



8-2012

Examining the Role of Perceived Immediacy as a Mediator: Revisiting the Relationships among Immediate Behaviors, Liking, and Disclosure

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Recommended Citation

Kelly, Stephanie Erin, "Examining the Role of Perceived Immediacy as a Mediator: Revisiting the Relationships among Immediate Behaviors, Liking, and Disclosure." PhD diss., University of Tennessee, 2012.
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To the Graduate Council:

I am submitting herewith a dissertation written by Stephanie Erin Kelly entitled "Examining the Role of Perceived Immediacy as a Mediator: Revisiting the Relationships among Immediate Behaviors, Liking, and Disclosure." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Communication and Information.

Michael R. Kotowski, Major Professor

We have read this dissertation and recommend its acceptance:

John W. Haas, Kenneth J. Levine, Jennifer A. Morrow

Accepted for the Council:

Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

**Examining the Role of Perceived Immediacy as a Mediator:
Revisiting the Relationships among Immediate Behaviors, Liking, and Disclosure**

**A Dissertation Presented for the
Doctorate of Communication and Information
Degree
The University of Tennessee, Knoxville**

**Stephanie Erin Kelly
August 2012**

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Kenneth Levine

John Haas

Jennifer Morrow

Accepted for the Council:

Carolyn R. Hodges
Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

Acknowledgements

Many thanks must go to my family who took every mile of this journey with me. You would think that by grad school round two that no self-respecting student would call home to ask their mother to proof read a paper, but Mom, I am so lucky that you ignored that fact throughout dissertation writing. Dad, you were the ultimate long-distance handyman and therapist. Granny, I can't explain it, but somehow you managed to keep me in orange knit goods and grape juice from 300 miles away. And of course Uncle Ron...you had the good sense to not arm me as a housewarming gift.

Thanks also to my mentors! Mike Kotowski, most of what I take away from UT, I learned directly from you. Jennifer Morrow, as both a scholar and a friend, you are who I one day hope to be. John Haas, if one day you manage to bottle the verbal Zanex that you seem able to distribute on the spot, you will be a millionaire. Ken Levine, you have mastered the art of looking from both inside and outside the box of which I one day hope to at least see the lid. Lisa Fall, I've been fortunate to call you a mentor for four years, but am most blessed to call you a friend. Laura Miller, you have embodied and instilled in me all of the many lessons that come from what my grandfather always called "a still tongue and a wise head." Cat and Dave Westerman, you've mastered the art of mentoring. =)

Then of course, I must thank my outstanding Tennessee support system! How could I have survived without the Chinese vampire marathons, the late night German discussions, the Puerto Rican cheesecake, the Jack Skellington cupcakes also with a bit of extra happy, the reike, the warm Korean hugs, the slightly awkward Korean hugs, the Michigan messages, and the amazing TA work, or fabulous confederates? To Lei, Tatjana, Monica, Karen, Leslie, Jun, Anthony, Beckie, Brittnie, Weston, and Patrick: my most sincere thanks! What's that you say? I

forgot to mention being drug across a procession hall to catch a bouquet? No, I really didn't. That was left out intentionally. Nonetheless, thanks to Scott who always had an extra shovel on hand and pushed me to be a better me and to Nikki who was always ready to knock the coins out of him upon request. And of course, to my soul twin Jennifer, I will always appreciate the movies, Doritos, and long talks, but don't think you're getting out of those just because I graduated!

And finally, let's give credit where credit is truly due. Besides me, only one other somebody has logged as many hours on my dissertation: Karma. I am certain that without your constant supervision from the back of the computer chair, the 4:00 a.m. wake ups, and your special ability to lock me into the office, that I would have never finished. Of course, I never needed to tell you that I was hopeless without cat supervision, did I?

Abstract

This dissertation purports to clarify the role of perceived immediacy in interpersonal communication. Immediate behaviors were first identified as behaviors associated with increases in receiver liking and self-disclosure. As such, the first study is a meta-analysis of immediate behaviors and self-disclosure and the second study meta-analyzes immediate behaviors and liking. The magnitudes of the effects yielded from both studies are consistent with indirect relationships. The third study is an experiment which uses a range of previously identified immediate behaviors from the literature as an induction and measures perceived immediacy, liking, and self-disclosure to test perceived immediacy as a mediating variable between immediate behaviors and these outputs. The results of the experiment are consistent with perceived immediacy mediating immediate behaviors and liking, but not immediate behaviors and disclosure.

Keywords: Immediacy, Immediate Behaviors, Perceived Immediacy, Liking, Self-Disclosure

Table of Contents

Chapter 1: Introduction.....	1
Immediacy Model.....	3
Distinguishing Immediate Behaviors and Perceived Immediacy.....	7
Inputs and Outputs.....	10
Immediate Behaviors and Self-Disclosure.....	11
Immediate Behaviors and Affect.....	12
Overview of the studies.....	13
Chapter 2: Study 1.....	14
Method.....	16
Meta-Analytic Procedure.....	16
Literature Search Procedure.....	16
Results.....	18
Discussion.....	20
Chapter 3: Study 2.....	23
Method.....	24
Meta-Analytic Procedure.....	24
Literature Search Procedure.....	24
Results.....	26
Discussion.....	28
Chapter 4: Study 3.....	31
Method.....	34
Subjects.....	34
Design.....	34

Induction Check.....	35
Subjects.....	35
Design.....	36
Procedure.....	36
Instrumentation.....	36
Results.....	36
Procedure.....	38
Instrumentation.....	40
Perceived Immediacy.....	40
Liking.....	40
Self-Disclosure.....	41
Amount.....	41
Intimacy.....	41
Results.....	42
Measurement Models.....	42
Hypothesis Testing.....	44
Model Testing.....	44
Additional Analyses.....	47
Discussion.....	47
Chapter 5: General Discussion.....	52
References.....	56
Appendices.....	72
Appendix A.....	73

Appendix B.....	74
Appendix C.....	78
Appendix D.....	87
Appendix E.....	90
Appendix F.....	104
Appendix G.....	105
Appendix H.....	108
Appendix I.....	110
Appendix J.....	111
Appendix K.....	112
Appendix L.....	113
Appendix M.....	114
Appendix N.....	115
Vita.....	116

List of Tables

Table 1 Disclosure Articles.....	78
Table 2 Liking Articles.....	79
Table 3 Tukey.....	81
Table 4 Index Statistics.....	82
Table 5 Factor Loadings.....	83
Table 6 Fit Statistics.....	84
Table 7 Correlations.....	85
Table 8 Residual Error Matrix.....	86

List of Figures

Figure 1 Immediacy Model.....	32
Figure 2 Linear Trend.....	37
Figure 3 Predicted Model.....	46
Figure 4 New Model.....	47

Chapter 1: Introduction

Perceived immediacy is an interpersonal communication phenomenon (Richmond & McCroskey, 2000). The presence of immediate behaviors reduces psychological distance between communicators (Andersen, Guerrero, Buller, & Jorgensen, 1998; Mehrabian, 1967b, 1968, 1969, 1971a, 1971b, 1972, 1981; Turman, 2008) and psychological distance indicates how comfortable one person feels with another (Mehrabian, 1968). Notably, in this context, closeness is not used to signify how much one individual likes another, but rather how well one individual knows how to communicate with another in order to receive desired outcomes (Mehrabian, 1967b, 1968, 1969, 1971b, 1972, 1981). In the presence of behaviors perceived to be immediate, message receivers engage in more open communication (Fusani, 1994; Montgomery, 1981; Reysen et al., 2010; Sanders, Wiseman & Matz, 1990). Perceived immediacy also causes message receivers to evaluate senders as more socially appealing than individuals who are not perceived to be immediate (Barringer & McCroskey, 2000; Houser, Horan, & Furier, 2008; Richmond & McCroskey, 2000; Rocca & McCroskey, 1999). If message receivers feel that a message sender is socially unattractive, they may choose to end communication before uncertainty is reduced so that interpersonal communication never occurs (Berger & Calabrese, 1975).

The abundance of literature on immediacy implies that immediacy has been thoroughly studied, when in truth, immediacy has been studied broadly, but with little depth. The size of a body of literature does not indicate quality; instead, the size indicates interest in a particular phenomenon from the scholarly community. Consequently, the lack of depth in the immediacy literature has led to conceptual confusion between immediate behaviors and perceived immediacy. For example, there is a difference between immediate behaviors and perceived

immediacy that has not been made in the literature. The literature defines immediacy as a set of behaviors (Mehrabian, 1971b, 1981), but message receivers are not reacting directly to the presence of the immediate behaviors. Rather message receivers are reacting to the perception of immediacy induced by the immediate behaviors (Andersen, Andersen, & Jensen, 1979).

Therefore, the literature currently talks about immediate behaviors, but what the research has been doing by studying the displays of these behaviors is examining a mediated relationship while ignoring the mediator (i.e. perceived immediacy). What is needed to further a theory of immediacy is an examination of the psychological state of perceived immediacy.

Furthermore, despite its importance to interpersonal communication, there has been no research on causal relationships with perceived immediacy. Scholars have identified a number of behaviors that message receivers typically perceive to be immediate when displayed by a message sender (Mehrabian, 1968, 1969, 1971b, 1972, 1981). In the presence of these immediate behaviors message receivers tend to self-disclose and become more comfortable with their communicative counterpart (Barringer, & McCroskey, 2000; Fusani, 1994; Houser et al., 2008; Montgomery, 1981; Reysen et al., 2010; Rocca & McCroskey, 1999; Richmond & McCroskey, 2000; Sanders et al., 1990). This noted pattern of behaviors is relatively where research ends. Although behaviors typically perceived to be immediate have been identified (Mehrabian, 1971b, 1981; Richmond & McCroskey, 2000), the actual process of perceiving these behaviors as immediate has been ignored in the literature. Therefore, the literature has not considered that perceived immediacy mediates the relationship between the display of immediate behaviors by a message sender and the reaction to those behaviors by a message receiver.

This dissertation will advance the literature in two ways. First, it will employ meta-analyses to take stock of the current literature to assess the relationship between immediate

behaviors and both self-disclosure and liking in initial interactions to better identify the role of immediate behaviors in instigating interpersonal communication. The second advancement will be made by experimentally testing the mediating role of perceived immediacy. It is expected that behaviors considered by the literature to be immediate are inputs of perceived immediacy. It is also expected that self-disclosure and liking will be outputs of perceived immediacy. Measuring relationships between perceived immediacy and immediate behaviors, self-disclosure, and liking can be compared to the results of the meta-analyses to identify whether this mediating variable has been present, but unrecognized, throughout the immediacy literature.

Immediacy Model

The study of immediate behaviors first began in clinical psychology when Mehrabian (1966) noted that some psychiatrists were consistently able to encourage their patients to engage in open communication, while other psychiatrists consistently encountered difficulty inspiring openness among patients. Mehrabian (1967a, 1967b, 1967c) identified a number of nonverbal communicative behaviors adopted by psychiatrists who were successful at inducing openness among their patients. Once these behaviors were identified, Mehrabian (1970) broadened his initial speculation to include the general population, proposing that individuals are drawn towards people that they like and avoid people that they dislike; naming this phenomenon *The Immediacy Principle*. Because communication is the source through which humans relate to one another, Mehrabian (1966) concluded that the causal variable that he named *immediacy*, which induces liking, must be a communication phenomenon. Mehrabian (1967b, 1968, 1969, 1971b, 1972) identified a number of nonverbal behaviors that are typically perceived to be immediate, meaning that these behaviors typically encouraged open communication because their presence is a catalyst, prompting the reduction of psychological and physical distance. Among these

behaviors were forward lean, eye contact, attentive body orientation, openness of posture, light touch to a nonthreatening body part, less physical distance, and relaxed posture (Mehrabian, 1967b, 1968, 1969, 1971b, 1972, 1981). As such, by identifying the nonverbal cues that are typically present when psychological distance is reduced, immediacy was conceptualized as a set of behaviors.

After nonverbal indicators were identified, the study of immediate behaviors shifted to a focus on verbal communication. While dealing with the aforementioned struggle of encouraging patient openness in clinical psychology, Weiner & Mehrabian (1968) noted that how much a patient likes another person could be inferred by the terminology used to describe said individual. Patients who were not open with psychiatrists sometimes hesitated to identify how they truly felt about the individuals that they discussed. This barrier to counseling was overcome when Weiner & Mehrabian (1968) identified a number of verbal cues through which an individual can unconsciously convey how close they feel to a person or object by identifying the number of immediate cues utilized to describe said person or object. These cues rest largely on the inclusiveness of the terminology. For example, *we* would be more immediate than *he and I* because *we* indicates that the communicator conceives that the person being described creates a cohesive *unit* with rather than an *addition* to his or her self; as such, *we* is an immediate term that is indicative of liking the described individual (Hale & Burgoon, 1984).

It was not until more than a decade after Mehrabian's (1966) proposal of the construct that immediate behaviors were considered within the communication discipline (Andersen, 1979). It was at this point that communication scholars took a more generalized approach to immediate behaviors, focusing not on how these behaviors affected openness and liking, but engaging in exploratory studies to identify the range of impact that immediate behaviors had on

message receivers. The overarching conclusion of these works was that immediacy behaviors typically follow the norm of reciprocity, meaning that when a message sender displays immediate communicative behaviors then a message receiver will respond likewise (Andersen et al., 1998; Coutts & Schneider, 1976; Hale & Burgoon, 1984; Jones & Wirtz, 2007; Mehrabian, 1972; Richmond & McCroskey 2000; Roth & Kuiken, 1975). Furthermore, if immediate behaviors exhibited by a message sender in an initial interaction are not reciprocated by the message receiver then communication typically ceases (Patterson, 1973a). For example, if a supervisor exhibits immediacy behaviors to an employee, the employee may consider the behaviors to be inappropriate and end extraneous communication in the relationship (Andersen, 1999). As such, individuals who do not engage in immediate communication are unlikely to reduce enough uncertainty in their relationship for tailored, interpersonal communication to take place.

Most immediacy research in communication has been conducted within the classroom where instructors sought to identify how their displays of immediacy affected their students' learning experience. Displays of instructional immediacy behaviors were noted to be positively related to student affective learning, cognitive learning, and overall motivation to learn specific course material (Allen et al., 2006; Ames, 1986; Andersen, 1979; Andersen, Norton, & Nussbaum, 1981; Brophy, 1983; Christophel, 1990; Christophel & Gorham; 1995; Deci, 1975; Dweck, 1986; Fayer, Gorham, & McCroskey, 1993; Frymier, 1994; Gorham, 1988; Gorham & Christophel, 1990; Gorham & Zakehi, 1990; Kearney, Plax, & Wendt-Wasco, 1985; Kelley & Gorham, 1988; McCroskey & Richmond, 1992; Plax, Kearney, McCroskey, & Richmond, 1986; Powell & Harville, 1990; Richmond, 1990; Richmond, Gorham, & McCroskey, 1987; Rodríguez, Plax, & Kearney, 1996; Sanders & Wiseman, 1990; Weiner, 1979; Witt, Wheelless, &

Allen, 2004). Immediate behaviors also relate positively to students' perceptions of instructors' displays of power, influence, clarity, and overall teaching effectiveness (Pogue & AhYun, 2006). It was within this instructional immediacy literature that a measure of perceived immediacy was first proposed (Andersen et al., 1979). Google Scholar indicates that only one published study has utilized this perceptual measure (e.g. Plax et al., 1986), despite the fact that a validity portfolio for the *Generalized Immediacy Measure* assessed perceived immediacy to be a more valid method for capturing immediacy, as defined by the literature, than measuring behaviors.

Thus, from the communication research, the cyclical nature of immediacy, involving a process of encoding and decoding these immediate behaviors was proposed. A problem with this literature is that it operates under the assumption that the identified immediate behaviors are always decoded the same way: such that the presence of these behaviors reduces psychological distance. A classic example of why this assumption is problematic can be found in Dr. Seuss' (1957) children's tale *How the Grinch Stole Christmas*. In both the illustrated book and movie portrayals of this story, the Grinch has "a wonderful, awful idea" (p. 13) to steal Christmas. As the thought strikes the Grinch, he wears a sinister smile to accompany the awfulness of his idea. Though the Grinch is indeed smiling, this smile was not intended to make the audience feel closer to the character, but rather to emphasize the Grinch's role as a villainous character. Therefore, though the Grinch displays a behavior that the current immediacy literature identifies as immediate, the effect this behavior has on the audience is increased uncertainty, that which would be expected of a non-immediate behavior. This is why a distinction between perceived immediacy and immediate behaviors must be made in the literature. It is not the act of displaying behaviors that directly affects psychological distance, but rather the perceptions of those behaviors. Therefore, the role of perception must be more carefully scrutinized and treated as a

unique variable that mediates the actual behaviors of the message sender and the reaction of the message receiver.

To summarize, immediacy has been studied as a set of behaviors which reduce perceived psychological distance. The indicators of immediate behaviors are always perceived to be socially inoffensive; therefore, the indicators often vary between cultural and relational contexts (Mehrabian, 1972; Weiner & Mehrabian, 1968). Immediate behaviors convey liking from a message sender to a message receiver (Andersen, 1985; Hale & Burgoon, 1984; Weiner & Mehrabian, 1968). Displays of immediate behaviors are typically reciprocated (Andersen et al., 1998; Burgoon & Hale, 1987; Richmond & McCroskey, 2000). Despite an extensive body of literature, this information summarizes the knowledge derived from extent literature. Thus, what is missing from the literature is an examination of the psychological state of perceived immediacy.

Distinguishing Immediate Behaviors and Perceived Immediacy

The current literature identifies immediacy as a set of behaviors, which when present decrease psychological distance between communicators (Andersen et al., 1998; Mehrabian, 1967b, 1968, 1969, 1971b, 1972, 1981; Turman, 2008). Immediate behaviors are direct and personalized (Bradac, Bowers, & Courtright, 1979; Mehrabian, 1966, 1967a; Weiner & Mehrabian, 1968). To reiterate, Mehrabian (1967b, 1968, 1969, 1971b, 1972, 1981) identified forward lean, eye contact, attentive body orientation, openness of posture, light touch to a nonthreatening body part, closer distance, smiling, and relaxed posture as immediate behaviors, meaning they are those behaviors that promote decrease in physical or psychological distance. A robust history of research supports Mehrabian's findings (Ashton, Shaw, & Worsham, 1980; Borderman, Freed, & Kinnucan, 1972; Bryne, Baskett, & Hodges, 1971; Burgoon, Buller, &

Woodall, 1996; Burgoon, Buller, Hale, & deTurck, 1984; Dabbs, 1971; Giesen & McClaren, 1976; Goldstein, Kilroy, & Van de Voort, 1976; Hewitt, 1982; Kleck, 1968; Kleinke & Pohlen, 1971; Scherwitz & Helmreich, 1973; Snyder & Endelman, 2006). Immediate behaviors can be distinguished from non-immediate behaviors which are those that induce increased psychological distance (Burgoon, Buller, & Woodall, 1996; Burgoon & Hale, 1987; Mehrabian, 1972; Roth & Kuiken, 1975). Immediate behaviors and non-immediate behaviors should not be confused as the polar extremes of behavioral continuums. Because immediate behaviors only include those behaviors that promote psychological closeness, low displays of immediate behaviors promote minimal increases in closeness while high displays of immediate behaviors promote higher levels of closeness. So, the lack of presence of immediacy behaviors does not affect psychological closeness (Mehrabian 1971b, 1981). Non-immediate behaviors are entirely separate set of behaviors that promote psychological distance (Burgoon et al., 1996; Burgoon & Hale, 1987; Eiser & Ross, 1977; Mehrabian; 1967b, 1971b, 1972; Mehrabian & Weiner, 1966; Miller, 1964; Roth & Kuiken, 1975; Weiner & Mehrabian, 1968). The indicators of non-immediate behaviors are unrelated to the indicators of immediate behaviors.

The problems with this conceptualization of immediacy as a set of behaviors are twofold. First, as aforementioned, is the way that behaviors are treated as a checklist, under the assumption that receivers always decode these behaviors in the same manner. More concerning, is that the indicators of immediacy are context dependent such that, as an example, immediate behaviors displayed by an instructor (Gorham, 1988) differ from those displayed by an interpersonal acquaintance (Andersen et al., 1979). Furthermore, all indicators of immediate behaviors vary from culture to culture (Andersen, 1999; Burgoon et al., 1996; Knapp & Hall, 2010). This is because immediacy is not an “intrinsic property of a communicator,” (O’Keefe,

1990, p. 131). Rather, immediacy is truly a measure of how much psychological distance a message receiver perceives that a message sender had decreased through their communication. This same conceptual problem (i.e. separating behaviors from the perception of the behaviors) has been addressed in the credibility literature. Although there are a number of factors that commonly affect whether or not an individual is perceived to be credible, such as fluency of delivery and sources cited during delivery, credibility cannot be defined as a set of behaviors (O'Keefe, 1990). Rather, credibility must be understood as a judgment of how believable a speaker is because all receivers use their own unique criteria for assessing a speaker (O'Keefe, 1990). In this way, perceived immediacy is also a judgment of behaviors.

Perceived immediacy occurs when a receiver judges how much closer they feel to a sender as a result of a communicative exchange. This judgment is made when a receiver observes the array of immediate and non-immediate behaviors simultaneously displayed by another communicator and interprets the behaviors (Andersen et al., 1979; Burgoon et al., 1996; Imada & Hakel, 1977; Patterson, 1973b; Richmond & McCroskey, 2000). Research has identified immediate behaviors as those which are perceived to signal a degree of affection, approachability, closeness, liking, involvement and psychological arousal (Andersen, 1985; Andersen, 1999; Andersen et al., 1998; Burgoon et al., 1996; Coutts & Schneider, 1976; Hale & Burgoon, 1984; Knapp & Hall, 2010; Madlock, 2006; Manusov, 1991; Mehrabian 1967c, 1970, 1981; Miller, 1964; Richmond, McCroskey, & Hickson, 2008). Therefore, the current literature recognizes the role of perception in relation to immediacy by identifying that message receivers perceive the behaviors in a particular way. This paper makes the distinction that immediate (or non-immediate) behaviors are not synonymous with perceived immediacy. When a message receiver perceives all behaviors being displayed synchronously then they perceive both

immediate and non-immediate behaviors. Thus, perceived immediacy is a continuous variable that ranges from high to low. If an individual's behaviors are perceived to be highly immediate then psychological distance will be reduced; if an individual's behaviors are perceived to be of low immediacy, then psychological distance will increase (Andersen et al., 1979).

Though perception is discussed as related to the immediacy literature, the assumption has been made that displaying identified immediacy behaviors guarantees high perceived immediacy (Allen, Witt, & Wheelless, 2006; Witt et al., 2004). This is problematic because listeners use different criteria for judging communication based on the expected function of the communicator and personal listening habits (Cronkhite & Liska, 1976, O'Keefe, 1990). These innate differences in evaluating a communicator can result in two people perceiving different levels of immediacy from the same sender. Thus, perceived immediacy as a unique, measurable construct, which is the overall perception of how immediate an individual's behaviors are, is largely absent from the current body of literature.

Inputs and Outputs

Having conceptually clarified a key variable, the next step towards theory construction involves identifying input and output variables. The output variables most frequently related to immediacy throughout the literature are self-disclosure and what this body of literature has labeled *affect*. The frequent occurrence of these variables can be attributed to inception of Mehrabian's research agenda which sought to identify how immediate behaviors could be used to induce liking towards a message sender and encourage message receivers to engage in open communication. As such, the practical implications for psychiatrists, and later instructors, prompted scholars to focus on these variables.

Immediate Behaviors and Self-Disclosure

Self-disclosure is a variable central to initial interactions that is consistently shown to relate positively to immediate behaviors throughout the literature (Fusani, 1994; Montgomery, 1981; Sanders et al., 1990). “Self-disclosure refers to the process by which individuals reveal personal thoughts, feelings, and experiences to other people” (Kandin, 2000b, p. 210).

Uncertainty in initial interactions is most readily reduced by parties sharing information about themselves (Berger & Calabrese, 1975). Immediate behaviors have been noted to relate positively to self-disclosure in that when a message sender displays immediate behaviors, the message receiver is more likely to self-disclose than if those behaviors were not present (Fusani, 1994; Montgomery, 1981; Reysen et al., 2010; Sanders et al., 1990).

Immediacy is sometimes conceptualized as a type of self-disclosure or an indicator of self-disclosure because it reduces uncertainty (Hill & O’Brien, 1999; Kiesler, 1988). This conceptualization of immediacy, however, as being in any way synonymous with self-disclosure is contradictory to the definition of immediate behaviors because these behaviors result only in socially favorable outcomes (Mehrabian, 1981; Patterson, 1973a). Though self-disclosure makes the communication more predictable, it may not make it in any way more favorable, and therefore, interactants more comfortable with one another. For example, Communicator A may disclose information which causes Communicator B to perceive Communicator A to be racist which is against Communicator B’s personal beliefs. Uncertainty would be reduced by this exchange, but the disclosure will unlikely result in Communicator B feeling closer to Communicator A. Therefore, though immediate behaviors are positively related to self-disclosure, self-disclosure in and of itself is not an immediate behavior.

Immediate Behaviors and Affect

Immediate behaviors are consistently shown to relate to affect throughout the literature, but the actual use of the term *affect* is ambiguous (Allen, Long, O'Mara, & Judd, 2008; Chesebro & McCroskey, 1998; Christophel, 1990). Affect is an encompassing word that is often used interchangeably with *emotion* (Kandin, 2000a). More specifically, affect refers to an arousal of feeling rather than *cognition* (VandenBos, 2007). Affect can refer to any measurable emotion (Benner & Hill, 1999). As such, an increase in affect would be an increase in measurable emotion which could include fear, anger, happiness, etc. Therefore, the definition of affect is inconsistent with constructs measured in the immediacy literature. In the main, *affect* is contextually used in this body of literature to represent liking or interpersonal attraction (Allen et al., 2006; Witt et al., 2004). Liking refers specifically to an affinity for another individual. There are no behavioral implications inferred from liking, which separates it from interpersonal attraction (Benner & Hill, 1999; Vanden Bos, 2007). Interpersonal attraction occurs when, in addition to liking an individual, there is also a desire to engage in future interpersonal interaction (Benner & Hill, 1999). For example, a person may like their supervisor because they are patient, fair, and well organized, but due to personality differences have no desire to ever interact with his or her supervisor outside of the office. As such, this individual likes their supervisor, but is not interpersonally attracted to them. Interpersonal attraction is necessary in order for interpersonal relationships to form.

The next step toward understanding perceived immediacy is to examine the empirical relationships that have been revealed throughout the history of research on the variable of interest (Hunter & Schmidt, 2004). "Unless we can precisely calibrate such relationships among variables, we do not have the raw materials out of which to construct theories" (p. 17). Given

that the variables most frequently associated with immediate behaviors throughout the literature are self-disclosure and affect, they are the most logical variables to meta-analyze.

Overview of the Studies

This dissertation research report consists of three studies. Study 1 is a meta-analysis of immediate behaviors and self-disclosure. Study 2 meta-analyzed immediate behaviors and liking. Study 3 is an experiment that tested the amount of perceived immediacy, self-disclosure, and liking induced by the presence of known immediate behaviors in initial interactions. A path model was tested to assess the effect of immediate behaviors on perceived immediacy and then the effect of perceived immediacy on both self-disclosure and liking. The effect of immediate behaviors on perceived immediacy and then the effect of perceived immediacy on self-disclosure are compared to the results of Study 1 to identify whether the past literature supports the existence of perceived immediacy as a mediating variable between immediate behaviors and self-disclosure. Additionally, the effects of immediate behaviors on perceived immediacy and then the effect of perceived immediacy on liking are compared to the results of Study 2 to identify whether the past literature is consistent with the existence of perceived immediacy as a mediating variable between immediate behaviors and liking.

Chapter 2: Study 1

Given the overview of the conceptual problems that exist within the immediacy literature, Study 1 focuses on understanding the relationship between immediate behaviors and self-disclosure. Initial studies in immediate behaviors were concerned with how psychiatrist behaviors could induce self-disclosure in patients (Mehrabian, 1967a, 1967b, 1967c). Mehrabian (1966) named the behaviors whose presence encouraged self-disclosure *immediate*. Thus, it was in an attempt to understand the catalysts of self-disclosure that the immediate behaviors were identified. As a result of its conceptual genesis, the immediacy literature treats the positive relationship between immediate behaviors and self-disclosure axiomatically.

Scholars have explained this relationship through the norm of reciprocity (Andersen et al., 1998; Andersen, 1999; Coutts & Schneider, 1976; Hale & Burgoon, 1984; Patterson, 1973a; Richmond & McCroskey, 2000). The sense of interpersonal closeness created by the presence of immediate behaviors prompts message receivers to reciprocate the efforts to decrease psychological distance; this decrease is accomplishable through self-disclosure. It is not the immediate behaviors that decrease psychological distance though. Rather, it is the perception of those behaviors. Whether behaviors are perceived as immediate varies between contexts and cultures (Andersen, 1999; Andersen et al., 1979; Burgoon et al., 1996; Knapp & Hall, 2010; Mehrabian, 1972; Weiner & Mehrabian, 1968). Therefore, there is no theoretical reason to believe that any given set of behaviors will always reduce psychological distance. Notably though, within a given culture there are a number of behaviors that are typically perceived to be immediate (Andersen, 1999; Burgoon et al., 1996; Mehrabian, 1972; Weiner & Mehrabian, 1968). Therefore, behaviors commonly perceived to be immediate in a given culture should relate positively to self-disclosure because those same behaviors relate positively to perceived

immediacy which reduces psychological distance. Results within the body of literature have been conflicting regarding the strength of this positive relationship. Studies vary in magnitude of the relationship yielded, from $r = .10$ (Fusani, 1994) to $r = .74$ (Montgomery, 1981). This study proposes to identify moderating variables that may account for the discrepancy in the literature.

Some studies argue for sex of communicators as a moderating variable of self-disclosure intimacy (Jourard, 1971; Sanders et al., 1990). Jourard (1971) found that, in general, women tend to self-disclose more freely than men. Jourard's (1971) findings, however, are somewhat unique in that the definition of self-disclosure within this study placed a higher importance on the intimacy of a disclosure rather than amount disclosed. Thus, Jourard's (1971) findings were supplemented by Sanders et al. (1990) who found that men and women were likely to disclose different types of information about themselves, with men being more willing to disclose about sex and personal accomplishment and women being more willing to disclose about feelings, parenting, and environmental pressures. Sex of the communicators has been largely untouched in the immediacy literature. Given Jourard (1971) and Sanders' et al. (1990) findings it is reasonable to assume that sex could act as a moderating variable between immediate behaviors and the intimacy of self-disclosure.

Therefore, a relationship of moderate size was hypothesized between immediate behaviors and self-disclosure. While sex of the receiver may moderate the intimacy of the self-disclosure, there is no theoretical reason to believe that it will moderate the amount of information disclosed. Given that sex of the communicator may moderate the intimacy of disclosure, a moderate positive relationship is anticipated with some heterogeneity in effect size.

Method

Meta-Analytic Procedure

Effect sizes were measured by Pearson's Product Moment Correlation Coefficient. These correlations were corrected for sampling error, measurement error, and restriction in range in accordance with Hunter and Schmidt's (2004) variance centered method. If heterogeneity existed beyond what can be explained by sampling and measurement error, then studies were reviewed for restriction of range. If heterogeneity still existed, then the studies were reviewed for moderating variables. To test for the presence of a moderating variable, the collection of studies were split between those that contained the moderating variable and those that did not. If homogeneity existed among the individual groups, then this indicated that a moderating variable was found. Although there are multiple valid procedures for conducting meta-analyses, Hunter and Schmidt's (2004) method was selected for this study. Hunter and Schmidt's (2004) method was chosen firstly because it is a conservative method that makes few assumptions about the sample, and secondly because it is the method most familiar to communication scholars.

Literature Search Procedure

Studies were gathered using the search terms *disclosure*, *self-disclosure*, or *intimacy* to capture self-disclosure and *immediacy*, *immediate*, *lean*, *gaze*, *touch*, *eye contact*, *proximity*, *distance*, or *smile* to capture immediacy. Relevant studies were obtained by first utilizing the subject search options in *Google Scholar*, *PSYCHINFO*, *Academic Search Premier*, *Dissertation Abstracts*, and *Communication and Mass Media Complete*. These databases cover literature from a variety of disciplines. In addition to these articles, all relevant studies from the bibliographies of these articles were collected, as well as the bibliographies from the second tier of articles, from the third tier of articles, and so forth down to the seminal studies in immediacy and self-

disclosure. This search yielded 35 articles. One article had to be removed from the study because the researcher was not able to obtain a copy in English. Once these articles were gathered, the authors of each study who were neither retired nor deceased were contacted to request any unpublished data that investigated the immediate behaviors-self-disclosure relationship. No additional studies were available.

For articles to be included in the meta-analysis, a number of criteria must be met. First, the indicators of immediate behaviors must agree with those identified by Mehrabian (1968, 1969, 1971b, 1972, 1981). Second, the variable considered self-disclosure in the study must match Kandin's (2000b) definition utilized in this paper which defines self-disclosure as "the process by which individuals reveal personal thoughts, feelings, and experiences to other people" (p. 210; Criterion 2). The first two criteria are implemented to ensure that the meta-analysis assesses studies truly conducted on immediate behaviors and self-disclosure rather than studies that have been mis-cited or mislabeled. Third, it must be possible to calculate the correlation between immediate behaviors and self-disclosure. Fourth, the article must include original data. Multiple publications of the same set of data will not be counted as separate investigations; therefore, the relationship yielded from any data set will only be included in the meta-analysis once regardless of how many times it has been published. Fifth, where relevant, sender's immediate behaviors must be the independent variable and receiver's self-disclosure the dependent variable. The relationship between an individual's immediate behaviors and their own self-disclosure tendencies are not of interest to the present study. Finally, if the study utilizes a non-US American sample, then it must use a culturally appropriate measure of immediate behaviors. Because immediacy behaviors are culturally dependent, if a measurement that has only been validated in the US was used to measure immediacy within another culture, then the

measure was likely invalid. Appendix A lists the 5 articles that met the preceding criteria.

Appendix B contains a list of the 27 articles that failed to meet the criteria and the article that was unavailable in English. The list indicates the first criterion that the article failed to meet.

Of the articles that did not meet the criteria, it was impossible to calculate a relationship between the target variables for 12 articles; among these articles there was nonlinearity in the data for four articles, all of which used distance to represent immediacy (e.g. Amerikaner, 1980; Rogers, Rearden, & Hillner, 1981; Skotko & Langmeyer, 1977; Stone & Morden, 1976). Eleven articles examined how sender self-disclosure encouraged receivers to respond with increased immediate behaviors. Four of the studies did not examine immediacy. In the main, rather than studying immediate behaviors, these studies examined the relationship between intimacy of communication to amount of self-disclosure where intimacy is defined as “a process in which one person expresses important self-relevant feelings and information to another and, as a result of the other’s response, comes to feel understood, validated, and cared for” (Manne et al., 2004, p. 590). Though these studies were cataloged as measuring immediacy and self-disclosure, they are actually comparing two separate dimensions of self-disclosure. Two of the gathered studies did not measure self-disclosure. Instead, they studied other communication phenomena, including vocabulary aptitude (Joesting, 1973) and influence (Mezzacappa, 2001). The majority of studies were eliminated from the meta-analysis because they studied the reciprocal nature of immediacy rather than the causal relationship of immediate behaviors on self-disclosure.

Results

Seven studies fit the criteria, with two separate data sets reported in the Fusani (1994) article and two separate data sets reported in the Roth & Kuiken (1975) article. The combined sample size was 960. The studies were corrected for artifacts. After correcting for attenuation

due to measurement error and verifying that restriction of range was not present in the studies, the average weighted correlation for the sample was $r = .21$ (unweighted $r = .31$). Variance observed was 0.051 and the weighted variance observed was 0.037. Variance expected due to sampling error given a set of seven studies with 960 participants was 0.005. Therefore, the amount of variability within this sample was not accounted for by sampling error [$\chi^2(6, N = 960) = 102.60, p < .05$]. Given the heterogeneity that exists within the sample, the presence of moderators of the immediate behavior \rightarrow self-disclosure relationship is likely.

Examining the effects of studies, variability seems to exist within three groups with effects ranging from .10 - .12, .32 - .46, and a lone study with an effect of .83. The group with the .10 - .12 effect range consisted of three studies with a combined sample size of 696. The weighted correlation for the sample was $r = .11$ (unweighted $r = .11$). The variance observed was 0.000 and the weighted variance observed was 0.000. Variance attributable to sampling error given a set of three studies with 696 participants was 0.004. Therefore, there was less variance across these studies than what would be expected from sampling error [$\chi^2(2, N = 696) = 0.70, ns$].

The group with effects ranging from .32 to .46 consisted of three studies with 254 total participants. The weighted correlation for the sample was $r = .42$ (unweighted $r = .37$). The variance observed was .004 and the weighted variance observed was 0.000. Variance that could be expected due to sampling error given a set of three studies with 254 participants was .008. Therefore, the amount of variability within this sample was completely accounted for [$\chi^2(2, N = 254) = 0.787, ns$].

The studies composing this sample varied among a number of characteristics with the measured variable being either intimacy or amount of disclosure; the method of data collection

experiment, observation, or survey; the context either interpersonal or instructional; and the sample being public, student, or faculty. The mean effect for the singular study was $r = .83$, $P(0.49 < \rho < 0.87) = .95$. With a sample of $N = 26$ this study had a notably smaller sample than the other immediate behavior \rightarrow self-disclosure studies. Perhaps more notably however, unlike the other studies in the sample, this study measured verbal immediacy behaviors whereas the others examined nonverbal immediate behaviors. Of the studies with a weighted correlation of $r = .42$ $P(0.31 < \rho < .52) = .95$, these studies were unique in that the researchers did not specify the type of disclosure that participants were expected to divulge or recall. In other words, subjects in these studies were free to self-disclose on any topic they wished. Of the studies with a weighted correlation of $r = .11$ $P(0.04 < \rho < .18) = .95$, these studies required that subjects self-disclose on topics determined by the researchers. All studies composing the sample in Study 1 are summarized in Table 1 which is contained in the table appendix, Appendix C.

Discussion

A moderate sized positive relationship was predicted between immediate behaviors and self-disclosure. Consistent with this hypothesis, the weighted average correlation for this sample was $r = .21$. Albeit, there was considerable variation in effect sizes across the distribution after correcting for common artifacts. This study also inquired whether sex would act as a moderator for the intimacy of disclosures produced in the presence of immediate behaviors as suggested by Jourard (1971) and Sanders et al. (1990). The data in this meta-analysis are not consistent with the claim that sex is a moderating variable.

Also interesting was the fact, there was homogeneity among the group of studies in the .1 - .12 effect range. Amongst this sample, all studies specified the topics of disclosure, but varied in whether disclosure was measured through amount or intimacy. No other study of immediate

behaviors and self-disclosure measured any dimension of self-disclosure other than intimacy. That homogeneity existed among the sample that measures self-disclosure via intimacy and amount implies that immediate behaviors have a consistent effect on all forms of disclosure.

Unexpectedly, the data indicated that specifying the topic of disclosure moderates the relationship between immediate behaviors and liking. The sample with weighted effect $r = .11$ specified the topic of disclosure while the sample with weighted effect $r = .42$ did not specify a topic that subjects were expected to disclose. Logically, it makes sense that closed ended disclosure effects are smaller than opened ended effects given that only the open ended scenarios allowed subjects to engage in disclosure of topics that they were comfortable with or had experience discussing.

Additionally, the evidence across these studies is consistent with the claim that immediate behavior is indeed an input variable of self-disclosure. Because immediate behaviors were identified as behaviors displayed by psychiatrists who were already successful at getting patients to self-disclose, and given the evidence that supports the reciprocal nature of immediate behaviors and self-disclosure (Hill & O'Brien, 1999), there was potential for the input-output order to be reversed such that self-disclosure of the sender is actually what causes immediate behaviors in the receiver. Yet, the studies comprising this sample consisted of six experiments and one survey, with each of the six experiments using various ranges of immediate behaviors to induce self-disclosure. Because this behavioral data supports that increases in immediate behaviors on behalf of the sender results in increases of self-disclosure on behalf of the receiver, this evidence supports that immediate behaviors are indeed an input of self-disclosure.

The evidence among these studies is also consistent with the idea of perceived immediacy acting as a mediating variable between immediate behaviors and self-disclosure.

Because the relationship between mediated variables in a simple causal string is calculated as the product of the intervening direct effects, the average effect observed in this study is consistent with expectations. Given that the three groups of effect ranges in the present sample had a minimum effects of .10 - .12 and maximum an effect of .83, the relationship between immediate behaviors and perceived immediacy and perceived immediacy and self-disclosure should fall in the range of .30 - .60.

This study was limited by a small sample size of only seven studies. Notably though, this sample contained 960 subjects. Because only one study within this sample looked at verbal immediacy behaviors, and because the effect of this study was considerably larger than that of the other groups that looked only at nonverbal immediate behaviors, future research needs to look for additional studies that look at verbal immediacy behaviors and yield large effects. It could be that verbal immediacy behaviors are simply easier for the receiver to spot and as such, the relationship between verbal immediacy behaviors and related variables will always be larger than the same relationships with nonverbal immediacy behaviors. If this is the case, then the results of this study may only apply to nonverbal immediacy behaviors and self-disclosure.

Chapter 3: Study 2

Given the conceptual confusion that exists within the immediacy literature regarding the conflation of immediate behaviors and perceived immediacy, Study 2 evaluated the relationship between immediate behaviors and liking. Initial studies in immediate behaviors were concerned with how sender behaviors could induce liking in receivers (Mehrabian, 1966; 1967a, 1967b, 1967c; 1968; 1969). Mehrabian (1966) identified immediate behaviors as those that are positively related to liking for the behavior sender. As such, immediate behaviors were discovered in an attempt to induce liking for a message sender. Because of the way in which immediate behaviors were identified, the positive relationship between immediate behaviors and liking is treated axiomatically in the immediacy literature. Which behaviors are perceived to be immediate is dictated by the culture in which those behaviors are displayed (Mehrabian, 1972; Weiner & Mehrabian, 1968). Therefore, there is a cultural understanding that when a particular behavioral cue is presented, that the sender is attempting to make the receiver more comfortable. Thus, when a sender displays immediate behaviors during attempted interpersonal communication this typically causes the sender to be appreciative of those efforts, increasing liking of the sender.

Results within the body of literature have varied in the magnitude of the relationship yielded, from $r = .12$ (Kleinke, Staneki, & Pipp, 1975) to $r = .74$ (Plax et al., 1986). A majority of this literature has focused on how instructional immediacy behaviors relate to student liking for the instructor. There is no indication that the classroom context moderates the relationship between immediate behaviors and liking (Barringer & McCroskey, 2000; Chesebro, 2003; Chesebro & McCroskey, 1998; Christophel, 1990; Gorham & Christophel, 1990; Plax et al., 1986). Therefore, a moderate to strong relationship is expected to be found between immediate

behaviors and liking. No moderating variables are anticipated. In short, a substantial positive relationship is expected between immediate behaviors and liking with no heterogeneity in effect size.

Method

Meta-Analytic Procedure

Study 2 meta-analytic procedures were identical to those followed in Study 1. Hunter and Schmidt's (2004) variance centered method will be used to standardize effect sizes to Pearson's Product Moment Correlation Coefficient, then correcting for sampling error and measurement error. If homogeneity existed, then this implies that the relationship between immediate behaviors and liking is uniformed across all subgroups within the population. However, if heterogeneity existed, then that means that certain samples were measured uniquely or that there is a moderating variable which changes the relationship between immediate behaviors and liking. If heterogeneity existed after effects have been attenuated for sampling and measurement error, then studies were reviewed for restriction of range and then examined for potential moderating variables. There were a number of valid meta-analytical procedures. Hunter and Schmidt's (2004) procedure were utilized for this study because it is a conservative method familiar to communication scholars.

Literature Search Procedure

Studies were gathered using the search terms *affect*, *liking*, or *attraction* to capture liking and *immediacy*, *immediate*, *lean*, *gaze*, *touch*, *eye contact*, *proximity*, *distance*, or *smile* to capture immediacy. Relevant studies were obtained by first utilizing the subject search options in *Google Scholar*, *PSYCHINFO*, *Academic Search Premier*, *Dissertation Abstracts*, and *Communication and Mass Media Complete*. In addition to articles collected through electronic

search, all relevant studies from the bibliographies of these articles were collected, as well as the bibliographies from the second tier of articles, from the third tier of articles, and so forth down to the primary studies in immediacy and liking. This search yielded 139 articles.

For articles to be included in the meta-analysis, a number of criteria must be met. First, the indicators of immediate behaviors must agree with those identified by Mehrabian (1968, 1969, 1971b, 1972, 1981). Second, the variable considered liking must indicate affinity for another individual (Benner & Hill, 1999; Vanden Bos, 2007). The first two criteria are implemented to ensure that the meta-analysis assesses studies truly conducted on immediate behaviors and liking rather than studies that have been mis-cited or mislabeled. Third, it must be possible to calculate the correlation between immediate behaviors and liking. Fourth, the article must include original data. Multiple publications of the same set of data will not be counted as separate investigations; therefore, the relationship yielded from any data set will only be included in the meta-analysis once. Where relevant, immediate behaviors must be the independent variable and liking must be the dependent variable. Finally, if the study utilizes a non-US American sample, then it must use a culturally appropriate measure of immediate behaviors. Because immediacy behaviors are culturally dependent, if a measurement that has only been validated in the US was used within another culture, then the measure was likely invalid. Appendix D lists which of the 26 articles met the preceding criteria. Appendix E contains a list of the 113 articles that failed to meet the criteria and indicates the first criterion that the article failed to meet. Once the articles were evaluated through these criteria, the authors of the 26 articles that matched the criteria who were neither retired nor deceased were contacted to request any unpublished data that investigated the immediate behaviors-liking relationship. No additional studies were available.

Among the references that failed to meet a criterion, 38 did not include sufficient information to calculate a Pearson's Product Moment Correlation Coefficient for the target variables. One study was a meta-analysis that did not present original data and two used behaviors identified in the U.S. culture to measure immediacy behaviors among non-U.S. samples. Eighteen studies utilized liking as an independent variable, often as an indicator of immediacy due to the axiomatic way in which immediacy and liking are treated in the extent literature. Ten studies did not actually investigate immediacy. Some of these studies dealt with relationships formed through computer-mediated communication (CMC) and measured macro distances (Athanasiou & Yoskioka, 1973) to calculate "attraction effect in a real-life setting" (Bryne, Ervin, & Lamberth, 1970, p. 159). No other theme was found among these mis-cited studies. Forty-one studies did not measure liking. Some of these studies yielded the relationship between individual cues of immediacy and were labeled as liking (i.e. Argyle & Dean, 1965; Bayes, 1972; Beier & Sternberg 1977; Graves & Robinson, 1976; Kleck, 1968; Lefebvre 1975; Nguyen, Heslin, & Nguyen, 1975; Stass & Willis, 1967). Other studies measured "sexual arousal" (Griffitt, May, & Veitch, 1974, p. 368) and physical "attractiveness ratings" (Kmiecik, Mausar, & Banziger, 1979, p. 108) in lieu of liking. Further studies investigated "approval-seeking" (Pellegrini, Hicks, & Gordon, 1970, p. 373) or "affiliative motives" (Rosenfeld, 1966, p. 65, 1965, 1967) in which immediate behaviors were assumed to be liking inductions. Most of these studies, however, provided no indication as to why they had been cited as a reference for liking beyond the fact that the measured variable was typically a positive social outcome.

Results

Twenty-eight studies fit the criteria for this meta-analysis. The combined sample size was 7,276. Each study was corrected for artifacts of measurement error and range restriction. After

correcting for attenuation due to measurement error, the average weighted correlation for the sample was $r = .62$, $P (.61 < \rho < .63) = .95$ (unweighted $r = .56$). The variance observed was 0.046 and the weighted variance observed was 0.023. Variance that could be attributed to sampling error given a set of 28 studies with 7,276 participants was 0.001. Therefore, the amount of variability within this sample was more than what could be accounted for by sampling error [$\chi^2(27, N = 7,276) = 186.16, p < .05$]. The presence of moderating variables is likely given the heterogeneity that exists within this sample.

Looking across the studies, effects appeared to be clustered within three ranges: .12 - .53, .39 - .74, and .98-.99. The first group which consisted of two studies with effects ranging from .98 - .99, had a weighted correlation of $r = .99$ (unweighted $r = .99$) and combined sample size of 60 subjects. The variance that could be expected due to sampling error given a set of two studies with 60 subjects was 0.000. The variance observed was 0.000 and the weighted variance observed was 0.000. Therefore, the amount of variability within this sample was accounted for [$\chi^2(1, N = 60) = 0.003, ns$].

The second group of studies had effects ranging from .12 - .39. Because each of these studies were an experiment and only additional experiment remained within the sample, these eight experimental studies with effects falling in the .12 - .39 as well as the Elsworth & Carlsmith (1968) experimental study where $r = .53$ were analyzed as a group. This sample consisted of 1,145 participants with an average weighted correlation of $r = .31$ (unweighted $r = .31$). The variance observed was 0.012 and the weighted variance observed was 0.005. The variance that could be expected due to sampling error given a set of nine studies with 1,145 participants was 0.006. Although there was slightly more variance than that could be attributed to sampling error, the difference was trivial [$\chi^2(8, N = 1,145) = 5.92, ns$].

The studies comprising these two groups were similar in that they were all experiments. However, the groups differed in that the group with weighted correlation of $r = .99$ used a child sample and the group with weighted correlation $r = .31$ used an adult sample. Additionally, the group with the child sample asked children to paste cut paper dolls that represented people they liked or did not like on a board in relationship to a doll representing the subject to measure the immediate behavior of distance. Thus, liking was dichotomized into like or dislike for this sample. The experiments with the adult sample utilized continuous measures of liking.

The remaining studies had effects ranging from .53 - .77. This sample consisted of 6,071 subjects with an average weighted effect of $r = .68$, $P(.67 < \rho < .69) = .95$ (unweighted $r = .64$). The amount of variance observed was 0.008 and weighted variance observed was 0.008. Given a sample of 6,071 participants among 17 studies, the amount of variance attributable to sampling error is 0.001. Therefore, there was considerable variance across these studies unattributable to sampling error [$\chi^2(16, N = 6,071) = 148.63, p < .05$]. In order to account for the variance that existed within this group, number of moderators were examined including sex of participants, age of participants, measures utilized to assess both immediate behaviors and liking, sample type (student vs. public), topic (interpersonal, organizational, instructional), time of data collection relative to meeting the referent, size of groups gathered for data collection, geographic region of the US in which data was collected, and year of publication. None of these variables appeared to be responsible for the variability in effects.

Discussion

The data were consistent with the hypothesis that a moderately sized positive relationship would exist between immediate behaviors and liking. The weighted correlation yielded from this study was $r = .57$. Though a considerable amount of variability existed across the effects, the

sample consisted of 27 studies representing of 7,276 participants. Thus, the extant data are consistent with the existence of a positive relationship between immediate behaviors and liking, albeit a moderated one.

Though the study did not predict moderators, two moderators were identified: child vs. adult sample and experiment vs. survey methodology. These moderators, though not addressed by previous literature, are unsurprising. Given that children are prone to black and white judgments that dichotomize variables such as liking, the relationship between any variable and social value judgments among children would be expected to be dichotomized to synchronously related or not at all related (Schneider, Schumann-Hengsteler, & Sodian, 2005). Also, it is unsurprising that the effects found in the experiments were lower than those found in the survey studies because in the experiments liking was developed toward someone that participants were introduced to minutes before assessment, not individuals that they have had time to develop a relationship with. For example, the Boderman et al. (1972) study forced a stranger (confederate) to touch the subject's face as the immediate behavior induction. Likewise, in the Kahn & McGaughey (1977) study, subjects were forced to sit at specified distances from a stranger. In each of the experimental studies with an adult sample, subjects were not allowed to develop a level of comfort with the sender before assessing liking. Therefore, the level of liking that can be achieved after uncertainty is reduced through natural interaction was not assessed in this study, but rather initial impressions of immediate behaviors.

Of the 27 studies, these moderators only accounted for the variance observed in 11 studies. This left 16 studies, all of which utilized survey methodology on adult samples (with the exception of Plax et al. (1986) study 1 which examined adolescents) composed of students, teachers, or the public, in the instructional or organizational contexts. Once all artifacts have

been accounted for within a group of studies with valid measures, then moderators are the only remaining explanation for heterogeneity in the sample (Hunter & Schmidt, 2004). Given that, the conclusion that must be drawn is that the current body of immediacy literature does not report enough information to identify relevant moderating variables. This conclusion is supported in that of the 88 studies identified during the literature search that measure both immediate behaviors and liking, 38 studies could not be included for analysis because they did not include sufficient information to calculate a standard effect size. In short, the norm among the immediacy literature has been to report insufficient information to account for the variance in the studies. Thus studies that would assist in the identification of moderating variables are underreported.

Despite the limitations of this study, like the results of Study 1, the findings are consistent with the claim that a variable mediates the relationship between immediate behaviors and liking. The effects seen in this sample range from .12 to .78, with an average weighted correlation of $r = .57$. Given this range, the average immediate behaviors-perceived immediacy, perceived immediacy-liking relationships could range from .30 to .90.

Chapter 4: Study 3

The findings of Studies 1 and 2 indicated the nature of the relationships between immediate behaviors and self-disclosure and liking. It was still unknown whether perceived immediacy mediates immediate behaviors and self-disclosure and liking. To understand immediacy, the conflation of immediate behaviors and perceived immediacy in the literature had to be sorted.

Perceived immediacy is a measure of how much psychological distance a message receiver perceives that a message sender has decreased through their communication. It is separate from the behaviors exerted which may or may not be perceived as immediate. With the exception of Andersen et al. (1979), this distinction has not been addressed. This same conceptual confusion, regarding separating behaviors from the perception of behaviors, has been addressed in the credibility literature. Although trustworthiness and expertise are commonly thought to affect whether or not an individual is perceived to be credible, credibility cannot be defined as a set of behaviors as it is a perception in the mind of the receiver that is most proximal to persuasive outcomes, not a set of behaviors displayed by the sender (O'Keefe, 1990). Thus, the relationships between immediate behaviors and liking or self-disclosure cannot be understood until the role of perceived immediacy is understood. Because of this important distinction between immediate behaviors and perceived immediacy it is crucial to determine whether perceived immediacy indeed mediates self-disclosure and liking before the phenomenon of immediacy can be understood. Study 3 is an attempt to test whether perceived immediacy mediates the immediate behaviors - self-disclosure and immediate behaviors - liking relationships.

This understanding of perceived immediacy is crucial to theory development. Theories

are general so that they may be applied to a variety of phenomena, people, and places (Kerlinger & Lee, 2000, Reynolds, 2007). The current literature focuses on immediate behaviors that are context dependent. Thus, a theory of immediacy cannot be built upon immediate behaviors because it could never be applied free of time and space parameters. More concerning, given the current state of the literature, is the hole pertaining to perceived immediacy. To this point, immediate behaviors have been treated as though they are the direct cause of liking and self-disclosure (Allen et al., 2006; Barringer & McCroskey, 2000; Borderman et al., 1972; Chesebro & McCroskey, 2001; Elsworth & Carlsmith, 1968; Houser et al., 2008; Kahn & McGaughey, 1977; Mehrabian, 1968; Plax et al., 1986; Sanders & Wiseman, 1990; Scherer, 1974; Tesch, Huston, & Indebaum, 1973; Teven, 2007). This is problematic, because the role that the mediating variable plays is undetermined (Byrne, 2001).

A theory of immediacy would explain the relationship between immediate behaviors, the perception of those behaviors, and the subsequent reactions by the message receiver to that perception. Therefore, the following model (Figure 1) was tested in which perceived immediacy mediates the immediate behaviors – self-disclosure and immediate behaviors – liking relationships:

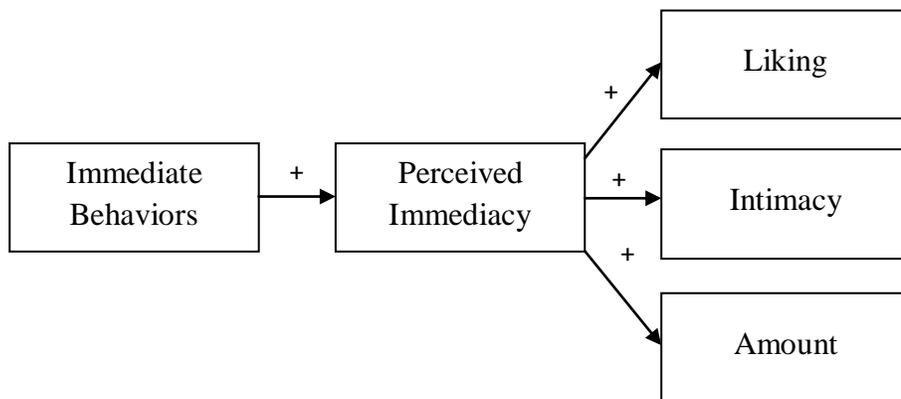


Figure 1. Immediacy Model

Through the existence of cultural norms that dictate which behaviors are friendly and which are face threatening within any given culture (Hayakawa, 2000), certain behaviors are typically perceived to be immediate within specific contexts. For example, eye contact is an immediate behavior in the United States where it shows that communicators are paying attention to their interaction partner, but eye contact is non-immediate in many Asian countries where it is considered disrespectful (Kim & Nam, 1998). Because of this, when culturally recognized immediate behaviors are displayed, the intention of those behaviors as attempts to reduce discomfort and distance are typically recognized (Andersen et al., 1998; Andersen, 1999; Andersen et al., 1979; Burgoon et al., 1996; Knapp & Hall, 2010; Mehrabian, 1972; Weiner & Mehrabian, 1968) such that perceived immediacy is induced. Thus, a positive relationship is expected between immediate behaviors and perceived immediacy.

The positive relationship between self-disclosure and liking has been long established by scholars (Collins & Miller, 1994; Jourard, 1959, 1960, 1971; Worthy, Gary, & Kahn, 1969). A meta-analysis by Collins & Miller (1994) confirmed that the relationship between disclosure and liking is reciprocal in that people disclose more to individuals that they like and like individuals who disclose to them. [This positive relationship exists with exception to instances in which receivers perceive that the information disclosed implies a physical or psychological threat (Collins & Miller, 1994; Cozby, 1972, 1973)]. Despite this relationship, research supports that self-disclosure does not cause liking (Cozby, 1972, 1973) nor does liking cause disclosure (Chakin & Derlega, 1974; Derlega, Harris, & Chakin, 1973) in initial interactions. What has not been established is the variable that induces liking and disclosure in such a way that they behave synchronously during initial interactions (Collins & Miller, 1994; Cozby, 1973). This study proposes that perceived immediacy not only relates positively to both liking and disclosure, but

causes those responses in message receivers. Receivers respond to immediate behaviors with increased liking (Allen et al., 2008; Anthony, 1974; Elsworth & Carlsmith, 1968; Mehrabian, 1967, 1968) and disclosure (Amerikaner, 1980; Baker & Shaw, 1980; Car & Dabbs, 1974; Jourard & Friedman, 1970; Sanders et al., 1990), but individuals do not react directly to immediate behaviors. Instead, they respond to their perceptions of those behaviors. Therefore, if immediate behaviors induce perceived immediacy, and liking and disclosure are responses to the perceived presence of immediate behaviors, then perceived immediacy must function as a mediating variable between immediate behaviors and those outputs.

Method

Subjects

This study sample consisted of approximately 141 undergraduate students enrolled in a public speaking course at a medium sized Southeastern university. The public speaking course from which subjects were gathered serves a general education function for the university. Therefore, the sample was representative of a large cross-section of undergraduate majors and demographics consistent with the university. On average, subjects are expected to be $M = 20.01$ ($SD = 3.74$) years old. Females composed 63.9 % of the sample and males 36.9%. The class status of subjects broke down as follows: 54.6 % freshmen, 17 % sophomores, 12.1 % juniors, and 16.3 % seniors.

Design

This experiment utilized a single-factor independent groups design with four levels of the independent variable. Subjects were assigned randomly to participate in one of the four conditions. For the induction, a confederate was alone with the subject in a conference room for five minutes. (Two confederates with similar physical traits were trained and utilized throughout

the study, but each subject only interacted with one confederate.) Each confederate was trained to display either no, low, medium, or high levels of immediate behaviors in each of the four experimental conditions. In each condition, the confederate kept a neutral demeanor while interacting with the subject, meaning that the confederate neither smiled nor frowned. Demeanor was kept constant to avoid conflation of immediacy with friendliness. The immediate behaviors of forward lean, eye contact, open body posture, and vocal inflection were displayed 0%, 30%, 60%, or 90% of the time at the end of each condition. When the inductions were not being displayed, the confederate leaned back in his chair with his arms folded, looking down. The confederate did not speak with the subject other than to answer a direct question, and if forced to disclose only revealed the information that appears in Appendix F. Each subject was exposed to the induction for 5 minutes.

The success of the preceding experiment was contingent upon successful induction of varying levels of immediate behaviors. The confederates were trained to display no, low, medium, or high immediate behaviors throughout 0%, 30%, 60%, and 90% of the interaction respectively. To test the validity of the induction, an induction check was conducted.

Induction Check

Subjects. Subjects for the induction check consisted of 151 undergraduate students enrolled in a public speaking course at a medium Southeastern university. This course serves a general education function for the university. Therefore, the sample is representative of a large cross-section of undergraduate majors and demographics consistent with the university. On average, subjects were $M = 19.42$ ($SD = 1.54$) years old. Females composed 53% of the sample and males 47%. Thirty-seven subjects were in the 0% condition, 37 were in the 30% condition, 41 were in the 60% condition, and 36 were in the 90% condition.

Design. This induction check was a single-factor independent groups design. Subjects were assigned randomly into one of four levels of immediate behaviors that were induced in the same manner as Study 3. Both confederates were independently video recorded interacting with a person sitting on the opposite side of a table for 90 seconds. (See Appendix F for the recording transcription.) This same interaction, in which the confederates responded with identical answers, was recorded four times apiece. During each filming, the confederates displayed no, low, medium, or high nonverbal immediate behaviors as described in the previous section. The video was shot from just above the head of the individual that the confederate was interacting with so that it showed the same perspective that participants had during the actual experiment.

Procedure. Subjects were notified of a specific time and place to gather in an available classroom on campus. Data was collected in groups of approximately 18 subjects at a time. The researcher showed each group one of the four video recordings of the confederate. The subjects were then asked to assess the confederate's behaviors. The process took approximately 10 minutes.

Instrumentation. Nonverbal immediacy behaviors were measured through an adapted version of McCroskey et al.'s, (1995) Revised Nonverbal Immediacy Measure ($\alpha = .83$). The original measure was designed to assess nonverbal immediacy behaviors of instructors in the classroom. The items were adapted to fit the video. (See Appendix G for the revised instrument). McCroskey et al. (1995) reports that the measure has good face and convergent validity. The questionnaire also included the measures utilized in the focal experiment (Appendix G).

Results. Results from the induction check demonstrated that the differences in immediate behaviors were perceived by the subjects. The 0% condition was perceived to have demonstrated the least immediate behaviors ($M = 1.93$, $SD = 0.45$), followed by the 30% condition ($M = 2.40$,

$SD = 0.89$), 60% condition ($M = 2.90$, $SD = 0.73$), and 90% condition ($M = 3.40$, $SD = 1.01$). A one-way ANOVA with a Tukey post-hoc was run to compare differences between groups. The omnibus ANOVA was statistically significant, [$F(3, 147) = 23.52$, $p < .05$, $\eta^2 = .32$]. The Tukey test indicated that each induction was perceived to display statistically significantly different amounts of immediate behaviors from all other groups with the exception of the 0% vs. 30% inductions. (See Table 3 for the Tukey results.) Because this study will use the inductions to look at higher levels of immediacy, the lack of statistical significance between two groups is not an issue as the data are all trending in the desired way, $F_{linear}(1, 147) = 69.25$, $p < .05$, $\eta^2 = .32$. (See Figure 2 for the linear trend graph.) Additionally, there was no difference between perceptions of confederates' immediate behaviors [$t(149) = .291$, $p < .05$].

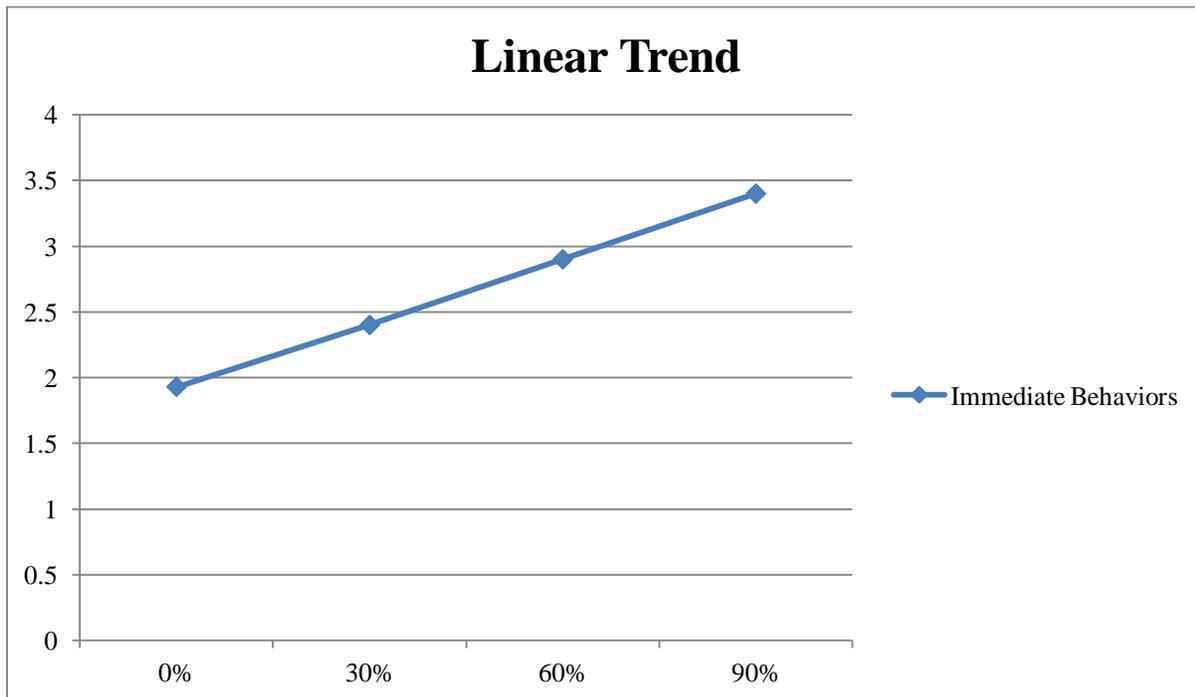


Figure 2: Linear Trend

Procedure

Subjects arrived to participate in the study at an individually appointed time. A sign was taped on the door which instructed them to seat themselves in the waiting room. A confederate waited in an empty classroom that was not visible from the waiting room so that the researcher could text message him with instructions to enter the waiting room after the subject has arrived. The reception room for an office on campus served as the waiting room. Seats were available for subjects. Light foot traffic was present in the waiting room, but no one interacted with the subjects other than the confederate and the student worker who greeted them upon entering the room. The researcher was waiting in an adjacent room where she was able to collect the subject and confederate upon the confederate's arrival and move them into the controlled room where the experiment took place. The experimenter greeted the subject and confederate by saying, "Hello! Are you here to participate in the team work experiment? Great! Please, come on back." (See Appendix H for the researcher and confederate's full scripts.) At this point, the experimenter led the confederate and subject to the controlled room.

In the controlled room, which held a 10 seat conference table, a video camera was set up, out of view from subjects. The researcher set the subject in front of the camera on one end of the conference table and the confederate directly in front of him or her. The researcher explained the study as an effort to understand how strangers solve problems together and explain their rights as a participant. The researcher reviewed the informed consent with subjects. Once the subjects signed the consent form, she excused herself from the room for five minutes by explaining "Now, the Office of Research has a new policy this semester. I guess some researchers rushed through this part last year, so this year I'm required to give you guys five minutes with your consent form to be certain that you have time to read through all of the details and really do want

to participate.” Then, the researcher turned on the video camera and left the room for five minutes while the confederate interacted only to induce the assigned induction. The confederate did not ask any questions of the subject or in any way attempt to instigate conversation. If asked a direct question, then the confederate only revealed the information found in Appendix F through a monotone voice if asked while immediate behaviors are withheld and with vocal inflection if asked while immediate behaviors are being displayed.

Upon returning to the room, the researcher said, “Okay, thank you! Did you have any questions?” The confederate responded “no” and the researcher collected the informed consents, glancing at both as if to read the participants’ names. Then she explained that, “Before we get started I want to get a sense for your initial impressions of each other. *Confederate*, would you slide down to the other end of the table, please?” The confederate responded with “sure” and moved to the other end of the conference table; then the perceived immediacy measure was administered (see Appendix I). The subject and confederate were asked to turn the page over once the measurements were completed.

Once both subject and confederate completed the measure, the researcher said “Okay, I’ll take those. *Confederate*, you can go back to your seat.” The confederate said “okay” and moved back. At this point, the researcher excused herself from the room again as follows: “Okay, let’s get started with the fun part! This is a list of common phrases written in uncommonly used synonyms. Your job is to identify the common phrase. I am going to step outside again. You have two minutes to work together to figure out as many of the phrases as possible. Good luck!” The researcher then left the room for two minutes. [The list of brain teasers can be found in Appendix J (Malinauskas, 2006, 9b)].

The researcher returned when the allotted time had passed, and said, “Okay, stop! How

did it go?” while she turns off the camera. The confederate will respond with “fine.” Regardless of how many brain teasers were correctly answered, the researcher smiled and said “This is great! Alright, now I would like to ask you to share some more information about working with each other. *Confederate*, I’m going to ask you to slide down to the other side of the conference table like you did before.” Once the confederate moved again he and the subject were given a questionnaire that contains a liking assessment and demographic items (see Appendix K). The experimenter stated that, “This questionnaire should take about three minutes to complete. Once you have finished, you can go. Thank you!” Once subjects completed the questionnaire, the researcher debriefed them and gave them the option to have their data destroyed. All subjects agreed to allow their data to be utilized for analysis.

Instrumentation

Perceived Immediacy

An adapted version of Andersen et al.’s (1979) Generalized Immediacy Measure was used to assess perceived immediacy. The semantic differential measures showed good face and construct validity (Andersen et al, 1979; Rubin, Palmgreen, & Sypher, 2009). Because the original measure required subjects to know the definition of immediacy prior to study participation, the item “immediate to non-immediate” was removed and fifteen synonyms for immediacy with their antonym were added to the measure. (See Appendix I.)

Liking

Liking was measured through McCroskey and McCain’s (1974) Social Attraction Measure. This measure has received some criticism in its originally intended use which was to be combined with both task and physical attraction measures to assess a higher order construct. However, as a standalone measure of liking, the measure has been identified to have good face

and content validity (Rubin et al., 2009) and Cronbach's alpha reliability scores ranging from the upper 70's to the upper 80's (McCroskey, 2007). (See Appendix K.)

Self-Disclosure

Two dimensions of self-disclosure were measured through observational coding schemes. The video recording of subjects' interaction with the confederate was reviewed for coding. Four coders were trained with a coding scheme that included amount and intimacy of the subject's disclosure (See Appendix L). The researcher initially met with coders to go over the conceptual definitions of amount and intimacy of disclosure. The researcher then explained the indicators of amount and intimacy so that as a group the coders and researcher could assess 10 units of data together. The coders and researcher then met three additional times with coders, each date one week apart, to assess 10 more units of data in which the coders assessed the videos individually while in the same room, but then compare their results with the one another and the researcher to identify any misunderstandings in the coding scheme. Once thorough understanding of the coding scheme was reached, the coders were given the data to code individually. The average of coders' responses were utilized in the analysis. Inter-coder reliability was assessed through Cronbach's alpha.

Amount. Four coders were utilized to assess the amount of disclosure. Coders were presented with a construct definition of amount and asked to assess the amount of disclosure in each subject's communication. Amount was measured through one item with a five-point response scale with responses ranging from *Very Low* to *Very High*. This measure can be viewed in Appendix L.

Intimacy. Four coders were utilized to assess the intimacy of the disclosure. Coders were presented with a construct definition of intimacy and asked to assess the level of intimacy in each

subject's communication. Intimacy was measured through one item with a five-point response scale with responses ranging from *Very Low* to *Very High*. This measurement can also be viewed in Appendix L.

Results

Measurement Models

Each unidimensional measurement model was assessed by Confirmatory Factor Analysis (CFA). First, the frequency distribution for each item was examined for normality. Then, inter-item correlation matrices for each measure were examined for signs of obvious internal consistency issues. The internal consistency of each set of indicators intended to measure the same construct is the extent to which each indicator correlates systematically with other indicators in that set. The measures were then tested for parallelism issues. Parallelism between two or more sets of indicators is the extent to which indicators purported to measure the same construct correlate systematically with indicators purported to measure a different construct. Items that exhibited obvious internal consistency or parallelism issues (such as extremely low inter-item correlations amongst items from the same measure or extremely high inter-item correlations amongst items from different measures) were removed from further analyses.

Each measurement model was then tested with the AMOS maximum likelihood parameter estimation algorithm which estimated factor loadings for the items based on an a priori hypothesized measurement model. These factor loadings were used to generate a predicted inter-item correlation matrix. The observed inter-item correlation matrix was compared to the predicted inter-item correlation matrix so that items displaying less obvious evidence of invalidity could be removed. Every time an item was removed, the model was re-specified minus the problematic item, and the model was re-examined for fit. This process was repeated until the

remaining items demonstrated fit with the hypothesized measurement model. The final measurement model of perceived immediacy had four items removed (see Appendix M for the final measure). The final measurement model for liking had one item removed (Appendix N for the final measure). And, a coder was dropped from the intimacy and amount measures. This particular coder, labeled “E,” struggled throughout the training sessions. He often disagreed with the other coders because he missed small message details. The data are consistent with the notion that, although he improved throughout the training process, he still struggled once training was over. The data indicated that E’s observations caused statistically significant residual error across the entire model. Furthermore, the reliability score for intimacy before dropping E was $\alpha = .97$, and after was $\alpha = .96$; the reliability score for amount before dropping E was $\alpha = .97$, and after was $\alpha = .97$. Therefore, although dropping E removed 25% of the data, it only changed the intimacy reliability by 1% and did not change the amount reliability. The measurement model factor loading correlations are found in Table 4 and the fit statistics in Table 5.

The overall measurement model had less than ideal but acceptable fit for basic research (GFI= .80; RMR = .09). This is likely attributable to the way in which intimacy and amount of disclosure were measured. These constructs were strongly correlated ($r = .93$). This observation would be expected if the constructs were second-order unidimensional or the same thing. This second-order unidimensional model of disclosure is supported by Wheelless (1978) who purported that disclosure is composed of intention, amount, positivity, intimacy, and accuracy. Given this problem, it would be ideal to assess it by using all six indicators of disclosure across amount and intimacy. This is not possible in the present data set due to the non-independence across the items, which were coded by the same three coders. Therefore, the overall model fit is probably indicative of the way in which it was necessary to assess disclosure via observational

coding; the individual measurement models yielded better fit than the overall model. The index statistics for each measure can be found in Table 6.

Hypothesis Testing

The first hypothesis predicted a moderate positive relationship between immediate behaviors and perceived immediacy. The data were consistent with this hypothesis. A Pearson correlation was computed to test the hypothesis [$r = .61$, $P(.50 \leq \rho \leq .70) = .95$; corrected for attenuation due to measurement error (r') $r' = .63$, $P(.52 \leq \rho \leq .72) = .95$].

The second hypothesis predicted a moderate positive relationship between perceived immediacy and liking. The data were consistent with this hypothesis. Again, a Pearson correlation was computed to test the hypothesis [$r = .65$, $P(.54 \leq \rho \leq .74) = .95$; $r' = .73$, $P(.65 \leq \rho \leq .80) = .95$].

A small to moderate size positive relationship was also predicted between perceived immediacy and amount of self-disclosure. A Pearson correlation was utilized to test the hypothesis [$r = .31$, $P(.15 \leq \rho \leq .45) = .95$; $r' = .32$, $P(.17 \leq \rho \leq .46) = .95$]. The data were consistent with this hypothesis.

Finally, a small to moderate size positive relationship was predicted between perceived immediacy and intimacy of self-disclosure. To test this hypothesis a Pearson correlation was utilized [$r = .27$, $P(.11 \leq \rho \leq .42) = .95$; $r' = .28$, $P(.13 \leq \rho \leq .42) = .95$]. Again, the data were consistent with this hypothesis.

Thus, the magnitudes of these relationships were consistent with the results of the meta-analyses. The correlation matrix can be observed in Table 7.

Model Testing

It was also predicted that perceived immediacy would mediate the relationship between

immediate behaviors and the output variables. The path coefficients were estimated through Ordinary Least Squares Estimation (Kelloway, 1995). Those standardized path coefficients are reported in the hypothesized model in Figure 3. A test of model fit revealed local misfit for the self-disclosure variables. Particularly, the observed perceived immediacy and intimacy as well as the perceived immediacy and amount correlations were smaller than would be expected by an amount greater than what could be attributable to sampling error if the model were consistent with the data. Similarly, the observed amount and intimacy correlation was larger than would be expected if the model were consistent with the data [$r = .93$, $P(.90 \leq \rho \leq .95) = .95$]. Therefore, the hypothesized path model is inconsistent with the data.

A portion of that model fits very well though: the simple causal string between immediate behaviors and liking, mediated by perceived immediacy. The correlation between immediate behavior and perceived immediacy is $r = .61$. The correlation between perceived immediacy and liking is $r = .65$. The product of $r_{IB}r_{PI}$, the predicted indirect effect, is $r = .40$ which is within sampling error of the relationship observed between immediate behaviors and liking [$r = .46$; $P(.32 \leq \rho \leq .58) = .95$]. Therefore, indirect effect between immediate behaviors and liking is consistent with mediation by immediate behaviors.

For the disclosure variables, although the direct effects were as predicted, the indirect effects were not. Although the immediate behaviors – intimacy and immediate behaviors – amount relationships were statistically significant, the magnitude of these relationships were inconsistent with what one would expect if the relationships were mediated. Looking at the residual error matrix, immediate behavior yields statistically significant residual error across both intimacy and amount of disclosure. The observed relationship between immediate behaviors and amount of disclosure [$(r = .42)$, $P(.29 \leq \rho \leq .57) = .95$] is higher than can be accounted for by

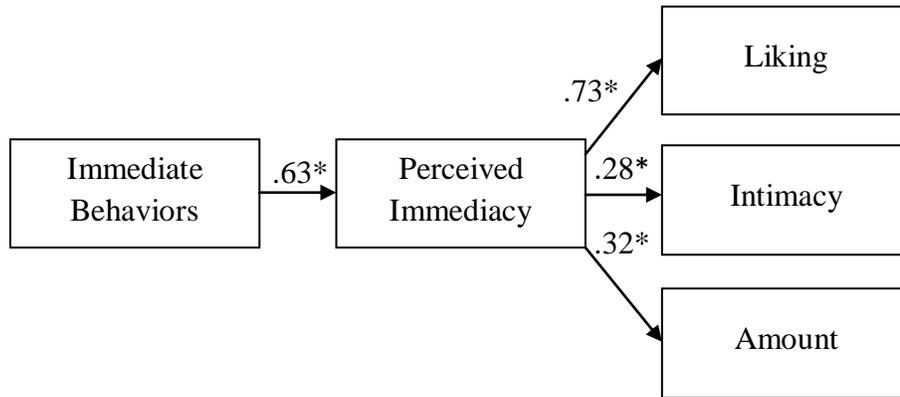


Figure 3: Predicted Model; * $p < .05$

sampling error, given the predicted relationship of $r = .19$. (See Table 8 for the residual error matrices.) Once this relationship is corrected for attenuation due to measurement error, the observed relationship of $r = .43$ [$P(.29 \leq \rho \leq .57) = .95$] is still higher than can be accounted for by sampling error ($r = .20$). Likewise, the observed relationship between immediate behaviors and intimacy of disclosure [$(r = .44)$, $P(.30 \leq \rho \leq .56) = .95$] is higher than can be accounted for by sampling error, given the predicted relationship of $r = .16$. Again, the data are still inconsistent with a mediating variable when the relationship is corrected for attenuation due to measurement error where the observed relationship is $r = .45$ [$P(.37 \leq \rho \leq .53) = .95$], and the predicted relationship is $r = .18$. Therefore, the model as hypothesized, failed (RMSE = .38). The predicted model with path coefficients can be found in Figure 3.

Additional Analyses

Removing intimacy and amount of disclosure from the model leaves a simple causal string to be tested. Again, Ordinary Least Squares Estimation was employed. The simple causal string model fits (Figure 4). Both direct and indirect effects are statistically significant with non-statistically significant residual error. Thus, the observed relationship between immediate behaviors and liking ($r = .46$) has a confidence interval $P(.32 \leq \rho \leq .58) = .95$, which is within

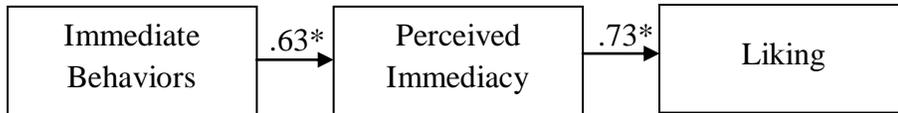


Figure 4: New Model; * $p < .05$

sampling error of the predicted relationship ($r = .40$). Notably, this confidence interval range falls well within the range of effects observed in Study 2. The model also fits when effects are corrected for attenuation due to measurement error with predicted relationship between immediate behaviors and liking being $r = .46$ which is within the confidence interval of the observed relationship [$r = .49, P(.35 \leq \rho \leq .61) = .95$].

Discussion

Consistent with the predictions of this study, each of the variables were positively related. More importantly, the effects generated in the new model (Figure 4) are exactly what would be expected if perceived immediacy mediates immediate behaviors and liking. Therefore, the data of this study are consistent with a mediated, causal string from immediate behaviors \rightarrow perceived immediacy \rightarrow liking. This string indicates two things.

First, receivers do not respond directly to immediate behaviors, but rather to their perceptions of those behaviors. These findings are supported by the cultural variations in which behaviors are deemed to be immediate. If behaviors are what directly influence liking, then the same set of behaviors would induce liking in any setting. Rather, the directly influential variable is perception of behavior. Thus, the data are consistent with the notion that individuals are responding to perceptions of immediacy exhibited by the behaviors, rather than the behaviors themselves.

Second, the fit of the simple causal string also indicates that the more a sender is perceived to be immediate, the more a receiver will like him/her. Perception is the more

influential variable among those examined in this study for influencing liking. As such, future studies should consider other methods of inducing perceived immediacy. Although there was a strong positive relationship between immediate behaviors and perceived immediacy, the behaviors did not account for all of the variance in the perception of immediacy. Therefore, additional variables, possibly variables that can be controlled by a sender, influence perceived immediacy and should be identified in future research.

In the case of disclosure, the data were inconsistent with the notion that perceived immediacy is a mediator of senders' immediate behaviors and the amount or intimacy of receivers' disclosure. In fact, the effects between the behaviors and the disclosure outputs, which were predicted to be indirect, were marginally higher than the effects between perceived immediacy and the disclosure outputs. Thus, the data imply that though perceived immediacy and immediate behaviors behave in a pattern consistent with receiver disclosure, the data are not necessarily consistent with causation. In fact, there are a number of potential explanations for why the proposed mediated model failed.

First, it could be that liking a person leads to disclosure, such that the simple causal string from immediate behaviors \rightarrow perceived immediacy \rightarrow liking is incomplete. Perhaps immediate behaviors lead to perceived immediacy which leads to liking which leads to the types of disclosure. This double mediated model is unlikely, however, considering the magnitude of the correlations between liking and the disclosure variables. Given the correlations observed, for the double mediated model to fit the direct effects between liking and the disclosure variables would need to be strong, as opposed to the .23-.26 ranges observed. Therefore, the data are also inconsistent with a double mediated model.

A second explanation is that there is an unknown mediator which mediates the effects

between perceived immediacy and disclosure. The correlations between immediate behaviors and the disclosure variables would be the product of the immediate behaviors-perceived immediacy correlation and the perceived immediacy – unknown correlation and the unknown – amount or unknown - intimacy correlation. Given the magnitude of the observed correlations between immediate behaviors and the disclosure variables, the correlations with the unknown variable would have to be quite large, approximately $r = .85$ on average, to be consistent with this model. As such, this mystery mediator is an unlikely explanation.

A third possibility is that self-disclosure is second-order unidimensional, as suggested by (Wheless, 1978), and that the proposed model would have fit if disclosure had been measured as a combination of amount and intimacy of disclosure. Again, given the observed immediate behaviors - amount and immediate behaviors – intimacy correlations, the effects between perceived immediacy and each type of disclosure would need to be approximately $r = .70$ to be consistent with a mediator. The observed perceived immediacy – disclosure correlations are too small to be consistent with a mediator, even if disclosure is treated as second-order unidimensional.

Fourth, it is possible that immediate behaviors directly influence disclosure such that the correlations between perceived immediacy and the disclosure variables are spurious. When receivers perceive that a sender is attempting to decrease psychological distance they will reciprocate in their own method of uncertainty reduction, typically through disclosure (Berger & Calabrese, 1975). Thus, previous literature has supported that receivers respond to immediate behaviors with increased disclosure (Amerikaner, 1980; Baker & Shaw, 1980; Car & Dabbs, 1974; Jourard & Friedman, 1970; Sanders et al., 1990). Yet, it is unlikely that immediate behaviors have a direct impact on disclosure, because such an influence would have to induce an

automatic reaction such that in the presence of these behaviors an individual begins to divulge personal information automatically, without thinking. Furthermore, the magnitude of the correlations between immediate behaviors and the disclosure variables are smaller than would be expected in the case of direct influence.

Another explanation is that immediate behaviors may have no influence on disclosure at all. The correlations between immediate behaviors and the disclosure variables may be spurious. An unknown third variable may cause both immediate behaviors and disclosure to occur during interpersonal communication such that the variables behave similarly, but actually do not influence one another. This begs to question what the mystery variable that has gone unnoticed throughout 60 years of interpersonal research could be. This would be a major oversight in the literature, and therefore also unlikely.

The next consideration is that perhaps the assumption that immediate behaviors directly or indirectly induce self-disclosure is flawed. Immediate behaviors were identified by observing the behaviors of psychiatrists whose patients disclosed freely (Mehrabian, 1966, 1967a, 1967b, 1967c). Perhaps the assumed catalyst was incorrect. Given the observed reciprocal nature of immediate behaviors and self-disclosure, future research should consider that self-disclosure may prompt the display of immediate behaviors.

Notably though, the failure of the proposed model could be attributed to measurement error where disclosure is concerned. The disclosure variables yield statistically significant residual error with immediate behaviors and substantive statistically significant error with each other. Part of this is likely attributable to weaknesses in the coding scheme, such that though the coders were consistent in their coding which accounts for their high reliability scores, they made the same mistakes across all coding units. A more efficient coding scheme may have yielded a

more accurate view of the relationships between disclosure variables, perceived immediacy, and immediate behaviors. Beyond the limitations of the coding scheme, the data are consistent with a second-order unidimensional disclosure measure. Therefore, future research should approach disclosure as such to have a clearer picture of the role self-disclosure plays in interpersonal phenomena. Because of the measurement problems associated with disclosure in the present study, confident conclusions regarding the relationships that disclosure has with perceived immediacy and immediate behaviors cannot be drawn.

Finally, it could be that the design of this study accidentally incorporated a moderator. Specified vs. unspecified topics of disclosure moderated the effects of studies meta-analyzed in Study 1 such that specified topics yielded smaller effects between immediate behaviors and disclosure. Although the topic of disclosure was not specified for subjects in the present study, the confederate was only allowed to reveal specific, scripted information. Therefore, the self-disclosure portion of the model most likely failed due to the limited disclosure range of the confederate.

What can be gathered from the present study is that a very important variable has been largely ignored by past literature: perceived immediacy. The data from this study are consistent with the idea that perceived immediacy mediates the relationship between sender immediate behaviors and receiver liking of that sender. It also supports that because the variable directly influencing liking is perceptual, that what actually reduces psychological distance is perceived immediacy, not immediate behaviors. Therefore, future studies must take into account perceived immediacy in order to have a more complete picture of interpersonal interaction.

Chapter 5: General Discussion

Study 1 conducted a meta-analysis on sender immediate behaviors and receiver self-disclosure. Consistent with expectations, the results of the study indicated a small, positive correlation between immediate behaviors and disclosure. Study 2 conducted a meta-analysis on sender immediate behaviors and liking of the sender. Also consistent with predictions, a moderate, positive relationship was observed between immediate behaviors and liking. Study 3 used the effects yielded from the meta-analyses to propose a model in which perceived immediacy was predicted to mediate the relationships between immediate behaviors and the aforementioned outputs. Because the correlations between immediate behaviors and these observed outputs in the experiment were within the range of effects observed in the meta-analyses, confidence can be placed in the validity of the employed experimental design.

Though mediation was anticipated given the magnitude of the effects from the first meta-analysis, results of the experiment were inconsistent with perceived immediacy mediating the relationship between immediate behaviors and disclosure. In fact, the data were inconsistent with any model which purports that immediate behaviors influence disclosure. Given this, the relationship between immediate behaviors and disclosure may be spurious. If this is indeed true, then it violates the assumptions by which immediate behaviors were first identified: as those behaviors which induce self-disclosure and liking. This has two implications for future immediacy research.

First, if the relationship is spurious, then this begs to question, what the exogenous variable that induces immediate behaviors could be. The most likely candidate given what is currently known is that sender self-disclosure induces receiver immediate behaviors. As scholars work towards the development of a theory of immediacy, it is crucial to see clearly the

relationships between immediacy and those variables directly related to it, particularly in terms of influenced and influencing variables. It is impossible to theorize about relationships that are not accurately seen, and therefore not understood (Hunter & Schmidt, 2004). Before a theory of immediacy can move forward, it is necessary to investigate whether this claim that sender immediacy induces receiver disclosure is true. If not, this falsifies half of the axiomatic assumptions about immediate behaviors.

Second, future research on self-disclosure should consider that immediate behaviors may not be an induction of disclosure in pragmatic aspects of experimental design. If the relationship between immediate behaviors and disclosure is spurious or disclosure induces immediacy, then there is more variance in what influences disclosure that remains unaccounted for than what is currently suggested by the literature. Aside from testing for additional influences, scholars who purport to experimentally induce self-disclosure should consider an alternative induction to immediate behaviors so that they have more precise control over the induction.

Regarding liking and immediate behaviors, consistent with the expectations inferred by past literature, the results of the experiment support that perceived immediacy does indeed mediate immediate behaviors and liking. Yet, to reiterate, the path coefficients of the model fall directly in line with the range of effects observed in the second meta-analysis. This has substantive implications for past research on immediacy and liking because it indicates that the literature has been studying a mediated relationship all along while ignoring the mediator. This suggests that the immediacy-liking literature has been incomplete and unintentionally misleading in that it has ignored the directly influential variable, perceived immediacy.

This is not to say that the previous studies on immediacy and liking are without merit. These studies have investigated an interpersonal phenomenon, just not the whole of the piece of

the phenomenon that they purported to study. In fact, because perceived immediacy is the variable that leads directly to liking, *immediacy*, the variable which reduces physical and psychological distance, is a perception. Two people can exhibit the same behaviors, but have those behaviors perceived in different ways. The perception of behaviors is the key, not the behaviors themselves!

Thus, the checklist of behaviors that has been called “immediacy” across the literature is not truly immediacy. These are merely behaviors that are often perceived to be immediate, and therefore, often induce immediacy. As such, in order to further understanding of immediacy, it must be recognized that previous studies that have used immediate behaviors to measure immediacy were not actually studying immediacy; rather they studied an incomplete picture of the change in outputs influenced by immediacy without examining its direct influence. Future research must investigate immediacy, literally perceived immediacy, directly in order to capture a more accurate picture of its influence.

The previous literature has been unable to develop a theory of immediacy because it lacked a valid assessment. With the exception of Andersen et al. (1979), immediacy has been treated as a list of behaviors rather than a perception. The cumulative implications of these studies indicate that in order to begin building a theory of immediacy, future research must assess immediacy as perceived immediacy. Discarding immediate behaviors as a proxy representative of immediacy is essential; otherwise relationships between immediacy and other interpersonal phenomena cannot be precisely calibrated. By measuring perceived immediacy, the true influences of change in physical or psychological distance can be examined.

Furthermore, the utility of perceived immediacy in future research overcomes another barrier faced by previous research: contextual constraints. The behaviors that are perceived to be

immediate differ greatly from culture to culture, and therefore do not represent a basic psychological process that is shared by all humans. To study immediacy as a set of contextually dependent behaviors violates the goal of theory building wherein the building block of communication theories should strive to explain basic processes involved in interaction which can be generalized to all people. Perceived immediacy offers a solution to this problem in that it is context free. As such, because of its direct influence on outputs and context independence, perceived immediacy should serve as the foundation of an immediacy theory.

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Appendices

Appendix A

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Appendix B

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Appendix C

Table 1.

Disclosure Articles

Article	N	r	Method	Context	Sample	Disclosure
Andersen & Leibowitz (1978)	351	0.12	survey	interpersonal	student	amount
Fusani (1994)	282	0.1	survey	instructional	student	intimacy
	63	0.12	survey	instructional	faculty	intimacy
Lomranz & Shapira (1974)	190	0.46	survey	interpersonal	student	intimacy
Montgomery (1981)	26	0.83	observation	interpersonal	public	intimacy
Roth & Kuiken (1975)	24	0.32	experiment	interpersonal	student	intimacy
	24	0.32	experiment	interpersonal	student	intimacy

Table 2.*Liking Articles*

Article	N	r	Method	Topic	Sample	Measure
Allen et al. (2008)	265	0.46	survey	instructional	student	NVI
Andersen (1979)	205	0.63	survey	instructional	student	GI
Barringer & McCroskey (2000)	129	0.6	survey	instructional	teacher	NVI
Borderman, Freed, & Kinnucan (1972)	21	0.39	experiment	interpersonal	student	touch
Chesebro (2003)	192	0.37	experiment	instructional	student	n/a (scenario induction)
Chesebro & McCroskey (2001)	360	0.77	survey	instructional	student	NVI
Christophel (1990)	562	0.72	survey	instructional	student	NVI/VI
Elsworth & Carlsmith (1968)	43	0.53	experiment	interpersonal	student	Eye contact
Gorham & Christophel (1990)	206	0.56	survey	instructional	student	NVI/VI
Guardo (1976a)	30	0.98	experiment	interpersonal	children	Distance
	30	0.99	experiment	interpersonal	children	Distance
Kahn & McGaughey (1977)	88	0.29	experiment	interpersonal	students	Distance
Kleinke, Staneki, & Pipp (1975)	48	0.12	experiment	interpersonal	student	Eye contact
Latta (1976)	64	0.19	experiment	interpersonal	student	Distance, Orientation
Plax et al. (1986)	620	0.69	survey	instructional	adolescents	GI
	1320	0.78	survey	instructional	student	GI
Richmond (1990)	366	0.59	survey	instructional	student	NVI
Richmond & McCroskey (2000)	224	0.74	survey	organizational	public	NVI

Table 2 continued.*Liking articles*

Article	N	r	Method	Topic	Sample	Measure
Rocca & McCroskey (1999)	167	0.72	survey	instructional	student	NVI
Sanders & Wiseman (1990)	625	0.66	survey	instructional	student	NVI
	134	0.65	survey	Instructional	student	NVI
	135	0.71	survey	instructional	student	NVI
	35	0.56	survey	instructional	student	NVI
Scherer (1974)	40	0.33	experiment	interpersonal	student	Distance, Eye contact
Tesch, Huston, & Indenbaum (1973)	100	0.26	experiment	interpersonal	student	Distance
Tibbles (2008)	413	0.59	survey	instructional	student	NVI
Wang & Schrodtt (2010)	305	0.53	survey	instructional	student	NVI
Witt & Schrodtt (2006)	549	0.32	experiment	instructional	student	n/a (scenario induction)

Table 3*Tukey Test*

Condition	Mean Differences			
0%				
30%	-0.47			
60%	-0.98*	-0.51*		
90%	-1.47*	-1.01*	-0.50*	

**p* < .05

Table 4*Factor Loadings*

<u>Perceived Imemdiacy</u>		<u>Liking</u>	
Item	Factor Loading	Item	Factor Loading
1	0.79	1	0.90
2	0.56	2	0.81
3	0.65	3	0.64
4	0.71	4	0.55
5	0.79	5	0.85
6	0.78		
7	0.59		
8	0.86		
9	0.67		
10	0.77		
11	0.83		
12	0.79		
13	0.71		
14	0.84		

<u>Amount</u>		<u>Intimacy</u>	
Item	Factor Loading	Item	Factor Loading
1	0.95	1	0.94
2	0.92	2	0.94
3	0.97	3	0.96

Table 5*Fit Statistics*

	χ^2	χ^2/df	GFI	RMR
<u>Unidimensional Models</u>				
Perceived Immediacy	(77, $N = 142$) = 142.47, $p < .05$	1.85	0.87	0.08
Liking	(5, $N = 142$) = 5.22, $p > .05$	1.04	0.99	0.05
Intimacy	just-identified			
Amount	just-identified			

Table 6*Index Statistics*

Variable	M	SD	Min-Max	Skewness	Kurtosis	Cronbach's α
Perceived Immediacy	4.45	1.00	1.43 - 6.57	-0.37	-0.07	0.94
Liking	4.65	1.06	1.20 – 6.8.	-0.66	0.33	0.86
Intimacy	2.49	1.27	1.00 – 4.33	0.04	-1.68	0.96
Amount	2.52	1.42	1.00 – 5.00	0.44	-1.21	0.97

Table 7*Correlations: Observed*

Factor	Correlations			
Immediate Behaviors				
Perceived Immediacy	0.61*			
Liking	0.46*	0.65*		
Intimacy	0.44*	0.27*	0.21*	
Amount	0.42*	0.31*	0.24*	0.93*

* $p < .05$ *Correlations: Corrected for Attenuation due to Measurement Error*

Factor	Correlations			
Immediate Behaviors				
Perceived Immediacy	0.63*			
Liking	0.49*	0.73*		
Intimacy	0.45*	0.28*	0.23*	
Amount	0.42*	0.32*	0.26*	0.96*

* $p < .05$

Table 8*Residual Error Matrix*

Factor	Error			
Immediate Behaviors				
Perceived Immediacy	--			
Liking	.06	--		
Intimacy	.28	--	.03	
Amount	.23	--	.04	.85

Residual Error Matrix -- Effects Corrected for Attenuation Due to Measurement Error

Factor	Error			
Immediate Behaviors				
Perceived Immediacy	--			
Liking	.03	--		
Intimacy	.17	--	.03	
Amount	.28	--	.03	.90

Appendix D

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Appendix E

First
Criterion
Unmet

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Appendix F

Participant: So, why don't you tell me about yourself?

Confederate: I'm Weston. I'm from Knoxville. I'm a senior at UT finishing up my degree in communication studies.

Participant: What do you like to do for fun?

Confederate: I'm pretty active. I enjoy a lot of sports like basketball and ultimate frisbee.

Participant: Anything else?

Confederate: *shrugs shoulders* I also really like playing music. I currently play guitar, piano, banjo, and mandolin, and lately, I've been learning to play the violin.

Participant: What do you want to do when you finish school?

Confederate: Right now, I'm not entirely sure what I'll be doing after graduation. I worked as an intern at a local church this summer and enjoyed that. Ideally, I would like to continue doing something like that before going back to graduate school.

Appendix G

Directions: The following is a list of things that describe the behaviors of the person in the video. Please rate how much you agree or disagree with the following statements about his behaviors.

1. Gestures while talking.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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2. Uses monotone/dull voice when talking.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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3. Looks at the camera while talking.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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4. Smiles at the camera while talking.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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5. Has a very tense body position while talking.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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6. Moves around.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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7. Has a very relaxed body position while talking.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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8. Smiles at the camera.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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9. Uses a variety of vocal expressions when talking.

Disagree Strongly Disagree Disagree Slightly Neutral Agree Slightly Agree Agree Strongly

Directions: The following is a list of terms that describes the person from the video. Please place an “X” in each of the following scales to indicate the word that best describes this person.

1. Cold	_____	_____	_____	_____	_____	_____	_____	Warm
2. Unfriendly	_____	_____	_____	_____	_____	_____	_____	Friendly
3. Close	_____	_____	_____	_____	_____	_____	_____	Distant
4. Comforting	_____	_____	_____	_____	_____	_____	_____	Uncomforting
5. Responsive	_____	_____	_____	_____	_____	_____	_____	Unresponsive
6. Approachable	_____	_____	_____	_____	_____	_____	_____	Unapproachable
7. Personable	_____	_____	_____	_____	_____	_____	_____	Disagreeable
8. Unsettling	_____	_____	_____	_____	_____	_____	_____	Alleviating
9. Pleasant	_____	_____	_____	_____	_____	_____	_____	Unpleasant
10. Soothing	_____	_____	_____	_____	_____	_____	_____	Distressing
11. Reassuring	_____	_____	_____	_____	_____	_____	_____	Disheartening
12. Uncompanionable	_____	_____	_____	_____	_____	_____	_____	Companionable
13. Welcoming	_____	_____	_____	_____	_____	_____	_____	Unwelcoming
14. Benign	_____	_____	_____	_____	_____	_____	_____	Threatening
15. Favorable	_____	_____	_____	_____	_____	_____	_____	Unfavorable
16. Aloof	_____	_____	_____	_____	_____	_____	_____	Involved
17. Sociable	_____	_____	_____	_____	_____	_____	_____	Unsociable
18. Connected	_____	_____	_____	_____	_____	_____	_____	Disconnected

Directions: Please indicate the degree to which you agree with the following statements about the person in the video.

1. I think he (she) could be a friend of mine.

Disagree Strongly Disagree Disagree Slightly Neutral Agree Slightly Agree Agree Strongly

2. I would like to have a friendly chat with her/him.

Disagree Strongly Disagree Disagree Slightly Neutral Agree Slightly Agree Agree Strongly

3. It would be difficult to meet and talk with him (her).

Disagree Strongly Disagree Disagree Slightly Neutral Agree Slightly Agree Agree Strongly

4. He (she) just wouldn't fit into my circle of friends.

Disagree Strongly Disagree Disagree Slightly Neutral Agree Slightly Agree Agree Strongly

5. We could never establish a personal friendship with each other.

Disagree Strongly Disagree Disagree Slightly Neutral Agree Slightly Agree Agree Strongly

6. He/she would be pleasant to be with.

Disagree Strongly Disagree Disagree Slightly Neutral Agree Slightly Agree Agree Strongly

Directions: Please share the following information about yourself.

1. Age: ____

2. Sex: Male Female

3. Class Status: Freshman Sophomore Junior Senior

4. Major: _____

Appendix H

Researcher (upon entering the waiting room): Hello! Are you here to participate in the team work experiment? Great! Please, come on back.

Researcher (upon entering the controlled room): Okay, *gestures to participant* you can sit here, and *gestures to confederate*, you can sit here. *Participant and confederate are directly across from each other at a conference table where the participant is placed directly in front of a hidden camera.* Thank you so much for participating! I am the researcher for this session. I am attempting to understand communication in initial interactions. You have been invited to participate because your experience can contribute to our understanding of that topic. Your participation is voluntary. You may change your mind later or stop participating at any time. The information collected in the experiment is entirely confidential. No one will be able to access the information except researchers. In exchange for completing this study you will receive a portion of your required research credit in your public speaking course. Please note that your time participating in this study will be video recorded. Now, the Office of Research has a new policy this semester. I guess some researchers rushed through this part last year, so this year I'm required to give you guys five minutes with your consent form to be certain that you have time to read through all of the details and really do want to participate. *confederate displays assigned induction during this time and researcher turns on video camera*

Researcher (five minutes later upon return): Okay, thank you! Did you have any questions?

Confederate: No.

Participant: ?

Researcher: *collects and glances at consent forms as if to read names* Okay, before we get started I want to get a sense for your initial impressions of each other. *Confederate*, would you

slide down to the other end of the table, please?

Confederate: Sure.

Researcher: *hands out perceived immediacy measure* Please turn the form over when you are finished. *when both documents are turned over* Okay, I'll take those. *Confederate*, you can go back to your seat.

Confederate: Okay. *moves back to his original seat beside the participants*

Researcher: Okay, let's get started with the fun part! This is a list of common phrases written in uncommonly used synonyms. Your job is to identify the common phrase. I am going to step outside again. You have three minutes to work together to figure out as many of the phrases as possible. Good luck!

Researcher (three minutes later upon returning): Okay, stop! How did it go?

Confederate: Fine.

Participant: ?

Researcher: *looks at answers and smiles regardless of outcome* This is great! Alright, now I would like to ask you to share some more information about working with each other.

Confederate, I'm going to ask you to slide down to the other side of the conference table like you did before.

Confederate: *moves back to his seat at the other end of the conference table*

Researcher: This questionnaire should take about five minutes to complete. Once you have finished, you can go. Thank you!

Appendix I

Directions: The following is a list of terms that describes your partner. Please place an “X” in each of the following scales to indicate the word that best describes this person.

1. Cold	<input type="checkbox"/>	Warm
2. Unfriendly	<input type="checkbox"/>	Friendly
3. Close	<input type="checkbox"/>	Distant
4. Comforting	<input type="checkbox"/>	Uncomforting
5. Responsive	<input type="checkbox"/>	Unresponsive
6. Approachable	<input type="checkbox"/>	Unapproachable
7. Personable	<input type="checkbox"/>	Disagreeable
8. Unsettling	<input type="checkbox"/>	Alleviating
9. Pleasant	<input type="checkbox"/>	Unpleasant
10. Soothing	<input type="checkbox"/>	Distressing
11. Reassuring	<input type="checkbox"/>	Disheartening
12. Uncompanionable	<input type="checkbox"/>	Companionable
13. Welcoming	<input type="checkbox"/>	Unwelcoming
14. Benign	<input type="checkbox"/>	Threatening
15. Favorable	<input type="checkbox"/>	Unfavorable
16. Aloof	<input type="checkbox"/>	Involved
17. Sociable	<input type="checkbox"/>	Unsociable
18. Connected	<input type="checkbox"/>	Disconnected

Appendix J

1. All articles that coruscate with resplendence are not truly auriferous.
2. Sorting on the part of mendicants must be interdicted.
3. Male cadavers are incapable of rendering any testimony.
4. Neophyte's serendipity.
5. A revolving lithic conglomerate accumulates no coneries of small, green, biophytic plant.
6. Abstention from any elevator undertakings precludes a potential escalation of a lucrative nature.
7. Members of an avian species of identical plumage tend to congregate.
8. Freedom from incrustations of grime is contiguous to rectitude.
9. Pulchritude possesses solely cutaneous profundity.
10. It is fruitless to become lachrymose over precipitately departed lactile fluid.
11. The temperature of the aqueous content of the unremittingly ogled saucepan does not reach 212 degrees Fahrenheit.
12. Eschew the implement of correction and vitiate the scion.
13. The stylus is more potent than the rapier.
14. It is fruitless to attempt to indoctrinate a superannuated canine with innovative maneuvers.
15. Surveillance should precede saltation.
16. Scintillate, scintillate, asteroid minim.
17. The person presenting the ultimate cachinnation possesses thereby the optimal cachinnation.
18. Exclusive dedication to the necessitous chores without interludes of hedonistic diversion renders John a hebetudinous fellow.
19. Individuals who make their abodes in vitreous edifices should be advised to refrain from catapulting petrous projectiles.
20. Where there is visible vapors having their provenance in ignited carbonaceous materials, there is conflagration.

Appendix K

Directions: Please indicate the degree to which you agree with the following statements about your partner.

1. I think he (she) could be a friend of mine.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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2. I would like to have a friendly chat with her/him.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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3. It would be difficult to meet and talk with him (her).

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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4. He (she) just wouldn't fit into my circle of friends.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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5. We could never establish a personal friendship with each other.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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6. He/she would be pleasant to be with.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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Directions: Please share the following information about yourself.

1. Age: ____

2. Sex: Male Female

3. Class Status: Freshman Sophomore Junior Senior

4. Major: _____

Appendix L

Subject ID: _____

Amount of disclosure is defined as the unique number of facts that an individual reveals about his or herself. Rate the amount of the subject's disclosure:

Very Low Low Medium High Very High

Intimacy of disclosure is defined as the depth, transparency, and sincerity of a disclosure. Rate how intimate the subject's disclosure was:

Very Low Low Medium High Very High

Appendix M

1. Cold	_____	_____	_____	_____	_____	_____	_____	Warm
2. Close	_____	_____	_____	_____	_____	_____	_____	Distant
3. Comforting	_____	_____	_____	_____	_____	_____	_____	Uncomforting
4. Responsive	_____	_____	_____	_____	_____	_____	_____	Unresponsive
5. Approachable	_____	_____	_____	_____	_____	_____	_____	Unapproachable
6. Personable	_____	_____	_____	_____	_____	_____	_____	Disagreeable
7. Unsettling	_____	_____	_____	_____	_____	_____	_____	Alleviating
8. Pleasant	_____	_____	_____	_____	_____	_____	_____	Unpleasant
9. Reassuring	_____	_____	_____	_____	_____	_____	_____	Disheartening
10. Uncompanionable	_____	_____	_____	_____	_____	_____	_____	Companionable
11. Welcoming	_____	_____	_____	_____	_____	_____	_____	Unwelcoming
12. Favorable	_____	_____	_____	_____	_____	_____	_____	Unfavorable
13. Aloof	_____	_____	_____	_____	_____	_____	_____	Involved
14. Sociable	_____	_____	_____	_____	_____	_____	_____	Unsociable

Appendix N

Directions: Please indicate the degree to which you agree with the following statements about your partner.

1. I think he (she) could be a friend of mine.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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2. I would like to have a friendly chat with her/him.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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3. It would be difficult to meet and talk with him (her).

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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4. He (she) just wouldn't fit into my circle of friends.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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5. He/she would be pleasant to be with.

Disagree Strongly	Disagree	Disagree Slightly	Neutral	Agree Slightly	Agree	Agree Strongly
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Vita

Stephanie's research interests are interpersonal influence and quantitative research methods. She is primarily interested in how messages effect receiver motivation, information seeking, and learning. This influence is prevalent in physician-patient, teacher-student, and supervisor-subordinate relationships. Immediacy is at the heart of this research interest. Her past research has focused on how immediacy (perceived reduction of physical or psychological distance) is displayed, and the influences it has in computer-mediated communication. Currently, her research agenda strives to understanding a higher order construct of immediacy manifested through immediate behaviors in a variety of communication channels as well as the role of perceived immediacy. Understanding these phenomena will better explain initial interactions and will be particularly useful in understanding the communicative catalysts of information seeking in the health, organizational, and instructional contexts.