University of Northern Iowa

UNI ScholarWorks

Dissertations and Theses @ UNI   Student Work

2007

The effects of facial attractiveness, weight, and immediacy on social influence: A test of dynamic social impact

Melinda Bullock
University of Northern Iowa

Let us know how access to this document benefits you

Recommended Citation

THE EFFECTS OF FACIAL ATTRACTIVENESS, WEIGHT, AND IMMEDIACY ON

SOCIAL INFLUENCE: A TEST OF DYNAMIC SOCIAL IMPACT

An Abstract of a Thesis

Submitted

in Partial Fulfillment

of the Requirements for the Degree

Master of Arts

Melinda Bullock

University of Northern Iowa

December, 2007

ABSTRACT

Social impact theory (Latané, 1981) explains social influence as a multiplicative function of strength, immediacy, and number. Dynamic social impact theory (Latané, 1996a) states that four phenomena occur as a result of social influence: a) clustering (those living close together have similar attitudes), b) correlation (once unrelated attitudes become associated), c) consolidation (reduction in overall attitude variance), and d) continuing diversity (in spite of social influence attitudes diversity persists). This study used these two theories to examine how facial attractiveness, weight, and immediacy affect social influence. It was expected that clustering, correlation, and consolidation would occur to a greater extent when strength was high or when immediacy was high, but especially when both were high.

Participants discussed social issues in dyads using an instant messaging program. Target participants received a picture of what they believed their chat partner looked like and information on which university they believed their chat partner attended. Source participants did not receive information about their chat partner. Pictures previously rated for facial attractiveness (low versus high) and weight (average versus overweight) were used to manipulate strength, and I manipulated immediacy by telling participants that their chat partner was from the same university (University of Northern Iowa) or a different university (North Dakota State University) than themselves.

Participants' attitudes became more similar to their partners' (clustered) and became more interrelated (correlated) over time. Furthermore, the strength and immediacy variables affected the degree of influence. When immediacy was high,

clustering was greatest when chat partners were believed to be low in attractiveness and average weight, followed by those who were believed to be high in attractiveness and overweight. Participants seemed to be more influenced by those with one, but not two "flaws." Unexpectedly, when immediacy was low, target participants were most influenced by a chat partner believed to be low in attractiveness *and* overweight. There was limited evidence for consolidation, consistent with previous DSIT research in which there was not an initial majority, as was the case in the current study.

The increases in clustering and correlation provides further support for DSIT, and also provides some of the first support using dyads rather than larger groups. The individual level variables that DSIT predicts will affect influence did impact these group-level outcomes, but not necessarily in the directions predicted. Facial attractiveness and weight may not be as important as cues for strength in online communications as in face-to-face ones. These results have implications for sales situations and prevention programs. If immediacy is high (such as in face-to-face situations), individuals may want to emphasize a flaw as it could make them more likeable and relatable. In situations where immediacy is low, such as radio or print advertising and public service announcements, appearances may matter less, and an emphasis on the message being portrayed rather than who is portraying the message, may be more effective.

THE EFFECTS OF FACIAL ATTRACTIVENESS, WEIGHT, AND IMMEDIACY ON

SOCIAL INFLUENCE: A TEST OF DYNAMIC SOCIAL IMPACT

A Thesis

Submitted

in Partial Fulfillment

of the Requirements for the Degree

Master of Arts

Melinda Bullock

University of Northern Iowa

December, 2007

This study by: Melinda Bullock
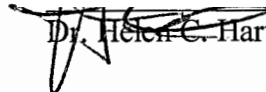
Entitled: The Effects of Facial Attractiveness, Weight, and Immediacy on Social

Influence: A Test of Dynamic Social Impact

Has been approved as meeting the thesis requirement for the

Degree of Master of Arts

10-10-07
Date   Dr. Helen C. Harton, Thesis Committee

10-10-07
Date   Dr. Andrew Gilpin, Thesis Committee Member

10-10-07
Date   Dr. M. Kimberly MacLin, Thesis Committee Member

11/16/07
Date   Dr. Sue A. Joseph, Interim Dean

TABLE OF CONTENTS

LIST OF TABLES

TABLE

CHAPTER 1

INTRODUCTION

For decades social psychologists have conducted extensive research in the area of social influence to determine how people influence each other, why they influence each other, and the factors that make social influence more likely to occur. Past research in this area of social psychology 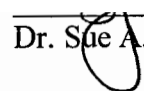has focused on one-way influence. Dynamic social impact theory (Latané, 1996a) is one theory that explains reciprocal and reoccurring social influence with the proposed social influence variables of social impact theory (Latané, 1981): strength, immediacy, and number. Although much research utilizing social impact theory and dynamic social impact theory has been conducted, no published studies have examined the multiplicative interactions of strength, immediacy, and number, nor have any published studies examined facial attractiveness and weight as strength variables. The current study uses social impact theory and dynamic social impact theory to examine the amount of social influence communicators have when they are portrayed as high in facial attractiveness vs. low in facial attractiveness, average weight vs. overweight and high in immediacy vs. low in immediacy.

The literature review begins with a description of social impact theory (Latané, 1981), followed by a review of research on strength, immediacy, and number. Dynamic social impact theory (Latané, 1996a) and evidence supporting this theory will then be reviewed. Finally, I will then describe the purpose of the study and its hypotheses.

Social Impact Theory

Social impact theory explains that influence occurs in proportion to a multiplicative function of the strength, immediacy, and number of others doing the influencing (Latané, 1981). Strength is referred to as the "salience, power, importance or intensity" (p. 344) of a person, usually defined by one's age, occupation, status, and/or income (Latané), the use of tactics to socially influence (Guerin, 1995), or the strength of arguments presented by the individual (Rydell & McConnell, 2005). Immediacy is close physical proximity without impediments such as language barriers; and number is defined as the number of people (Latané). Immediacy and strength have been examined far less than number and have even been called the "forgotten elements" of social impact theory (Mullen, 1985, p. 1460). However, all three have received empirical support. In the next sections, the effects of various operationalizations of strength, immediacy, and number on social influence are examined.

Strength, Immediacy, and Number

Strength

Status is one of the ways strength has been operationally defined in empirical research. In one study, participants were told that they were taking a new form of the GRE, given by either Educational Testing Service employees (high strength) or by volunteers who did not know what the experiment was about (low strength). Participants took marginally longer to request help from the high strength experimenters than from the low strength experimenters when the computer malfunctioned during the test (Williams & Williams, 1983). In addition, celebrity status can have an effect on the

opinions of others even on unimportant issues such as choice of disposable razors (Petty, Cacioppo, & Schulman, 1983).

Merely being perceived as trustworthy can make an individual high in strength and thus likely to significantly influence others. When a source is seen as honest, that individual is more successful at convincing people that a rumor is false than a source who is not seen as honest. This effect is even stronger when the source is seen as honest and in an appropriate position to refute information, such as a librarian refuting a rumor that an undergraduate library is being shut down (Bordia, DiFonzo, & Schulz, 2000).

Another example of the operationalization of strength is source expertise. Receiving information from an expert on a certain subject, topic, or area increases the likelihood that social influence will occur. Students agreed more with the supposed chair of education at Princeton University than a supposed high school journalism student on the implementation of senior comprehensive exams at another school (Petty, Cacioppo, & Goldman, 1981). Even choice of restaurant can be affected by the opinions of perceived experts. After being told that certain individuals are familiar with a particular city and its restaurants, participants are more likely to report that they would patronize the particular restaurants mentioned by the perceived experts (Wolf & Latané, 1983).

Communicator traits that affect social influence are not limited to internal characteristics such as having high status, being trustworthy, or being an expert. For example, in one study, experimenters soliciting donations for a non-profit organization dressed in either a suit or casual clothes. Donators gave marginally more money to the well-dressed requesters than the poorly-dressed requesters (Williams & Williams, 1989).

Similarly, experimenters identified as members of the League of Women Voters and wearing dresses or as Ohio State University students and wearing jeans solicited donations for a national charity. Residents were more likely to donate, and when donating gave more money, when approached by the members of the League of Women Voters. In other words, potential donators were more persuaded by the high strength requester (Jackson & Latané, 1981). In another study, patrons at a zoo obeyed rules given by an experimenter dressed in a zoo uniform to a greater extent than rules given by an experimenter dressed in casual clothes (Sedikides & Jackson, 1990). People who are less motivated and/or able to process arguments are even more persuaded by outside appearances than those who are more motivated and/or able to process arguments (Petty & Cacioppo, 1981; Puckett, Petty, Cacioppo, & Fischer, 1983; Zebrowitz, 1997).

While some aspects of an individual's outside appearance can be easily changed, such as clothes, there are other aspects of an individual's appearance that cannot be easily changed, including facial attractiveness and weight, and as will be discussed, these variables can significantly impact social influence. Specifically, being attractive or average weight can have a positive impact on social influence while being unattractive or overweight can negatively impact social influence.

Facial attractiveness. Facial attractiveness can have an important impact on social influence (Zebrowitz, 1997). Participants' opinions about a topic become more similar to the opinions given in an editorial when the attached picture is of a facially attractive person than when the attached picture is of a facially unattractive person or when no picture is attached (Horai, Naccari, & Fatoullah, 1974). Facially attractive people can

exert influence even with poor persuasion techniques. For example, one study found that a facially attractive communicator could persuade equally well with either strong or weak arguments (Chaiken, 1979, cited in Chaiken 1980).

Because facially attractive individuals do not need to provide strong arguments for a rationale, they are better able to persuade others to hold favorable opinions of a product and increase intentions to buy a product than facially unattractive individuals (Reinhard, Messner, & Sporer, 2006). Other research has shown that individuals treat facially attractive solicitors more pleasantly than facially unattractive solicitors (Reingen & Kernan, 1993). Because facially attractive solicitors are treated better, this could contribute to individuals' willingness to listen to and accept weak arguments and advocacies of merchandise from attractive people.

These effects may be due to a lifetime of preferential treatment and self-fulfilling prophecies for facially attractive individuals. Facially attractive people are often perceived as being socially attractive as well and are judged as being more interesting, sociable, and warm than facially unattractive individuals (Bassili, 1981; Feingold, 1992; Perlini & Hansen, 2001). Because facially attractive people are treated as though they are also socially attractive, they tend to act socially attractive, demonstrating a self-fulfilling prophecy (Valentine, Blankenship, Copper, & Sullins, 2001). In fact, research has shown that attractive people are more sociable and socially skilled; they are assertive in social interactions and have higher self-esteem (Reis, Nezlek, & Wheeler, 1980). As such, they are likely to be more influential (Jackson & Houston, 1975). A meta-analysis of 30

studies found that physically attractive people are more assertive, sociable, mentally healthy, and socially skilled than unattractive people (Feingold).

On the other hand, being facially *unattractive* can negatively impact social influence. Participants are more persuaded by a communicator when the communicator's facial attractiveness is not known than when a communicator is facially unattractive (Horai et al., 1974). Even when facially unattractive sources present strong arguments for an opinion, they are usually unsuccessful in changing others' opinions (DeBono & Telesca, 1990).

The facial attractiveness of a receiver can also impact the effectiveness of social influence. Because individuals who are facially attractive have higher self-esteem, they may be better able to resist persuasion (Miller, Gillen, Schenker, & Radlove, 1974). Some research suggests that high self-esteem helps a receiver resist persuasion even when the arguments given are seemingly logical and rational (Skolnick & Heslin, 1971). When cogent arguments are given, individuals with high self-esteem believe that they have the intellectual capabilities to scrutinize the message and thus are more likely to engage in critical evaluation of the argument. Those with low self-esteem believe that most people are more competent than themselves, and as such are more likely to accept persuasive messages without critically evaluating them (Petty & Wegener, 1998).

Although facial attractiveness is important, it is not the only physical trait that can contribute to social influence. Recently, much attention has been paid to the growing problem of obesity and the challenges that obese people face, especially in social interactions.

Weight. Weight may be just as important to one's overall physical attractiveness as facial attractiveness. One study using a computer program to mix different faces and bodies together found that participants' overall attractiveness ratings depended just as much on the body in the picture as the face in the picture (Alicke, Smith, & Klotz, 1986).

However, other research provides evidence for weight having *more* of an impact on social influence than facial attractiveness. Individuals are not held responsible for being facially unattractive, but can be held responsible for being obese. Those who believe obesity is the fault of the individual usually cite laziness and a hedonic lifestyle as causes (Crandall & Biernat, 1990). When a culture holds a general negative attitude toward obese people, and views obesity as the result of a lack of motivation, obese individuals are ostracized and often become the victims of prejudice (Crandall & Biernat, 1990; Karris, 1977). Even children as young as five years old like overweight targets significantly less than average weight targets, especially if the target is female (Penny & Haddock, 2007).

Holding negative attitudes toward obese people and blaming them for their weight can stem not only from a cultural attitude but an individual attitude as well (Crandall, D'Anello, Sakalli, Lazarus, Nejardt, & Feather, 2001). Individuals who endorse anti-fat attitudes tend to also endorse traditional gender-roles, racist attitudes, and homophobic attitudes. This finding suggests an underlying ideology, rather than a cultural phenomenon, that could be a factor in various prejudices in these individuals (Perez-Lopez, Lewis, & Cash, 2001).

Obese people are less successful at influencing others than average weight people, perhaps because of the biases commonly held against them. Research clearly shows that normal weight sources are more influential than obese sources and this effect tends to be much stronger for female sources than for male sources (Chaiken, 1982, as cited in Chaiken, 1981; Rodin & Slochower, 1974).

In addition to being poor sources of influence, research shows that obese people are persuaded more easily than average weight people (Chaiken, 1981). According to Schachter's (1971) externality hypothesis, obese people are more susceptible to social influence than average weight people because they are more receptive to outside cues in general; this influencibility is seen as a cause of obesity rather than a consequence. Because obese individuals are subject to intense social stigma, they view themselves as being social deviants and then monitor the appropriateness of their behavior more than average weight individuals, leading them to being more easily persuaded (Chaiken, 1981).

Summary. Strength has been operationally defined in many different ways. Qualities such as status, trustworthiness, expertise, clothing style and even facial attractiveness and weight influence how persuasive an individual will be.

Immediacy

According to social impact theory, another variable that affects social influence is immediacy (Latané, 1981). Immediacy is based on social space, which is not equal to physical proximity (Latané & Liu, 1996). Physical barriers, such as living on the same floor of an apartment building but using different elevators, and/or social barriers, such as

speaking different languages, can constrain contact between individuals who may be physically close.

Milgram's (1974) classic study of obedience showed how proximity affected obedience to an authority figure. When an authority figure (the experimenter) was seated just a few feet away from the participant, obedience rates were highest. Rates fell when the experimenter left the room and communicated only by phone and fell even further when the experimenter was never present and instead left a tape recording of instructions (Milgram, 1992). Further, participants were most obedient when they could not see or hear the "learner." Once participants could hear the learner's protests, obedience rates fell, and fell even further when participants were seated only 18 inches away from their learners. Obedience rates were lowest when participants had to touch the learner (Milgram, 1992). Thus, the closer the participants were physically to the experimenter, the more influence he had, and the closer the participants were to the victim, the more influence *he* had.

Similarly, when an experimenter posing as a zoo employee gave rules to visitors at a zoo, compliance was highest when the experimenter was in the same room as the visitors, then fell as distance and time separated them (Sedikides & Jackson, 1990). Students living in dormitories are more likely to interact with others on their dorm floor than with those on a different floor or elsewhere (Cullum & Harton, 2007). Even in other countries and among highly mobile populations (such as social scientists who attend international conferences), people's memorable interactions are an inverse function of distance (Latané, Liu, Nowak, Bonevento, & Zheng, 1995).

Other research, however, has shown no effects of immediacy on social influence. Immediacy did not have an impact on the amount of money given to door-to-door solicitors for a charity (Jackson & Latané, 1981), nor were significant effects found for help requests when a computer malfunctioned (Williams & Williams, 1983). When asked to predict the general population's answer to a question, participants did not significantly change their original predictions after viewing a close-up, as opposed to a distant television shot, of people voicing their predictions about the possible answer, again failing to provide empirical support for the influential impact of immediacy (Wolf & Latané, 1981). A main effect of immediacy was also not found when participants discussed applicants for graduate school with an experimenter who sat either four feet or 10 feet from the participants (Hart, Stasson, & Karau, 1999).

Although there are conflicting findings regarding the influential effects of immediacy, a common theme seems to appear among those studies that do not find the effect. Those that support immediacy have more extreme distinctions between the high and low immediacy conditions (e.g., participants and experimenters were in different rooms vs. the same room; Sedikides & Jackson, 1990) compared to studies that do not support immediacy and have less extreme immediacy conditions (e. g., participants and experimenters are separated by 10 feet or four feet; Hart, Stasson, & Karau, 1999).

The current study employs a similar extreme distance manipulation. Immediacy was manipulated by telling participants that their chat partner was a student at the same university or a different university.

Number

The final variable described by social impact theory has by far garnered the most empirical attention, possibly because of its ease of manipulation. Number is simply the number of people sharing an opinion (Latané, 1981). As the number of communicators increases, the power of each individual's influencing power gradually decreases. This decreasing power function does not imply that several people have less influencing power than just a few people, but the difference between zero and one person is larger than the difference between 50 people and 51 people (Latané). For example, one would be more likely to hang Christmas lights if two neighbors did than if only one did, but after seven neighbors hang lights, the eighth neighbor choosing to do so would not add as much influence.

One of the earliest studies investigating the effects of number found that people gave an obvious wrong answer to a question after three, four, six, seven, nine, or 15 confederates gave the same wrong answer, but not when only one or two confederates gave the wrong answer (Asch, 1955). Further, in Milgram's classic study, when participants saw even one confederate refuse to shock a learner, obedience rates fell (Milgram, 1992). The opinions of others can even influence an attitude as simple as restaurant choice; the desire to eat at a particular restaurant and number of endorsers of that restaurant are positively correlated (Wolf & Latané, 1983). Moreover, important tasks such as collecting donations for cancer research result in more successful outcomes when potential donators are approached by two solicitors instead of only one solicitor (Jackson & Latané, 1981).

The number of individuals sharing an attitude can influence others even when they do not explicitly express opinions or display overt behavior. The more bystanders present in an emergency, the less likely they will be to help a person in need (Darley & Latané, 1968b). People are influenced by the other bystanders into believing that the incident is not, in fact, an emergency, or that help is not required. This failure to help can sometimes have disastrous consequences. In the 1960's while a woman was being stabbed to death, 38 apartment residents watched from their windows without a single person calling the police until after the 30 minute attack was over (Darley & Latané). These results have been replicated in experimental settings as well. Dropping belongings in front of only a few bystanders is more likely to elicit help than if there are more bystanders (Latané & Dabbs, 1975). More disturbingly, when participants heard a confederate having a seizure they were less likely to help if they were waiting with others; if they were waiting alone, 85 percent of participants helped the confederate while only 31 percent helped if they waited with four others (Darley & Latané, 1968a). Research has clearly shown that greater social influence occurs as the number of people doing the influencing increases.

Multiplicative Evidence

Social impact theory suggests that strength, immediacy, and number are not additive effects, but are multiplicative. An individual high in strength *and* immediacy is much more persuasive than an individual high in strength *or* immediacy. A number of studies have shown support for the multiplicative function of strength and number regarding stage fright (Jackson & Latané, 1981; Latané & Harkins, 1976), restaurant

preferences (Wolf & Latané, 1983) and altruism (Jackson & Latané, 1981). The current study examines the multiplicative function of strength and immediacy, which no published experimental study has provided significant evidence for thus far.

Social impact theory is a static theory and does not take into account that people influence each other continually. Because social influence is reciprocal and reoccurring, dynamic social impact theory (DSIT) was developed to predict outcomes in such situations.

<div align="center">Dynamic Social Impact Theory</div>

Computer simulations have been integral in the development of dynamic social impact theory. Research using computer simulations has applied the multiplicative function of influence via strength, immediacy, and number recursively and reiteratively to demonstrate that attitudes of interacting individuals in spatially distributed groups (where individuals have access to some, but not all others) self-organize in predictable ways (Latané & Nowak, 1997; Latané, Nowak, & Liu, 1994; Nowak, Szamrej, & Latané, 1990). The results of these simulations form the predictions of DSIT: clustering, correlation, consolidation, and continuing diversity (Latané, 1996a).

Clustering

Clustering is when those who live close to one another (i.e., those who are immediate), come to share similar attitudes, resulting in regional differences in opinions. Clustering can occur on an international level, such as differences in food preferences, holiday traditions, and vocabulary, or on a more local level such as regional differences in accents, fashions, and what to call soft drinks (soda vs. pop). Obesity has even been

shown to cluster; individuals are over 50% more likely to become obese if they have a close friend, sibling, or spouse who becomes obese (Christakis & Fowler, 2007).

Clustering can occur within minutes of communicating with others. After answering questions separately, students in a class discussed their answers with those sitting next to them. After only one minute of discussion, students' answers to the questions became more similar to those with whom they were sitting closest, demonstrating clustering (Harton, Green, Jackson, & Latané, 1998). Even social psychologists discussing analogies at conferences show this effect (Harton, Green, Jackson, & Latané, 1996). Clustering occurs for socially unacceptable activities as well. Crandall (1988) found that different sororities had "rules" for binging and purging behaviors, and by the end of the school year, a sorority member's bulimic activity could be predicted from her friends' bulimic activity. In a classic study conducted in married student housing, students within close proximity had more similar attitudes to each other than to individuals who lived farther away, even though the housing was assigned randomly (Festinger, Schachter, & Back, 1950; see also Newcomb, 1956).

Correlation

As individuals influence each other on multiple issues, attitudes that seemingly have nothing to do with one another become correlated (Latané, 1996a). These associations emerge because individuals are constantly influencing each other on a variety of issues. For example, individuals in areas where the death penalty is opposed are also less likely to own a dog (Weiss, 1994). One study using the computer administered panel study (CAPS) paradigm at Florida Atlantic University had

participants communicate their preferences with others over a computer five times across two and a half weeks, and found that attitudes that were not correlated before discussions with other participants, such as preference for cake or pie and preference for red or blue, became correlated (Latané & Bourgeois, 1996). Using this same paradigm, Huguet, Latané, and Bourgeois (1998) found that attitudes on potential violations of human rights significantly correlated to a greater extent after discussion. Additionally, after discussion a principal component analysis revealed that the factor structures on attitudes on the potential human rights violations significantly differed across groups.

Consolidation

As people influence and are influenced, diversity of attitudes among a group decreases as the size of the majority holding the attitude increase. This consolidation occurs because the powerful and influential majority tends to grow while the smaller and weaker minority shrinks (Harton & Bourgeois, 2004; Latané, 1996a). A classroom exercise in which students answered a question separately and then discussed the question with others demonstrated consolidation. After students discussed their answers to the questions, the least popular answers were often abandoned for the more popular answers, whether they were correct or not (Harton et al., 1998).

Continuing Diversity

The final prediction of DSIT explains why diversity continues, even though influence results in a growing majority (Latané, 1996a). Although attention is generally paid to only two political parties in the U.S., other political parties still exist and are

supported by loyal constituents. The Amish are another example of individuals

withstanding a powerful majority influence (Harton & Bourgeois, 2004).

Diversity continues even when people are very motivated to be in the majority. In

one study participants were given money when they correctly identified which of two

options the majority would choose. Participants were only given information about how

four other participants answered. A significant portion of the time participants did not

correctly choose the majority answer (Latané & L'Herrou, 1996). This finding occurred

because participants in the minority believed that they were in the majority because the

people they communicated with agreed with them. This demonstrates how via clustering,

minorities persist (Latané & L'Herrou, 1996). DSIT explains majority influence and

minority influence similarly (Latané & Wolf, 1981). Although it is more likely that the

majority opinion will grow (Harton et. al., 1998), DSIT can account for the proliferation

of minority opinions that, after social influence, become the majority as well (Harton &

Bourgeois, 2004; Latané, 1996b). Minorities can compensate for small numbers by being

high in both strength and immediacy.

Applications

DSIT is an important theory for helping explain social concerns. In fact, the

theory has been applied to the creation and continuation of stereotypes (Schaller &

Latané, 1996). Stereotypes involve the attribution of many traits to a certain group.

Initially these traits are unrelated, but as people discuss them a consensus is reached that

these traits do indeed describe a particular group (Schaller & Conway, 1999). Group

consensus also dictates the expression of prejudice (Crandall, Eshleman, & O'Brien,

2002). The phenomenon of clustering described in DSIT explains why everyone's stereotypes about the same group are not always the same (Schaller & Latané). Clustering can also explain differences in attitudes toward lesbian, gay, and bisexual peers (Bowen & Bourgeois, 2001).

Patterns of aggression and views on aggression tend to be self-organized and can be explained by DSIT. Some regions of the United States, particularly the Southern states, are considered to be a part of culture of honor that views the defense and protection of one's honor as a pinnacle goal, even it means defending through violence and aggression (Vandello & Cohen, 2004). Researchers can examine attitudes about aggression between cultures of honor and non-cultures of honor with the use of DSIT. Richardson and Huguet (1999, as cited in Richardson & Latané, 2001) provided experimental evidence that justifications for aggression were more self-organized among males and underprivileged youths.

DSIT can also be applied to the understanding of health-related attitudes and how to alter these attitudes and their related behaviors. Pluralistic ignorance, the belief that one's attitudes are different from others', although behavior is the same (Prentice & Miller, 1993), has been shown to be a strong source of college students' ideas about alcohol consumption. Participants believed that other college students are more accepting of alcohol and are less concerned with how much they drink than they are themselves. Bourgeois and Bowen (2001) found that alcohol consumption attitudes and beliefs about other students' drinking habits were clustered by dormitory building and further by floors in the dorm. For younger students, the peer group one associates with

(e.g., jocks or outsiders) predicts one's alcohol use and sexual behavior even after controlling for demographics and self-esteem (Dolcini & Adler, 1994).

Constraints on DSIT

At least some factors constrain the degree to which attitudes or behaviors cluster and consolidate, however. Cullum and Harton (2007) found that the attitudes of residents of four college dormitories clustered by "house" and became more correlated across a semester, but that these effects were stronger for high importance issues than for those that were less personally important. Behaviors that are more observable (e.g., leaving one's dorm room door open) also cluster to a greater extent than those less observable (e.g., eating fruits and vegetables; Cullum & Harton, 2008). Heritability of attitudes also moderates social influence. Bourgeois (2002) found that attitudes high in heritability (ones with a greater genetic component) were less likely to cluster and consolidate.

Summary

Computer simulations and empirical studies have garnered evidence for the four predictions of DSIT: clustering, correlation, consolidation, and continuing diversity. Clustering has been shown to occur quickly in face-to-face and computer-mediated studies, and for both attitudes and behaviors in field studies of dormitories and sororities. Correlation, consolidation, and continuing diversity have emerged in all three paradigms as well. Finally, continuing diversity has been supported by evidence from a variety of studies.

Current Study

Social impact theory has shown, with significant empirical evidence, the effect that strength, immediacy and number can have on social influence. The higher an individual is in strength, in one variation or another, the more influential that individual will be. The closer a communicator is to another person, the more influential the communicator will be, and several communicators are more often influential than only a few communicators. Social impact theory has been used to help predict donations for charity (Jackson & Latané, 1981), obedience to rules (Sedikides & Jackson, 1990), and restaurant preferences (Wolf & Latané, 1983). DSIT suggests that if influence occurs in the way described by social impact theory, four phenomena will occur: attitudes among those closer in proximity will be more similar than between those farther away (clustering); once unrelated attitudes will become related (correlation); variation in attitudes will decrease (consolidation); and even with a strong majority, minority opinions will persist (continuing diversity; Latané, 1996a).

Social impact theory and DSIT have expanded the knowledge of social influence greatly. However, past research using these theories has not focused on the impact strength has on the predictions of DSIT. The present study adds to the literature by examining how the multiplicative effects of strength variables (facial attractiveness and weight) and immediacy affect clustering, consolidation, and correlation of attitudes in dyadic online discussions. Theoretically, the current study provides empirical support for social impact theory and DSIT, and practically, the current study provides evidence

(and possibly a warning) for the importance of physical appearances on social interactions.

In this study, dyads discussed several issues online using an instant messaging program. Before the discussion began, one female participant in the dyad was shown a picture of a same sex person and told that it was her chat partner. The picture was of an individual who was not taking part in the study and was either high or low in facial attractiveness and average weight or overweight (strength). She was also told that her chat partner was another student at the same university or a student at a different university (immediacy). Participants then discussed issues with their partner and afterwards completed several questionnaires.

Hypotheses

I hypothesized that after discussion social influence would occur more frequently in conditions of high strength or high immediacy than in conditions of low strength or low immediacy. Social influence is expected to occur most in conditions where both strength and immediacy are high, showing a multiplicative effect.

More specifically, clustering, correlation, and consolidation are expected to increase to a greater extent in the high facial attractiveness/average weight condition (high strength) followed by the low facial attractiveness/average weight condition (medium high strength) followed by the high facial attractiveness/overweight condition (medium low strength), and the low facial attractiveness/overweight condition (low strength). Weight is predicted to have more of an impact on clustering, correlation, and

consolidation than facial attractiveness because of its perceived controllability (Crandall & Biernat, 1990).

Clustering, correlation, and consolidation are expected to increase to a greater extent for those who believe they are discussing issues with a student from the University of Northern Iowa (UNI; high immediacy) than those who believe they are discussing issues with a student from North Dakota State University (NDSU; low immediacy).

Finally, I hypothesized that there would be an interaction between strength and immediacy, such that conditions with high strength and high immediacy will show greater increases in clustering, correlation, and consolidation than would be expected from the additive effects of those factors.

CHAPTER 2

PILOT STUDIES

Issue Selection

Method

Forty-nine college students rated their attitudes and importance levels on 59 issues. Issues included social, political, campus, and pop culture topics such as "reality TV programs are annoying." Attitudes were measured on a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*); importance levels were measured on a 7-point Likert scale from 1 *(not important at all)* to 7 (*very important*). These scales were included in a mass testing packet with various other scales administered at the beginning of the semester.

Results

Means and standard deviations for each issue were calculated and examined descriptively. From this examination, 12 issues were chosen for further analysis because they had average attitude scores near 4 (indicating an overall neutral opinion) with a large standard deviation (indicating disagreement). These issues also had either high or low importance scores (regardless of how one feels, that attitude is important to him/her) and small standard deviations (indicating relative consensus on the importance ratings).

A repeated measures analysis of variance (ANOVA) showed that high importance issues ($M = 4.53$, $SD = .11$) were rated significantly higher in importance than low importance issues ($M = 3.24$, $SD = .12$), $F(1, 48) = 82.96$, $p < .0001$, $\eta^2 = .63$. The

chosen issues are presented in Appendix A. Means and standard deviations for the attitude and importance levels are given in Table 1.

Table 1. Pilot Study: Issue statistics
Note: *n* = 49
<u>High importance issues</u>

Issue	Attitude		Importance	
	M	*SD*	*M*	*SD*
People under the age of 18 should not receive a life sentence without parole.	4.04	1.74	4.14	1.68
Gay marriage should be legal.	4.45	2.11	4.37	2.04
People that I am friends with would never take illegal drugs.	4.12	1.75	4.61	1.71
Talking on cell phones while driving should be illegal.	3.43	1.71	4.65	1.47
Living together is a good way to test a future spouse.	3.98	1.92	4.67	1.59
Immigrants should be required to speak English in order to reside in the U.S.	4.61	1.77	4.73	1.59

<u>Low importance issues</u>

Issue	Attitude		Importance	
	M	*SD*	*M*	*SD*
Reality TV programs are annoying.	3.84	1.72	2.37	1.45
Breast augmentation is a good idea for some women.	3.65	1.81	2.61	1.72
Drug users are bad people.	3.67	1.66	3.08	1.68
Students should be required to be an active member of at least one club or organization on campus.	3.63	1.83	3.49	1.79
Marijuana should be legalized nationwide for medicinal usage.	3.78	1.83	3.84	1.86
The response to Katrina was as good as could be expected given the unexpected situation.	4.00	1.86	4.04	1.63

<p style="text-align:center">Picture Selection</p>

Method

Nine college students rated several pictures obtained from the Productive Aging Laboratory database from the University of Illinois Urbana-Champaign (Minear & Park, 2004) and from various other available online sources. Several pictures of Caucasian women from 18 to 24 years old were chosen because they were head shots of the individual with a plain background. Pictures were presented in a random order and were rated for facial attractiveness on a 10 point Likert scale from 1 (*unattractive*) to 10 (*attractive*) and weight on a 10 point Likert scale from 1 (*average weight*) to 10 (*overweight*).

Results

Four pictures were chosen for further analyses because participants rated them either high in attractiveness or low in attractiveness and average weight or overweight with low standard deviations, which ensured that there was little variation in the participants' ratings.

A paired sample *t*-test showed that two pictures significantly differed in ratings of facial attractiveness $t(8) = 6.85, p = .0001$. These pictures did not significantly differ in ratings of weight $t(8) = 1.70, p = .13$. Thus, these pictures were used as the high attractiveness/average weight and the low attractiveness/average weight stimuli.

Another two pictures significantly differed in ratings of facial attractiveness $t(8) = 4.90, p = .001$, but did not significantly differ in ratings of weight $t(8) = .80, p = .45$.

These pictures were used as the high attractiveness/overweight and low attractiveness/overweight stimuli.

Furthermore, a paired sample t-test showed that the two pictures rated high in attractiveness did not significantly differ in attractiveness $t(8) = 1.40$, $p = .20$, and a paired sample t-test of the two pictures rated low in attractiveness also did not significantly differ in attractiveness $t(8) = 1.64$, $p = .14$. Another paired sample t-test showed that the pictures rated as being average weight did not significantly differ in ratings of weight, $t(8) = .80$, $p = .44$, and a paried sample t-test showed that the pictures rated as being overweight also did not significantly differ in ratings of weight $t(8) = 1.70$, $p = .13$.

Another paired sample t-test showed that the two pictures rated high in attractiveness had significantly different weight ratings, $t(8) = 5.74$, $p = .001$ and the two pictures rated low in attractiveness had significantly different weight ratings, $t(8) = 5.19$, $p = .0001$. Descriptive statistics for the four chosen pictures are given in Table 2.

Table 2. Pilot Study: Picture statistics

	Condition			
	High attractiveness & average weight	High attractiveness & overweight	Low attractiveness & average weight	Low attractiveness & overweight
Attractiveness Rating	7.30 (.87)	6.40 (1.51)	3.89 (1.27)	4.44 (1.24)
Weight Rating	3.11 (1.54)	7.20 (1.39)	2.00 (1.12)	7.67 (2.29)

$n = 9$

CHAPTER 3

METHOD

Participants

Participants were 80 psychology students in 40 dyads from the University of Northern Iowa (UNI) recruited from the university's on-line psychology student participant manager (PSPM). The majority of the participants were Caucasian and freshman; detailed demographic information is given in Tables 3a, 3b, and 3c. The study was described as a discussion of several social, political and pop-culture related issues with another female participant. Although the study was intended only for female participants, six men signed up for the study.[1] When a male participant participated in the current study, he did not receive a picture of his chat partner and instead served as the control for that dyad. Male participants' data were still used in the analyses[2]. Female participants with a male chat partner still received a picture of a female and believed that her chat partner was female.

Table 3. Demographics

Table 3a. Gender

	Males	Females
Gender	7.5% ($N = 6$)	92.5% ($N = 74$)

Table 3b. Year in school

	Freshman	Sophomore	Junior	Senior
Year in School	62.5% ($N = 50$)	22.5% ($N = 18$)	6.3% ($N = 5$)	8.8% ($N = 7$)

Table 3c. Ethnicity

	Caucasian	African-American	Hispanic	Other
Ethnicity	95% ($N = 76$)	1.3% ($N = 1$)	1.3% ($N = 1$)	2.5% ($N = 2$)

Design

This study used a 2 (facial attractiveness) by 2 (weight) by 2 (immediacy) between-participants design.

Measures

Demographics

Age, gender, year in school, and ethnicity were obtained (See Appendix B).

Participant Information Sheet

Participants completed an information sheet asking for the same demographic information as above as well as what university the participant attended (Appendix C).

Attitude pretest/posttest

Participants provided their attitude and importance levels for 12 issues on 7-point Likert scales from 1 (*strongly disagree*) to 7 (*strongly agree*) and from 1 (*not at all important*) to 7 (*very important*). Examples of the scales are given in Appendix D.

Need for Cognition

The Need for Cognition Scale (Cacioppo & Petty, 1982; Appendix E) measures amount of time spent thinking and enjoyment of thinking on a 4-point Likert scale from 1 (*completely false*) to 4 (*completely true*). This scale was used as a filler measure and thus was not analyzed in the current study.

Self-Monitoring

The Self-Monitoring Scale (Snyder, 1974; Appendix F) includes true or false items inquiring about participants' ability and desire to regulate their behavior in public. This scale was also used as a filler measure and thus was not analyzed in the current study.

Chat Partner Perceptions

Participants rated how well 16 adjectives (e.g., lazy, submissive, creative) described their chat partner on a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*; see Appendix G). This measure included manipulation checks for facial attractiveness and weight. Participants rated how facially attractive they thought their partner was on a 7-point Likert scale from 1 (*describes my partner very poorly*) to 7 (*describes my partner very well*) and how overweight they thought their partner was on a 7-point Likert scale from 1 (*describes my partner very poorly*) to 7 (*describes my partner very well*).

Discussion Perceptions

Participants rated how much they agreed or disagreed with statements assessing normative and informative social influence. They also responded to items assessing how they felt during the discussion, about their partner, and about the discussion overall on 7-point Likert scales from 1 (*strongly disagree*) to 7 (*strongly agree*; see Appendix H). The manipulation check for immediacy was included in this measure and asked participants to choose which school they thought their chat partner attended from a list of five.

<div align="center">Apparatus</div>

Participants used a Dell Precision 340 with a Windows XP operating system for the online discussion using the chat program JBabble (Kulow, 2004). This program is an instant messaging program that provides participants with issues to discuss that change after a set number of minutes as predetermined by the experimenter.

Procedure

Participants arrived individually in approximately 10 minute intervals to keep them from seeing one other. The first person in the dyad to arrive was assigned as the target participant and the second person to arrive was the source participant. Source participants received a picture of their believed chat partner and were told they attend the University of Northern Iowa or North Dakota State University. Participants were greeted by the female experimenter and taken to a small individual room with a computer where the experimenter explained that the purpose of the research study was to examine how people communicate with others when information about the other person is given vs. when information about the other person is not given. They were told that some participants would receive information about their chat partner, whereas others would receive none and that was why it was very important not to share any personal information with their chat partner during the discussion. Participants were told that they would be communicating with either another UNI student or a student from North Dakota State University.

They were then asked to read and sign a consent form and to fill out a participant information sheet asking for basic demographic information. Once these were completed, the experimenter explained that although only some participants' pictures would be shown to their chat partners, all participants would have a head shot picture taken to keep the study procedure constant. To eliminate any identifying background, all head shots were taken in front of a white background. After the experimenter took the participant's picture with a digital camera, she explained that she would return in a few

minutes with further instructions. While the experimenter was away, participants completed demographics and the attitude pretest on several issues. Source participants (those who did not receive a picture) also completed the Need for Cognition Scale, and the Self-Monitoring Scale at this time. Target and source participants completed these measures at different times to ensure that they would not see each other as they were leaving.

The experimenter then returned and gave target participants a printed picture of their "chat partner" and a demographic sheet, and told them that their partner either attended the University of Northern Iowa or North Dakota State University. The picture of the participant's "chat partner" was of a Caucasian female who was approximately 19 years old and had the same white background as the participants. The pictures represented an individual who was either high in facial attractiveness and average weight, low in facial attractiveness and average weight, high in facial attractiveness and overweight, or low in facial attractiveness and overweight. Information about the university her chat partner attended and the picture provided were randomly assigned. All target participants received the same sheet with the same participant information sheet to eliminate confounds based on this information. Source participants were told that they were in a no information condition and would not receive information about their chat partner.

Before setting up the instant messaging program, the experimenter again stressed to the participants that it was essential for the study that they stay on topic and not share

any personal information with their chat partner during the discussion. The participants were also told that the discussion would be monitored from another computer.

The participant then discussed with her chat partner six issues from the attitude pretest for four minutes each. Half of the dyads discussed six of the 12 issues, and the other half discussed the other six issues. Which set of issues a dyad discussed was randomly assigned. Three issues were of high importance and three were of low importance, as determined by an earlier pilot study with the same population.

After the discussion, the participants completed the attitude posttest, the chat partner perceptions questionnaire, and the discussion perceptions questionnaire. The target participant also completed the Need for Cognition scale and the Self-Monitoring scale at this time.

Once the measures were completed, participants were probed for suspicion about the hypotheses of the research and debriefed individually. No participant expressed any significant suspicion. The experimenter carefully explained to the participant that her chat partner was not actually who she saw in the picture and that her picture was not shown to anyone. Target participants were also asked verbally which condition they thought they were in, the high or low facial attractiveness condition or the average or overweight condition. Participants then left separately.

CHAPTER 4

RESULTS

In the current study, I used a significance level of $p < .10$ to ensure adequate power to identify relationships even with the small sample size. In most instances where a p level of $< .10$ was found, the p level was very close to being significant at the conventional .05 level.

Manipulation Checks

The manipulations of facial attractiveness and weight did not appear to be successful, according to the manipulation checks. Participants in the high facial attractiveness conditions ($M = 4.85$, $SD = 1.30$) did not rate their chat partner as more attractive than participants in the low facial attractiveness conditions ($M = 3.90$, $SD = 1.12$), $\eta^2 = .13$, $p = .283$. Further, participants in the overweight conditions ($M = 3.50$, $SD = 1.43$) did not rate their chat partner as higher in weight than participants in the average weight conditions ($M = 1.60$, $SD = 1.10$), $\eta^2 = .37$, $p = .198$.

The manipulation of immediacy was successful. One hundred percent of participants told that their chat partner was another University of Northern Iowa student answered the manipulation check question correctly. Participants in the low immediacy conditions (those who were told their chat partner attended North Dakota State University) answered correctly 95% of the time; only one participant in the low immediacy condition incorrectly answered that their chat partner attended the University of Northern Iowa. Two participants in the low immediacy condition correctly answered

that their chat partner attended a different university than themselves, but both participants chose Colorado State University rather than North Dakota State University.

<p style="text-align:center;">Clustering</p>

Clustering was computed by calculating intraclass correlations by dyad for each issue before and after discussion. Several methods have been used in previous research to assess clustering in nonspatially distributed groups, including ANOVAs (Bourgeois, 2002) and intraclass correlations (Binder & Bourgeois, 2006; Conway, 2004). In this study, I chose to use intraclass correlations to be consistent with previous research. It should be noted that intraclass correlations are a conservative estimate of effect size (Conway & Schaller, 1998). They represent the percentage of variance accounted for by the dyad (Kashy & Kenny, 2000). Intraclass correlations (ICC's) are most appropriate when the dyads or groups in the analyses are exchangeable (Conway & Schaller). Another advantage for the use of ICC's is the ability to obtain the same result no matter what order the data are entered originally (Conway & Schaller).

To test the effects of clustering by condition before and after discussion, I calculated the ICC for each issue within condition, before and after discussion (Kashy & Kenny, 2000). In each condition, participants discussed one of two different subsets of the issues. Because the sample sizes were so small (sometimes $n < 3$) when the dyads were divided by version (i.e., whether participants discussed one set of six issues versus the other), I combined versions for these analyses. The analyses are based on the relationship between dyad members, rather than the relationship between issues, making collapsing across versions less of a problem.

A sign test on all the ICCs (by issue and condition, $n = 48$ pairs of ICCs) showed that attitudes increased in clustering after discussion (ICC = .29) compared to before discussion (ICC = -.01), $p = .10$.

A sign test comparing the increase in clustering for each condition separately showed that no condition had a significant increase in clustering, $p > .10$. A different way to assess clustering is to examine the number of ICCs that individually reached significance levels of $p < .10$. Table 4 shows the number of significant ICC's before and after discussion for each condition.

Table 4. Number of significant ICC's before and after discussion for each condition

		Condition			
		High attractiveness & average weight	High attractiveness & overweight	Low attractiveness & average weight	Low attractiveness & overweight
UNI	Pre	2	4	4	4
	Post	3	5	6	4
NDSU	Pre	5	3	2	3
	Post	4	3	6	3

Descriptive examination of the average ICC's before and after discussion showed that the only condition where the intraclass correlations did not increase among those

who believed their chat partner also attended UNI, was the condition in which the

participant received a picture that was high in attractiveness and average weight. Every

condition among those who believed their chat partner attended NDSU had an average

ICC increase after discussion compared to before. Table 5 shows the average of the

ICC's across all discussed issues for each condition before and after discussion.

Table 5. Average ICC's for discussed issues by condition

		Condition			
		High attractiveness & average weight	High attractiveness & overweight	Low attractiveness & average weight	Low attractiveness & overweight
UNI	Pre	.18	.09	.23	-.05
UNI	Post	.18 ($n = 10$)	.37 ($n = 12$)	.60 ($n = 10$)	.10 ($n = 8$)
NDSU	Pre	-.09	-.29	.04	-.23
NDSU	Post	.07 ($n = 8$)	-.13 ($n = 10$)	.28 ($n = 10$)	.29 ($n = 12$)

Correlation

Attitudes on discussed issues were intercorrelated separately for target

participants for version 1 and version 2 and separately for source participants for version

1 and version 2. Because the correlational analyses deal with relationships between

issues rather than people, all of these analyses are separated by the people who completed

version 1 versus version 2. Similarly, because of problems of nonindependence between

dyad members, these analyses are reported separately by target participant and source participant. Table 6 depicts a correlation matrix for *source* participants in version 1, Table 7 depicts a correlation matrix for *target* participants in version 1, Table 8 depicts a correlation matrix for *source* participants in version 2 and Table 9 depicts a correlation matrix for *target* participants in version 2. For each of these correlation matrixes, pretest correlations are above the bolded diagonal and posttest correlations are below the bolded diagonal.

Table 6. Correlation matrix for *source* participants in version 1

	Issue 1	Issue 2	Issue 3	Issue 4	Issue 5	Issue 6
Issue 1	**1**	-.12	.38	.08	-.19	.14
Issue 2	-.18	**1**	-.44	-.60**	.19	.22
Issue 3	.18	-.01	**1**	.32	-.06	-.19
Issue 4	.05	.13	.41	**1**	.09	.31
Issue 5	-.09	.33	-.51*	-.08	**1**	-.21
Issue 6	.18	-.32	.36	.51*	-.33	**1**

$n = 20$ participants, $* p = .05$, $** p = .01$
Note: pretest correlations are above the bolded diagonal and posttest correlations are below the bolded diagonal

Table 7. Correlation matrix for *target* participants in version 1

	Issue 1	Issue 2	Issue 3	Issue 4	Issue 5	Issue 6
Issue 1	**1**	-.12	.21	.26	.23	.17
Issue 2	-.21	**1**	-.12	.35	.49*	-.18
Issue 3	.22	-.14	**1**	-.18	-.09	.06
Issue 4	.21	.15	.09	**1**	-.20	.06
Issue 5	-.08	.35	.12	.21	**1**	-.18
Issue 6	-.06	-.12	.29	.25	-.05	**1**

n = 20 participants, * $p = .05$
Note: pretest correlations are above the bolded diagonal and posttest correlations are below the bolded diagonal

Table 8. Correlation matrix for *source* participants in version 2

	Issue 1	Issue 2	Issue 3	Issue 4	Issue 5	Issue 6
Issue 1	**1**	-.34	.11	-.08	.27	.21
Issue 2	-.61**	**1**	-.02	.13	-.10	-.54*
Issue 3	0	-.01	**1**	.27	.28	0
Issue 4	-.09	.39	-.01	**1**	-.02	.01
Issue 5	.21	-.15	.16	.04	**1**	.13
Issue 6	.20	-.34	.14	-.34	.66**	**1**

n = 20 participants, * $p = .05$, ** $p = .01$
Note: pretest correlations are above the bolded diagonal and posttest correlations are below the bolded diagonal

Table 9. Correlation matrix for *target* participants in version 2

	Issue 1	Issue 2	Issue 3	Issue 4	Issue 5	Issue 6
Issue 1	**1**	-.12	-.44*	.23	.02	-.06
Issue 2	.51*	**1**	.37	.28	.29	.05
Issue 3	.34	.44	**1**	-.02	.37	.08
Issue 4	-.47*	-.21	-.63**	**1**	.25	-.05
Issue 5	.10	.14	.04	.10	**1**	.14
Issue 6	-.31	.12	.37	-.18	-.05	**1**

n = 20 participants, * p = .05, ** p = .01
Note: pretest correlations are above the bolded diagonal and posttest correlations are below the bolded diagonal

When examining correlations, it was not possible to run inferential statistics because there is only one variable per condition (i.e., number of significant correlations, average absolute value magnitude of the relationship). Descriptively, the number of significant correlations and average absolute value magnitudes (using Fisher z transformations) were examined. Across both versions and both dyad members, the number of significant correlations increased for discussed issues from four in the pretest to seven in the posttest. The average absolute magnitude of the correlations increased from r = .19 before discussion to r = .22 after discussion.

Next, attitudes on discussed issues were intercorrelated before and after discussion for each level of the independent variables separately (attractiveness: high or

low, weight: average or overweight, and immediacy: high or low) for each version and

dyad member. Because of the small cell sizes that resulted when all the conditions were

broken down by version, I did not test interaction effects directly in these analyses. First,

I computed correlations separately by version and dyad member (target vs. source) within

each condition (e.g., high vs. low facial attractiveness). Then I averaged the correlations

of the target and source for each of the six discussed issues using absolute value Fisher z

transformations. This averaging resulted in one correlation coefficient before and after

discussion for each level of the three independent variables.

When facial attractiveness was high, the number of significant correlations

decreased from four before discussion to three after discussion and when facial

attractiveness was low, the number of significant correlations increased from three before

discussion to six after discussion. When the chat partner was believed to be average

weight, the number of significant correlations increased from two before discussion to six

after discussion and when the chat partner was believed to be overweight, the number of

significant correlations increased from four before discussion to five after discussion.

Finally, when the chat partner was believed to be another UNI student the number of

significant correlations did not change from six both before and after discussion and

when the chat partner was believed to be a North Dakota State University student the

number of significant correlations increased from zero before discussion to eight after

discussion.

When facial attractiveness was high the average absolute value magnitude

increased from $r = .25$ in the pretest to $r = .31$ in the posttest and when facial

attractiveness was low the average absolute value magnitude increased from $r = .28$ in the pretest to $r = .29$ in the posttest. When the chat partner was believed to be average weight the average absolute value magnitude increased from $r = .31$ in the pretest to $r = .33$ in the posttest and when the chat partner was believed to be overweight the average absolute value magnitude increased from $r = .23$ in the pretest $r = .27$ in the posttest. Finally, when the chat partner was believed to be another UNI student the average absolute value magnitude increased from $r = .29$ in the pretest to $r = .31$ in the posttest and when the chat partner was believed to be a North Dakota State University the average absolute value magnitude increased from $r = .28$ in the pretest to $r = .33$ in the posttest.

Descriptively, the largest increase in the number of significant correlations and average absolute value magnitude from pretest to posttest was the low immediacy condition. The smallest increase in the number of significant correlations and average absolute value magnitude from pretest to posttest was the high immediacy condition.

Across all levels of the independent variables, the number of significant correlations increased for discussed issues from 11 in the pretest to 13 in the posttest for version 1 and eight in the pretest to 23 in the posttest for version 2. The average absolute value magnitude of the correlations increased from $r = .28$ before discussion to $r = .29$ after discussion for version 1 and $r = .26$ before discussion to $r = .31$ after discussion for version 2.

A summary of the number of significant correlations are given in Table 10 and a summary of the absolute value magnitudes overall and for all levels of the independent variables are given in Table 11.

Table 10. Summary of number of significant correlations for discussed issues

	Version 1 n = 40 participants		Version 2 n = 40 participants		Total	
	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
Overall	11	13	8	23	19	26
High facial attractiveness	2	2	2	3	4	5
Low facial attractiveness	4	0	1	5	5	5
Average weight	1	2	2	4	3	6
Overweight	4	2	0	2	4	4
High immediacy	2	2	4	4	6	6
Low immediacy	0	3	0	4	0	7

Table 11. Summary of average absolute value magnitudes for discussed issues

	Version 1 n = 40 participants		Version 2 N = 40 participants	
	Pretest	Posttest	Pretest	Posttest
Overall	.28	.29	.26	.31
High facial attractiveness	.26	.33	.24	.28
Low facial attractiveness	.28	.26	.27	.32
Average weight	.33	.29	.29	.36
Overweight	.24	.27	.22	.26
High immediacy	.22	.20	.35	.41
Low immediacy	.36	.40	.19	.26

Consolidation

Consolidation is defined as a decrease in attitude variance after discussion compared to before discussion. To compute consolidation, I first calculated the variance for each issue for each dyad. Variances were then compared using separate mixed-design 2 (facial attractiveness: high or low) x 2 (weight: average or overweight) x 2 (immediacy: high or low) x 2 (time: pretest or posttest) repeated measures analyses of variance (ANOVA) for each of the 6 discussed issues. This method of statistical analysis for consolidation is consistent with previous DSIT research (e.g., Cullum & Harton, 2007; Okdie, 2007). Although it would have been preferable to conduct separate repeated

measure ANOVA's for version 1 and version 2, they were not computed because of the small sample sizes.

Results showed that for issue 4 there was a significant main effect of time, F $(1,32) = 11.90, p < .01, \eta^2 = .27$. For this issue, there was less variance in attitudes before discussion ($M = 2.32, SD = .44$) compared to after discussion ($M = 5.38, SD = .88$), $p <$ .05.

Also for issue 4, there was a significant interaction effect of time and immediacy, $F(1, 32) = 4.41, p < .05, \eta^2 = .12$. When immediacy was low (those who believed their chat partner attended North Dakota State University) there was less variance in attitudes before discussion ($M = 2.27, SD = .61$) compared to after discussion ($M = 7.19, SD =$ 1.21), $t(19) = -2.28, p < .05$, vs. when immediacy was high (those who believed their chat partner also attended the University of Northern Iowa) where there was no difference in variance from the pretest ($M = 2.36, SD = .64$) to the posttest ($M = 3.56, SD = 1.28$), $p >$ .10.

Finally, for issue 4 there was a significant interaction effect of time, facial attractiveness, and weight, $F(1, 32) = 5.34, p = .03, \eta^2 = .14$. When a chat partner was believed to be of high attractiveness and overweight, there was less variance in attitudes before discussion ($M = 1.22, SD = .76$) compared to after discussion ($M = 7.49, SD =$ 1.53), $t(9) = -2.36, p < .05$. There were no other significant time effects for the other combinations of facial attractiveness and weight. Means and standard deviations for these conditions are given in Table 12.

Depending on which version the participant was assigned to, issue 4 was: "People under the age of 18 should not receive a life sentence without parole" or "The response to Katrina was as good as could be expected given the unexpected situation."

Table 12. Mean dyad variances before and after discussion by attractiveness and weight for issue 4

	High attractiveness & average weight ($n = 18$)	High attractiveness & overweight ($n = 22$)	Low attractiveness & average weight ($n = 20$)	Low attractiveness & overweight ($n = 20$)
Pretest	2.65 (1.02)	1.22 (.76)	2.15 (.85)	3.25 (.86)
Posttest	4.85 (2.04)	7.49 (1.53)	6.10 (1.69)	3.06 (1.73)

Note: standard deviations are in parentheses

For issue 6, a time and immediacy interaction was significant, $F(1, 32) = 3.07$, $p = .09$, $\eta^2 = .09$. When immediacy was high (those who believed their chat partner attended the University of Northern Iowa) there was less variance in attitudes after discussion ($M = 3.25$, $SD = 1.20$) compared to before discussion ($M = 4.17$, $SD = 1.14$), $t(19) = 2.44$, $p < .05$. When immediacy was low there was not a significant change in attitude variance after discussion compared to before, $p > .10$. Means and standard deviations for these conditions are given in Table 13.

Table 13. Mean dyad variances before and after discussion by immediacy for issue 6

	High immediacy ($n = 40$)	Low immediacy ($n = 40$)
Pretest	4.17 (1.14)	2.77 (1.08)
Posttest	3.25 (1.20)	4.19 (1.13)

Note: standard deviations are in parentheses

Issue 6 was: "living together is a good way to test a future spouse" or "students should be required to be an active member of a club or organization on campus," depending on which version they were assigned to. There were no other significant effects of dyad attitude variances ($ps > .10$).

CHAPTER 5

DISCUSSION

Overall, the current study provided some evidence for clustering and correlation, two of the phenomena predicted by dynamic social impact theory. Participants became more similar to their chat partners on a variety of school and social issues after discussion, and these similarities related to increased interrelationships between the issues. Social influence was also affected by the perceived physical attractiveness, weight, and location of the partner.

More specifically, among those who believed their chat partner was another UNI student, clustering increased more when participants believed their chat partner was either high in facial attractiveness and overweight, or low in facial attractiveness and average weight. Among those who believed their chat partner was a North Dakota State University student, clustering increased more when participants believed their chat partner was low in attractiveness and overweight. The finding of clustering in studies where participants communicate online for an extended period of time is consistent with previous research using social and school issues (as in the current study; Binder, Russell, Sievers, & Harton, 2001; Bullock, Okdie, & Harton, 2007; Okdie, 2007; Okdie, Wren, & Harton, 2006).

Correlation also occurred in the current study. There was an increase in the number of significant correlations both overall and when correlations were examined separately by version and dyad member. The average absolute value magnitude also increased overall and in every level of the independent variables. Previous DSIT studies

have also found evidence of correlation in computer-mediated studies (Latané &

Bourgeois, 1996; 2001).

Finally, very limited evidence of consolidation was found in the current study. Of

the six discussed issues, only one showed a decrease in dyad variance over time, and that

was only when participants believed their partner was from their school (vs. another

school). However, other dynamic social impact theory research has also found limited

evidence of consolidation (e.g., Cullum & Harton, 2007; Huguet et al., 1998, Latané &

L'Herrou, 1996). As long as an initial majority exists, consolidation is likely to occur

(Binder & Bourgeois, 2006; Conway, 2004; Harton & Bullock, in press). One reason for

the finding of limited consolidation in the current study could be that there was not an

initial majority because participants were discussing in dyads and not in larger groups

where consolidation is generally found (e.g., Jackson, Bourgeois, & Latané, 2002; Latané

& Bourgeois, 1996; Latané & L'Herrou, 1996).

Participants who believed their chat partner was another UNI student seemed to

be most influenced by an individual they believed to be low in attractiveness and average

weight (followed by those they believed to be high in attractiveness and overweight). In

the high immediacy condition (their chat partner was believed to be another UNI student)

participants seemed to be more influenced by those who had one (but not two) physical

flaws. The more acceptable physical flaw was being low in attractiveness, possibly

because of the perception that weight can be controlled and those who are overweight

are, among other things, lazy (Crandall & Biernat, 1990). In fact, Aronson and

colleagues have shown that individuals who have a flaw are preferred over those who do not (Aronson, Willerman, & Floyd, 1966).

Participants in the high immediacy condition seemed to be less influenced by those who were believed to be low in attractiveness *and* overweight. According to social identity theory (Tajfel & Turner, 1979), people's self-concept is based on the groups to which they belong. Participants could have been reluctant to identify with individuals who were low in attractiveness and overweight because they might then identify themselves as low in attractiveness and overweight. Furthermore, some studies have found that target individuals are rated more favorably when associated with a physically attractive other (Sigall & Landy, 1973). In the same vein, when average weight individuals are associated with overweight targets, they are liked less than when associated with other average weight individuals, a phenomenon known as the mere proximity effect (Penny & Haddock, 2007).

Participants who believed their chat partner attended NDSU seemed to be more influenced by an individual believed to be low in attractiveness and overweight. Because their chat partner was believed to attend a different university than themselves, there was little possibility of later interactions with their partner and therefore it may not have been necessary for their chat partner to possess positive physical qualities. The fear of being associated with those who are low in attractiveness or overweight and the mere proximity effect (Penny & Haddock, 2007) became non-issues. Additionally, previous research has shown that individuals sometimes tend to pay more attention to arguments when they are made by an individual from a stigmatized group in an attempt to be "fair" (Petty,

Felming, & White, 1999). Therefore, it is possible that participants were influenced by a chat partner believed to be low in facial attractiveness and overweight because they were focusing on the arguments made more so than when the chat partner was believed to be high in facial attractiveness and average weight.

It was expected that those who were high in both immediacy and strength would be the most influential. However, results did not support this prediction. Participants were not influenced most by an individual from the same school believed to be high in facial attractiveness and average weight. This finding could possibly be because of negative stereotypes, such as being vain, egotistic, and materialistic, that are sometimes ascribed to physically attractive people (Dermer & Thiel, 1975) or because of dislike for seemingly flawless people (Aronson et al., 1966).

The current study partially supports social impact theory (Latané, 1981) by providing evidence for the interaction of strength and immediacy proposed by social impact theory, as there were different patterns of results, based upon what an individual was believed to look like, for those who were high vs. low in immediacy. However, this interaction did not always occur in the predicted direction. Strength is anything that makes one more influential (Latané, 1996a), therefore it is possible that being low in facial attractiveness or overweight makes one higher in strength than being high in facial attractiveness and average weight as was hypothesized in the current study. Being low in facial attractiveness may make one higher in strength in some situations because of negative stereotypes of those who are high in facial attractiveness (Dermer & Thiel, 1975). Finally, because this study examined similarity at the dyad level (i.e., clustering,

consolidation), it is possible that the effects found were due to the source participant being more influenceable, rather than the target being more influenced. Source participants who were perceived as less attractive or overweight may have been more influenced by their partners because of a self-fulfilling prophesy (Snyder, Tanke, & Berscheid, 1977; based on the belief that less attractive people would be more open to influence from others).

Dynamic social impact theory (Latané, 1996a) was also partically supported as evidence was found for two of the phenomena described by the theory: clustering and correlation. The current study also introduces the use of dyads in DSIT research. Dyads are often not considered to be a "group" (Levin & Moreland, 1995), but by studying dyads, it is easier to separate out the effects of individual strength on group level outcomes (Harton & Bullock, in press). Thus, dyads may be useful in helping to understand how phenomena occur at larger group levels that are typically made up of many dyads and small groups.

In previous literature using dynamic social impact theory, strength has in large part been ignored. The current study helps to provide evidence for what variables could operationalize strength (such as being low in facial attractiveness when in a high immediacy situation) and what variables may not operationalize strength (such as being high in facial attractiveness when in a high immediacy situation) especially for online discussions. The current study also used a different operationalization of immediacy than has been used in previous social impact research. Past research has typically measured immediacy by manipulating physical proximity. The current study measured

immediacy through manipulations of not only perceived distance, but also an element of similarity. It could be argued that this element of similarity confounds immediacy as described by social impact theory (Latané, 1981). However, the same argument could be made for operationalizations of immediacy in previous research such as living on the same dorm floor (Cullum & Harton, 2007).

The results from the current study could be applied in a variety of ways. When immediacy is high, the most influential people seem to be those who have a flaw such as being low in attractiveness or overweight. People who have careers in sales may not want to appear too perfect and may want to emphasize a fault so they are subsequently liked more. In the same vein, schools could employ an individual with a relative fault to speak to students about the dangers of drug and alcohol abuse and unsafe sex. More specifically, schools could employ an attractive individual who has had an addiction to alcohol and/or drugs or has been affected by the consequences of unsafe sex (i.e., their flaw) to speak about his/her experiences.

When immediacy is low, appearances matter less and the most influential people seem to be those who are low in attractiveness and overweight. One could apply the results of the current study for public service announcements or presidential campaigns. Public service announcements may be more influential when portraying someone who has experienced first-hand the dangers of drinking and driving, compulsive gambling, or gang memberships, rather than attractive people who have not had experience in these situations. A presidential candidate may want to consider having someone who is well versed in politics support his/her campaign rather than utilizing attractive celebrities who

may not be as familiar with politics. Concentrating on the message being portrayed rather than who is portraying the message may prove to be more effective.

The results of the current study are promising, however, there are several limitations, perhaps the largest being that the manipulation checks for strength were not supported. Participants may not have wanted to admit that their chat partner was low in attractiveness and/or overweight. Because all measures were completed online, participants could have felt their submitted responses were being viewed by the experimenter on another computer. In fact, the experimenter *was* watching from another computer in order to promptly set up the next part of the study once the previous section had been completed in an effort to keep the study progressing in a timely manner. However, this action by the experimenter may have led to the participants' suspicion of being watched. Furthermore, the experimenter explicitly told participants that she would be watching the chat from another computer in order to ensure participants did not discuss personal information. It was important that participants did not discuss personal information during the chat as it could have led to the discovery that their partner was not a NSDU student, as some were told, but actually another UNI student. Additionally, the failed manipulation checks could have been reluctance on the part of the participants to insult someone they had just gotten to know. Those participants who did verbally say to the experimenter that the pictures they received were low in attractiveness and/or overweight, were very timid and apologetic about saying so even after being told it was not actually their chat partner. A third possibility for the lack of support for the manipulation checks is result of a shifted average because of the participant's own facial

attractiveness and/or weight. It could have been that participants did not believe that their chat partner was low in facial attractiveness and/or overweight. Finally, although a pilot study determined that the pictures did differ in ratings of attractiveness and weight, it was a comparative rating as the same group of participants rated all pictures. If different participants had rated different pictures, eliminating the comparison between the pictures, the photographs chosen may have no longer significantly differed from one another.

Other limitations of the study could stimulate future research. In the current study four pictures were used for the facial attractiveness and weight manipulations. Although a pilot study determined that the pictures used in the high facial attractiveness condition and the picture used in the low facial attractiveness condition significantly differed in rating of attractiveness (the same was determined for the average weight and overweight picture for ratings of weight), there may still have been confounds that led to participants not rating the high facial attractiveness pictures as more attractive than the low facial attractiveness pictures or the overweight pictures as higher in weight than the average weight pictures. The original design of the study was to manipulate one picture to be high or low in attractiveness and average or overweight, but there was difficulty in locating an individual who was able to use the appropriate software. Optimally, future research could use one individual and manipulate a headshot of that person to get varying levels of facial attractiveness and weight, resulting in greater stimulus control. Further, future research could also have participants rate their own facial attractiveness and weight

to determine whether this has an effect on who they feel is low (or high) in facial attractiveness and average (or over) weight.

Another limitation of the current study is the relatively small sample size. The small sample size prevented clustering and consolidation from being analyzed separately by version. A larger sample size could allow for separate analyses of clustering and consolidation for version 1 and version 2. A larger sample size could also detect effects that that current sample size could not, as well as provide the current study with more power.

This study was conducted using college students, thus the results may not be generalizable to a larger, older population. Future research could address this problem by replicating this study with other populations, specifically older adults. It could be that older populations are more influenced by other aspects of a person such as his/her willingness to compromise or his/her willingness to entertain other opinions and are less concerned with the appearance and immediacy of others. Finally, participants in the current study were also limited in terms of diversity as most of the students at the University of Northern Iowa are Caucasian. Some research shows that African-American women have a more positive body image than Caucasian women (Cash & Henry, 1995; Molloy & Herzberger, 1998) and that the ideal body type is heavier for African-American women than for Caucasian women (Perry, Rosenblatt, & Wang, 2004). For these reasons, the current study may not be generalizable to a more diverse population.

The results may also not generalize to other parts of the United States. Midwesterners tend to be nicer than individuals in other regions of the U.S. (H. C.

Harton, personal communication, August 16, 2007). This tendency could be another

explanation for the lack of support for the manipulation checks as participants may have

been reluctant to insult another individual. This difference in politeness could also help

explain why individuals who were believed to be low in facial attractiveness and/or

overweight were influential. Midwesterners also tend to weight more, on average, than

people in other regions of the U.S. (American Obesity Association, 2002). This could

help explain why there was a lack of support for the manipulation check of weight as

what is considered average or overweight may shift depending on what the average is

where someone lives. Differences in politeness and weight in Midwesterners could also

help explain why the individual believed to be overweight was so influential. Replicating

the current study in a different region of the U.S. would be important for strengthening

the current results or for possibly providing results more in line with the proposed

hypotheses.

In addition to addressing the limitations of this study, future research could utilize

the pictures taken of the participants in the current study to examine whether their own

facial attractiveness or weight had any effect on their responses. Some research suggests

that those who are low in facial attractiveness (Miller, Gillen, Schenker, & Radlove,

1974) and those who are overweight (Chaiken, 1981) are more susceptible to social

influence than those who are high in facial attractiveness and average weight.

Additionally, future research could look at the effect of extreme thinness on

social influence. Examination of the differential effects of facial attractiveness and

weight with male participants would also be an interesting issue to address. Finally,

future research could determine if appearances make a difference in computer-mediated vs. face-to-face communication. It is possible that appearances are less salient during computer-mediated communication because people are not directly focusing on the way another individual looks; instead they are focusing on the text one types. With the ideas, opinions, or arguments one expresses being more salient, the content of the conversation may matter more than the appearance of the communicator.

While it may be nice to think that the appearance of other people is not as important as other aspects of that individual, we simply can not ignore that it does have an impact. But how much impact do appearances really have? Even with its limitations, the current study carries an important lesson. Although somewhat important, we should not worry so much about our appearance. When more immediate to others, physically perfect people were not the most influential and when less immediate to others, appearances mattered even less for social influence. Evidently, the impact of appearances are tempered by other factors. People are not so superficial that appearances are the only thing that matters to them.

REFERENCES

Alicke, M. D., Smith, R. H., & Klotz, M. L. (1986). Judgments of physical attractiveness: The role of faces and bodies. *Personality and Social Psychology Bulletin, 12,* 381-389.

American Obesity Association. (2002). *Obesity in the U.S.* Retrieved August 20, 2007 from http://obesity1.tempdomainname.com/subs/fastfacts/obesity_US.shtml

Aronson, E., Willerman, B., & Floyd, J. (1966). The effect of a pratfall on increasing interpersonal attraction. *Psychonomic Science, 4,* 227-228.

Asch, S. E. (1955). Opinions and social pressure. *Scientific American, 193,* 31-35.

Bassili, J. N. (1981). The attractiveness stereotype: Goodness or glamour? *Basic and Applied Social Psychology, 2,* 235-252.

Binder, D. M., & Bourgeois, M J. (2006). Direct and indirect effects of group discussion on consensus. *Social Influence, 4,* 249-264.

Binder, D., Russell, E., Sievers, A., & Harton, H. C. (2001, February). *Clustering, consolidation, and personality in electronic discussions: A test of dynamic social impact theory.* Poster presented at the meeting of the Society for Personality and Social Psychology, San Antonio, Texas.

Bordia, P., DiFonzo, N., & Schulz, C. A. (2000). Source characteristics in denying rumors of organizational closure: honesty is the best policy. *Journal of Applied Social Psychology, 30,* 2309-2321.

Bourgeois, M. J. (2002). Heritability of attitudes constrains dynamic social impact. *Personality and Social Psychology Bulletin, 28,* 1063-1072.

Bourgeois, M. J., & Bowen, A. (2001). Self-organization of alcohol-related attitudes and beliefs in a campus housing complex: An initial investigation. *Health Psychology, 20,* 434-437.

Bowen, A. M., & Bourgeois, M. J. (2001). Attitudes toward lesbian, gay, and bisexual college students: The contribution of pluralistic ignorance, dynamic social impact, and contact theories. *Journal of American College Health, 50,* 91-96.

Bullock, M., Okdie, B. M., & Harton, H. C. (2007). *Self-organization of attitudes as a function of issue relevance.* Poster presented at the meeting of the Society for Personality and Social Psychology, Memphis, Tennessee.

Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology, 42,* 116-131.

Cash, T. F., & Henry, P. F. (1995). Women's body image: The results of a national survey in the U.S.A. *Sex Roles, 33,* 19-28.

Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology, 39,* 752-766.

Chaiken, S. (1981). Physical appearance in social influence. In C. P. Herman, M. P. Zanna, & E. T. Higgins (Eds.), *Physical appearance, stigma, and social behavior: Vol. 3. The Ontario symposium.* Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Christakis, N. A., & Fowler, J. H. (2007). The spread of obesity in a large social network over 32 years. *New England Journal of Medicine, 357,* 370-379.

Conway, L. G. III (2004). Social contagion of time perception. *Journal of Experimental Social Psychology, 40,* 113-120.

Conway, L. G. III, & Schaller, M. (1998). Methods for the measurement of consensual beliefs within groups. *Group Dynamics: Theory, Research, and Practice, 2,* 241-252.

Crandall, C. S. (1988). Social contagion of binge eating. *Journal of Personality and Social Psychology, 55,* 588-598.

Crandall, C. S., & Biernat, M. (1990). The ideology of anti-fat attitudes. *Journal of Applied Social Psychology, 20,* 227-243.

Crandall, C. S., Eshleman, A., & O'Brien, L. (2002). Social norms and the expression and suppression of prejudice: The struggle for internalization. *Journal of Personality and Social Psychology, 82,* 359-378.

Crandall, C. S., D'Anello, S., Sakalli, N., Lazarus, E., Nejardt, G. W., & Feather, N. T. (2001). An attribution-value model of prejudice: Anti-fat attitudes in six nations. *Personality and Social Psychology Bulletin, 27,* 30-37.

Cullum, J., & Harton, H. C. (2007). Cultural evolution: Interpersonal influence, issue importance, and the development of shared attitudes in college residence halls. *Personality and Social Psychology Bulletin, 33,* 1327-1339.

Cullum, J., & Harton, H. C. (2008). *Seeing is behaving: Local social influence processes and socially observable behavior shape social norms in college residence halls.*

Poster presented at the meeting of the Society of Personality and Social Psychology, Albuquerque, New Mexico.

Darley, J. M., & Latané, B. (1968a). Bystander intervention in emergencies: Diffusion of responsibility. *Journal of Personality and Social Psychology, 8,* 377-383.

Darley, J. M., & Latané, B. (1968b). When will people help in a crisis? *Psychology Today, 2,* 54-57, 70-71.

DeBono, K. G., & Telesca, C. (1990). The influence of source physical attractiveness on advertising effectiveness: A functional approach. *Journal of Applied Social Psychology, 20,* 1383-1395.

Dermer, M., & Thiel, D. L. (1975). When beauty may fail. *Journal of Personality and Social Psychology, 31,* 1168-1176.

Dolcini, M. M., & Adler, N. E. (1994). Perceived competencies, peer group affiliation, and risk behavior among early adolescents. *Health Psychology, 13,* 496-506.

Feingold, A. (1992). Good-looking people are now what we think. *Psychological Bulletin, 111,* 304-341.

Festinger, L., Schachter, S., & Back, K. (1950). *Social pressures in informal groups: A study of human factors in housing.* New York: Harper and Brothers.

Guerin, B. (1995). Social influence in one-to-one and group situations: Predicting influence tactics from basic group processes. *The Journal of Social Psychology, 135,* 371-385.

Hart, J. W., Stasson, M. F., & Karau, S. J. (1999). Effects of source expertise and physical distance on minority influence. *Group Dynamics: Theory, Research, and Practice, 3,* 81-92.

Harton, H. C., & Bourgeois, M. J. (2004). Cultural elements emerge from dynamic social impact. In M. Schaller & C. S. Crandall (Eds.), *Psychological foundations of culture* (pp. 41-75). Hillsdale, NJ: Erlbaum.

Harton, H. C., & Bullock, M. (in press). Dynamic social impact: A theory of the origins and evolution of culture. *Social and Personality Psychology Compass.*

Harton, H. C., Green, L. R., Jackson, C., & Latané, B. (1996, June). *An effective classroom demonstration of dynamic social impact.* Poster presented at the meeting of the American Psychological Society Institute on the Teaching of Psychology, San Francisco, California.

Harton, H. C., Green, L. R., Jackson, C., & Latané, B. (1998). Demonstrating dynamic social impact: Consolidation, clustering, correlation, and (sometimes) the correct answer. *Teaching of Psychology, 25,* 31-35.

Horai, J., Naccari, N., & Fatoullah, E. (1974). The effects of expertise and physical attractiveness upon opinion agreement and liking. *Sociometry, 37,* 601-606.

Huguet, P., Latané, B., & Bourgeois, M. J. (1998). The emergence of a social representation of human rights via interpersonal communication: Empirical evidence for the convergence of two theories. *European Journal of Social Psychology, 28,* 831-846.

Jackson, C., Bourgeois, M. J., & Latané, B. (2002). *Dynamic social impact theory on trial: Consolidation, clustering, and continuing diversity in electronic juries.* Unpublished manuscript, Florida Atlantic University, Boca Raton.

Jackson, D., & Houston, T. L. (1975). Physical attractiveness and assertiveness. *Journal of Social Psychology, 96,* 79-84.

Jackson, J. M., & Latané, B. (1981). Strength and number of solicitors and the urge toward altruism. *Personality and Social Psychology Bulletin, 7,* 415-422.

Karris, L. (1977). Prejudice against obese renters. *Journal of Social Psychology, 101,* 159-160.

Kashy, D. A., & Kenny, D. A. (2000). The analysis of data from dyads and groups. In H. T. Reis and C. M. Judd (Eds.), *Handbook of Research Methods in Social and Personality Psychology* (pp. 451-477). New York : Cambridge University Press.

Kulow, P. (2004). JBabble [Computer Software]. Cedar Falls, IA.

Latané, B. (1981). The psychology of social impact. *American Psychologist, 36,* 343-356.

Latané, B. (1996a). Dynamic social impact: The creation of culture by communication. *Journal of Communication, 46,* 13-25.

Latané, B. (1996b). Strength from weakness: The fate of opinion minorities in spatially distributed groups. In E. Witte & J. H. Davis (Eds.), *Understanding Group Behavior: Consensual Action by Small Groups, Vol. 1* (pp. 193-220). Hillsdale, NJ: Erlbaum.

Latané, B., & Bourgeois, M. J. (1996). Experimental evidence for dynamic social impact: The emergence of subcultures in electronic groups. *Journal of Communication, 46,* 35-47.

Latané, B., & Bourgeois, M. J. (2001). Dynamic social impact and the consolidation, clustering, correlation, and continuing diversity of culture. In M. A. Hogg & R. S. Tindale (Eds.), *Blackwell Handbook of Social Psychology: Group Processes* (pp. 235-258). Oxford: Blackwell.

Latané, B., & Dabbs, J. M., Jr. (1975). Sex, group size and helping in three cities. *Sociometry, 38,* 180-194.

Latané, B., & Harkins, S. (1976). Cross-modality matches suggest anticipated stage fright a multiplicative power function of audience size and status. *Perception & Psychophysics, 20,* 482-488.

Latané, B., & L'Herrou, T. (1996). Spatial clustering in the conformity game: Dynamic social impact in electronic groups. *Journal of Personality and Social Psychology, 70,* 1218-1230.

Latané, B., & Liu, J. H. (1996). The intersubjective geometry of social space. *Journal of Communication, 46,* 26-34.

Latané, B., Liu, J. H., Nowak, A., Bonevento, M., & Zheng, L. (1995). Distance matters: physical space and social impact. *Personality and Social Psychology Bulletin, 21,* 795-805.

Latané, B., & Nowak, A. (1997). Self-organizing social systems: Necessary and sufficient conditions for the emergence of consolidation and clustering. In G. Barnett & F. Boster (Eds.), *Progress in communication sciences: Persuasion* (pp. 43-74). Norwood, NJ: Ablex.

Latané, B., Nowak, A., & Liu, J. H. (1994). Measuring emergent social phenomena: Dynamism, polarization, and clustering as order parameters of social systems. *Behavioral Science, 39,* 1-24.

Latané, B., & Wolf, S. (1981). The social impact of majorities and minorities. *Psychological Review, 88,* 438-453.

Levin, J. M., & Moreland, R. L. (1995). Group processes. In A. Tesser (Ed.), *Advanced social psychology* (pp. 419-466). Dubuque, IA: McGraw-Hill.

Milgram, S. (1974). *Obedience to authority.* New York: Harper & Row.

Milgram, S. (1992). The individual and authority (introduction) and some conditions of obedience and disobedience to authority. In *The individual in a social world* (2nd ed.) (pp. 125-161). New York: McGraw-Hill.

Miller, A. G., Gillen, B., Schenker, C., & Radlove, S. (1974). The prediction and perception of obedience to authority. *Journal of Personality, 42,* 23-42.

Molloy, B. L., & Herzberger, S. D. (1998). Body image and self-esteem: A comparison of African-American and Caucasian women. *Sex Roles, 38,* 631-643.

Minear, M. & Park, D. C. (2004). A lifespan database of adult facial stimuli. *Behavior Research Methods, Instruments, and Computers, 36,* 630-633.

Mullen, B. (1985). Strength and immediacy of sources: A meta-analytic evaluation of the forgotten elements of social impact theory. *Journal of Personality and Social Psychology, 48,* 1458-1466.

Newcomb, T. M., (1956). The prediction of interpersonal attraction. *American Psychologist, 11,* 575-586.

Nowak, A., Szamrej, J., & Latané, B. (1990). From private attitude to public opinion: A dynamic theory of social impact. *Psychological Review, 97,* 362-376.

Okdie, B. M. (2007). *Dynamic social impact theory: Online versus face-to-face.* Unpublished Masters Thesis, University of Northern Iowa, Cedar Falls.

Okdie, B. M., Wren, J., & Harton, H. C. (2006, January). *Importance as a moderator in the development of shared beliefs.* Poster presented at the meeting of the Society for Personality and Social Psychology, Palm Springs, California.

Penny, H., & Haddock, G. (2007). Anti-fat prejudice among children: The "mere proximity" effect in 5-10 year olds. *Journal of Experimental Social Psychology, 43,* 678-683.

Perez-Lopez, M. S., Lewis, R. J., & Cash, T. F. (2001). The relationship of antifat attitudes to other prejudical and gender-related attitudes. *Journal of Applied Social Psychology, 31,* 683-697.

Perlini, A. H., & Hansen, S. D. (2001). Moderating effects of need for cognition on attractiveness stereotyping. *Social and Behavior Personality, 29,* 313-322.

Perry, A. C., Rosenblatt, E. B., & Wang, X. (2004). Physical, behavioral, and body image characteristics in a tri-racial groups of adolescent girls. *Obesity Research, 12,* 1670-1679.

Petty, R. E., & Cacioppo, J. T. (1981). *Attitudes and persuasion: Classic and contemporary approaches.* Dubuque, IA: Wm. C. Brown.

Petty, R. E., Cacioppo, J. T., & Goldman, R. (1981). Personal involvement as a determinant of argument-based persuasion. *Journal of Personality and Social Psychology, 41,* 847-855.

Petty, R. E., Cacioppo, J. T., & Schulman, D. (1983). Central and peripheral routes to advertising effectiveness: The moderating role of involvement. *Journal of Consumer Research, 10,* 135-146.

Petty, R. E., Fleming, M. A., & White, P. H. (1999). Stigmatized sources and persuasion: Prejudice as a determinant of argument quality. *Journal of Personality and Social Psychology, 76,* 19-34.

Petty, R. E., & Wegener, D. T. (1998). Attitude change: Multiple roles for persuasion variables. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Series Eds.), *The handbook of social psychology: Vol. 1.* (4th ed., pp. 323-390). New York: Oxford University Press, Inc.

Puckett, J. M., Petty, R. E., Cacioppo, J. T., & Fischer, D. L. (1983). The relative impact of age and attractiveness stereotypes on persuasion. *Journal of Gerontology, 38,* 340-343.

Prentice, D. A., & Miller, D. T. (1993). Pluralistic ignorance and alcohol use on campus: Some consequences of misperceiving the social norm. *Journal of Personality and Social Psychology, 64,* 243-256.

Reingen, P. H., & Kernan, J. B. (1993). Social perception and interpersonal influence: Some consequences of the physical attractiveness stereotypes in a personal selling setting. *Journal of Consumer Psychology, 2,* 25-38.

Reinhard, M. A., Messner, M., & Sporer, S. L. (2006). Explicit persuasive intent and its impact on success at persuasion-The determining roles of attractiveness and liking. *Journal of Consumer Psychology, 16,* 249-259.

Reis, H. T., Nezlek, J., & Wheeler, L. (1980). Physical attractiveness in social interaction. *Journal of Personality and Social Psychology, 38,* 604-617.

Richardson, D. S., & Latané , B. (2001). Dynamic social impact theory predicts regional variations in, and the development of social representations of, aggression. In D. S. Richardson, & J. M. Ramirez, (Eds.), *Cross-cultural approaches to research on aggression and reconciliation* (pp. 9-21). Huntington, NY: Nova Science Publishers, Inc.

Rodin, J., & Slochower, J. (1974). Fat chance for a favor: Obese-normal differences in compliance and incidental learning. *Journal of Personality and Social Psychology, 29,* 557-565.

Rydell, R. J., & McConnell, A. R. (2005). Perceptions of entitativity and attitude change. *Personality and Social Psychology Bulletin, 31,* 99-110.

Schachter, S. (1971). Some extraordinary facts about obese humans and rats. *American Psychologist, 26,* 129-144.

Schaller, M., & Conway, L. G. III (1999). Influence of impression-management goals on the emerging contents of group stereotypes: support for a social-evolutionary process. *Personality and Social Psychology Bulletin, 25,* 819-833.

Schaller, M., & Latané, B. (1996). Dynamic social impact and the evolution of social representations: A natural history of stereotypes. *Journal of Communication, 46,* 64-77.

Sedikides, C., & Jackson, J. M. (1990). Social impact theory: A field test of source strength, source immediacy and number of targets. *Basic and Applied Social Psychology, 11,* 273-281.

Sigall, H., & Landy, D. (1973). Radiating beauty: Effects of having a physically attractive partner on person perception. *Journal of Personality and Social Psychology, 28,* 218-224.

Skolnick, P., & Heslin, R. (1971). Quality versus difficulty: Alternative interpretations of the relationship between self-esteem and persuasibility. *Journal of Personality, 39,* 242-251.

Snyder, M. (1974). Self-monitoring of expressive behavior. *Journal of Personality and Social Psychology, 30,* 526-537.

Snyder, M., Tanke, E. D., & Berscheid, E. (1977). Social perception and interpersonal behavior: On the self-fulfillinf nature of social stereotypes. *Journal of Experimental Social Psychology, 35,* 656-666.

Tajfel, H., & Turner, J. C. (1979). The social identity theory of intergroup behavior. In W. G. Austin & S. Worchel (eds.), *The social psychology of intergroup relations* (pp. 7-24). Chicago, IL: Nelson-Hall.

Valentine, J. C., Blankenship, V., Copper, H., & Sullins, E. S. (2001). Interpersonal expectancy effects and the preference for consistency. *Representative Research in Social Psychology, 25,* 26-33.

Vandello, J. A., & Cohen, D. (2004). When believing is seeing: Sustaining norms of violence in cultures of honor. In M. Schaller & C. S. Crandall (Eds.), *The psychological foundations of culture* (pp. 281-304). Mahwah, NJ: Lawrence Erlbaum Associates.

Weiss, M. J. (1994). *Latitudes and attitudes: An atlas of American tastes, trends, Politics, and passions.* Boston: Little, Brown.

Williams, K. B., & Williams, K. D. (1983) Social inhibition and asking for help: The effects of number, strength, and immediacy of potential help givers. *Journal of Personality and Social Psychology, 44,* 67-77.

Williams, K. D., & Williams, K. B. (1989). Impact of source strength on two compliance techniques. *Basic and Applied Psychology, 10,* 149-159.

Wolf, S., & Latané, B. (1981). If laboratory research doesn't square with you, then Qube it: The potential of interactive TV for social psychological research. *Personality and Social Psychology Bulletin, 7,* 344-352.

Wolf, S., & Latané, B. (1983). Majority and minority influences on restaurant preferences. *Journal of Personality and Social Psychology, 45,* 282-292.

Zebrowitz, L. A. (1997). *Reading faces: Window to the soul?* Boulder, CO: Westview Press.

FOOTNOTES

[1] Males were in the following conditions: high attractiveness, overweight, and high immediacy ($n = 1$), high attractiveness, average weight, and low immediacy ($n = 1$), high attractiveness, overweight, and low immediacy ($n = 2$), low attractiveness, average weight, and low immediacy ($n = 1$), and low attractiveness, overweight, and low immediacy ($n = 1$).

[2] All data were also analyzed without the six dyads with a male participant. There were no substantial differences in the overall results.

APPENDIX A

ISSUES

1. Reality TV programs are annoying

2. Breast augmentation is a good idea for some women

3. Drug users are bad people

4. Students should be required to be an active member of at least one club or

    organization on campus

5. Marijuana should be legalized nationwide for medicinal usage

6. The response to Katrina was as good as could be expected given the unexpected

    situation

7. People under the age of 18 should not receive a life sentence without parole

8. Gay marriage should be legal

9. People that I am friends with would never take illegal drugs

10. Talking on cell phones while driving should be illegal

11. Living together is a good way to test a future spouse

12. Immigrants should be required to speak English in order to reside in the U.S.

APPENDIX B

DEMOGRAPHICS

1.   Participant ID

2.   Age

3.   Gender: Male   Female

4.   Year in school: Freshman   Sophomore   Junior

                              Senior   Graduate   Other

5.   Ethnicity:

         White/Non-Hispanic   Black/African-American

         Hispanic/Latino   Asian-American

         Other

APPENDIX C

PARTICIPANT INFORMATION SHEET

Participant Number:

Age:

Gender:

Year in school:

Ethnicity:

APPENDIX D

ATTITUDE PRETEST/POSTTEST

Please rate how much you agree or disagree with each of the following statements:

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

1. Reality TV programs are annoying

1   2   3   4   5   6   7

How <u>important</u> are the following issues to you personally?

Not important at all   1   2   3   4   5   6   7   Very important

1. Reality TV programs are annoying

1   2   3   4   5   6   7

APPENDIX E

NEED FOR COGNITION

Please read each item carefully and rate how much you agree with it using the following scale:

1	2	3	4
completely false	mostly false	mostly true	completely true

_____1. I would prefer complex to simple problems.

_____2. I like to have the responsibility of handling a situation that requires a lot of thinking.

_____3. Thinking is not my idea of fun.

_____4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.

_____5. I try to anticipate and avoid situations where there is likely chance I will have to think in depth about something.

_____6. I find satisfaction in deliberating hard and for long hours.

_____7. I only think as hard as I have to.

_____8. I prefer to think about small, daily projects to long-term ones.

_____9. I like tasks that require little thought once I've learned them.

_____10. The idea of relying on thought to make my way to the top appeals to me.

_____11. I really enjoy a task that involves coming up with new solutions to problems.

_____12. Learning new ways to think doesn't excite me very much.

_____13. I prefer my life to be filled with puzzles that I must solve.

_____14. The notion of thinking abstractly is appealing to me.

_____15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.

_____16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort.

_____17. It's enough for me that something gets the job done; I don't care how or why it works.

_____18. I usually end up deliberating about issues even when they do not affect me personally.

APPENDIX F

SELF-MONITORING SCALE

The following statements concern your personal reactions to a number of different situations. No two statements are exactly alike, so consider each statement carefully before answering. If a statement is TRUE or MOSTLY TRUE as applied to you, answer T. If a statement is FALSE or NOT USUALLY TRUE as applied to you, answer F. It is important that you answer as frankly and honestly as you can.

_____1. I find it hard to imitate the behavior of other people.

_____2. My behavior is usually an expression of my true inner feelings, attitudes, and beliefs.

_____3. At parties and social gatherings, I do not attempt to do or say things that others will like.

_____4. I can only argue for ideas which I already believe.

_____5. I can make impromptu speeches even on topics about which I have almost no information.

_____6. I guess I put on a show to impress or entertain people.

_____7. When I am uncertain how to act in a social situation, I look to the behavior of others for cues.

_____8. I would probably make a good actor.

_____9. I rarely need the advice of my friends to choose movies, books, or music.

_____10. I sometimes appear to others to be experiencing deeper emotions than I actually am.

_____11. I laugh more when I watch a comedy with others than when alone.

_____12. In a group of people I am rarely the center of attention.

____13. In different situations and with different people, I often act like very different persons.

____14. I am not particularly good at making other people like me.

____15. Even if I am not enjoying myself, I often pretend to be having a good time.

____16. I'm not always the person I appear to be.

____17. I would not change my opinions (or the way I do things) in order to please someone else or win their favor.

____18. I have considered being an entertainer.

____19. In order to get along and be liked, I tend to be what people expect me to be rather than anything else.

____20. I have never been good at games like charades or improvisational acting.

____21. I have trouble changing my behavior to suit different people and different situations.

____22. At a party I let others keep the jokes and stories going.

____23. I feel a bit awkward in company and do not show up quite so well as I should.

____24. I can look anyone in the eye and tell a lie with a straight face (if for a right end).

____25. I may deceive people by being friendly when I really dislike them.

APPENDIX G

CHAT PARTNER PERCEPTIONS

Please rate how well the following traits describe your chat partner:

Very Poorly   1   2   3   4   5   6   7 Very Well

	1	2	3	4	5	6	7
1. self-centered	1	2	3	4	5	6	7
2. intelligent	1	2	3	4	5	6	7
3. rude	1	2	3	4	5	6	7
4. sensitive	1	2	3	4	5	6	7
5. boring	1	2	3	4	5	6	7
6. submissive	1	2	3	4	5	6	7
7. physically attractive	1	2	3	4	5	6	7
8. ambitious	1	2	3	4	5	6	7
9. irritable	1	2	3	4	5	6	7
10. considerate	1	2	3	4	5	6	7
11. trustworthy	1	2	3	4	5	6	7
12. arrogant	1	2	3	4	5	6	7
13. overweight	1	2	3	4	5	6	7
14. sincere	1	2	3	4	5	6	7
15. competent	1	2	3	4	5	6	7
16. friendly	1	2	3	4	5	6	7

APPENDIX H

DISCUSSION PERCEPTIONS

Please answer how much you agree or disagree with the following statements:

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

1.   I felt self-conscious throughout the discussion.

2.   I found the discussion to be stimulating.

3.   I was primarily responsible for what transpired during the discussion.

4.   Time seemed to pass quickly.

5.   I was concerned with what my partner was thinking about me.

6.   I was concerned with what the experimenter was thinking about me.

7.   The responsibility for what happened during the discussion was shared equally by me and my partner.

8.   The discussion was enjoyable.

9.   I felt inhibited in what I could/should say.

10.   I liked my partner.

11.   I would be willing to volunteer for another study like this one.

12.   When not typing, I spent a large portion of the time planning what I was going to say next.

13.   Much effort was required to keep the discussion going for the allotted time.

14.   I am very familiar with instant messaging.

15.   The person that I presented during the discussion is true to the person I really am.

16. I was influenced because the majority disagreed with me.

17. I wanted the other group members to like me.

18. I was thinking about whether my group members liked me while typing.

19. I was sometimes reluctant to state how I truly felt during the discussion because I was afraid my chat partner would not approve.

20. I felt accountable for my remarks during the conversation.

21. During the conversation when I was unsure how I felt on an issue I just went along with my chat partner.

22. Group members brought up points in the discussion I had not thought of.

23. My attitudes changed throughout the course of the discussion with my chat partner.

24. The group members gave good reasons for holding their points of view.

25. I was influenced by the arguments given by other group members.

26. I would help my partner if they needed me to.

27. Participating in this discussion made me think more about the issues being discussed.

28. As you know, some of the people involved in the discussion were here at UNI and some were at other schools. What school does your chat partner attend?

   a) UNI

   b) University of Colorado

   c) Minnesota State-Mankato

   d) North Dakota State University

e) Saint Louis University

f) University of Illinois-Chicago