.   Are you an exchange student (please circle):   Yes   No

60.   What is your faculty of study? _____

61.   How serious were you in completing this survey?

Not at all serious   1   2   3   4   5   6   7   Very serious

62.   What do you think was the purpose of this survey?

_____

_____

_____

_____

THANK YOU FOR YOUR PARTICIPATION!

Appendix K

Observation Sheet Study One

Date _____ **Time** _____   **ID#** _____

How many C present in aisle _____

Gender of C (s) Male _____   Female _____

_____

Did the S interact with the tester display?   yes _____   no _____

Total time Spent in the Aisle _____

Total time Spent interacting with the C (talking) _____

Were any other people present in the aisle? yes_____   no _____   How many _____

Additional Notes:

_____

_____

_____

_____

Appendix L

Study Two Survey Instrument

In the space provided below, please list ALL of the thoughts and feelings you experienced during the shopping situation.

Please write each thought or feeling on a separate line. Please also indicate the importance and strength of each thought and feeling (e.g. somewhat, very).

BE SURE TO STATE ALL OF THE THOUGHTS AND FEELINGS THAT CAME TO MIND, even if you think some are not important. Every thought and/or feeling that came to mind is of importance to us.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Please indicate how you felt during the shopping experience. Please circle the appropriate number on the scales below.

FEELINGS WHILE SHOPPING

1. Not at all anxious	1	2	3	4	5	6	7	Very anxious
2. Not at all interested	1	2	3	4	5	6	7	Very interested
3. Not at all uneasy	1	2	3	4	5	6	7	Very uneasy
4. Not at all frustrated	1	2	3	4	5	6	7	Very frustrated
5. Not at all good	1	2	3	4	5	6	7	Very good
6. Not at all annoyed	1	2	3	4	5	6	7	Very annoyed
7. Not at all certain	1	2	3	4	5	6	7	Very certain
8. Not at all excited	1	2	3	4	5	6	7	Very excited
9. Not at all nervous	1	2	3	4	5	6	7	Very nervous
10. Not at all sure	1	2	3	4	5	6	7	Very sure
11. Not at all uncomfortable	1	2	3	4	5	6	7	Very uncomfortable
12. Not at all happy	1	2	3	4	5	6	7	Very happy
13. Not at all self-conscious	1	2	3	4	5	6	7	Very self-conscious
14. Not at all awkward	1	2	3	4	5	6	7	Very awkward
15. Not at all confident	1	2	3	4	5	6	7	Very confident

In the space provided please list all of the thoughts you had while you were trying to decide which brand of your product to purchase.

Please write each thought on a separate line. Please also indicate the importance and strength of each thought (e.g. somewhat, very).

BE SURE TO STATE ALL OF THE THOUGHTS THAT CAME TO MIND, even if you think some are not important. Every thought that came to mind is of importance to us.

_____

_____

_____

_____

_____

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_____

_____

_____

_____

_____

_____

_____

_____

Please respond to the questions below based on your shopping experience.

PRODUCT DISPLAY

16. How much did you like the way the product you purchased was <u>displayed</u>?

Did not like   1   2   3   4   5   6   7   Liked very much
at all

17. How easy was it for you to <u>locate</u> the product that you went to buy?

No at all easy   1   2   3   4   5   6   7   Very easy

18. How clearly were the <u>prices</u> of the products displayed?

Not at all clear   1   2   3   4   5   6   7   Very clear

IMPRESSION OF SERVICE

19. What was the <u>service</u> like in the Commerce Connection?

Very bad   1   2   3   4   5   6   7   Very good

Very slow   1   2   3   4   5   6   7   Very fast

Very rude   1   2   3   4   5   6   7   Very polite

Not at all   1   2   3   4   5   6   7   Very friendly
friendly

Please indicate your responses in the appropriate spaces provided below.

PRODUCT INFORMATION

20. Please indicate the <u>type</u> of product that you purchased. _____

21. Please indicate the <u>price</u> of the product you purchased _____

22. Please indicate the <u>brand</u> of the product you purchased. _____

23. Please describe (is as much detail as possible) why you selected the brand you identified above.

_____

_____

_____

24. How many brands of your product were available (including the your brand)? _____

25. Please indicate the other brands available and their corresponding prices.

_____

_____

_____

_____

_____

26. Was there a testing display available for your product?   Yes _____ No _____

    If no please proceed to question 27.

    If yes, did you use the testing display?   Yes _____   No _____

    Why or why did you (not) use the testing display?

_____

_____

PURCHASE

Please respond to the following questions based on your purchase.

27. How <u>satisfied</u> are you with your <u>brand</u> selection?

Not at all satisfied   1   2   3   4   5   6   7   Very satisfied

28. How <u>satisfied</u> were you with your <u>purchase</u> experience?

Not at all satisfied   1   2   3   4   5   6   7   Very satisfied

29. How much <u>effort</u> did you exert in your purchase?

No effort at all   1   2   3   4   5   6   7   Lots of effort

Did not try at all   1   2   3   4   5   6   7   Tried hard

30. How <u>important</u> was it to you to make the best buy?

Not important at all 1   2   3   4   5   6   7   Very important

Not imperative at all 1   2   3   4   5   6   7   Very imperative

PERSONAL INTERACTIONS WITHIN THE STORE

Please respond to the following questions based on your shopping experience.

31. To what extent was the **aisle** crowded when you made your selection?

Not at all cramped	1	2	3	4	5	6	7	Very cramped
Not at all jam packed	1	2	3	4	5	6	7	Very jam packed
Not at all spacious	1	2	3	4	5	6	7	Very spacious

32. Did you know anyone in the **aisle** where you found your product?

       Yes _____   No _____   If yes, how many people _____

33. Give us your best estimate on how many people were in the **aisle** (don't count yourself), where you made your selection.

  ____ 0   ____ 1   ____ 2   ____ 3   ____ 4   ____ 5+

If you indicated that there was less than 1 person in the aisle (not counting yourself) please continue to question 41.

If you indicated that there was at least 1 person in the aisle (not counting yourself) please complete the following questions.

34. Please indicate in the space provided what the other person/people in the aisle was/were doing.

_____

_____

_____

_____

PERSONAL INTERACTIONS WITHIN THE STORE

Please respond to the following questions based on your shopping experience.

If you indicated that there was only 1 person in the aisle (not counting yourself) please proceed to question 39.

If you indicated that there were at least 2 people in the aisle (not counting yourself) please complete the following scales.

35. To what extent do you think that the other people in the aisle knew one another?

Definitely did not know one another	1	2	3	4	5	6	7	Definitely knew one another

36. To what extent did the other people in the aisle talk to one another?

Did not talk at all	1	2	3	4	5	6	7	Talked a lot

37. To what extent did the other people appear to be together?

Did not appear to be together at all	1	2	3	4	5	6	7	Definitely appeared to be together

38. To what extent did you perceive the other people to be a group?

They definitely were not a group	1	2	3	4	5	6	7	They definitely a group

39. If there was another person (other people) in the aisle how close were they to you?

Close	1	2	3	4	5	6	7	Far
Near	1	2	3	4	5	6	7	Distant
Next to me	1	2	3	4	5	6	7	Away from me

40. If there was another person (other people) in the aisle, how attractive was he/she/they?

Not at all attractive	1	2	3	4	5	6	7	Very attractive

PERSONAL INTERACTIONS WITHIN THE STORE

Please respond to the following questions based on your shopping experience.

41. To what extent did you know the **cashier** who served you?

Did not know at all   1   2   3   4   5   6   7   Knew very well

42. How often have you seen the **cashier** before?

Never seen before   1   2   3   4   5   6   7   Seen several times

PREVIOUS EXPERIENCE

43. Have you ever purchased this product before? (please check the appropriate response)   Yes _____   No _____

       i. (If you checked No please proceed to question 46)

44. How often do you purchase this product? (please circle)

Very rarely   1   2   3   4   5   6   7   Very often

45. Please indicate the last time you purchased this product? (Please check the appropriate response)

Within the last month   _____
Between 1 and 3 months   _____
Between 3 and 6 months   _____
More than 6 months ago   _____

46. How familiar are you with purchasing this product? (please circle)

Not at all familiar   1   2   3   4   5   6   7   Very familiar

Not at all knowledgeable   1   2   3   4   5   6   7   Very knowledgeable

Please indicate the extent to which you agree with the following statements by writing the appropriate number in the blank next to each item. Use the following scale:

0	1	2	3	4	5
Always False	Generally False	Somewhat False	Somewhat True	Generally True	Certainly True

47. _____ In social situations, I have the ability to alter my behaviour if I feel that something else is called for.

48. _____ I have the ability to control the way I come across to people, depending on the impression I wish to give them.

49. _____ When I feel that the image I am portraying isn't working, I can readily change it to something that does.

50. _____ I have trouble changing my behaviour to suit different people and different situations.

51. _____ I have found that I can adjust my behaviour to meet the requirements of any situation I find myself in.

52. _____ Once I know what the situation calls for, it's easy for me to regulate my actions accordingly.

53. _____ I am often able to read people's true emotions correctly through their eyes.

54. _____ In conversations, I am sensitive to even the slightest change in the facial expression of the person I'm conversing with.

55. _____ My powers of intuition are quite good when it comes to understanding others' emotions and motives.

56. _____ I can usually tell when others consider a joke to be in bad taste, even though they may laugh convincingly.

57. _____ I can usually tell when I've said something inappropriate by reading it in the listener's eyes.

58. _____ If someone is lying to me, I usually know it at one from that person' manner of expression.

Demographics

59. Gender (please circle):   Female   Male   Age: _____

60. Language most commonly spoken at home with your family: _____

61. Are you an exchange student (please circle):   Yes   No

62. What is your faculty of study? _____

63. How serious were you in completing this survey?

Not at all serious   1   2   3   4   5   6   7   Very serious

64. What do you think was the purpose of this survey?

_____

_____

_____

THANK YOU FOR YOUR PARTICIPATION!

Appendix M

Observation Sheet Study Two

Date: _____   **Time:** _____   **ID#** _____

Which brand of batteries did the S select? _____

To what extent did the S interact with the tester display?

   ignored the tester _____   examined but did not try _____   tested batteries _____

Total Time: _____

Pre-Brand Selection Time: _____

Post-Brand Selection Time: _____

Additional Notes:

_____

_____

_____

_____

Appendix N

Study Three Survey Instrument

In the space provided below, please list ALL of the thoughts and feelings you experienced during the shopping situation.

Please write each thought or feeling on a separate line. Please also indicate the importance and strength of each thought and feeling (e.g. somewhat, very).

BE SURE TO STATE ALL OF THE THOUGHTS AND FEELINGS THAT CAME TO MIND, even if you think some are not important. Every thought and/or feeling that came to mind is of importance to us.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Please indicate how you felt during the shopping experience. Please circle the appropriate number on the scales below.

FEELINGS WHILE SHOPPING

1. Not at all anxious	1	2	3	4	5	6	7	Very anxious
2. Not at all certain	1	2	3	4	5	6	7	Very certain
3. Not at all hurried	1	2	3	4	5	6	7	Very hurried
4. Not at all happy	1	2	3	4	5	6	7	Very happy
5. Not at all uneasy	1	2	3	4	5	6	7	Very uneasy
6. Not at all frustrated	1	2	3	4	5	6	7	Very frustrated
7. Not at all good	1	2	3	4	5	6	7	Very good
8. Not at all sure	1	2	3	4	5	6	7	Very sure
9. Not at all uncomfortable	1	2	3	4	5	6	7	Very uncomfortable
10. Not at all nervous	1	2	3	4	5	6	7	Very nervous
11. Not at all self-conscious	1	2	3	4	5	6	7	Very self-conscious
12. Not at all excited	1	2	3	4	5	6	7	Very excited
13. Not at all annoyed	1	2	3	4	5	6	7	Very annoyed
14. Not at all pressured	1	2	3	4	5	6	7	Very pressured
15. Not at all interested	1	2	3	4	5	6	7	Very interested
16. Not at all awkward	1	2	3	4	5	6	7	Very awkward
17. Not at all confident	1	2	3	4	5	6	7	Very confident
18. Not at all rushed	1	2	3	4	5	6	7	Very rushed

In the space provided please list all of the thoughts you had while you were trying to decide which brand of your product to purchase.

Please write each thought on a separate line. Please also indicate the importance and strength of each thought (e.g. somewhat, very).

BE SURE TO STATE ALL OF THE THOUGHTS THAT CAME TO MIND, even if you think some are not important. Every thought that came to mind is of importance to us.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Please respond to the questions below based on your shopping experience.

PRODUCT DISPLAY

19. How much did you like the way the product you purchased was <u>displayed</u>?

   Did not like at all   1   2   3   4   5   6   7   Liked very much

20. How easy was it for you to <u>locate</u> the product that you went to buy?

   No at all easy   1   2   3   4   5   6   7   Very easy

21. How clearly were the <u>prices</u> of the products displayed?

   Not at all clear   1   2   3   4   5   6   7   Very clear

IMPRESSION OF SERVICE

22. What was the <u>service</u> like in the Commerce Connection?

	1	2	3	4	5	6	7	
Very bad	1	2	3	4	5	6	7	Very good
Very slow	1	2	3	4	5	6	7	Very fast
Very rude	1	2	3	4	5	6	7	Very polite
Not at all friendly	1	2	3	4	5	6	7	Very friendly

Please indicate your responses in the appropriate spaces provided below.

PRODUCT INFORMATION

23. Please indicate the <u>type</u> of product that you purchased. _____

24. Please indicate the <u>price</u> of the product you purchased _____

25. Please indicate the <u>brand</u> of the product you purchased . _____

26. Please describe why you selected the brand you identified above.

_____

_____

_____

27. How many brands of your product were available (including the brand you chose)? ____

28. Please indicate the other brands available and their corresponding prices.

_____

_____

_____

_____

_____

_____

29. Was there a testing display available for your product?   Yes _____   No _____

    If no please proceed to question 30.

    If yes, did you use the testing display?   Yes _____   No _____

    Why or why did you (not) use the testing display?

_____

_____

Please respond to the following questions based on your purchase.

PURCHASE

30. How <u>satisfied</u> are you with your <u>brand</u> selection?

    Not at all satisfied 1   2   3   4   5   6   7   Very satisfied

31. How <u>satisfied</u> were you with your <u>purchase</u> experience?

    Not at all satisfied 1   2   3   4   5   6   7   Very satisfied

32. How much <u>effort</u> did you exert in your purchase?

    No effort at all   1   2   3   4   5   6   7   Lots of effort

    Did not try at all 1   2   3   4   5   6   7   Tried hard

33. How <u>important</u> was it to you to make the best buy?

    Not important   1   2   3   4   5   6   7   Very important
    at all

    Not imperative   1   2   3   4   5   6   7   Very imperative
    at all

PERSONAL INTERACTIONS WITHIN THE STORE

34. Did you know anyone in the **aisle** where you found your product?

      Yes _____   No _____   If yes, how many people _____

35. Give us your best estimate on how many people were in the **aisle** (don't count yourself), where you made your selection.

    _____ 0   _____ 1   _____ 2   _____ 3   _____ 4   _____ 5+

If you indicated that there was no one else in the aisle (not counting yourself) please move ahead to question 44.

36. If there was (an)other person/people in the aisle how close was he/she to you?

Close	1	2	3	4	5	6	7	Far
Near	1	2	3	4	5	6	7	Distant
Next to me	1	2	3	4	5	6	7	Away from me

37. How attracted were you to the other person/people in the aisle?

| Not at all | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Very much |

38. To what extent did you like the presence of the other person/people in the aisle?

| Not at all | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Very much |

39. How similar do you perceive the person/people to be to you?

| Not at all similar | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Very similar |

40. How alike do you perceive the person/people to be to you?

| Not at all alike | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Very alike |

41. How comparable do you think this person/people is/are to you?

| Not at all comparable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Very comparable |

PERSONAL INTERACTIONS WITHIN THE STORE

42. To what extent does this person/people dress similarly to you?

Not at all similar   1   2   3   4   5   6   7   Very similar

43. To what extent does this person/people wear the same style of clothes that you would consider wearing?

Not at all similar   1   2   3   4   5   6   7   Very similar
to my style   to my style

44. To what extent did you know the **cashier** who served you?

Did not know   1   2   3   4   5   6   7   Knew very well
at all

45. How often have you seen the **cashier** before?

Never seen before 1   2   3   4   5   6   7   Seen several
times

PREVIOUS EXPERIENCE

46. Have you ever purchased this product before? (please check the appropriate response)

    Yes _____   No _____

    (If you checked No please proceed to question 49)

47. How often do you purchase this product? (please circle)

    Very rarely   1   2   3   4   5   6   7   Very often

48. Please indicate the last time you purchased this product? (Please check the
    appropriate response)

    Within the last month   _____
    Between 1 and 3 months   _____
    Between 3 and 6 months   _____
    More than 6 months ago   _____

49. How familiar are you with purchasing this product? (please circle)

    Not at all familiar 1   2   3   4   5   6   7   Very familiar

    Not at all   1   2   3   4   5   6   7   Very
    knowledgeable   knowledgeable

Please indicate the extent to which you agree with the following statements by writing the appropriate number in the blank next to each item. Use the following scale:

0	1	2	3	4	5
Always False	Generally False	Somewhat False	Somewhat True	Generally True	Certainly True

50. _____ In social situations, I have the ability to alter my behaviour if I feel that something else is called for.

51. _____ I have the ability to control the way I come across to people, depending on the impression I wish to give them.

52. _____ When I feel that the image I am portraying isn't working, I can readily change it to something that does.

53. _____ I have trouble changing my behaviour to suit different people and different situations.

54. _____ I have found that I can adjust my behaviour to meet the requirements of any situation I find myself in.

55. _____ Once I know what the situation calls for, it's easy for me to regulate my actions accordingly.

56. _____ I am often able to read people's true emotions correctly through their eyes.

57. _____ In conversations, I am sensitive to even the slightest change in the facial expression of the person I'm conversing with.

58. _____ My powers of intuition are quite good when it comes to understanding others' emotions and motives.

59. _____ I can usually tell when others consider a joke to be in bad taste, even though they may laugh convincingly.

60. _____ I can usually tell when I've said something inappropriate by reading it in the listener's eyes.

61. _____ If someone is lying to me, I usually know it at once from that person's manner of expression.

Demographics

62. Gender (please circle):   Female   Male   Age: _____

63. Language most commonly spoken at home with your family: _____

64. Are you an exchange student (please circle):   Yes   No

65. What is your faculty of study? _____

66. How serious were you in completing this survey?

   Not at all serious 1   2   3   4   5   6   7   Very serious

67. What do you think was the purpose of this survey?

_____

_____

_____

THANK YOU FOR YOUR PARTICIPATION!

Appendix O

Observation Sheet Study Three

Date: _____   **Time:** _____   **ID#** _____

Which brand of batteries did the S select? _____

Total Time: _____

Pre-brand Selection Time: _____

Post-brand Selection Time: _____

Additional Notes:

_____

_____

_____

_____