A SOCIAL IMPACT THEORY FRAMEWORK FOR EXAMINING INFLUENCE IN COMPUTER-MEDIATED COMMUNICATION

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ABSTRACT

This study utilized a Social Impact Theory framework to explore new sources and functions of communicator influence in computer-mediated communication. This study involved five online graduate classes (n_1=15, n_2=11, n_3=10, n_4=12, n_5=12) at a research university. Participants included 43 females and 17 males ranging from 25 to 60 years of age. Participants engaged in anonymous and computer-mediated discourse and then nominated peers who were directive, influential to the positive, and/or influential to the negative during the online interaction. It was expected that high numbers of peer nominations would illustrate participants who elicited social impact. Four interpersonal factors were chosen as strength operants in the social impact framework and were therefore expected to predict social impact. Of the four, assertiveness and exaggeration were significant, while emotional intensity and sensitivity were not. Two factors were chosen as immediacy operants in the social impact framework and were also expected to predict social impact. Of the two, contribution total and word total were both significant predictors of social impact.

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CHAPTER I

INTRODUCTION

Computer-mediated communication's exponential growth and wide range of uses necessitates the study of the source and function of influence therein. The proliferation of internet use worldwide is impressive. A recent best estimate placed the number of internet users at 600 million and climbing (NUA Internet Survey). This means that during the seven years between 1995 and 2002 the percentage of internet users worldwide doubled five times and reached a total 10% of the world's population (Census, 2002). The staggering growth rate of computer-mediated communication and the broad implications this relatively new communicative medium has upon culture, community, and organizations warrants an extensive approach to scholarship in this area.

There is an abundance of computer-mediated products and resources used by commercial and educational institutions alike. For example, WebCT, a force in the e-learning market, provides electronic learning systems for thousands of institutions in over 70 countries (www.webct.com retrieved June 17, 2004). College campuses across the United States and abroad are utilizing WebCT and other electronic learning products, such as Blackboard and Desire to Learn. Because a central function of electronic learning is the various communication media provided by these products, both synchronously (real time) and asynchronously (delayed time), it is important to understand how the interpersonal temperament of users affects the way they are perceived online.

Research in computer-mediated communication has yielded a host of useful findings relative to social psychological theory. For example, it has been reported that filters inherent in computer-mediated communication facilitated feelings of intimacy, power, isolation, and deindividuation among users. Group collaboration through computer-mediated media has resulted in group processing outcomes that were considered innovative and democratic. Regarding organizational effectiveness, research has concluded that there are both benefits and liabilities that result from computer-mediated systems of communicating. What seemingly lacks in computer-mediated research thus far are studies that examine the function of interpersonal characteristics brought to bear by the communicators themselves during computer-mediated exchanges.

During interactions that are not computer-mediated, such as face-to-face or those mediated only by video (television, movies) or audio (telephones), a host of communicator characteristics have long been known to be suggestive of influence. In fact, there are outcomes relative to influence predicted by characteristics of gender, race, social attractiveness, physical expressions, and voice attributes. In face-to-face or other non-computer mediated exchanges, these characteristics have been found to be predictive of outcomes including being perceived by others as likeable, persuasive, and confident. However, given that communication that is computer-mediated is often free of characteristics that are seen (gender, race, social attractiveness, physical expressions) or heard (voice attributes), most of the literature concerning communicator influence is of little assistance.

Individuals engaged in computer-mediated dialogue do not shed their influence just because the visual and aural cues they provide are no longer discernable. As this study suggests, in computer-mediated exchanges, other interpersonal factors influence the likelihood that some individuals are more noticeable in the exchange than others are. The social impact theory provides explicit variables and a well-tested framework through which to examine social impact between sources and targets of influence.

The social impact theory is defined broadly as:

> any of the great variety of changes in physiological states and subjective feelings, motives and emotions, cognitions and beliefs, values and behavior, that occur in an individual, human or animal, as a result of the real, implied, or imagined presence or actions of other individuals (Latane, 1981 p. 343).

From this definition, real or implied actions of others refer to *source*, whereas stated changes occur in *targets*, relative to the source. In social impact theory, sources vary along three explicit dimensions: strength, immediacy, and number. *Strength* refers to a source's influence denoted by age, socio-economic status, title, and power over target. *Immediacy* refers to time and space proximity as well as the absence of interfering filters between source and target. *Number* simply expresses the quantity of sources. The mathematical formula and primary principle expressed by social impact theory is "Social Forces, I=f{SIN}" (Latane, 1981, p. 344). The equation indicates that influence (I) from source to target is equal to the function of that source's strength (S) x immediacy (I) x number (N). A secondary principle, "the Psychosocial Law, $I=sN^t$, t,< 1" (Latane, 1981, p.

344), indicates that when in a multiplicative force field such as the one generated by SIT, an increase in one variable creates an exponential increase in the others.

As described in detail in chapter three, four interpersonal characteristics are indices of strength in this study. They will be measured by four factors from the Comprehensive Personality Profile – emotional intensity, sensitivity, assertiveness, and exaggeration. As suggested by the hypotheses, these interpersonal factors, representing strength from social impact theory, are promising predictors of social impact in anonymous, collaborative, and synchronous computer-mediated communication. These factors were chosen due to their likenesses to strength, evidenced by their descriptions from the Comprehensive Personality Profile manual and from literature connecting the Profile descriptions to theory.

As described in detail in the chapter three, the two participant measures that are indices of immediacy in this study are a participant's number of chat room contributions and overall word total. These measures will be collected by WebCT and counted through a combination of word processing and Excel procedures. As suggested by the hypotheses, numbers of participant contributions and the number of words contributed by a participant represent a presence in virtual space likened in this study to immediacy. Representative of immediacy, participant contribution and word totals are promising predictors of social impact in anonymous, collaborative and synchronous computer-mediated communication.

While number from social impact theory is a likely predictor of impact in computer-mediated communication, the number of participants and therefore the number of sources in this study are constant.

Given only strength and immediacy from social impact theory as independent variables, the hypotheses in this study are:

1. High levels of the interpersonal factor emotional intensity, representative of strength and determined by the Comprehensive Personality Profile, will be an effective predictor ($p<.05$) of social impact during anonymous, collaborative, and synchronous computer-mediated communication.
2. High levels of the interpersonal factor sensitivity, representative of strength and determined by the Comprehensive Personality Profile, will be an effective predictor ($p<.05$) of social impact during anonymous, collaborative, and synchronous computer-mediated communication.
3. High levels of the interpersonal factor assertiveness, representative of strength and determined by the Comprehensive Personality Profile, will be an effective predictor ($p<.05$) of social impact during anonymous, collaborative, and synchronous computer-mediated communication.
4. Extreme levels (higher or lower than the median range) of the interpersonal factor exaggeration, representative of strength and determined by the Comprehensive Personality Profile, will be an

effective predictor ($p<.05$) of social impact during anonymous, collaborative, and synchronous computer-mediated communication.

5. Higher numbers of chat room contributions, representative of immediacy, will be an effective predictor ($p<.05$) of social impact during anonymous, collaborative, and synchronous computer-mediated communication.
6. Higher numbers of words entered during chat room interaction, representative of immediacy, will be an effective predictor ($p<.05$) of social impact during anonymous, collaborative, and synchronous computer-mediated communication.

Theoretically, this study contributes to social psychology relative to computer-mediated human interaction. By extending the social impact theory to support well-reasoned research in new contexts, both the theory and the context benefit. The social impact theory benefits by having its framework applied to a new and unique environment and by having extended definitions applied to its variables. The context, computer-mediated communication, also benefits by including a view of interpersonal characteristics to the growing number of perspectives already discussed in the growing literature.

Practically, this study will benefit schools and organizations relying or intending to rely on computer-mediated communication to fulfill outcomes that entail group processes. By learning more about how social impact is produced by online communicators, progress is made in determining what characteristics make online communicators easy to relate to, confident and persuasive.

Social psychology is the science of understanding the ways in which people's thoughts, feelings, and behaviors are influenced by real or imagined presence of others (Allport, 1985). There is a century of research relying largely on visual and aural cues to explain how and why the presence of others in all its shapes and forms affects individual and group behaviors. Computer-mediated communication affords researchers the opportunity to study other less obvious, but influential, variables by filtering exposure to visual and aural characteristics of communicators. This study relies on that filtering to examine new and unique sources of communicator influence during anonymous and collaborative online interaction.

CHAPTER II

REVIEW OF LITERATURE

Three bodies of research literature related to the study of communicator influence in anonymous, collaborative, and synchronous computer-mediated communication are reviewed in this chapter. The first section reviews the literature on social impact theory to discuss the theory's usefulness in studying communicator influence in computer-mediated interaction, especially that regarding strength and immediacy, which are central to this study. The second section of the chapter deals with the current literature on computer-mediated communication, which has made tremendous strides in examining effects of the medium itself but has done little to address the effects of communicator influence in computer-mediated environments. This is followed by a review of the existing literature on interpersonal factors and personality instruments, which demonstrates the usefulness of interpersonal characteristics in both occupational analysis and interpersonal research. Lastly, this review includes an examination of previous research demonstrating the salient effects of emotional intensity, sensitivity, assertiveness, and exaggeration as measures of strength in computer-mediated communication. This review of literature therefore demonstrates both the fruitfulness of the research direction taken in this study and the significant gap in computer-mediated communication research that it is designed to fill.

Social Impact Theory

In interpersonal communication, *influence* or *social impact* is the process through which one collaborator affects the thoughts, beliefs, or cognitions of another collaborator or group (Huston, 1983). *Persuasion* occurs when collaborators purposely use strategy in their communication with the intended effect of changing the thoughts, beliefs, or cognitions of another collaborator or group (Miller & Boster, 1988). The difference between influence and persuasion involves the subtlety of intended change. Influence can occur when change happens by accident, while persuasion involves specific actions that produce a desired effect (Hsiung & Bagozzi, 2003). Whether or not it is intentional, social influence is described by social impact. Broadly defined as any of the changes in beliefs, thoughts, or cognitions occurring in some individual/s as the result of the strength, immediacy, and/or number of some other individual/s, social impact is produced in all social interactions.

The current literature in social impact theory has well documented the salience of the measurable variables examined in this study – strength, immediacy, and number – in understanding social influence. Jackson and Latane (1981), for instance, used audience size (number) and proximity (immediacy) to predict the anxiety level of singers on stage and Jackson and Latane(1981a) employed the number and perceived status (strength) of donation seekers to predict their success as measured by dollars collected. In yet another study, it was found that participants felt that more newspaper space should be given to stories occurring closer to their place of residence (immediacy) and involving more people (number). Another example, demonstrating the effect of

number alone, found that as the number of diners eating together at a restaurant increased, each diner's sense of responsibility for leaving an appropriate gratuity decreased, as did the amount of the gratuity itself (Freeman, Walker, Borden, & Latane, 1975). In the sections that follow, the usefulness of each of strength and immediacy variables within multiple fields and theoretical perspectives will be reviewed.

Strength

Strength, or influence due to power as perceived by a relational target, has been proven to be a useful predictor of influence in all human interaction. In addition to characteristics included in the conventional definition of strength (age, socio-economic status, title, and power over target), the other strength-like factors discussed below such as gender, race, social attractiveness, body language, and voice quality have also been shown to be significant predictors of influence and persuasiveness in visual and aural communication. The following review of research findings about strength variants that occur in visual or aural communication demonstrates the need to examine additional and novel components of and thus assign new definitions for strength when studied in non-visual and non-aural environments such as computer-mediated interaction. The following review of research also substantiates this study's aim of using interpersonal factors as prominent strength agents within that medium.

Gender, race, and social attractiveness. Gender is one of the variables that has been shown to be predictive of power and influence in face-to-face communication. A few of the many communication-related characteristics that scholars have prescribed to males, for instance, are dominating, forceful,

aggressive, and boastful, while females have been described as being verbal, gentle, emotional, and hurried (Berryman & Wilcox, 2001; Edelsky, 1976; Lakoff, 1973; Siegler & Siegler, 1976). Studies have shown that males and females are equally influential in managerial positions, although men often exert greater influence than women in roles perceived as masculine, while women are more influential in traditionally feminine roles (Eagly, Karau, & Makhijani, 1995). Further, males and females have been shown to treat same-sex and opposite-sex subordinates differently, further supporting the claim that gender is predictive of power and influence (Kipnis, Schmidt, & Wilkinson, 1980). As these studies demonstrate, gender represents a significant variable of strength as described by social impact theory.

In studies specific to the communication effects of race, scholars have found that white subjects perceived blacks' speech as loud, straightforward, emotional, and witty (Leonard & Locke, 1993). In a study involving performance appraisal, blacks perceived as low performers either had to work twice as hard to gain half the deserved recognition or their performance was perceived as so unexpectedly good that they gained greater recognition than was actually deserved (Jackson, Sullivan, & Hodge, 1993; Pettigrew & Martin, 1987). Either way, race as a function of strength has been shown to be an influential variable in face-to-face communication.

Social attractiveness, according to researchers, can stem from perceived similarities between the listener and the speaker (Feldstein, Dohm, & Crown, 2001). In cases where listeners perceive themselves as similar to speakers, speakers are rated as being more intimate, social, and attractive and therefore

more influential. Using recollections of past influential speakers to categorize current speakers, listeners have been shown to perceive socially attractive speakers as influential based solely upon parallels drawn by listeners between their current and past experiences (Lord, 1985). For example, as stereotypical government officials might often be recollected as middle-aged men in suits with distinguished-looking gray hair, individuals fitting this category type, regardless of their occupation, may be perceived as being disproportionately influential.

In anonymous computer-mediated interaction where gender, race, and social attractiveness are purposely filtered, new functions of strength are expected to emerge. In the case of this study, it is hypothesized that specified interpersonal variables would fill the role of traditionally expressed strength.

Non-verbal characteristics, conversational turns, and speech rate. Other variables that have been shown to reflect power and influence in face-to-face communication are non-verbal characteristics, conversational turns, and speech rate. While these variables are less perceptible than other indicators of strength in communication such as gender and social attractiveness, they have been proven to be nonetheless predictive of power and influence in social interactions.

Non-verbal characteristics that are influential in face-to-face communication include customs such as smiles, nods, and similar expressions of acceptance or rejection (Dittman, 1972). These subtle conversational markers direct and support exchanges by reflecting approval, attention, agreement, and/or disagreement. Regarding conversational turn-taking, evidence suggests that individuals who initiate more topic shifts and consistently contribute to the conversation are perceived as being more dominant than others (Palmer & Lack,