A CULTURAL MODEL OF NONVERBAL DECEPTIVE COMMUNICATION: THE INDEPENDENT AND INTERDEPENDENT SELF-CONSTRUALS AS PREDICTORS OF DECEPTIVE COMMUNICATION MOTIVATION AND NONVERBAL BEHAVIORS UNDER DECEPTION

by

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ABSTRACT

Findings from a host of prior cross-cultural studies suggest that those of differing cultural orientations are likely to possess differing motivations for deceiving and truthtelling, and as a consequence, are likely to exhibit differing patterns of behavior when engaging in deceptive communication. Thus, this investigation examined: (a) the impact of cultural identity on one’s motivation for deceptive communication, and (b) the impact of cultural orientation on overt manifestations of behavior. In addition, this study investigated the effects of culture and relational familiarity (i.e., strangers versus friends) on truth bias and deception detection accuracy. To test the proposed theoretical relationships, participants from two cultures (i.e., United States and Japan) were employed in an experimental study. Results of the current investigation revealed that degree of independence was the single best predictor of one’s motivation to tell the truth and one’s motivation to protect the self, whereas degree of interdependence was the best predictor of one’s motivation to protect the other. In terms of deceivers'/truthtellers’ perceptions of the self under deception, higher interdependence scores were found to be related to self-perceptions of less positive affect, less fluency, and less psychological involvement under truth conditions, but were associated with greater positive affect, greater fluency, and more psychological involvement under conditions of deception. When considering partner perceptions of truthtellers'/deceivers’ behavior, higher degrees of independence were found to be associated with less positive affect under deception. When outside-observers viewed the behaviors of truthtellers/deceivers, higher degrees of independence were found to be associated with greater kinesic involvement and pleasantness, less nervousness, and greater vocal pleasantness and vocal relaxation under truth. Conversely, higher scores on
independence were found to be related to less kinesic involvement, less pleasantness, greater nervousness, and less vocal pleasantness and vocal relaxation under conditions of deception. Finally, relationship type was not found to be a significant predictor of either accuracy or truth bias, although, higher degrees of interdependence were associated with lower detection accuracy and greater truth bias. The findings of the current investigation strongly suggest that behavioral differences indeed become manifest when research is conducted employing samples of varying cultural orientations.
I. INTRODUCTION

Background and Statement of the Problem

As management information systems engineers channel their efforts toward developing software prototypes which have the capacity to flag prototypical deceptive behaviors, it becomes increasingly essential to take into account cross-cultural differences which can exert a substantive impact on the motives for and behavioral profiles of deceptive communication. It would be myopic to assume that the deceptive communication behaviors that are made manifest by deceptive communicators within one culture will invariably be the same behaviors exhibited by members from another culture, especially when the motivations undergirding the deceptive act have the potential to be regarded and perceived differently by members of other cultures (see Aune & Waters, 1994; Kim, Kam, Singelis, & Aune, 1999; Smith & Bond, 1998). Nonetheless, the impact of cultural influences on deceptive communication motivation and behaviors is an area that has remained largely uncharted. Cultural understanding of deceptive communication motivations and practices will not only aid researchers and management information systems engineers alike in their efforts to develop useful tools for the accurate detection of deception, but will also aid individuals in the development of skills necessary to understand others and to negotiate in the “global village” in which we live.

An often neglected, yet critical factor, in the study of deceptive communication has been that of one’s cultural orientation. With the existence of new communication technologies (e.g., text-based chat, audioconferencing, videoteleconferencing), personal intercultural contact is now a daily fact of life for literally millions of people. The forecast of a “global village” (Barnlund, 1975) is a contemporary reality, and it is
becoming painfully obvious that not all “villagers” are alike. Harris and Moran (1979) warned that with the advent of the ‘cybercultural revolution,’ there is an increasing potential for negative impact from ethnocentric conceptualizations, or cultural “nearsightedness.” Hence, obtaining knowledge about the deceptive motivations and behavioral orientations of persons in other cultures will help us to recognize deceptive behaviors and communication practices considered prototypical in our own culture which may be wholly different for persons from another culture.

Given the aforementioned information, it is fathomable that those of differing cultural orientations are likely to possess differing motivations for deceiving and truthtelling, and as a result, are likely to exhibit differing patterns of behavior when engaging in deceptive communication. This phenomenon becomes extremely critical when researchers and information systems engineers work to develop an efficient system for detecting deception. Without due consideration to cultural influences, scientists and engineers could be investing irretrievable amounts of time, funds, and energy into a software development programme that provides faulty and unreliable information, and moreover, flags truthful messages as highly deceptive, and vice-versa.

It is the intent of this project to examine the cultural influences on motivations for engaging in deceptive communication, in order to investigate the impact of these differential motivations on observable behavior. Thus far, the list of behavioral indices that can reliably signal deception is rather meager. The only consistent findings to emerge have been those involving the vocal channel. Precisely, it was found that the vocalic indices of increased pitch, number of speech errors, pauses, and hesitations were the most consistently associated with deception. Less success has been achieved with kinesic (i.e.,
facial and bodily) cues and its relationship to deceit. While a host of studies have identified increases in hand and foot movements as reliable indicators of deception, more recent studies have provided evidence that deception, especially when liars are highly motivated, is actually associated with a decrease in hand, foot, and leg movements (Vrij & Mann, 2001). It is the aim of this project to add clarity to the existing findings regarding the inconsistencies in kinesic cues witnessed in prior studies. Research regarding cultural orientations and one’s cultural self-identity seem to suggest that the differences in observable behavior may well stem from differences in one’s cultural identity, and one’s motivation for deceptive communication.

In addition, there is a paucity of research on the cultural influences that may exert an impact on the relationship between relational familiarity and deception detection accuracy. The only known studies employing a cross-cultural sample were conducted by Vrij and colleagues (Vrij, 1994, 1995; Vrij & Semin, 1996; Vrij & Winkel, 1991), and involved white native Dutch and black Surinam citizens. Findings from their studies indicate that, indeed, there were cross-cultural differences in behavior, and the perceptions linked to behavior between the Dutch and the Surinam citizens. Still, findings from these studies revealed a detection accuracy rate that was only slightly better than chance. Their studies, however, focused primarily on the effects of training on accuracy at detecting deception, and were not specifically designed to investigate the differential effects of relational familiarity on deception detection. Thus, this study represents one of the first attempts to investigate possible cross-cultural differences in the relationship between relational familiarity and accuracy at detecting deception. Specifically, this study
seeks to investigate the impact of culture on the detection accuracy rates of strangers versus acquaintances/friends.

Most notably, while it is the case that research to date has made every effort to remain value neutral in their conceptualizations of deception, it should be noted that very little research that has been conducted to date has focused on deceptive acts that are enacted for the benefit of the person being deceived or the relationship with the deceivee. At the pragmatic level, value labels that are typically yoked with deceptive communication seem to conceptualize deception as an inherently "dark" phenomenon. That is, in speaking of deception, there seems to be an invariable inclination to view deception as a phenomenon that must be detected and avoided. The individual who strays from telling the "whole truth, and nothing but the truth," irrespective of whether the deception was enacted for self- versus other-benefit, is cast into the role of the deceiver which, by virtue of the label "deceiver," seems to ferry with it, a plethora of negative prototypical characteristics. Those who are caught having communicated deceptively are often branded as "liars" which invariably conjures up in the mind an onslaught of negative images and interpretations.

To the contrary, however, deception is more prevalent than our cultural morality implies. While ethicists might bemoan this trend away from truth, the work of many theorists suggests that deceptive communication is neither an indication of ethical laxity nor moral corruption, but is actually a necessary tool for the management of interpersonal relationships (see Camden, Motley, & Wilson, 1984; Hample, 1980; Linskold & Walters, 1983; Turner, Edgley, & Olmstead, 1975). In actual practice, communicators frequently decide that honesty is not the best strategy. Instead, they conclude that some measure of
dishonesty will best achieve their desired communication outcomes. Many people, therefore, find that the ability to successfully deceive others is an indispensable strategy for acquiring goods and services, for developing and managing satisfying social relationships, and for creating and managing a desired image. Deception can be encoded to achieve a variety of communication goals, some beneficial to the communicator, others to the target (Metts & Chronis, 1986). In either event, as the trend toward interpersonal duplicity continues, moralizing can be left to the ethicist and justifying to the psychologist. It is the task of the researcher to neither judge nor excuse, but to evaluate and explain various factors which may affect peoples' motives for engaging in deceptive communication behavior, and how those motives, in turn, can affect the observable behavioral profiles associated with deceptive communication.

Noteworthy of attention, is the idea that our society has constructed a separate and distinct set of terms to refer to certain types of “relationship preserving” messages which are included under the definition of deceptive communication. Typically, these types of messages generally fall under the rubric of “face saving” strategies (see Brown & Levinson, 1978, 1987; Goffman, 1967; Lim & Bowers, 1991; Ting-Toomey, 1987), though lay people and researchers alike are not as inclined to refer to these messages as deception, despite their congruency with traditional definitions of deceptive communication.

This study presents a shift away from previous conceptualizations that portray deceptive communication as an essentially “dark” phenomenon, and examines deceptive communication as a necessary tool in the maintenance of significant social relationships. In particular, this study endeavors to investigate the fundamental cross-cultural
differences in the motivations underlying deceptive communication and how those varying motivations can subsequently affect the behavioral profiles of deceptive communicators who come from differing cultural orientations. Interestingly, inconsistencies in behavioral profiles may be attributed in part to cultural differences in the ways in which deception is regarded and perceived across cultural lines. First, a conceptual definition of deceptive communication is presented, followed by a discussion of the various motives for engaging in deceptive communication. Next, some of the major theoretical perspectives on the study of deception will be reviewed. Then, this paper delineates some of the cross-cultural differences that are likely to be witnessed in the motivations for and manifestation of deceptive communication in stranger and acquaintance/friend relationships.

In this study, the following will be examined: (a) the impact of one’s cultural identity on one’s motivation for deceptive communication, and (b) the impact of one’s cultural orientation on observable kinesic and vocalic nonverbal behaviors. In addition, this study will also examine the effects of culture and relational familiarity (i.e., strangers versus friends) on the tendency toward truth bias and receiver detection accuracy.

**Conceptualizing and Defining Deceptive Communication**

Scholars of deception research have generated an array of definitions in an attempt to adequately capture the concept of deceptive communication. Definitions have run the gamut from that which is communicated consciously and intentionally to that which occurs at the subconscious level. DePaulo (1988), for example, alleged that “deceivers are, by definition, deliberately misleading others... They are not doing so mindlessly or mistakenly” (p. 153). O’Hair, Cody, Wang, and Chao (1990) later
augmented that deceptive communication involves a conscious attempt to create or perpetuate a false impression among other communicators. Further, Snyder and Higgins (1988) asserted that "deception... involves distortion in the reporting of information; moreover, this distortion process is motivated by advantages that the individual perceives will accrue to him or her" (p. 237). In stark contrast, other scholars have maintained that deception requires neither deliberacy nor consciousness (Bavelas, Black, Chovil, & Mullett, 1990; Bond & Robinson, 1988).

In arriving at a working definition for deception, scholars have focused their attention on the idea of intent as a key defining characteristic of deceptive communication. Buller and Burgoon (1996) defined deceptive communication as "a message knowingly transmitted by a sender to foster a false belief or conclusion by the receiver" (p. 50). Likewise, Zuckerman, DePaulo, and Rosenthal (1981) defined deceptive communication as "an act that is intended to foster in another person a belief or understanding which the deceiver considers false" (p. 3). Ekman (1985) described it as "the deliberate choice to mislead a target without giving any notification of the intent to do so" (p. 41). In addition, Bok (1989) asserted that "When we undertake to deceive others intentionally, we communicate messages meant to mislead them, meant to make them believe what we ourselves do not believe" (p. 13). Others have provided more elaborate definitions which involve the intentional use of particular deceptive strategies. Miller and Stiff (1993) identified deception as "message distortion resulting from deliberate falsification or omission of information by a communicator with the intent of stimulating in another, or others, a belief that the communicator himself or herself does not believe" (p. 20). Similarly, Buller and Burgoon (1994) defined it in terms of
information control. That is, deception occurs "when communicators control the information contained in their messages to convey a meaning that departs from the truth as they know it" (p. 7-8).

In the final analysis, a common thread linking the majority of prior definitions that have been generated for the term, deceptive communication, has been that deception is theorized to occur when the individual issues a statement to another individual or group of individuals that deviates from what he or she knows or believes to be true. Conceptualized as such, irrespective of the motives underlying the deceptive act (i.e., self- versus other-benefit motivations), deception is said to occur insofar as the message sender communicates a message that is intended to mislead the other. Hence, messages that are constructed in service of protecting one’s own image, and/or the face-needs of the other, or to protect the relationship, likewise qualify as deceptive communication as they misdirect the message receiver from what is actually known or believed to be true.

Self-Construals: Content of the Self in Different Cultures

Various factors may exert a considerable amount of influence upon one’s motive for deception, as well as upon one’s choice of deceptive communication strategies. One such factor is that of the cultural self-concept. Cross-cultural perspectives have brought a renewed interest in the social aspects of the self and the extent to which individuals define themselves in terms of their relationships to others and to social groups (Brewer & Gardner, 1996; Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997; Markus & Kitayama, 1991). Central to this new perspective is the idea that connectedness and belonging are not merely affiliations or alliances between the self and others but entail fundamental differences in the way the self is construed (Brewer, 1991; Markus &
Kitayama, 1995; Singelis, 1994). Two distinct cultural self-concepts have emerged from the literature: independent and interdependent.

Findings from a host of prior cross-cultural social scientific studies present a strong case for examining the impact of culture on various aspects of communication (see Kim, 1993, 1994, 1995, 1999, 2001; Kim & Bresnahan, 1996; Kim & Hunter, 1993a, 1993b; Kim & Leung, 2000; Kim & Wilson, 1994; Kim, Ho-Chang, & Cai, 1998; Kim, Sharkey, & Singelis, 1994). Thus far, theories originating in the United States have primarily reflected the European-American view of the self and hence, represent a single myopic interpretation and understanding of essentially complex communication phenomena. Recent cross-cultural research has shed additional perspective on differing notions about the self and, more specifically, on the relationship of the self to the collective whole. Examining communication theories from a cross-cultural perspective is essential to widening the lens on any communication phenomenon. At the very root of the concept of culture is the expectation that people of differing cultural orientations possess different values, beliefs, and motives which are made manifest in various communication behaviors.

A key component that distinguishes one culture from the next is the meaning that members assign to the role of the self. Both anthropologists and psychologists (e.g., Geertz, 1973; Markus & Kitayama, 1991) have contended that cultural groups diverge chiefly in terms of their understandings of selfhood and personhood. The ways of being a person are culturally predetermined according to the means and practices of a given community, and communities are built upon and effectuated by these ways of being. Both the community and the individuals therein exert a mutual influence on the other, so
the cumulative result is that cultural and social groups in every historical period are
associated with characteristic patterns of sociocultural participation, or with characteristic
ways of being a person (Markus, Mullally, & Kitayama, 1997). Every individual is
therefore embedded within a variety of sociocultural contexts (e.g., country, ethnicity,
religion, gender, family, etc.). Each of these cultural contexts inject some notion of the
practices on how to be a “good” person into the individual (Markus & Kitayama, 1991).
The self, then, is an organized locus of the various, sometimes competing understandings
of how to be a person. Moreover, the self functions as an individualized, orienting,
mediating, and interpretive framework which guides the perceptions of the individual,
influences his or her motivation to behave, and affects how the individual communicates
with others (Kim, in press).

A majority of cross-cultural studies have focused exclusively on the cultural
dimensions of individualism-collectivism as a means for classifying cultures. Moreover,
several researchers have contended that most cultures can be adequately distinguished
according to this cultural dichotomy (e.g., Gudykunst et al. (1996; Triandis, 1977;
Triandis, Brislin, & Hui, 1988; ). However, a growing body of literature on the cultural
self-concept (e.g., Cross & Markus, 1991; Kim et al., 1996; Kim, Sharkey, & Singelis,
1995; Kitayama et al., 1997; Markus & Kitayama, 1991; Singelis & Brown, 1995) has
revealed that an exclusive focus on cultural level (i.e., individualism versus collectivism)
generalizations is no longer sufficient for studying intercultural communication. Gaines
et al. (1997) attested that “certain potentially erroneous assumptions regarding
individuals’ personal and social identities seem to have been made... One such
assumption is that individuals (and, for that matter, entire nations) can be depicted
accurately as either individualistic or collectivistic—an assumption that may reflect the bias of the United States and other Western nations toward dichotomization of constructs” (p. 1460-1461). More recently, researchers have advocated an individual-level approach to theorizing about cross-cultural differences. Through an individual-level approach, stereotypical cultural distinctions can be eliminated, and within-culture variations can be accounted for. Hence, cultural self-concept will be examined via the independent and interdependent self-construals.

*Independent* and *interdependent* construals of self are of the most important self-schemata for distinguishing culture. According to Markus and Kitayama (1991) the main difference between the two self-construals is the belief one holds regarding how the self is related to others. Those with highly developed independent construals see themselves as separate from others; those with highly developed interdependent construals see themselves as connected with others. These beliefs of separateness and connectedness differentiate the two self-construals. The normative imperative of independent cultures is to achieve independence and self-actualization. A goal of social maturity in this view, is to be self-sufficient. Those of this view also strive to know oneself and to express one’s unique strengths. By contrast, the normative imperative of interdependent culture is to maintain interdependence with significant others. To be mature in this view, would be to internally control or suppress abilities, opinions, emotions, or goals in deference to normative behaviors, specific to the current social context, which promote interdependence.

To illustrate, Asian cultures do not emphasize the explicit separation of each individual. Rather, these cultures are organized according to meanings and practices that
promote the fundamental connectedness among individuals within a significant relationship (e.g., family, workplace, and classroom). The self is made meaningful in reference to those social relations of which the self is a participating part. Those of this cultural orientation may be motivated to adjust and fit themselves into meaningful social relationships. Conversely, individualistic cultures such as the United States tend to underscore the rights of the individual. Accordingly, members of individualistic cultures tend to demonstrate a high degree of independence and seek to establish the self as unitary, stable, and separate from others.

Motives for Engaging in Deceptive Communication

Prior research has produced an amalgam of different motivations for why a communicator might choose to deceive a target. For instance, Turner, Edgley, and Olmstead's (1975) research identified five major motivation categories: (a) to save face, (b) to guide social interaction, (c) to avoid tension or conflict, (d) to affect interpersonal relationships, and (e) to achieve interpersonal power. Similarly, Lindskold and Walters (1983) reviewed ethical literature and classified several categories which range from altruistic, through individualistic, to exploitive. These categories include: (a) to save others from minor hurt, shame, or embarrassment, (b) to protect oneself or another from punishment or disapproval for a minor failing or blunder, (c) to make oneself appear better than he or she really is, or to protect some gain to which he or she was not really entitled, and (d) to hurt someone else for personal gain.

Additionally, research by Hample (1980) revealed that motivations for lying fell into four general categories: (a) benefitting self, (b) benefitting the other, (c) benefitting the relationship, and (d) miscellaneous motivations. In an attempt to better account for
"miscellaneous motivations," Camden, Motley, and Wilson (1984) presented an alternate categorization scheme by means of a 4 x 3 matrix, with one dimension representing the motivation for the lie, and the other representing the intended beneficiary. One side of the matrix classifies lies according to their motivations, or the reward expected to result from the lie. The four major categories include: (a) basic rewards (e.g., money, material goods), (b) affiliation rewards (e.g., interaction initiation, leave-taking), (c) self-esteem rewards (e.g., saving face), and (d) other rewards (e.g., dissonance reduction, humor). The other part of the matrix delineates the individual for whom the benefit or reward of the lie is motivated. These three categories include: (a) the liar, (b) the other interactant, and (c) a third party.

Research on the motives for deception reveals that they are very similar to the motives behind any message designed to influence another person’s beliefs. Several researchers have identified three general types of goals which influence the production of messages: self-identity goals, relationship goals, and task/instrumental goals (Clark, 1984; Clark & Delia, 1979; O’Keefe & Delia, 1982). These three motives are reflected in Burgoon and Buller’s (1996) classification of strategic behaviors that are commonly associated with deception. The motives outlined in Burgoon and Buller’s theory of interpersonal deception include: *instrumental objectives* (motives for the specific attitudinal and behavioral changes desired by the communicator), *interpersonal objectives* (motives for the establishment and maintenance of a particular interpersonal relationship), and *identity objectives* (motives to save face or protect the self-esteem, either for self, the target, or a third party).
Others have also simplified deceptive behavior into three categories: lies to protect others, lies to protect oneself, and lies to cause harm (Duffy et al., 1992). However, Camden et al.'s (1984) research was based on the understanding that any type of deception can work for the benefit of the self, the person being deceived, or a third party. Whatever the contents of deception motives (identity, relational, instrumental), these motives generally tend to fall under two primary categories: deception to protect others's needs and/or face, and deception to protect one's own needs and/or face. Thus, two main motivations for deception can be discussed as: (a) self-oriented motives, and (b) other-oriented motives.

Self-Oriented Motives. Self-oriented motives are similar to the instrumental objectives identified by Buller and Burgoon (1994). These objectives encompass acquisition and protection of resources (Camden et al., 1984), to make the deceiver appear better (Lindskold & Walters, 1983), and to enhance or protect the self-esteem of the deceiver (Camden et al., 1984). Recent studies have identified several self-oriented motives for deception. Turner et al. (1975) reported a set of exploitation motives, including establishing, maximizing, and maintaining power or influence over the target. Lindskold and Walters (1983) also identified the instrumental objective of avoiding punishment or disapproval, acquiring or protecting self-gain, and attempting to harm the target for self-gain. In Metts and Chronis’ (1986) study, communicators often deceived to protect their resources and to continue receiving some reward or service from the target.

Other-Oriented Motives. When deceivers are motivated to avoid hurting the partner, to avoid relational trauma, or to protect the target’s image, they are theorized to be operating on other-oriented motives (Metts & Chronis, 1986). Communicators often
select deception to assist the target, to benefit the relationship with the target, and to maintain the interests of politeness and good taste. At times, truth can be very painful to the target, and sparing the target this painful experience may be the socially appropriate course of action (Buller & Burgoon, 1994). Essentially, the other-oriented motive involves protecting the target from minor hurt and from punishment or disapproval (Lindskold & Walters, 1983), to save the target from shame or embarrassment, or to enhance or protect the self-esteem of the target (Camden et al., 1984). All of the aforementioned cases represent interpersonal motivations which are intended to benefit the target and relationships.

Thus, while some of the motives are self-serving, a significant portion of deceptive acts are also motivated by concerns for the partner and the relationship (Hample, 1980). Respondents in Turner et al.’s (1975) study reported that they deceived others to maintain, maximize, or terminate relationships, to avoid tension or conflict in relationships, and to maintain, redirect, or terminate social interaction. They also reported a cluster of motives labeled “saving face,” either for self, the target, or a third party to the interaction. Camden et al. (1984) identified a group of affiliation motives that included initiating, continuing, and avoiding social interaction, avoiding relational conflict, expressing obligatory acceptance, leave-taking, redirecting the conversation, and avoiding self-disclosure. They also found that deception was encoded to enhance or protect the self-esteem of the deceiver, target, or third party. Additionally, Lindskold and Walters (1983) found that some deception was motivated to save the target from shame or embarrassment. Metts and Chronis (1986) reported that deception was often encoded to avoid relational conflict, relational trauma, and unpleasant repetitive episodes in
relationships. Their respondents deceived to regulate, constrain, or maintain the target’s self-image or self-esteem, and to protect or enhance the deceiver’s image in the target’s eyes.

As can be seen from the aforementioned list of various motivations for engaging in deception, deviating from the truth also performs a variety of useful functions which benefit the deceivee, not the least of which includes aiding in the relationship development process. The initiation of new relationships, to some degree, will inevitably require conversants to engage in some form of deceptive communication if one wishes to put his or her “best foot forward” and intentionally conceal negative aspects of his or her personae. Similarly, once relationships are well-underway, there may be less of need to engage in this type of less than truthful communication, although deception might come to play an even more significant role in the maintenance of those relationships. The spouse who has committed a single act of infidelity, for instance, may opt to conceal the truth from his or her partner strictly for the purposes of maintaining his or her current marital status. Issues of morality aside, deception in this particular instance often functions to maintain and preserve existing relationships. For this reason, conceptualizations of deception need to reflect both its self- and other-benefit functions in order to accommodate the notion that deception can be and is often used as a primary vehicle for relationship preservation. This central idea will be expanded upon in forthcoming sections of this paper.

Relationship Between Cultural Identity and Motivations for Deceptive Communication

How does the ever-present need to attend to others and to gain their acceptance influence one’s motivation to deceive? Similarly, how does the need to establish the self
as a unique and independent individual that is separate from others impact one's deception motivation? As alluded to earlier, one important factor associated with the different types of self-construal is a contrasting emphasis in the basic goals of social interaction. There is a fundamental difference between social motives derived from personal self-interest and those derived from concern for the interests of others (McClintock, 1972). If we assume that others will be relatively more focal in the motivation of those with interdependent selves, various implications follow. Among those with interdependent selves, being receptive to others, to adjust to their needs and demands, and to restrain one's own inner needs or desires will serve their needs. Doi (1986) makes this point clear in discussing the difference between the Japanese public self and private self. He suggests that whereas in the United States it is extremely important for the public self and the private self to remain consistent to avoid being characterized as "two-faced," "duplicitous," and "hypocritical," in Japan, being polite and maintaining harmony is what is important. To that aim, an individual's actual feelings about an action or issue assume a secondary role to what is expected of him or her in social interaction (Doi, 1986; Triandis, 1989).

Hence, among people of higher interdependent self-construals, where the self is made most meaningful in relationship to the social unit, there may not be a strong emphasis on maintaining consistency between what one feels and what is said. Arguably, the state of anxiety arising from "deceptive" remarks is not likely to be experienced by those with interdependent selves. Buller and Burgoon (1994) contended that when deceit is motivated by desires to aid the partner, a third party, or simply to conform to standards
of politeness or good taste, senders may experience less detection apprehension and actually consider deception an acceptable, desirable alternative.

By contrast, the act of deceiving itself often does not mesh well with the direct communication styles that independent individuals prefer and value. Lying, for example, is contradictory to the independent person’s value for expressing his or her true cognitions, feelings, and internal attributes. Consistency between what one thinks and what is expressed is valued, and people of this orientation are encouraged to “speak their minds.” Further, the anxiety toward deceiving others is expected to be greater for people of independent self-construals than for people of the interdependent self construal. Ebesu and Miller (1994) argued that there is usually some guilt and negative affect associated with engaging in deception and fear of getting caught. Because independent self-construals work against false information, and generally frown upon the inconsistencies between the public self and the private self, independent individuals are expected to have lower motivation for deception than interdependent individuals.

In addition, the general cultural differences in self-concept have implications about cross-cultural preferences in face-maintenance dimensions. What are commonly referred to as “face saving” or “face-maintaining” strategies can be included within the parameters of the definition of deception. Face has been defined as the positive social value a person effectively claims for himself/herself by the line others assume he/she has taken during a particular contact (Goffman, 1959). Face is an image of self delineated in terms of approved social attributes (Goffman, 1959). In the context of the face-negotiation theory (Ting-Toomey, 1988), “face” is defined generally as the projected and the claimed sense of self-image and self-respect in a relational situation. As human
beings, every individual desires to be respected and to feel approved in his or her everyday communicative behaviors. However, how one manages face and how one negotiates “face loss” and “face gain” in a communication episode differs from one culture to the next (Ting-Toomey, 1994). Ting-Toomey (1988) argues that cultural variability of individualism-collectivism influences the two face maintenance dimensions—self-face concern and other-face concern. As the core building block of individualism and collectivism, the degree of independent and interdependent self-orientation of an individual may systematically affect the perceived importance of the two face maintenance dimensions (concern for the other’s face and concern for self-face) which guide deceptive communication behavior.

Thus, the adoption of “face-giving” behavior (other-face maintenance) in situations inviting of deception seems to be particularly valued among high interdependents as a means to maintain a sense of relational connectedness. As alluded to previously, deception may be seen among interdependent individuals as a more acceptable mode of communication, especially if it benefits others and maintains one’s own “face” by protecting others’ “face.”

The most recent study, conducted by Kim, Kam, Singelis, Wilson, and Sharkey (1998), found preliminary evidence for the above assertions. Results of their study showed that the independent and interdependent construals were each strong predictors of one’s motivation to deceive, and one’s perceptions of the deceptiveness and appropriateness of particular deceptive message responses. Specifically, analyses revealed a significant positive relationship between the interdependent construal and self-oriented motivation, as well as a significant positive relationship between interdependents
and other-oriented motivation. Contrastingly, results revealed a significant negative relationship between independents and self-oriented motivation, and a significant negative relationship between independent construals and other-oriented motivation. These results indicate that interdependents were motivated to use deception to protect either the face of the self or the other, whereas, independents avoided using deception regardless of who would benefit from the deceit. Interestingly, it was also learned that interdependent individuals perceived truth statements to be deceptive and considered the outright lie strategy to be least deceptive in nature. Furthermore, in terms of appropriateness, interdependent individuals perceived the outright lie to be an appropriate message response in their daily interactions. Independent individuals, on the other hand, assessed the outright lie to be most deceptive. On the whole, these findings seem to implicate that independent people may be somewhat more preoccupied with speaking the truth, whereas, interdependent individuals may be more focused on “face-needs” which sanction the use of deceptive communication strategies.

Based on the preceding review, it is anticipated that independence of self-construal will be positively correlated with the general motivation to tell the truth, as well as the motivation to protect the self. Interdependence of self-construal, on the other hand, is likely to be positively correlated with motivation to protect the partner. These ideas are summarized in the following hypotheses:

*Hypothesis 1a.* The strength of an individual’s independent self-construal will be positively related to one’s general motivation to tell the truth, and one’s motivation to protect the self.
Hypothesis 1b. The strength of an individual’s interdependent self-construal will be positively related to one’s motivation to protect the partner.

Self- and Partner-Perceptions of Nonverbal Performance Under Deception

In an attempt to understand the factors that lead to more or less deceptive success on the part of the deceiver, DePaulo and Kirkendol (1989) proffered that higher levels of motivation to deceive invariably impairs nonverbal performance, while improving verbal performances (DePaulo & Kirkendol, 1989). This effect was termed the Motivation Impairment Effect (MIE). While useful in the study of nonverbal behaviors that are typically associated with deceptive communication, when viewed through a cross-cultural lens, several short-comings of the MIE become apparent.

According to the MIE, deceivers who are highly motivated to succeed with their deception should experience detrimental effects on nonverbal performance, but facilitative effects on verbal performance relative to deceivers who are less motivated (DePaulo & Kirkendol, 1989). The MIE proffers two fundamental predictions: (a) senders’ motivation facilitates their verbal performance, but impairs their nonverbal performance, which renders deception more detectable when receivers have access to nonverbal cues, and (b) these effects occur only when senders are deceiving, instead of truthtelling.

In light of recent scholarship regarding cross-cultural differences in the way that the self is regarded (i.e., self as independent, stable, and separate from others vs. self as meaningful in relationship to the social unit) (see Doi, 1986; Markus & Kitayama, 1991; Lebra, 1976), both predictions involving motivation to deceive are inherently problematic. First, the notion that higher levels of motivation to succeed with deception invariably and
negatively affects nonverbal performance is plagued with the assumption that individuals are, by default, biased toward telling the truth—an assumption that is highly reflective of individuals in Western societies (see Kim, 1998; Kim, Kam, Singelis, & Aune, 1999; Lebra, 1976). Of central import to those who have established a cultural self-identity as primarily independent, self-sufficient, and stable, is the belief that what is privately thought, and what is publicly spoken, must be kept consistent in order to avoid being labeled as “hypocritical,” “two-faced,” or “duplicitous” (Markus & Kitayama, 1991; Kitayama et al., 1997). Behavioral manifestations are thought to be the result of incongruencies between what is privately thought and what is publicly spoken.

By contrast, those who have established a cultural self-identity as interdependent, and meaningful only in relationship to others, possess a far less negative view towards employing deviations from the truth as an acceptable form of communication for preserving the social order and the relationships within it (Kim, Kam, Singelis, & Aune, 1999, Smith & Bond, 1998). To be able to function effectively within a society, members of this cultural orientation must demonstrate a level of maturity that requires the ability to communicate what one does not truly believe. Essentially, being able to hide one’s true feelings or cognitions, and express that which is entirely opposite of one’s true thought is a necessary prerequisite for effectively functioning with the society. Furthermore, when considering that certain collectivist societies are founded upon the successful employment and enactment of deceit in order to preserve cooperative social relations with others, it is fallacious to presume that members of these societies would persist in telling “bald-on-record” truths when such candor would only serve to ruffle the social fabric of society. In fact, contrary to the predictions of the MIE, for members of this
particular cultural orientation, truthtelling (i.e., overt statements of one's true feelings or beliefs) is likely to elicit a host of what Western scholars would regard as "leaky" nonverbal behaviors.

These oversights substantiate the need for further investigation of the potential influences of cultural orientations on the overt manifestations of nonverbal behaviors associated with deceptive communication. In this way, deceivers can be successful in their deception, and subsequently, attend to relationship goals. In cultures where relationships take precedence over the individual, especially, deception in the process of communication can serve to protect significant social relationships. This idea will be discussed further in the next section.

Cross-Cultural Variations in Self- and Partner-Perceptions of Nonverbal Behavior Under Deception

The notion that particular cultural orientations may sanction the use of deceptive communication to a greater or lesser bears a number of implications for both the sender and the receiver in terms of their perceptions of themselves and the other in the process of deceiving. More specifically, given cultural distinctions between the salience of the self versus the group as one of the central forces guiding behavior, it is not surprising that cultures exhibit a marked difference in terms of their emphases on guilt versus shame as factors motivating communicative behavior. Anthropological studies of different cultures have made a distinction between cultures that rely chiefly upon "guilt" as a factor motivating behavior versus those that focus primarily upon "shame" as a motivating factor (Benedict, 1946; Doi, 1976; Lebra, 1976). One of the earliest works to focus upon this distinction was Benedict's (1946) anthropological study in which she explains the
distinction between guilt- versus shame-oriented cultures. According to Benedict, “a society that inculcates absolute standards of morality and relies on men’s [sic] developing a conscience is a guilt culture by definition” (p. 222). In guilt cultures, people hold the belief that the only way guilt can be relieved is through confession and atonement. Accordingly, the primary way to unburden the self, is through honesty and revelation of the truth. The United States is exemplary of a guilt culture, in which the device of “confession” has been widely used in secular therapy and by religious groups (Benedict, 1946).

By contrast, Benedict (1946) asserted that shame cultures rely on external sanctions for good behavior rather than on internalized conviction of sin (as in guilt cultures). In shame cultures, a person does not experience relief as a result of making his faults public. To the contrary, for members of shame cultures, confession only serves to court trouble. According to Benedict, “so long as his [sic] bad behavior does not ‘get out into the world’ he [sic] need not be troubled” (p. 223). Japanese culture is exemplary of a shame culture in which confession of one’s true deeds, thoughts, or feelings may only serve to disrupt social relationships and jeopardize one’s inclusion in the group. Lebra (1976) contended that the individual must control his or her expression, suppress his or her natural feeling, and engage in a type of ritualistic behavior designed to defend himself or herself with ritual circumspection. Thus, while seemingly paradoxical, disregard for, or denial of the truth can actually serve to prevent shame, and consequently, preserve one’s inclusion in the social unit. Furthermore, it is no surprise that members of shame cultures may actually aid the deceiver in the successful enactment and execution of the lie (Doi, 1971). Interestingly, people of shame cultures expect to be given the response that
is socially appropriate when, in fact, they are very much aware that what they are hearing is not the truth.

More recent scholarship has also acknowledged the notion of guilt and shame as cultural factors influencing behavior, though they tend to disagree that such a clear-cut dichotomy between cultural emphases on guilt and shame actually exists. Doi (1971) contended that this type of dichotomy postulates guilt and shame to be entirely unrelated to one another, when, in fact, the same person often experiences the two emotions at the same time. Doi also asserted that in addition to their attunement to shame, the Japanese, in particular, do have a sense of guilt. Lebra (1976) also acknowledged that in addition to shame, guilt also plays a role in influencing behavior. Most importantly, Doi and Lebra contended that for members of collective cultures, feelings of guilt or shame typically arise from one's realization that he or she has fallen short of attaining his or her ideal self. Thus, the primary impetus behind concealment of the truth is one's own desire to not recognize that he or she has failed in achieving his or her ideal self.

Arguably, however, while both guilt and shame harbor equal potential to affect deceptive behavior, ultimately, it is this inordinate focus on the group versus the individual that dictates whether guilt or shame will prevail as a motivating force behind behavior (Doi, 1971; Lebra, 1976). Notably, while guilt does not require an audience, shame can only occur within the context of social relationships. An individual is fully capable of conjuring up in his or her own mind a sense of guilt in the absence of others. Conversely, shame is a reaction to criticism by others. Thus, it logically follows that cultures endorsing greater levels of interdependence and the need for acceptance within the social unit are those that are more prone to experiencing shame if the face needs of
the group are not met. In the same way, cultures which propagate greater levels of independence are likely to be those which emphasize guilt as a motivating factor which guides communicative behavior primarily because it is the individual's preoccupation with being true to the self that is of chief importance.

Furthermore, despite the lack of consensus on whether cultures should be classified as strictly guilt-oriented versus shame-oriented, scholars do agree that certain cultures are more sensitive to shame than others, and that these cultures, in particular, tend to be especially sensitive to preserving their relationships with members of the social unit. Most notably, whether motivated by a sense of shame or by a sense of guilt, the extent to which the interdependent individual suspects his or her action will result in betraying the group to which he or she belongs will determine to what end that individual will go to respect the needs of the social unit. Lebra (1976) asserted that in cultures where members are more sensitive to shame, the major goal is to avoid any type of behavior that risks causing him or her shame. In line with this assertion, speaking the truth is a behavior that often runs contrary to the goal of avoiding shame or loss of face. Hence, under these circumstances, for members of cultures endorsing high degrees of interdependence, truthtelling is likely to be avoided in service of maintaining one's membership as part of the social unit.

Relatedly, cultural regard for the concept of morality is likely to be affected by differential emphasis on the self versus the group as the major focal point guiding interaction. For cultures that highlight the individual as the sole determinant of his or her own behavior, morality is likely to be seen in terms of a clear-cut dualism between good or bad, or what is right or wrong (Lebra, 1976). This places the individual a position of
being in sole responsibility of one's own conduct, and holds the individual accountable for his or her own behaviors. By comparison, cultural orientations in which the group takes precedence over the individual tend to regard morality strictly as a social phenomenon that takes into account the needs and expectations of group members. Watsuji (1962) made this point clear in stating that "the problem of ethics does not lie in the consciousness of an isolated individual, but in the relationship between man [sic] and man [sic]" (p. 12). Regarded as such, morality in the collective sense entails making decisions about situationally appropriate behavior in terms of what is expected as an effectively functioning member of the group. A person is seen as a moral and principled individual insofar as he or she is able to maintain and uphold the expectations and face needs of the group (Lebra, 1976).

On the whole, differential emphases on the self versus the group as the focal point of behavior account for why independently oriented individuals are more inclined to view deceptive communication in terms of moral issues involving right and wrong, and/or good and evil, which, subsequently, causes the individual to regard deceptive communication as a strategy to be minimized and/or avoided. By contrast, more interdependently oriented persons are not inclined to attach such value labels to deceptive behavior, but rather, tend to regard deceptive communication as necessary tool for establishing the self as a moral and principled member of the group and society at large. A major implication contained herein is that individuals high in independence are likely to experience a greater sense of guilt and negative affect as a result of discrepancies between what one actually feels and what is overtly stated, whereas, individuals high in interdependence are not likely to experience this same type of negative affect in response
to engaging in deceptive communication due to the societal sanctioning of deceptive
communication. Thus, contrary to the motivational impairment hypothesis (DePaulo et al.,
1989) which has stated that higher levels of motivation are likely to result in greater
nonverbal leakage, previous cross-cultural research strongly suggests that greater
motivation to deceive does not necessarily result in negative affect and behavioral
leakage cues which work against the deceiver. Thus far, it has been established that
members of collective cultures which emphasize interdependence place a high premium
on maintaining relationships, and as such, are highly motivated to deceive in order to
preserve these group memberships. However, despite high levels of motivation to
succeed with the deception, highly interdependent individuals are not expected to exhibit
the same kinds of nervousness, anxiety, and arousal cues that have been characteristic of
more independent behavior. Due to societal sanctioning of deceptive communication
among cultures endorsing higher levels of interdependence, and the accompanying
differential regard for the concept of morality, the use of deceptive communication in
collective cultures perform an operative function which is conducive to maintaining the
social order.

Taken together, the individualistic moral preoccupation with deception as a
phenomenon involving ethical issues of right and wrong is ultimately what causes
individuals of this cultural-orientation to be biased towards truth-telling in their dealings
with others. For those exhibiting high degrees of independence, voicing one’s “true”
feelings is paramount to establishing the singleness and originality of the self.
Interdependently construed individuals, on the contrary, would most likely use deception
for both self- and other-oriented motivation because their construal of self focuses on
maintaining relational connectedness, and on the needs and desires of others as a means toward satisfying the needs of the self. In their case, the need to attend to face-needs within the social unit, overrides the need to be entirely truthful or to express one's true inner feelings, and deception may even be seen as an entirely acceptable mode of communication if it means preserving a relationship with others.

In sum, it was alluded to earlier that one's cultural orientation is likely to affect one's perceptions of deceptive communication. Specifically, it was noted that those of the interdependent orientation were more likely than those of the independent orientation to view deceit as a successful tool for maintaining the social order and their relationships within it. Furthermore, the interdependent concept of morality as being a principled member of society rather than as an issue of right or wrong, encourages the use of deceptive messages in order to maintain healthy relationships with others. Morality in the interdependent sense is equivalent to maintaining the social order, and occupying one's proper position in society. Thus, those of this orientation tend to be relatively practiced in deceit in order to uphold the principles of what it means to be a moral and principled human being. As such, it is expected that when deceiving, those of higher interdependent orientations will be less likely to experience the discomfort that independent individuals would experience when issuing statements that depart from one's true feelings or beliefs. Interestingly, in situations where telling the truth may be face-threatening to either oneself or the other, interdependently oriented individuals are likely to show greater signs of discomfort when telling the truth, than when deceiving. This idea is expressed in the following hypothesis:
Hypothesis 2. The greater one's level of interdependence, the greater the degree of reported comfort and composure when deceiving rather than when telling the truth.

Similarly, receivers should perceive when the deceiver is either at ease or ill-at-ease in the conversation. In line with this assertion, receivers should perceive an interdependently-oriented sender as more pleasant when engaged in deceptive communication than when telling the truth. Furthermore, the interdependent focus on promoting harmonious relationships encourages receivers of deceptive messages to be cooperative in conversation, and as such, the receiver is likely perceive the deceiver as being behaviorally more pleasant. Hence the following hypothesis is posited:

Hypothesis 3a: Receivers should perceive deceivers with higher independence scores as exhibiting less composure and pleasantness when deceiving than deceivers scoring lower on independence.

Hypothesis 3b: Receivers should perceive deceivers scoring higher on interdependence as exhibiting greater composure and pleasantness when deceiving than deceivers scoring lower on interdependence.

Behavioral Indices Associated with Deceptive Communication

To date, researchers have identified several factors which purportedly account for differences in observable behaviors that accompany deceptive messages. Included among these factors are arousal, emotional states, cognitive effort/load, and attempted control. Zuckerman, DePaulo, and Rosenthal (1981) posited that deception involves various processes or factors that serve as cues to deception. Specifically, these researchers
proffered that there are four factors which cause truth to "leak" from nonverbal channels. The four factors that they offer are: (1) arousal, (2) negative affect, (3) cognitive effort, and (4) attempted control. In terms of arousal, Zuckerman et al. contended that physiological arousal resulting from the deception will cause the individual to engage in unconscious nonverbal behaviors which can be detected by another individual. Essentially, arousal causes certain nervous behaviors to be manifested in the interaction which is beyond the awareness of the deceiver. Some approaches have attributed the autonomic activity that is associated with the deception to the deceiver's motivation to succeed on the deception task. In their meta-analysis, Zuckerman et al. (1981), identified a number of kinesic and vocalic cues as behavioral indicators of arousal and nervousness. Pupil dilation and an increase in the use of adaptors were found to be associated with the production of deceptive messages. They also discovered that the vocal cues of voice pitch ($F_o$), vocal tension, and several types of speech disturbances (i.e., speech errors, hesitations, and non-ah disturbances) were reliably associated with deception. Hence, to the extent that one experiences arousal as a result of engaging in deceptive communication, these behaviors should become manifest during a deceptive transaction.

The next factor, negative affect, is purported to result from having preemptive thoughts about engaging in the deceptive behavior, or actually having engaged in the deception. For instance, in the process of calculating the deceit, the individual is thought to experience negative affect in the form of "guilt." This negative affect is subsequently likely to map itself onto the facial expressions of the deceiver, and reveal signs that an untruth has been told. Behavioral cues indicative of emotional states are also purported to become manifest during a deceptive interchange. Barring those experiencing a sense of
"duping delight" from engaging in a deceptive act, deceptive communication is theorized to be associated with the experience of negative affect. In their meta-analysis, Zuckerman et al. (1981) reported several behavioral cues that were indicative of negative emotional states. In general, these cues performed the function of distancing the deceiver from the recipient of the deceptive message. Deceivers were kinesically non-immediate, less verbally and vocally involved, less vocally and facially pleasant, displayed an indirect body orientation, and were generally negative in affective tone. While they showed an increase in the use of adaptors, they demonstrated fewer illustrators and purposive hand movements. Thus, to the extent that deceivers experience negative emotions as a result of engaging in a deceptive act, these specific cues should become manifest in a deceptive transaction.

The third factor, cognitive effort, involves the idea that deceiving is substantially and cognitively taxing. Zuckerman and colleagues (Zuckerman et al., 1981; Zuckerman & Driver, 1985) propounded that deception should be witnessed to the extent that one sees the deceiver demonstrating behaviors which reveal that he or she is under extreme cognitive pressure, or cognitive load. Specifically, the deceiver is placed under the cognitive pressure to produce an on-the-spot answer that is both seemingly veridical and feasible to the deceivee. Specifically, deceivers must expend cognitive effort in order to create a plausible account, to avoid contradicting him or herself, and to be able to remember the account when prompted in the future. There is evidence to suggest that individuals engaged in cognitively complex tasks tend to demonstrate more speech hesitations, speech errors, slower speech rate, longer response latencies and use pauses more frequently (Goldman-Eisler, 1968). Zuckerman et al. (1981) also discovered that
increased use of filled-pauses, decreased use of illustrators, and less vocal fluency were related to cognitively complex activity.

The final factor, attempted control, is composed of the idea that a deceiver is aware that he or she is deceiving, and is aware that certain behavioral channels can potentially leak information about the deception, and hence, the individual engages in behaviors designed to control those channels. However, deceivers' attempts to control their behavior may, in fact, serve as cues to deception. The result is that behaviors often become "over-controlled" or "overly rigid" thus making the deception even more apparent. Furthermore, in spite of deceivers' attempts to control particular behavioral channels, certain behavioral channels remain beyond his or her control, and channel discrepancies serve as cues that a deceptive act is occurring. For example, deceivers, attempt to control the amount of eye contact that they make with the respondent so as to appear truthful. However, the deceiver is often unaware that while he or she is attempting to control certain channels, other channels are leaking information about the deception.

Thus far, based on this theoretical approach, a considerable amount of research effort has been devoted to identifying the specific behavioral indices that "leak" from the individual who is communicating deceptively. A compendium of studies have been conducted to date in an attempt to identify the cues associated with deceit (see Zuckerman & Driver, 1985 for a review). A meta-analysis performed by Zuckerman and Driver (1985) has revealed that while a few indices have been reliably associated with deceit, the remainder of these indices have been found to vary across studies. Specifically, results of the meta-analysis showed that deceit can most reliably be detected through the vocal channel. To be even more precise, it was found that deception was
associated with increases in pitch, speech errors, and speech hesitations. Of all the indices included for meta-analysis, these three vocalic cues were the most reliably associated with deceit. Other indices that were somewhat marginally reliable in indicating deceit include increased self-adaptors, pupil dilation, and twisting of the trunk. In terms of the remaining behavioral indicators (which make up a laundry list of cues that have been associated with deception), studies have found mixed and inconsistent findings. For example, in terms of eye contact, approximately half of the studies included in the meta-analysis found that increased gaze was associated with deception, while the remaining half found that a decrease in the amount of gaze was related to deception.

In sum, various factors may map themselves onto the behavioral configurations of the deceiver. The most commonly identified factors have included physiological arousal, negative affective emotional states, cognitive effort/load, and attempted control. To the extent which each of these factors is salient to the deceiver, behavioral configurations consonant with each factor should become apparent.

Cross-Cultural Variations in the Behavioral Indices Associated with Deceptive Communication

Interestingly, because speaking the truth may sometimes serve to disrupt the social order and threaten the face of group members, it is speculated that deception is oftentimes the preferred strategy of choice among interdependent individuals. Consequently, the same constellation of nonverbal cues that are indicative of negative affect, nervousness, and arousal that is witnessed among independents is not likely to be evinced to the same degree by those of the interdependent self-construal. Furthermore, being that morality in the collective sense is based on one’s ability to demonstrate
concern for the expectations and face needs of group members, interdependently oriented individuals should demonstrate a marked tendency to eschew making his or her true thoughts apparent and shaming oneself. Lebra (1976) asserted that “the ritual actor concerns himself with conforming to conventional rules... and presents himself with his social mask on... He tries to maintain face” (p. 121). Given the ritualistic-nature of deceptive communication among interdependently oriented individuals, it is natural to expect that members of this cultural orientation will be more familiar with and at ease with using deception as a tool for accomplishing identity, relational, and instrumental goals. Concurrently, in light of societal rules which sanction the restraint and suppression of one’s true inner feelings, it is reasonable to presume that those of the interdependent orientation, rather than those of the independent construal, will exhibit less signs of arousal/nervousness, negative affect in the form of shame or guilt, and will demonstrate fewer cues indicative of cognitive load/effort when engaging in deceptive communication.

Based on the aforementioned review, due to excessive moral preoccupations with telling the truth, and despite differential situational demands for deceptive communication, it is expected that those of the independent cultural-orientation (i.e., U.S. sample) will be biased toward truthtelling, and as a result, should exhibit cues associated with arousal and nervousness when deceiving than when telling the truth. Furthermore, because deception has typically been regarded by independently construed individuals as a negative phenomenon, these individuals should also exhibit cues which are indicative of negative affect. Prior research has identified “guilt” as being one of the primary factors which trigger cues to deceive. Hence, to the extent that one experiences guilt, we should witness behavioral configurations which are indicative of this particular negative affect.
Thirdly, because those of the independent orientation are inclined to issue verbal statements that are congruent with thought, they should demonstrate less of the cues associated with *cognitive load* when telling the truth than when having to construct a deceptive message that is incongruent with what they truly believe. Stated differently, independents should demonstrate greater cognitive effort when deceiving than when telling the truth. Finally, the abovementioned effects should be evident in situations involving either self- or other-benefit motivation. In the case of independents, biases toward telling the truth should override situational demands, and we should witness a general pattern of effects that are in favor of truthtelling, irrespective of who/m will benefit from the deceit.

Conversely, because it is not as essential for those of the interdependent orientation to issue statements that are congruent with thought as it is for these individuals to maintain their relationships with others, it is hypothesized that those of the interdependent cultural-orientation (i.e., Japanese sample) will be significantly less likely than those of the independent orientation to exhibit *arousal and nervousness cues* when deceiving. Especially in situations where employing deceptive communication would serve to preserve the “face needs” of the other (i.e., other-benefit situations), interdependents are more likely to barter truth for deception. For those of the interdependent orientation, issuing “bald-on-record” truths is not common practice, particularly if those truths threaten the face-needs of the other. Moreover, because deceptive communication is not likely to be regarded by the interdependently construed individual as an inherently negative phenomenon, and interactions between interdependents tend not to be riddled with biases toward speaking the “whole truth and
nothing but the truth,” these individuals are not likely to exhibit the same degree of negative affect cues that would be witnessed in independent individuals. Furthermore, attunement to “face needs” in service of complying with societally established norms of conduct has encouraged the development of a relatively practiced set of communicative behaviors that are deceptive in nature. To explain, the requirements and ritualistic nature of interaction engages individuals in a developmental process in which members become highly accustomed to deviating from the truth in order to fulfill their role as a functioning member of society. Speaking the truth, on the other hand, is often not the modicum of choice, especially when doing so can potentially threaten the “face” of the other. Consequently, because deceptive communication plays a significant role in the maintenance of relationships within society, it is expected that interdependent individuals will exhibit less of the cues associated with cognitive load/effort than independents when engaging in deceptive communication.

In sum, given previous findings regarding the behavioral cues that become manifest under deception, it is maintained that, all else being equal, people will exhibit some degree of arousal and nervousness when deceiving, will experience some degree of negative affect, and are likely to exhibit cues indicative of cognitive load/effort to some extent. It would be somewhat farfetched to presume that cultural factors in isolation have the capacity to completely nullify the arousal, nervousness, negative affect, and thought-to-speech processes involved in the act of deceiving. However, the behavioral indices that become manifest during a deceptive act are likely to be affected by one’s self-construal such that one’s primary focus on attending to the face-needs of the group versus the individualistic bias toward “truth” is likely to moderate the extent to which specific
behaviors will be exhibited by a deceiver during a deceptive encounter. Based on the aforementioned, the following research hypotheses are posited:

*Hypothesis 4a.* Outside-observers should judge those scoring higher on independence as exhibiting more: (a) arousal and nervousness cues, (b) negative affect cues, and (c) cognitive load cues under deception than under truth.

*Hypothesis 4b.* Outside-observers should judge those scoring higher on interdependence as exhibiting less: (a) arousal and nervousness cues, (b) negative affect cues, and (c) cognitive load cues under deception than under truth.

*Culture, Relational Familiarity, Truth Bias, and Deception Detection*

Arguably, deceptive communication in close friend and romantic relationships is likely to differ from deception which occurs in stranger relationships. While it may be the case that some deceptive behavior is consistent across people and situations, a large portion of an individual's deceptive behavior may be highly idiosyncratic; that is, verbal and nonverbal codes used to transmit deceptive messages may be similar across people, though individuals in a particular relationship may demonstrate knowledge of person-specific cues which are unique to the individual. In their developmental model of interpersonal communication, Miller and Steinberg (1975) contended that as relationships become more developed, partners rely less on cultural and sociological information, and more on psychological information to make predictions about each other's behaviors. Owing to the fact that friends and relationship partners are more privy to each other's idiosyncratic deceptive behaviors, early researchers of deceptive communication
conjectured that close relationships partners should be more effective at detecting
deception when it occurs.

A series of studies were conducted in order to investigate this speculation. While
a handful of these studies were performed on actual close friend and intimate partners
(e.g., Comadena, 1982; Miller, Mongeau, & Sleight, 1986; Miller et al., 1981), another
line of studies attempted to simulate deceptive behavior in close relationships by
providing strangers with multiple “baseline” exposures of a single individuals’ deceptive
communication behavior (Brandt, Miller, & Hocking, 1980a; Brandt, Miller & Hocking,
1980b; Ekman & Friesen, 1974). The aim of these researchers was to get strangers
acquainted with the target’s baseline “truthful” behaviors so that they would be able to
discern behaviors that deviated from idiosyncratic behaviors that were known and
expected.

Studies employing the behavioral “baseline” technique found evidence for the
usefulness of baseline communicative behavior on deception detection. Using survey
research techniques, Miller et al. (1986) asked relationship partners to describe cues that
the other exhibited which would trigger suspicions about the deceit. A majority of the
respondents reported that deviations from normal verbal and nonverbal behavior tipped
them off to the possibility of deceit. In specific, respondents indicated that changes in
partner’s eye contact, hand and foot movements, and length of responses were likely to
cause them to be suspicious of the partner’s behavior. Hence, in their particular study,
they discovered that baseline behaviors provided the basis for rendering deceptiveness
judgments.
In an experimental study, Ekman and Friesen (1975) investigated the effects of baseline truthful behavior on judges' accuracy in detecting deception. Observers employed in their study were instructed to view either the deceivers' heads and faces only, or the body only in order to make deceptiveness judgments. The researchers also designated a set of observers to be exposed to a videotaped sample of the communicator's truthful behavior prior to rendering their judgments, while the other observers received no such baseline condition. Results of their study revealed that observers in the body-only condition were significantly more accurate that were observers in the face- and head-only conditions. Most importantly, however, this level of accuracy was found only by those observers who viewed a videotaped sample of a communicator's baseline honest behavior prior to rendering their judgments. Thus, in their particular study, baseline behavior did form a basis for rendering accurate judgments of truth and deceptiveness.

As further support for the utility of baseline behaviors in rendering accurate judgments of truth and deception, Brandt, Miller, and Hocking (1980b) conducted a study in which they provided observers with multiple baseline exposures of a communicator's behavior. Their study compared those in a high-familiarity condition in which observers received six repetitions of baseline behavior, a moderate-familiarity condition in which observers received four exposures to baseline behavior, a low-familiarity condition wherein observers received two repetitions of baseline exposure, and a no-familiarity condition in which they received no exposure to baseline information. Results of their study indicated that judgmental accuracy was highest in the moderate-familiarity condition, and was significantly different from judgments made by those in the high- and no-familiarity condition. In a related study, Brandt et al. (1980a) discovered that
familiarity (i.e., three exposures to baseline behavior) accounted for 29 percent of the variance in observers' detection accuracy scores.

Notably, although studies incorporating baseline behavior in the detection of deceit have furnished researchers with valuable information regarding the utility of baseline behavior in judgmental accuracy, the experimental procedures implemented in these studies can hardly allow for generalizations of the findings to close and intimate relationships. The injection of artificial familiarity into strangers through repeated exposures to baseline behavior does not even begin to approach actual levels of familiarity demonstrated by those in enduring relationships.

A restricted range of studies have actually looked at the detection accuracy rates between strangers, friends, and intimates (see Bauchner, cited in Miller et al., 1981; Comadena, 1982; Miller et al., 1981). In general, these studies have overturned the previous speculation that increased relational familiarity should be related to better abilities at detecting deceit when it occurs. One study (Miller et al., 1981) asked participants to present truthful and deceptive messages while a stranger, friend, and spouse watched through a one-way mirror. When presented with factual messages, there were no differences in detection accuracy between strangers, friends, or spouses. However, when provided with messages containing emotional information, friends were found to be more accurate in their judgments than either strangers or spouses.

In a similar study, Comadena (1982) compared the detection accuracy rates of friends and spouses. Spouses in well-adjusted marriages participated in interviews in which they provided truthful and deceptive descriptions of the factual content of a series of stimulus tapes, and their emotional reactions to that content. Spouses also brought in a
friend who served as the observer of the interaction. Following the interview, friends and spouses judged the veracity of the other spouse. Results of this study showed a non-significant difference between the detection accuracy rates of friends and spouses. The only finding to reach significance was a sex by relationship interaction in which female spouses were more accurate at detecting deception than male spouses.

On the whole, the above mentioned findings are less than compelling regarding the differences between strangers, friends, and intimate partners in deception detection accuracy rates. Contrary to prior speculation that increased familiarity should yield higher deception detection accuracy rates attributable to the increased availability of idiosyncratic information about the partner, research findings have found little evidence that increased relational familiarity allows for better detection accuracy. Thus, the conclusion of researchers has been that although relational partners have baseline information about one another, they apparently do not employ this information in rendering judgments of truth or deceptiveness.

As an explanation for these findings, McComack and Parks (1986) introduced the notion of the “truth bias.” According to these researchers, the existence of a truth bias can account for the difficulty that people experience in detecting deception from a relational partner. Because of the relational costs associated with accusing a partner of deception, partners involved in intimate relationships seem to operate on an assumption of truth.

Two studies provide some support for the existence of the truth bias (McComack & Parks, 1986; Levine & McComack, 1992). In both studies, a couple’s level of relationship development was positively associated with the existence of a truth bias. Truth bias, in turn, was negatively associated with detection accuracy.
An extension of this analysis was conducted by Stiff, Kim, and Ramesh (1992) who reconceptualized the truth bias as a cognitive heuristic. Tversky and Kahneman (1974) defined a heuristic as a simple decision rule that people use to evaluate complex stimuli with the expenditure of minimal cognitive effort. Stiff et al. conjectured that in the context of relationships, relational partners operate on the simple rule: “My partner has been truthful in the past, therefore he or she is being truthful now” (p. 328). Results of their investigation of friendship and dating dyads revealed that relationship development was positively associated with the truth bias heuristic. Additionally, those who reported operating on a strong truth bias showed significantly less cognitive involvement in an interview designed to detect deception by a relational partner. Moreover, similar to the findings of previous research, results of this study demonstrated that the truth bias heuristic was positively associated with judgments of truthfulness, and negatively associated with detection accuracy.

On the whole, the current state of knowledge regarding deceptive communication in close relationships remains far less developed than what is known about deceptive behavior among strangers. Contrary to the expectation that close relationship partners should exhibit greater accuracy at detecting deceit in their relationships due to the increased availability of idiosyncratic information, research findings to date show that, in general, close relationship partners demonstrate little better accuracy at detecting deception than strangers. Equipped with sufficient baseline information, relational partners continue to passively rely on truth bias heuristics as a means for rendering veracity judgments.
In view of these findings, the future of deception research faces two important challenges. First, researchers must continue to develop procedures that more closely approximate deceptive transactions in naturally occurring contexts. This entails that experimental procedures implemented to investigate deceptive communication in close relationships be improved to reflect actual behaviors as they occur in the close friend or intimate dyad. Studies of the effects of relational familiarity on detection accuracy rates which use multiple exposures to baseline behavior as means of creating some sense of relationship familiarity remain too artificial, and as such, are limited in its generalizability to intimate relationships. Data collected in the natural setting is relatively more difficult to obtain, but offers the prospects of a more lucid understanding of what actually occurs during the deception process. Notwithstanding the ethical limitations of such research procedures, future research on deceptive communication should work toward adopting experimental methods which most closely approximates behavior in the natural setting.

Relatedly, a second challenge facing researchers of deceptive communication involves the study of deception as a communicative and transactional process. Interview methods are often used by researchers as a way for studying deception and its detection among strangers. However, these methods are relatively static and do not allow for an interactive look at how the process of interaction can affect the manifestations of deception in close relationships. Currently, research efforts are underway to test the impact of interactional processes on the enactment or detection of deceptive communication. A recent study by Burgoon, Buller, and Floyd (in press) investigated the impact of interactional processes on judgments of deceit by both strangers and friends. Specifically, they examined the effects of monologic (i.e., one-way) communication
(similar to the interview methods employed in previous research) versus dialogic (i.e., two-way) communication on sender deceptive behavior. Results of their study demonstrated that dialogic communication conferred a net advantage to deceivers in the sense that deceivers were able to modify and alter their behaviors to appear seemingly more truthful, based on the feedback that they received from their interactional partners. On the other hand, monologic communication particularly disadvantaged friends over time. Strangers showed little variance in their deceptive performance across time. Hence, predicted benefits to the deceiver over time under dialogue were primarily applicable to friends. Similar results were found in a follow-up study by Ramirez, Dunbar, and Burgoon (2000) which investigated the effects of participation in the deceptive transaction on one’s ability to detect deceit. Specifically, they compared the accuracy of deceptiveness judgments made by participant-receivers who were directly involved in the interaction to those of outside observers. The results of their study showed that participant-receivers were significantly less accurate at detecting deception than were observers. Both studies implicate that there are critical differences in the sending and receiving of deceptive messages when one chooses to implement an interactive (active-participation) versus non-interactive (passive-observation) method.

Taken together, the aforementioned results suggest the need to examine deceptive communication from an interactive standpoint and to adopt research methodologies that allow for the observation of deceptive communication as a naturally occurring phenomenon. Thus, this study also adopts an interactive procedure for examining detection accuracy.
Additionally, a significant finding to emerge from this line of research is that people typically do not tune into the correct channels for detecting deceit, and that is, in large part, accountable for why deception detection remains little better than chance (Zuckerman & Driver, 1985). To explain, while it is indeed the case that the vocal channel provides the most reliable avenue for detecting deceit, people are instead tuning into the kinesic channel and are fixated on stereotypic cues associated with lying (such as eye contact). At the lay level, people tend to watch the eyes of the suspected individual in order to discern if deceit is occurring. This actually hinders them from successful detection of deceit because often the deceiver will attempt to control his or her own eye contact because he or she is aware that the other person will look to the eyes to make deceptiveness judgments.

**Cross-Cultural Variations in the Link Between Relational Familiarity and Deception Detection Accuracy**

Inspired by the notion that deceptive communication is often used as a tool to aid in the development and maintenance of close relationships, and by the idea that deceivers can actively and strategically alter their behaviors according to the feedback they receive from their partner to appear seemingly more truthful, it seems reasonable to presume that the concept of deception is likely to be regarded differentially across cultures as members of distinct cultural orientations tend to exhibit different motivations for behavior in their relationships with others (Kim & Sharkey, 1995; Kim, Sharkey, & Singelis, 1994; Kim et al., 1996). However, research to date regarding cross-cultural variations in the manifestations of deceptive communication in intimate relationships remains almost entirely non-existent, though recent scholarship seems to implicate the existence of
general cross-cultural differences in the motivations for and perceptions of deceptive communication behaviors in close (non-romantic) relationships.

A host of prior studies have typically characterized deception as a psychological phenomenon, rather than as a communication event. Most commonly, deception has been operationalized as a unidirectional activity in which senders create deceptive messages that are subsequently judged by passive receivers. The central focus has been on the internal psychological processes underlying deceivers’ overt manifestations of behavior, and on receivers’ ability to accurately detect deception from those cues. Standard research protocol has seldom allowed deceivers to actively interact with the receivers as they normally would in an interactive context. Instead, deceivers were made to construct deceptive messages which were video-recorded and then shown to a group of receivers who were to render judgements of deception or truth. The results of these particular experiments are therefore limited in their generalizability such that they chiefly pertain to deception in non-interactive contexts.

Previous approaches to measuring detection accuracy may have yielded imprecise results. One approach has been to measure accuracy with a dichotomous “truth-lie” measure. This method of measurement is insufficient as the truthfulness or deceptiveness of a given set of utterances may vary in degree. Prior research has shown that more skilled liars were able to mix truth and deception to create a more convincing and believable deceptive message (Burgoon, Buller, & Guerrero, 1995). Furthermore, the discovery of a “truth-bias” may be a mere artifact of measurement, as detectors may be able to detect subtle variations in type of deception, yet are not permitted to report these variations with a dichotomous measurement. A slightly improved approach measures
deceptiveness or honesty with a continuous measure which improves the sensitivity of the measurement. However, judgments are typically made at the conclusion of an entire message or interaction (see DePaulo, LeMay, & Epstein, 1991). This approach suffers from the inability to detect variability of deceit in a total interaction episode. Extended interaction facilitates both deceptive and truthful messages. For this reason, rendering a single deceptiveness judgment at the conclusion of an interaction is insufficient. Yet another approach has relied solely on outside-observer judgments of accuracy. Prior research has documented significant differences in observer versus participant-observer judgments. Buller, Strzyzewski, and Hunsaker (1991), and Buller and Hunsaker (1995) found that participants had a stronger truth-bias than observers, and were less accurate than observers at detecting deception. This finding was also replicated in a study by Burgoon, Buller, Floyd, and Grandpre (1996), and a study by Burgoon, Buller, and Floyd (2001). In these studies, participant-observers rated their partners higher on perceived mutuality (i.e., on trust, similarity, and rapport) than did outside observers. Hence, in studying deception as an interpersonal phenomenon, participant judgments should be most relevant to the study of detection accuracy.

According to these primary assumptions, deception accuracy is likely to be affected by the interpersonal, face-to-face communication event. Acknowledging that senders and receivers engage in strategic behavior shifts the focus from static, preinteraction variables such as age, sex, and motivation, to interactional variables such as how the interactants behave and what they think during the interaction. Also, the recognition that interaction primes expectations and familiarity that can subsequently impact behavior and judgments brings the issue of relational familiarity to the fore.
Deception is a phenomenon that commonly occurs among people who are well-acquainted with one another. Prior research has shown that the communication patterns that transpire between friends versus strangers differ significantly from one another. This highlights the necessity of examining forms of relational familiarity and their impact on successful deception detection.

Relational familiarity refers to the degree to which interactants are acquainted with one another, and combines personal knowledge of senders background and idiosyncratic behavior with first-hand experience with their particular interaction style. This personal information should enable receivers to use both verbal and nonverbal information to make accurate judgments of truthfulness or deceptiveness. A few studies found support for this original notion (see Comadena, 1982; McComack & Levine, 1990; Miller et al., 1983). However, other studies have found that the opposite effect occurs among familiar others. Specifically, people tend to be more tolerant of, or more favorable toward, people with whom they have an established relationship. This positivity bias has been shown in a number of studies. Stiff, Kim, and Ramesh (1992) found that truth bias increased with greater relational familiarity, and several other studies revealed that receivers judged friends as more trustworthy than strangers and interpreted friends’ behaviors more favorably (Buller, 1987; Buller, Strzyzewski, & Comstock, 1991).

Finally, in an interactive study on deception detection accuracy, Burgoon et al. (1994) discovered that truth-biases intensified with familiar others, especially when the receivers were suspicious.

Deception detection research has demonstrated a phenomenon that has come to be known as a “truth bias” among individuals asked to make veracity determinations
The truth bias demonstrated by members of cultures characterized by high independence represents the assumption that people are generally being “honest” in their communication with others, regardless of the circumstances. Participants reported that unless cued to the possibility that a message is a lie, people generally believe that others are telling the truth. Hence, independent individuals may be more likely to see deception as an ethical issue and more likely to have a truth bias in their dealings with others. They are taught to “tell the truth” at all times, regardless of the consequences, and they assume that others are being honest with them, stimulating trust and openness. This cultural value is pervasive in Western cultures (Koper, 1994). To the contrary, this bias toward honesty is not likely to be witnessed among those of the interdependent self-construal as those of this orientation show a marked preference for less direct styles of communication (Kim et al., 1996), and more face-maintaining strategies. Thus, whereas detection accuracy rates may be impacted by truth biases for those of the independent orientation, detection accuracy may not be subjected to this same type of impact. Alternatively, however, those of the interdependent cultural orientation may also demonstrate nearly the same rates of detection accuracy as more independently construed individuals, due to the overriding precedence of needing to maintain “face” and peaceful relationships in lieu of absolute truth.

Nonetheless, it remains unclear as to how detection accuracy may be affected by the variable of culture. Past research involving American samples has typically regarded friendship relationships as garnering higher levels of motivation to successfully deceive than stranger relationships (see Burgoon & Floyd, 200), though the relationship between
relational familiarity and detection accuracy is still obscure. While some scholars have purported that friends should be better equipped than strangers to detect deception based on their knowledge of the idiosyncratic behaviors of the partner, studies have demonstrated that friends were more likely to be subject to “truth biases” which rendered their judgments inaccurate. A dearth of research concerning how one’s interdependent cultural orientation may impact the relationship between relational familiarity and truth bias and detection accuracy, warrants the following research questions:

*RQ1:* Among those scoring high in interdependence, what is the relationship between relational familiarity and “truth bias”?

*RQ2:* Among those scoring high in interdependence, how does relational familiarity affect deception detection accuracy?
II. PRESENT STUDY: METHOD

Participants

To test the proposed cross-cultural theoretical relationships, participants (N=242) were solicited from two countries: the United States (n=122) and Japan (n=120). Both samples consisted of college students primarily in the age range of 18-25 years of age. The U.S. sample was drawn from a population of undergraduate students at a large metropolitan southwestern university, while the Japanese sample was drawn from a comparable population of undergraduates at a large urban university in northern Japan. Participants from the mainland United States and Japan were selected for comparison because of considerable cultural differences previously theorized to exist between them. Prior research (see Hall & Hall, 1990; Triandis, Brislin, & Hui, 1988) has documented that both groups possess markedly different cultural orientations in terms of the individualism-collectivism dimensions. Whereas the Japanese sample was comprised of a homogenous group of native Japanese (100%) participants, the U.S. sample consisted of the following breakdown of ethnic identities: Caucasian (84.3%), Latin American (6.6%), African American (1.7%), Korean-American (.8%), Indian (.8%), Puerto Rican (.8%), Vietnamese-American (.8%), and 4.96 percent of participants reported to be of Mixed ethnic backgrounds.

In order to test the research questions regarding potential discrepancies in detection accuracy among strangers versus friends, it was necessary to solicit both stranger and friend dyads for participation in the study. Participants from the U.S. sample were obtained through in-class visits requesting participation in a study involving “cross-cultural differences in styles of communication.” For the sake of convenience,
participants were solicited from communication classes, and were given the option to either sign-up and participate as friends, or to sign up solo and naturally be paired up with another solo-participant of the same sex. In this manner, both stranger and friendship dyads could be simultaneously obtained. The average relationship length of strangers from the U.S. sample was one week with periods of acquaintance ranging from zero-contact to three months. Notably, subjects who reported relatively lengthier periods of acquaintance in stranger category had also remarked that although they had known their partner for a period of months, in actuality, they had only known their partner by virtue of being in the same class and had not necessarily had direct contact per se. By contrast, the average relationship length for friends was 2.03 years, with lengths of acquaintance ranging from six months to 18.17 years. The outcome of this natural pairing process resulted in a total of 31 stranger-dyads, and 30 friend-dyads. For the Japanese sample, the average relationship length of strangers was 2.74 weeks, with lengths of acquaintance ranging from zero-contact to two months. For friend-dyads, the mean length of acquaintance was 1.71 years, with a range of 6.5 months to 5.08 years for length of acquaintance. Japanese participants were solicited in the same manner as U.S. participants with the minor distinction that they were obtained from both sociolinguistic and political science classes. Solicitation of participants from this population resulted in the natural pairing of 30 stranger-dyads, 30 friend-dyads.

Although sex differences were not considered as a factor in the present study, all participants in the study consisted of same-sex dyads for purposes of restricting the proportion of variance unaccounted for between members of the opposite sex. The U.S.
sample consisted of 41% males (n=50) and 59% females (n=72), while the Japan sample was comprised of 58.3% males (n=70) and 41.7% (n=50) females.

Procedure

The procedures for carrying out this experiment mirror those that were implemented in the studies involving interpersonal deception conducted by Buller, Burgoon, and colleagues (for a review, see Buller, Burgoon, White, & Ebesu, 1994; Burgoon, Buller, Ebesu, & Rockwell, 1994; Burgoon, Buller, & Guerrero, 1995). Notably, their particular method was adapted and modified primarily because it allows for the study of truthful and deceptive communication in the interactive context—one that is essential in studying any type of communicative phenomena.

Upon arriving at the experimental site, participants were given a general overview of the project and were asked to complete consent forms. After consenting to participate and be videotaped, partners from each dyad were assigned to their respective roles as the interviewer or interviewee. Role assignments were made randomly such that those who chose to sit in the chair on the right were consistently assigned to the role of Person A, the interviewee, while those who elected to sit in the chair on the left were consistently assigned to the role of Person B, the interviewer. Participants were then separated to complete a pre-interaction measure of their independent and interdependent self-construal, and a measure of their motivations for deceptive communication (described below). After completing the pre-interaction measures, while remaining separated, both members of the dyad were given a list of 12 interview questions to review in advance of the interaction. Included among the interview questions are items such as: "Please tell me about the kinds of people you dislike or hate." "What do you consider to be your most positive
characteristics?" “If I told you that taking care of myself was more important than taking care of my family, what would you think about me and why?”

At the same time, all Persons A were instructed of their role as the confederate, and were given the experimental manipulation. In particular, regardless of truthful or deceptive condition, Persons A were instructed to be entirely truthful in providing their answers to the first three items. This allowed the interactants sufficient time to adjust to their partner’s style of communication so that their interactions would mimic that of normal daily interactions. After the third question, Persons A were either told to begin to deceive, or to remain truthful throughout the remainder of the interaction. Half of the participants (Persons A) were instructed to be entirely truthful in providing their responses to the remaining nine interview questions. Particularly, they were told that they must make their actual opinions, feelings, and beliefs known to their partner, regardless of what their partner might think of those opinions or beliefs. The remaining half of Persons A were instructed to use their own communication skills to provide answers that do not reflect their actual opinions, feelings, and beliefs. More precisely, they were instructed to be completely untruthful in providing their answers, and they were also informed of the various ways in which one might choose to alter information so as to misrepresent the truth. All Persons B were instructed of their role as the interviewer, and were told that that their primary goal was to keep the interaction flowing. They were also told that they should ask follow up questions and to continue to ask questions of their partner until they feel that they have fully understood their partner’s answers. All Persons B were blind to the experimental manipulation.
After giving participants sufficient time to review the interview questions, and verifying that the participants fully understood their respective roles, they were reunited in the main interaction room and informed that the interview was to take no longer than fifteen minutes. Once the video camera was set on record, participants were instructed to begin the interaction once the experimenter left the room. In the event that participants completed the interaction before fifteen minutes had elapsed, the experimenter returned to the room to give the participants further instructions. However, where interactions exceeded the fifteen minute time-limit, the experimenter entered the room and gave participants their final instructions.

Following the interviews, participants were again separated to complete a series of post-interaction measures designed to assess their perceptions of themselves and their partners during the interview. For each of the interview questions, Persons A were also asked to rank the degree to which the answers that they provided were truthful or untruthful on 0 to 10 point scales. Similarly, for each of the interview questions, Persons B were instructed to rate the degree to which they believed their partner's answers were truthful or untruthful on the same scale. While serving as an assessment of deception detection accuracy, this measure also served as a manipulation check of the truthfulness or deceptiveness of responses provided by Person A. See Appendix A for a complete review of the interview questions that were discussed by Persons A and Persons B, and Appendix B for complete details of the experimental protocol that was implemented.

**Dependent Measures**

In preface, it is critical to note that all measures were translated into Japanese language by the author as well as by a bilingual speaker of both English and Japanese.
The translated scales were then back-translated into English by two native speakers of Japanese with college-level English capacity. Reliabilities were initially performed separately for each culture in order to detect for the possibility of incongruities in translation or for potential discrepancies in how certain concepts are perceived by members of different cultures. Similar reliabilities yielded for both samples suggest that scales were adequately and properly translated and that the meanings and concepts behind the translations were similar for both samples. Hence, where applicable, scale reliabilities were performed collectively on both the U.S. and Japan samples.

**Independent and Interdependent self-construals.** All participants completed Leung and Kim's (1997) Self-Construal Scale which measured the independent and interdependent dimensions of participants' cultural self-construals. Responses to the items were measured on 7-point interval scales ranging from 1 (Strongly disagree) to 7 (Strongly agree). This measurement instrument incorporates items from Singelis' (1994) Self-Construal Scale, and Gudykunst et al.'s (1996) Independent and Interdependent Self-Construal Scales (IISC Scales). Additional items were also written by Kim and Leung to incorporate concepts theoretically included in Markus and Kitayama's (1991) constructs of the independent and interdependent self that were not included in previous scales. Thus, this scale consolidates the most salient elements from prior self-construal scales, and incorporates items reflecting concepts related to self-construals which have not been included in previous scales.

Exploratory factor analysis using Principal Components factor extraction was performed in order to validate the underlying factor structure of the self-construal scale. Varimax rotation was conducted, and the scree plot produced by the analysis confirmed
the bi-dimensionality of the scale. Hence, the existence of independence and interdependence as the major underlying factors was validated. Furthermore, results of the analysis indicated that the independence factor accounted for 20.4% of the item variance, while 11.3% of the item variance was accounted for by the interdependence factor. Thus, both factors accounted for 31.7% of the total item variance. Two items (one item pertaining to the independence factor, and one relating to the interdependence factor) were excluded from the analysis due to negative correlation with the major component, and to bearing substantially low correlation with the principal factor, respectively. With the exception of these two items, the factor analysis confirmed that the remaining items loaded on the proper respective factors. Overall Coefficient alpha reliabilities were .85 for the independence factor, and .69 for the interdependence factor. Within-cultural reliabilities were: .79 (independent construal) and .71 (interdependent construal) for the U.S. sample, and .77 (independent construal) and .73 (interdependent construal) for the Japanese sample. Appendix C represents each of the items used to measure the independent and interdependent dimensions of self-construals.

*Measures of motivation.* Prior to the interaction, all participants rated their interaction goals on a series of scales ranging from 0 (*not at all important to you*) to 10 (*very important to you*). Items were created for this instrument based on prior typologies of the various motivations that individuals reported for engaging in deceptive communication, and in particular, were created to represent the self- and other-benefit motivation categories discussed in an earlier section of this work. This resulted in nine items which reflected both the self- and other-benefit motivation categories, with four items representing the deception for self-motivation category, and five items measuring
the deceptive for other-motivation category. Rankings by participants were made in response to the general prefix statement: “In the upcoming discussion, how important is it to you to…” Items assessing one’s self-benefit motivation, included statements such as “avoid embarrassing yourself” “make a good impression on your partner” and “be liked by your partner.” The second category, other-benefit motivation was measured with items such as “avoid hurting your partner’s feelings” “avoid embarrassing your partner” and “protect your partner’s self-image.” Exploratory factor analysis using Varimax rotation on these items confirmed the existence of the two separate factors, with the appropriate items loading on the corresponding factor. The items measuring the self-benefit motivation component accounted for 38.7% of the total item variance, while 15.3% of the item variance was accounted for by the other-benefit motivation items. Collectively, these items accounted for 54% of the total item variance. Coefficient alphas revealed a .69 reliability for self-benefit motivation, and .74 for the other-benefit motivation category. Reliability analyses conducted separately for each culture yielded reliabilities of .70 (self-benefit motivation) and .84 (other-benefit motivation) for the U.S. sample, and .67 (self-benefit) and .66 (other-benefit) for the Japanese sample.

An additional factor was also included as a separate measure of motivation with potential predictive power for deceptive behavioral outcomes. As previously speculated, one’s motivation for telling the truth may also vary and affect the behaviors that become manifest as a result of engaging in deceptive communication. It was conjectured in a prior section, that members of certain cultures may exercise more of an inclination toward speaking the truth than members of other cultures. Hence, the factor, motivation to tell the truth, was incorporated as a means to directly assess how members of various
cultures may gravitate toward or away from truth as a general practice in daily interactions. The motivation for telling the truth component was measured with items such as, “be as honest as possible,” “give your true opinions,” and “be very direct in communicating your thoughts.” Cronbach’s Coefficient alpha revealed an average reliability of .81 for the items measuring one’s motivation to tell the truth. Appendix D presents a concise review of the items measuring the various dimensions of deceptive communication motivation.

*Truthteller/deceiver self-perceptions of behavior.* Deceivers’ and truthtellers’ perceptions of their own behaviors during deceptive or truthful transactions were assessed using 7-point (1=Strongly Disagree, 7=Strongly Agree) Likert-format items adapted from Buller, Burgoon, White, and Ebesu (1994). Self-ratings were made on the following behavioral dimensions: arousal/nervousness, negative affect, fluency, hesitancy, psychological involvement, and behavioral involvement. *Nervousness* was measured with six items which included statements such as: “I was relaxed and at ease during the conversation,” “I used a lot of nervous self-touch during the conversation,” and “I displayed a lot of rocking, shifting, and/or restless behavior.” *Negative affect* was assessed using five items which included the following statements: “I avoided making eye contact with my partner during the conversation,” “I tried to make a good impression on my partner,” (reverse scored) and “I had a pleasant vocal quality during the conversation” (reverse scored). *Fluency* was measured with the following two items: “I was fluent in the conversation” and “I kept the conversation flowing smoothly.” *Hesitancy* was assessed with the following two items: “I took a long time to respond to my partner’s questions” and “I used a lot of pauses during the conversation.”
Psychological involvement was evaluated using five items which included statements such as: “I made our conversation seem intimate,” “I was interested in the conversation,” and “I created a sense of distance between us.” Finally, behavioral involvement was assessed with five items and included the following statements: “I leaned forward a lot during the conversation,” “I appeared stiff during the conversation,” and “I gestured frequently throughout the conversation” Reliability analysis performed on the six dimensions yielded the following alpha reliabilities: arousal/nervousness, $\alpha = .83$, negative affect, $\alpha = .79$, fluency, $\alpha = .92$, hesitancy, $\alpha = .75$, psychological involvement, $\alpha = .85$, and behavioral involvement, $\alpha = .62$. Appendix E represents the complete set of items used to measure the various dimensions of self-perceptions made by the truthteller/deceiver.

To assess the extent to which deceivers and truthtellers provided convincing responses, believability was included as an additional measure of self-behavior. The items measuring believability of responses also served as a manipulation check for deceptiveness wherein participants should report being more believable in the truth condition than in the deception condition. Believability was assessed with four items that were adapted from Burgoon, Buller, and Guerrero (1995) and included the following statements: “I was sincere in answering my partner’s questions,” “I made my partner feel that I was completely trustworthy” and “I was completely honest with my partner.” Items measuring believability yielded a coefficient alpha reliability of .71.

Partner perceptions of truthteller/deceiver behaviors. Partner perceptions of the truthteller’s/deceiver’s behaviors were measured using the same dimensions previously outlined, with the minor exception that the abovementioned statements were reworded to
reflect partner’s perceptions of the truthteller/deceiver. Reliability analysis revealed the following coefficient alphas for the six dimensions: arousal/nervousness, \( \alpha = .82 \), negative affect, \( \alpha = .72 \), fluency, \( \alpha = .87 \), hesitancy, \( \alpha = .60 \), psychological involvement, \( \alpha = .87 \), and behavioral involvement, \( \alpha = .72 \).

The additional dimension of believability was also included as a measure of partner perceptions of the truthteller’s/deceiver’s behavior. Cronbach’s coefficient alpha yielded an average reliability of .62 for believability when partners rated the truthteller’s/deceiver’s behavior. See Appendix F for a complete description of the items used to measure partner perceptions of the truthteller/deceiver.

*Outside-observer perceptions of truthteller/deceiver behaviors.* Eight undergraduate students were trained to code the kinesic and vocalic nonverbal behaviors of both truthtellers and deceivers captured on videotape. Four coders from the U.S. culture were asked to rate the behaviors of the U.S. sample participants, while the remaining four coders were members of the Japanese culture who were asked to rate the behaviors of the Japanese sample participants. Coders were unpaid volunteers who were blind to the purpose of the study. Those assigned to rate the vocalic cues of truthtellers and deceivers were only permitted access to the audio portion of the videotapes, while coders who rated the kinesic cues of videotaped participants were allowed access to the video portion, but not the audio segment. Behavioral cues for six of the interview topics at two time intervals (three topics per interval) were ranked by coders on seven-item semantic-differential scales.

After receiving approximately four hours of training in nonverbal behavioral observation, coders rated the behaviors of truthtellers and deceivers on three of the
classes of behavioral cues (i.e., arousal and nervousness, negative affect, and cognitive
effort/load) proffered by Zuckerman and colleagues (see Zuckerman, DePaulo, &
Rosenthal, 1981; Zuckerman and Driver, 1985). Arousal and nervousness was assessed
with kinesic behaviors in the direction of increased nervous activity (i.e., frequency of
shifting, rocking, twisting, frequency of self-adaptors, random hand, arm, and foot/leg
movements), and conversely, was also assessed using kinesic behaviors in the direction
of decreased nervous activity [i.e., behaviorally stiff/rigid, tense, relaxed (reverse scored),
nervous]. Vocal nervousness was also measured as a part of this category of behavioral
cues and included such items as vocal relaxation and vocal nervousness. The second class
of behavioral cues, negative affect, included kinesic behaviors of involvement such as
directness of eye contact, forward lean, and amount of gesturing. Kinesic pleasantness
was also measured as a part of this class of behavioral cues and included behaviors such
as pleasant facial expressions, and overall pleasantness. In terms of vocalic behavior,
vocal involvement was assessed as a measure of the presence or absence of negative
affect and included behaviors such as vocally involved and confident. Vocal pleasantness
was also assessed as a measure of the presence or absence of negative affect and included
global assessments of friendliness, warmth, and vocal pleasantness. The final category of
behavioral cues, cognitive effort/load, was measured primarily via vocalic behaviors. In
particular, vocal fluency was assessed as a measure of cognitive effort/load and included
items such as length of response latencies, amount of speech pauses or hesitations, filled
pauses, and overall perceptions of vocal fluency.

Interitem (coefficient alpha) reliabilities and interrater (Ebel’s intraclass
correlation) reliabilities for each of the classes of kinesic behavioral cues are reported in
Table 1, and vocalic behavioral cues are reported in Table 2. See Appendix G for a complete review of the items used in the coding of the kinesic and vocalic nonverbal behaviors.
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<th>Dimension</th>
<th>Items</th>
<th>Interrater Reliability</th>
<th>Interitem Reliability</th>
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<td>U. S.</td>
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<tr>
<td>Involvement</td>
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<td></td>
<td>global involvement</td>
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<td>Dimension</td>
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Measurement of detection accuracy and truth bias. To measure absolute honesty attributions, both truthtellers/deceivers and their respective partners rated the degree to which they perceived the answers provided to the interview questions as truthful or untruthful. In order to assess detection accuracy and truth bias, a similar procedure to that implemented by Burgoon, Buller, Ebesu, and Rockwell (1994) was used in this investigation. Both members of each dyad rated the truthfulness of the truthteller/deceiver on each of the 12 interview questions on a scale from 0 (completely untruthful) to 10 (completely truthful). To measure deception detection accuracy, separate scores for truthful and deceptive answers were calculated, and accuracy was computed as the absolute discrepancy between the partner’s estimate of truthteller’s/deceiver’s degree of truthfulness and the truthteller’s/deceiver’s self-report. To measure biases, the sign of the discrepant scores were considered. Positive signs indicate that the partner’s estimate of the truthteller’s/deceiver’s answers were higher than the truthteller’s/deceiver’s reported truthfulness and therefore reflects a truth-bias; a negative sign signifies that the partner underestimated the truthfulness of the truthteller/deceiver and thereby reflects a lie-bias. One caveat to implementing an interval-level scale is the ceiling effect. If truthtellers, for example, report being highly “truthful,” truth cannot be overestimated by the partners because the truthtellers actual scores will be near to the upper limit of the truth scale, leaving little leeway for partners to overestimate it. In order to compensate for this, separate bias scores were calculated for truth and deception conditions.
III. RESULTS

Manipulation Checks

*Cultural self-identity: Independent and Interdependent self-construals.* The mean scores produced on the independence dimension for each of the different cultures revealed a significant difference among the U.S. and Japanese samples, $t(119) = 8.94, p<.0001$, wherein members of the U.S. sample reported being significantly more independent ($M= 5.94, SD=.37$) than members of the Japanese sample ($M= 5.25, SD=.47$). However, there were no significant differences found between the U.S. and Japanese samples regarding the interdependence dimension of self-construals, and rather, unexpectedly, the means on interdependence for the U.S. sample ($M= 4.31, SD=.50$) were found to be equivalent to that of the Japanese sample ($M= 4.31, SD=.51$). These findings provide further support for the notion that cross-cultural research must begin to account for within-culture variability. Most notably, the analyses for this particular study could not be performed using culture of origin (i.e., U.S./Japan) as the independent variable in the analyses as the data revealed that overall, the Japanese sample did not differ from the U.S. sample in terms of interdependence, but rather, did show significant differences in terms of the independence dimension of cultural self-identity. Accordingly, significant differences exist within cultures that require the examination of differential effects on the dependent variables according to those within-culture variations. Thus, the following analyses were performed employing the independent and interdependent dimensions of cultural self-identity.

*Truthtelling and deception.* Truthtellers' and deceivers' ratings of their self-enacted truth or deception, respectively, confirmed that the truth/deception manipulation
was indeed successful, $F(1,119) = 678.23, p<.0001, \eta^2 = .85$. Deceivers reported being significantly less truthful ($M=2.7$) than truth tellers ($M=9.4$) after question three on the list of interview items. Supplementary analyses were performed on partners' perceptions of the truthfulness of truth tellers/deceivers, and in further corroboration of the previously mentioned finding, partners' ratings of the truthfulness of truth tellers/deceivers provided additional support for the success of the truth/deception manipulation, $F(1,119) = 49.50, p<.0001, \eta^2 = .15$. Partners rated deceivers as being significantly less truthful ($M=7.32$) than truth tellers ($M=8.61$). Hence, it was concluded that the truth and deception manipulations were sufficient for producing the expected effects on the dependent variables.

**Preliminary Analyses**

Prior to engaging in a full-fledged analysis of the effects of culture on the dependent variables by means of the independent and interdependent dimensions of self-construals, a series of analyses were performed using subject nationality (i.e., U.S., Japan) as the main variable distinguishing culture. This decision was made in order to eliminate the possibility that more meaningful differences might have become manifest when the broad variables of culture were applied. Accordingly, a series of 2 (Nationality: U.S., Japan) x 2 (Condition: Truth/Deception) ANOVAs were performed using the various motivations as the dependent variables. The analyses failed to yield any meaningful conclusions regarding the hypotheses under consideration. Likewise, a series of 2 x 2 ANOVAs were also conducted to test the various hypotheses regarding self-perceptions, participant-perceptions, and observer-perceptions of truth tellers'/deceivers' behaviors. When the various measures of truth teller/deceiver self-perceptions were used
as the dependent variables in the ANOVA, there were no significant findings regarding the interaction between subject nationality and truth/deceptive condition. Similarly, when the measures of participant-perceptions were used as dependent variables in the ANOVA, significant findings failed to emerge from the analysis. Finally, when the measures of observer-perceptions were used as dependent variables in the analysis, only one of the hypothesized interaction effects emerged as significant. Specifically, analysis results revealed a significant nationality by truth/deception condition interaction for the dependent variable of vocal relaxation, $F(1,116)=6.58, p<.05, \eta^2=.05$. This particular finding, while important in its own respect, was also detected by the analysis which used the independent and interdependent dimensions of self-construals as the major dimensions distinguishing culture. Notably, the dimensions of self-construals were also able to detect further significant differences in observer-perceptions that could not be detected by the analysis using subject nationality as the main variable distinguishing culture.

Given the lack of significant findings when subject nationality was used as the main variable of culture, the need for cultural analysis at the individual level was further validated. While broad cultural-level analysis may have been useful in the past for detecting "cultural" distinctions, the results of the analyses performed herein attest to the notion that a cultural-level analysis (i.e., analysis by means of subject nationality) may no longer be useful for detecting distinctions that exist within cultures. Thus, to overcome this limitation, individual-level analyses implementing the independent and interdependent dimensions of self-construals were conducted.
Hypothesis 1: Cultural Identity and Motivations for Truthful and/or Deceptive Communication

Hypothesis 1 predicted that the strength of an individual's independent self-construal would be positively related to one's general motivation to tell the truth, and one's motivation to protect the self, whereas the strength of an individual's interdependent self-construal would be positively associated with one's motivation to protect the partner or the partner's self-image. This hypothesis was tested with three separate multiple regression analyses using motivation to tell the truth, motivation to protect the self, and motivation to protect the partner as the criterion variables, respectively. The independence and interdependence factors were entered into the model as predictor variables. The first part of the hypothesis was confirmed in the first analysis when independence and interdependence were entered as predictors of motivation to tell the truth, \( R = .434, R^2 = .19, F(2, 118) = 13.70, p < .0001 \). Independence was found to be positively associated with motivation to tell the truth, such that the greater the level of independence, the higher one's motivation for engaging in truthful communication, \( \beta = .44, t = 5.23, p < .0001, \) partial \( r = .43 \). The association between interdependence and motivation to tell the truth was nonsignificant.

The next analysis was performed entering motivation to protect the self as the criterion variable and independence and interdependence as the predictor variables. Hypothesis 1 was partially supported by this analysis as the model containing the two predictors was significant, \( R = .31, R^2 = .09, F(2, 118) = 6.13, p < .005 \). Consistent with the hypothesis, independence was found to be positively associated with one's motivation to protect the self, \( \beta = .25, t = 2.82, p < .01, \) partial \( r = .251 \). Interestingly, the
interdependence dimension was also found to be positively related to one’s motivation to protect the self, $\beta = .22, t = 2.46, p < .05$, partial $r = .22$. Stepwise regression was performed in order to determine the amounts of variance accounted for by the independent and interdependent self-construals. Results of the analysis revealed the independent dimension of self-construals as accounting for the most variance in predicting one’s motivation to protect the self, $R = .22, R^2 = .05, R^2 \Delta = .05, F(1, 119) = 5.96, p < .05$, followed by the interdependent dimension, $R = .31, R^2 = .09, R^2 \Delta = .04, F(1, 118) = 6.13, p < .01$.

The third analysis also yielded support for the hypothesis as the model containing one’s motivation to protect the partner entered as the criterion variable was significant, $R = .34, R^2 = .12, F(2, 118) = 7.83, p < .005$. As expected, interdependence was positively related to one’s motivation to protect the partner and/or the partner’s image, $\beta = .32, t = 3.62, p = .00$, partial $r = .32$. Hence, the greater one’s level of interdependence, the higher one’s motivation to protect the partner or partner’s self-image. Unexpectedly, independence was also found to be positively associated with one’s motivation to protect their partner, $\beta = .18, t = 2.10, p < .05$, partial $r = .19$. Stepwise regression analysis was performed in order to determine the amounts of variance accounted for by the independent and interdependent predictors in the model. Results of the analysis showed that the interdependence variable accounted for most of the variance in predicting one’s motivation to protect the other, $R = .29, R^2 = .08, R^2 \Delta = .08, F(1, 119) = 10.92, p < .01$, followed by independence, $R = .34, R^2 = .12, R^2 \Delta = .04, F(1, 118) = 7.83, p < .05$.

Taken together, support was found for Hypothesis 1 wherein greater levels of independence were associated with higher motivation for telling the truth as well as
higher motivation for protecting the self. Interdependence was also found to be associated with higher motivation to protect the self, although the independence dimension was found to hold greater predictive power than the interdependence dimension. Also, results of the analyses revealed that greater levels of interdependence were associated with higher motivation for protecting the partner or the partner's self-image. Independence was also found to be related to one's motivation to protect the partner, although the interdependence dimension was found to wield greater predictive power than the independence dimension in predicting one's motivation to protect the partner.

**Hypothesis 2: Self-Construals and Perceptions of the Self When Truth-telling versus Deceiving**

Hypothesis 2 posited that the greater one's level of interdependence, the greater the level of reported comfort and composure when deceiving rather than when telling the truth. A series of hierarchical regression analyses were performed entering the main effects of independence, interdependence, and truth/deceptive condition into the first block as the first set of predictor variables. The hypothesized interaction effects between independent/interdependent self-construal and truth/deceptive condition were entered into the model in the second block in order to determine the extent to which the interactions contributed incremental variance beyond the variance accounted for by the main effects. After entering both blocks, the predictor variables were inspected for significant associations with each of the criterion variables. Models were then reparameterized to include only the significant predictors so that the proportions of variance accounted for by each of the significant predictors could be ascertained. Particularly, the proportions of variance accounted for by the interaction terms above and beyond that which could be
accounted for by the main effects were of particular importance to this study because the interaction terms directly address the hypotheses under consideration.

Furthermore, in order to determine the significance of the hypothesized interactions, moderator median split analyses (see Levine & Cruz, 1991) were performed on the separate regressions that were conducted for the interactions involving the truth condition (i.e., independence x truth condition, interdependence x truth condition) versus interactions involving the deceptive condition (i.e., independence x deceptive condition, interdependence x deceptive condition). Notably, the independence/interdependence by truth condition interactions were conducted as part of one regression analysis, and the independence/interdependence by deceptive condition interactions were conducted as part of another analysis for each of the criterion variables. The differences in the slopes generated by each of the separate regression analyses were then calculated using the moderator median split analysis. Employing this method, one can test for differences in slope (unstandardized regression coefficients) between two regression equations generated by separate analyses. Hence, for each of the criterion variables, results for each of the separate regression analyses are presented, along with the results of tests to determine the significance of the interactions.

Support was garnered for Hypothesis 2 via the criterion variables of positive affect, fluency, and psychological involvement as operational dependent measures of the constructs of comfort and composure. Specifically, when positive affect was the criterion variable, both the independence main effect as well as the interdependence by truth/deceptive condition interactions emerged as significant predictors of positive affect. When the main effect of independence was entered into the first block of the regression,
the model was significant, $R = .38$, $R^2 = .14$, $F(1,119) = 19.61, p<.001$. An inspection of
the beta coefficients revealed a positive association between independence and self-
perceptions of positive affect, $\beta = .38, t = 4.43, p=.001$, partial $r = .38$. Thus, independence in general was related to self-perceptions of greater positive affect irrespective of truth/deceptive condition. However, when the Independence x Truth condition interaction was entered into the second block of the regression model, the overall model was improved, $R = .42$, $R^2 = .18$, $F(2,118) = 12.83, p<.001$, $F_{\text{change}} = 5.33$, $p<.05$. Similarly, when the Independence x Deceptive condition interaction was entered into the next block of the respective regression analysis, the model was significantly improved, $R = .44$, $R^2 = .19$, $F(2,118) = 14.21, p<.001$, $F_{\text{change}} = 7.70, p<.01$. Further inspection of the interaction terms revealed that greater levels of interdependence were associated with self-perceptions of less positive affect under truthtelling conditions, $\beta = -.19, t = -2.31, p<.05$, partial $r = -.21$. Conversely, the interaction term involving interdependence and the deceptive condition revealed that greater levels of interdependence under deception were positively associated with self-perceptions of positive affect when deceiving, $\beta = .23, t = 2.76, p<.01$, partial $r = .25$. Follow-up tests to detect for significant differences in the slopes generated by each of the regression equations revealed that the interaction was indeed significant, $t(117) = 1.06, p<.01$. Thus, consistent with the hypothesized relationships, higher degrees of interdependence were found to be related to self-perceptions of less positive affect under truthtelling conditions, but greater positive affect under deception. These findings are in the direction of the hypothesized relationship such that higher levels of interdependence were related to self-perceptions of less positive affect under truth, but greater positive affect under deception.
In a separate regression model using fluency as the criterion variable, the main effects of independence and truth/deceptive condition emerged as a significant predictors of the degree of self-perceived fluency, \( R = .52, R^2 = .27, F(3, 117) = 14.38, p < .001 \). Coefficient betas for each of the predictors in the model revealed a positive relationship between independence and self-perceptions of fluency such that higher levels of independence were positively related to self-perceptions of greater fluency in general, \( \beta = .41, t = 5.05, p < .001 \), \( partial \ r = .42 \). Likewise, being in the truth condition was also found to be related to self-perceptions of greater fluency, \( \beta = .37, t = 4.67, p < .001 \), \( partial \ r = .40 \). Subsequently, however, when the hypothesized interaction effect between interdependence and the truth condition was entered into the second block, the overall model was significantly improved, \( R = .55, R^2 = .31, F(5, 115) = 10.10, p < .001 \), \( F_{\text{change}} = 2.96, p = .05 \). Similarly, when the interaction between interdependence and the deceptive condition was entered into the second block of the respective regression model, the overall model was able to account for a greater proportion of variance over and above that which could be accounted for by the main effects, \( R = .55, R^2 = .31, F(5, 115) = 10.10, p < .001 \), \( F_{\text{change}} = 2.96, p = .05 \). Coefficient betas pertaining to deceiver self-perceptions of fluency were consistent with the hypothesis such that greater levels of interdependence were associated with self-perceptions of less fluency under truth telling, \( \beta = -.43, t = -2.36, p < .05 \), partial \( r = -.22 \), but higher levels of self-perceived fluency under deception, \( \beta = .40, t = 2.36, p < .05 \) partial \( r = .22 \). Follow-up tests to detect for significant differences in the slopes generated by each of the regression equations revealed that the interaction was indeed significant, \( t(117) = 3.36, p < .01 \). Hence, in line with the hypothesized relationships, higher degrees of interdependence were found to be related to self-
perceptions of less fluency under truth-telling conditions, but greater fluency under deception.

In a separate regression analysis, the main effect of independence emerged as a significant predictor of psychological involvement, with the model being significant, $R = .20, R^2 = .04, F(1, 119) = 4.89, p < .05$. However, when the interdependence by truth condition interaction term was entered into the second block, the overall model was substantially improved, $R = .37, R^2 = .14, F(2, 118) = 9.27, p < .001, F_{change} = 13.16, p < .001$. In the respective regression model, when the interdependence by deception condition interaction term was entered into the second block, the model was likewise improved, $R = .40, R^2 = .16, F(2, 118) = 11.34, p < .001, F_{change} = 17.14, p < .001$. Further inspection of the beta weights associated with each of the predictors revealed that higher degrees of interdependence were associated with self-perceptions of lower psychological involvement under truth conditions, $\beta = - .31, t = -3.63, p < .001$, partial $r = -.32$, but greater psychological involvement under deception, $\beta = .35, t = 4.14, p < .001$, partial $r = .36$. Follow-up tests revealed significant differences between the slopes generated by each of the regression equations for the truth versus deceptive conditions, $t(117) = 5.25, p < .05$. Hence, consistent with the hypothesis, higher scores on interdependence were associated with self-perceptions of lower psychological involvement under truth, but greater psychological involvement under deception.

To recapitulate, the data were mainly consistent with the hypothesis such that higher degrees of interdependence were associated with self-perceptions of less positive affect, fluency, and psychological involvement under conditions of truth. Conversely, higher degrees of interdependence were found to be associated with self-perceptions of
greater positive affect, fluency, and psychological involvement under conditions of deception. Taken together, these findings paint a portrait in which individuals exercising higher levels of interdependence are more likely to report feeling greater comfort and composure under conditions involving deception than under situations involving the telling of the truth. Results of the analyses are presented in Table 3.
TABLE 3

*Multiple Regression of the Dimensions Measuring Self-Perceptions of Behavior on Independence, Interdependence, and the Interactions between Independence/Interdependence and Deceptive Condition*

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Best Predictor(s)</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
<th>Partial $r$</th>
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<td>.001</td>
<td>.38</td>
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<td>-.21</td>
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<td>Inter x Deep</td>
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<td>&lt;.01</td>
<td>.25</td>
</tr>
<tr>
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<td>&lt;.001</td>
<td>.42</td>
</tr>
<tr>
<td></td>
<td>Inter x Truth</td>
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<td>-2.36</td>
<td>&lt;.05</td>
<td>-.22</td>
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<tr>
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<td>&lt;.05</td>
<td>.22</td>
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<td>-.32</td>
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<tr>
<td>Involvement</td>
<td>Inter x Deep</td>
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<td>4.14</td>
<td>&lt;.001</td>
<td>.36</td>
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Hypothesis 3: Self-Construals and Partner Perceptions of the Truthteller/Deceiver

Hypothesis 3a predicted that receivers should perceive deceivers with higher independence scores as exhibiting less composure and pleasantness when deceiving than deceivers scoring lower on independence. Conversely, Hypothesis 3b posited that receivers should perceive deceivers scoring higher on interdependence as exhibiting greater composure and pleasantness when deceiving than deceivers scoring lower on interdependence. In order to assess how independence, interdependence, and condition interact to predict deceptive behaviors, regressions were performed separately for each of the criterion variables: nervousness, negative affect, fluency, hesitancy, psychological involvement, and behavioral involvement. Similar to the procedures implemented in the previous section, the main effects of independence, interdependence, and condition were entered into the first block as the initial set of predictor variables, and the hypothesized interaction effects between self-construal and truth/deceptive condition were entered into the second block.

Results of the analyses provided only partial support for Hypothesis 3a. The hypothesized interaction between deceptive condition and the independent self-construal added significant predictability to the regression model for only one of the nonverbal behavioral dependent variables. Particularly, independence was found to be significant predictor of positive affect, $R = .26$, $R^2 = .07$, $F(3, 117) = 2.81, p < .05$. However, when the interaction between deceptive condition and independence was entered into the model, the overall predictability of the respective models was significantly improved, $R = .35$, $R^2 = .12$, $F(5, 115) = 3.26, p < .01$. An inspection of the beta coefficients revealed that the data were consistent with the hypothesized interaction between independence and
deceptive condition when positive affect was used as the criterion variable. Independence was found to be positively related to partner perceptions of positive affect under truth conditions, $\beta = .54, t = 2.64, p < .01$, partial $r = .24$, but negatively related to partner perceptions of positive affect under deception, $\beta = -.52, t = -2.64, p < .01$, partial $r = -.24$. Follow-up tests which compared the differences in slopes generated by each of the regression equations confirmed that the slopes were significantly different, $t(117) = 3.78$, $p < .01$. Hence, in the direction of the hypothesis, higher levels of independence were related to partner perceptions of greater positive affect under the truth condition, but less positive affect under conditions of deception.

Results for Hypothesis 3b, involving the interaction between interdependence and truth/deceptive condition, were inconsistent with the hypothesis. When nervousness was used as the criterion variable, the initial model containing the predictor variables of independence, interdependence, and truth/deceptive condition was non-significant, $R^2 = .23$, $R^2 = .05$, $F(3,117) = 2.08, p = .10$. However, when the hypothesized interaction effect between deception condition and interdependence were entered into the second block, the model achieved predictive ability, $R = .33$, $R^2 = .11$, $F(5,115) = 2.86, p < .05$, $F_{change} = 3.88, p < .05$. Thus, by themselves, the main effects of independence, interdependence, and condition were unable to predict nervousness, but the interaction term which included both deceptive condition and interdependence was able to do so. The model was then reparameterized to include only the significant interaction in order to assess the proportion of variance accounted for by the predictor. Multiple $R$ for the reparameterized model indicated that approximately 8% of the variance was accounted for by the interaction. However, contrary to the hypothesis, the beta coefficient for the
interaction between interdependence and condition revealed an unexpected negative relationship between interdependence and partner perceptions of nervousness under truth, \( \beta = -.53, t = 2.79, p = .01, \) partial \( r = .25, \) and a positive relationship between interdependence and partner perceptions of nervousness under deception, \( \beta = .53, t = 2.79, p = .01, \) partial \( r = .25. \) Follow-up tests comparing the differences in slopes generated by the regression equations revealed that the slopes were significantly different, \( t(117)=3.95, p<.01. \) Thus, whereas higher degrees of interdependence were previously thought to be related to greater observable nervousness under truth conditions rather than under conditions of deception, and likewise, related to lower degrees of nervousness under deception rather than under truth, the opposite effect occurred. Similar to the expected effects for the variable of independence, higher degrees of interdependence were also found to be related to partner perceptions of greater nervousness under deception, and less nervousness under truth. Thus, contrary to the findings of the previous section in which interdependence was related to self-reports of experiencing more positive affect, greater fluency, and greater involvement under conditions of deception, findings regarding partner-perceptions of the deceiver indicated that interdependence was actually associated with greater visible nervousness under deception, and less nervousness under truth. Notably, however, further inspection of the mean score of interdependence by deceptive condition on the dependent variable of nervousness revealed that the overall levels of perceived nervousness was indeed quite low \( (M=2.21). \) Hence, while those scoring higher in interdependence were found to exhibit greater nervousness when deceiving than those scoring lower in interdependence, overall, the levels of nervousness were still considerably low. Therefore, it would be insufficient to conclude that higher
degrees of interdependence were associated with high nervousness. Rather, it can only be concluded that those scoring lower on interdependence were found to exhibit less nervousness than those with higher interdependence scores, although, overall, levels of nervousness exhibited by both groups were found to be very little to none.

To summarize, the hypothesized interaction between deceptive condition and independence was able to add significant predictability to the regression model only for the dependent variable of positive affect. Importantly, higher levels of independence was found to be associated with greater positive affect under truthtelling conditions, and negatively associated with positive affect under deception. In addition, the interaction between truth/deceptive condition and interdependence added significant predictability to the regression model involving the dependent variable of nervousness. However, contrary to the hypothesis, interdependence interacted with the truth/deceptive condition to produce a negative relationship to nervousness under truth, and a positive relationship to nervousness under deception. An inspection of the mean scores of partner perceptions of deceivers' levels of nervousness under deception, however, revealed deceivers' nervousness levels to be quite low. The abovementioned findings are summarized in Table 4.
Table 4

*Multiple Regression of the Dimensions Measuring Partner Perceptions of Truthtellers'/*

*Deceivers' Behavior on Independence, Interdependence, and the Interactions between Independence/Interdependence and Deceptive Condition*

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Best Predictor(s)</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
<th>Partial $r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive affect</td>
<td>Indep x Truth</td>
<td>.54</td>
<td>2.64</td>
<td>&lt;.01</td>
<td>.24</td>
</tr>
<tr>
<td></td>
<td>Indep x Decp</td>
<td>-.52</td>
<td>-2.64</td>
<td>&lt;.01</td>
<td>-.24</td>
</tr>
<tr>
<td>Nervousness</td>
<td>Inter x Truth</td>
<td>-.53</td>
<td>2.79</td>
<td>.01</td>
<td>.25</td>
</tr>
<tr>
<td></td>
<td>Inter x Decp</td>
<td>.53</td>
<td>2.79</td>
<td>.01</td>
<td>.25</td>
</tr>
</tbody>
</table>
Hypothesis 4: The Effects of Independence/Interdependence on Observable Behavioral Outcomes

Hypothesis 4 posited that outside-observers should judge those scoring higher on independence as exhibiting more: (a) arousal and nervousness cues, (b) negative affect cues, and (c) cognitive load cues under deception than under truth. This hypothesis was tested using a series of hierarchical multiple regressions, entering the main effects of independence, interdependence, and condition in the first block, and the expected interaction effects into the second block. Separate regressions were conducted for each of the criterion variables: nervousness, negative affect, fluency, hesitancy, psychological involvement, and behavioral involvement. As in the previous analyses, initial analyses were conducted with all main effects and hypothesized interactions entered into the regression model. Models were then reparameterized to include only the significant predictors in order to determine the proportions of incremental variance accounted for by the variables.

Significance was obtained for the hypothesized interactions on the dependent variables of kinesic involvement, kinesic pleasantness, nervousness (in the direction of decreased movement), vocal pleasantness, and vocal relaxation. In terms of kinesic involvement, when the main effects were entered into the first step of the regression model, the model was significant, $R = .23$, $R^2 = .05$, $F(1,118) = 6.64, p<.01$. However, when the independence by truth/deceptive condition interaction term was entered into the second block, the predictive power of the overall model was significantly improved, $R = .36$, $R^2 = .13$, $F(2,117) = 8.59, p<.001$, $F_{\text{change}} = 10.02, p<.01$. An inspection of the beta coefficients revealed that independence was related to observer judgments of greater
kinesic involvement under truth conditions, $\beta = .32$, $t = 3.17$, $p < .01$, partial $r = .28$, but related to judgments of less kinesic involvement under deception, $\beta = -.30$, $t = -3.17$, $p < .01$, partial $r = -.28$. Tests comparing the differences in slopes generated by each of the regression equations revealed that the differences in slopes were significant, $t(117) = 5.14$, $p < .05$. Hence, consistent with the hypothesis, independence was found to be related to observer judgments of greater involvement under conditions of truth, but less involvement under conditions of deception.

In terms of kinesic pleasantness, when the main effects were entered into the first step of the regression model, the model was significant, $R = .26$, $R^2 = .07$, $F(1,118) = 8.41$, $p < .01$. Greater levels of independence were found to bear a positive relationship to kinesic pleasantness in general, $\beta = .29$, $t = 3.18$, $p < .01$, partial $r = .28$. However, when the interaction between independence and truth/deceptive condition was added to the model, predictive ability was significantly increased, $R = .35$, $R^2 = .12$, $F(2,117) = 8.17$, $p < .001$, $F_{change} = 7.46$, $p < .01$. Independence and truth/deceptive condition interacted such that higher levels of independence were related to observer judgments of greater kinesic pleasantness under truth, $\beta = .27$, $t = 2.73$, $p < .01$, partial $r = .25$, but less kinesic pleasantness under deception, $\beta = -.26$, $t = -2.73$, $p < .01$, partial $r = -.25$. Follow-up tests to determine the significance of the hypothesized interaction effects revealed that the slopes produced by the separate regression equations for the truth versus deceptive conditions were significantly different, $t(117) = 3.92$, $p < .05$. Hence, consistent with the hypothesis, greater levels of independence were associated with observer judgments of greater kinesic pleasantness under truth, but less pleasantness under deception.
Similar effects were obtained when nervousness (in the direction of decreased bodily movement) was used as the criterion variable in the regression analysis. When the main effects were entered into the first block, the model was significant, \( R = .36, R^2 = .13, F(3,116) = 5.60, p = .001 \). However, the model was significantly improved when the interaction between independence and truth/deceptive condition was entered into the analysis, \( R = .46, R^2 = .21, F(5,114) = 6.11, p < .001, F_{\text{change}} = 6.13, p < .01 \). Independence was found to interact with the truth condition such that greater levels of independence were related to observer judgments of lower levels of nervousness when telling the truth, \( \beta = -.62, t = -3.17, p < .01, \) partial \( r = -.29 \). Conversely, the independence variable interacted with deceptive condition such that higher levels of independence under deception were associated with observer judgments of higher levels of nervousness in the direction of decreased kinesic movement, \( \beta = .59, t = 3.17, p < .01, \) partial \( r = .29 \).

Subsequent analysis comparing the slopes generated by the separate regression equations for the truth versus deceptive condition interactions revealed that the slopes were indeed significantly different, \( t(117) = 4.36, p < .01 \). Unexpectedly, however, the interaction between interdependence and deceptive condition was also found to be significant. Further inspection of the Coefficient betas indicated that interdependence was also negatively related to nervousness under conditions of truth, \( \beta = -.38, t = -1.98, p < .05, \) partial \( r = -.18 \), but positively related to nervousness under conditions of deception, \( \beta = .36, t = 1.98, p < .05, \) partial \( r = .18 \). Follow-up tests comparing the slopes generated by the regression equations showed that the slopes were significantly different, \( t(117) = 2.71, p < .05 \). Thus, similar to the findings regarding the interaction between truth/deceptive condition and independence, higher scores on interdependence were also related to
observer judgments of less nervousness under truth, and greater nervousness under deception.

Support was also obtained for the hypothesis via the vocalic dependent variables of vocal pleasantness and vocal relaxation. Independence was discovered to be a significant predictor of vocalic pleasantness when entered into the first block of the model, $R = .21, R^2 = .04, F(1,118) = 5.20, p<.05$. However, the interaction between independence and truth/deceptive condition were entered into the second block of the respective models, significantly improving the predictive power of the overall model, $R = .48, R^2 = .23, F(2,117) = 17.65, p<.001, F_{change} = 28.87, p<.001$. An inspection of the beta weights for the interaction terms revealed that the interaction between independence and the truth/deceptive condition was positively related to vocalic pleasantness under the truth condition, $\beta = .50, t = 5.37, p<.001$, partial $r = .45$, but negatively related to vocalic pleasantness under deception, $\beta = -.48, t = -5.37, p<.001$, partial $r = -.45$. Follow-up analysis to test the significance of the hypothesized interaction effects revealed that the slopes produced by the separate regression equations were substantially different, $t(117)=7.67, p<.001$. Hence, consistent with the hypothesis, higher scores on independence were associated with observer judgments of greater vocal pleasantness under truth conditions, but less vocal pleasantness under deception.

Similarly, when vocal relaxation was used as the criterion variable, the main effect of independence was found to be a significant predictor in the regression model, $R = .19, R^2 = .03, F(1,118) = 4.20, p<.05$. However, the interaction term between independence and truth/deceptive condition added significant predictability to the overall model, $R = .46, R^2 = .21, F(2,117) = 15.28, p<.001, F_{change} = 25.48, p<.001$. Coefficient
betas revealed a positive association between independence and vocal relaxation under truth, $\beta = .48$, $t = 5.05$, $p = .001$, partial $r = .42$, but a negative association to vocal relaxation under conditions of deception, $\beta = -.46$, $t = -5.05$, $p = .001$, partial $r = -.42$. Tests comparing the differences between the slopes generated by each of the regression equations revealed the hypothesized interaction effect to be significant, $t(117) = 6.71$, $p < .001$. Thus, also consistent with the hypothesis, higher scores on independence were found to bear a positive relationship to observer judgments of greater vocal relaxation under truth, but less relaxation under conditions of deception.

In sum, the data were consistent with the proposed hypothesis. Higher scores on independence were found to be associated with observer judgments of greater levels of kinesic and vocal pleasantness, involvement, and vocal relaxation, and lower levels of nervousness in the direction of decreased body movement. Under conditions of deception, however, higher independence scores were found to be associated with less kinesic and vocal pleasantness, less kinesic involvement, less vocal relaxation, and greater degrees of nervousness.

Hypothesis 4b posited that outside-observers should judge those with higher interdependence scores as exhibiting less arousal and nervousness cues, negative affect cues, and cognitive load cues under deception rather than under truth. With the exception of the regression performed to test the nervousness criterion variable, the remaining analyses performed to test Hypothesis 5, failed to identify interdependence as a significant predictor of any of the remaining kinesic and vocalic dependent variables included in the analyses. Hence, results of the current analysis failed to support the
proposed relationships between interdependence, truth/deceptive condition, and the kinesic and vocalic dependent variables.

In summary, these findings indicate that while degree of interdependence was not a useful predictor of nonverbal behaviors under deception, degree of independence was found to be a relatively strong predictor of the nonverbal behaviors of kinesic involvement, kinesic pleasantness, nervousness, vocal pleasantness and vocal relaxation. These particular findings regarding the associations between the dependent variables and the predictor of independence sheds new light on the conclusions that can be drawn regarding deceptive behavior when enacted by individuals who score high, versus those who score lower on the dimension of independence. The abovementioned findings are presented in Table 5.
Table 5


<table>
<thead>
<tr>
<th>Dimension</th>
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<th>( p )</th>
<th>Partial ( r )</th>
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<td>Vocal relaxation</td>
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<td>Indep x Deep</td>
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</tbody>
</table>
Research Questions 1 and 2 inquired about the relationships between the interdependent dimension of self-construals, deception detection accuracy, and truth bias. To test the proposed research questions, separate hierarchical multiple regressions were conducted on the dependent variables of detection truth bias and detection accuracy. The main effects of interdependence and relationship type (i.e., strangers vs. friends) were entered into the first block of the model, while the interactions between relationship type: strangers versus friends, and interdependence were entered into the second block. In terms of deceptive detection accuracy, interdependence was found to be a single significant predictor of accuracy at detecting deception, $R = .23$, $R^2 = .06$, $F(1,117) = 6.81$, $p = .01$. More precisely, higher degrees of interdependence were found to be related to lower accuracy at detecting deception, $\beta = .23$, $t = 2.61$, $p < .01$, $partial r = .23$. Thus, the higher one's level of interdependence, the less accurate he or she was at detecting deception, regardless of relationship type.

In terms of truth bias, interdependence was again found to be a single significant predictor of biases toward judging conversational partners as being truthful, $R = .21$, $R^2 = .04$, $F(1,117) = 5.21$, $p < .05$. Coefficient betas revealed that higher levels of interdependence were positively associated with greater biases towards judging others as truthful, $\beta = .21$, $t = 2.28$, $p < .05$, $partial r = .21$. Thus, the greater one's level of interdependence, the more likely he or she was to render judgments of the partner in the direction of truth.

Supplementary analyses were also conducted in order to investigate the predictive ability of the independent dimension of self-construals in determining detection accuracy.
and truth bias. Accordingly, hierarchical multiple regression analyses were performed which the independence variable along with the respective interaction effects. However, the results of the analyses failed to identify independence as being a significant predictor of deception accuracy and truth bias.

In short, results of the analyses performed indicate that the dimension of interdependence was not only a significant predictor of deception detection accuracy, but also a predictor of the tendency toward truth bias. More specifically, higher degrees of interdependence were found to be associated with lower levels of detection accuracy, and positively associated with greater tendencies toward truth bias. Further supplementary analyses were conducted to investigate the usefulness of the independence variable in predicting the dependent variables. However, results of these analyses showed that independence was not a useful predictor in determining detection accuracy, and truth bias.
IV. DISCUSSION

This investigation tested several hypotheses regarding the capacity of the independent and interdependent self-construals to predict both motivations for deceptive communication as well as nonverbal behavioral outcomes that result from engaging in deceptive communication. These hypotheses were tested using a series of regression analyses which examined the linear relationship between each of the self-construals and deceptive communication motivation and behavioral outcomes under conditions of deception. In addition, this study also endeavored to investigate the associations between relationship type (i.e., strangers versus friends) and deception detection accuracy using the independent and interdependent self-construals crossed with relationship type as predictors of accuracy and truth bias. The resultant findings provide preliminary support for the proposed hypotheses and the general notion that deceptive behaviors vary systematically as a result of differing levels of independence and interdependence. In some cases, the results were unanticipated, although they were not entirely contrary to the general ideas proposed in this study. In the following sections, the findings for each of the hypotheses will be reviewed, and the implications that follow are discussed.

Hypothesis 1: The Relationship of the Independent and Interdependent Self-Construals to the Motivations for Deceptive Communication

Based on the literature regarding the characteristics of the independent and interdependent dimensions self-construals, several hypotheses pertaining to the motives for engaging in deceptive communication were proffered. Consistent with the hypotheses, independence was found to be positively related to the motivation to tell the truth, as well as to motivations for protecting the self. Unexpectedly, however, independence was also
found to bear a positive relationship to one's motivation to protect the partner. Results regarding the interdependent dimension of self-construals were also consistent with the hypothesis that degree of interdependence would bear a positive association with one’s motivation to protect the partner. However, an additional finding to emerge from the analysis was that degree of interdependence was also positively related to one’s motivation to protect the self. Hence, while independence emerged as the single best predictor of the motivation to tell the truth, both independence and interdependence were predictors of one’s motivation to protect the self, and one’s motivation to protect the partner. However, it is critical to note that the independence dimension was found to harbor greater predictive power than the interdependence dimension in predicting one’s motivation to protect the self. On the other hand, the interdependence dimension was found to amass greater predictive power than the independence dimension in predicting one’s motivation to protect the partner.

These findings bear a number of implications regarding the sources underlying basic motivations for deception. First, the independent dimension, which focuses primarily on the centrality of the self as the primary factor navigating thought-processes and behavior, was the single most decisive factor of whether or not individuals felt the inclination to tell the truth. Prior research has often pin-pointed the concern for the social unit as one of the central forces motivating one’s decision to abstain from telling the truth. However, results of this investigation revealed that one’s independence factor, or the need to be true to the self, was the more important determinant of whether or not one would elect to engage in telling the truth. The greater individuals felt the need to exert the independence of the self, the more motivated they were to tell the truth. Conversely,
amongst individuals who exhibited less of a need to exert the independence of the self, the less they experienced the need to speak their true opinions, and thus, the lower the motivation to engage in telling the truth. This being the case, one should focus on a prospective deceiver’s degree of independence as the yardstick for assessing the relative importance or triviality of engaging in truthful or deceptive communication to that particular individual.

Furthermore, the results of the present study inform extant research which has revealed the general tendency of human beings towards “truth bias.” While it may be true that those scoring higher on independence may exercise this general motivation for telling the truth, results of the current investigation suggest that the same rule does not apply for those possessing lower levels of independence. It is no secret that a majority of deception research has employed participants from cultures largely characterized by high degrees of independence. Thus, it comes as no surprise that studies employing these samples have detected this tendency towards truth. However, in cases in which the motivation for truth telling must be discerned for members of cultures other than those characterized by high independence, the “truth bias” phenomenon might not be applicable. In fact, it would be dangerous to assume that members of all cultures, or even members within cultures, will exhibit this general motivation toward telling the truth.

Moreover, theories of deceptive communication such as the Motivational Impairment Effect have been founded upon the general notion that increased emotional, cognitive, and psychological arousal are the result of guilt feelings about not telling the truth. However, theories such as these are operating on the basic assumption that all people feel the same basic propensity towards speaking the truth. Results of this
investigation reveal that while this may indeed be true for those who exhibit high degrees of independence, the same cognitive and psychological arousal triggered by feelings of guilt about not telling the truth would not hold true for those of lower independence. Hence, in light of the present findings, theories must be tested employing samples in which participants are characterized by lower degrees of independence in order to appraise the theory's usefulness in predicting the behaviors of individuals who exhibit lower degrees of independence.

Subsequent findings involving both the independent and interdependent self-construals and the motivation to protect the self, and to protect the other, however, add further complexity to the mix. Whereas motivation to tell the truth was determined primarily by one's degree of independence, the motivation to protect the self as well as the motivation to protect the other were determined by both the independent and interdependent self-construals. As such, one's motivation to protect the self was not only determined by one's desire to exert one's own independence and protect the uniqueness of the self, but also by one's preoccupation with the group. While it is easy to comprehend the relationship between independence and one's motivation to protect the self; it is less obvious how one's preoccupation with the group as the central force guiding behavior might be related to one's motivation to protect the self. Research by Singelis and Brown (1995) sheds perspective on the relationship of these factors to one another. In their research, they explain that although those who exhibit higher degrees of interdependence are motivated to behave based on the needs of the group, it does not necessarily preclude them from owning a unique sense of self. Accordingly, although the group is the focal point guiding cognitive processes and behavior, one must appeal the
value of the self as a meaningful and integral part of the social unit. Thus, the need to belong to the group or the social unit is what engenders and fuels the need to protect the self.

Similarly, while it is comprehensible that those possessing higher levels of interdependence would exhibit greater motivations for protecting others, it is less obvious how those valuing the uniqueness of the self would exhibit the same type of motivation for protecting others. However, in some cases, meeting the other's goals, needs, and desires are a necessary requirement for satisfying one's own goals. To explain, to the extent that the highly independent individual takes it upon him or herself to protect the other, the more it confirms the uniqueness of the self as a moral and principled human being. The well-known adage, “treat others as you yourself would expect to be treated” lends credence to this explanation, such that helping others to feel included and respected reaffirms the value of the self in furthering the needs of others.

This somewhat complex relationship between the independent and interdependent construal and one’s motivation to protect the self versus the other can best be summarized as bearing an inextricable relationship to one another. Motivation to protect the self can also be viewed as one’s effort to satisfy the goal of appealing his or her own value to the social unit in order to maintain his or her position in that unit. Likewise, the motivation to protect others can also be seen as one’s effort to further the value of the self by showing respect for the values of others. Notably, it was previously mentioned that the independent self-construal was found to account for more of the variance in predicting motivation to protect the self, whereas the interdependent dimension of self-construals accounted for more of the variance in predicting one’s motivation to protect the other.
This lends greater evidence for the centrality of independence in predicting motivation to protect the self, and interdependence in predicting motivation to protect the other, followed by the secondary goals of the protecting the other, and protecting the self, respectively.

Taken in combination, the results of the current study present a complex pattern of results. High levels of independence were found to be associated with greater motivation to tell the truth. Yet, both high levels of independence were also found to be associated with greater motivation overall to protect the self. Hence, how does the highly independent self reconcile the tug-of-war between one’s motivation to tell the truth and one’s motivation to protect the self? In light of the findings of the present study, it can be concluded that those high in independence will exhibit more of an inclination towards telling the truth. Although, when presented with a situation in which he or she might experience threats to one’s own face, there exists the potential for one to engage in less than truthful communication.

Conversely, lower independence scores were associated with less motivation to tell the truth, but also less motivation overall to protect either the self or the partner. This seemingly paradoxical relationship makes sense when viewed in terms of the three goals of social interaction. According to Canary and Cody (1993), three fundamental goals operate in any social interaction: self-identity goals, relationship goals, and instrumental goals. Both the self-identity and relationship goals are analogous to the motivation to protect the self, and motivation to protect the partner categories. The instrumental goals, category, however, includes achieving desired task outcomes and/or obtaining tangible goods/services. Thus, while individuals scoring low on independence might not have
been willing to stray from telling the truth in service of self-identity or relationship goals, they may have been willing to stray from the truth in order to gain some task or instrumental objectives. Accordingly, where task and instrumental objectives are paramount, individuals scoring lower on independence may be seen to demonstrate less motivation to tell the truth in order to achieve desired task or instrumental outcomes.

Similarly, lower interdependence scores were also found to be associated with less motivation for protecting both the self and the partner. Hence, those scoring lower on interdependence might be viewed as having less of an inclination to engage in deceptive communication in service of those purposes. On the other hand, given the gravity of the motivation to protect the partner and the self for those scoring higher on interdependence, it is reasonable to presume that deception is likely to occur in service of protecting the self, and especially, in efforts of protecting the partner.

In the final analysis, when considering the various configurations of motivations for each of the independent and interdependent self-construals, it can be speculated that behaviors are also likely to vary under deception as a result of those differing motivational configurations. To recapitulate, lower independence scores were found to be associated with lower motivation to tell the truth, but also with lower motivation to protect both the self and the partner. Thus, the possibility exists that individuals with lower independence scores are likely to avoid telling the truth in service of achieving some sort of instrumental or task objectives. Conversely, higher interdependence scores were associated with greater motivation to protect the partner as well as the self. Although interdependence was not a predictor of one’s motivation to tell the truth, there is a high likelihood that the highly interdependent individual may engage in deceptive
communication in efforts of protecting the partner or the self. Similarly, individuals with higher independence scores reported higher motivation to protect the self and the partner. However, they also reported a high motivation for telling the truth. Finally, individuals with lower interdependence scores reported low motivation to protect either the partner or the self.

Altogether, these findings suggest that the different configurations of motivations are likely to map themselves onto different configurations of behavior under deception. Contrary to previous theorizing that behavioral manifestations are the result of guilt feelings due to not telling the truth, the findings of the current investigation suggest that not all individuals exhibit this same motivation towards telling the truth. In the absence of the guilt that is theorized to stem from not telling the truth, behaviors are likely to vary. The findings to be discussed in the following sections regarding self, partner, and observer observations of the behaviors of independent and interdependent deceivers provide further support for these conclusions.

**Hypothesis 2: Interdependence and Self-Perceptions of Behavior When Engaged in Deceptive Communication**

The premise that those scoring higher on interdependence would report experiencing greater comfort and composure under deception rather than truth was supported by the analyses. Consistent with the hypothesis, higher interdependence scores were related to self-perceptions of greater positive affect, fluency, and psychological involvement under truth than under deception. These results provide preliminary evidence that the perceptions associated with engaging in deceptive communication can vary considerably depending on one’s cultural self-identity. While seemingly
counterintuitive at first blush, prior research regarding the differences in the ways in which the self is construed across different cultural backdrops provides evidence that not all members of a culture view deception as a predominantly “negative” phenomenon. In fact, results contained herein suggest that for those scoring higher in interdependence deceptive communication is actually viewed as a tool for the successful maintenance of interpersonal relationships. Not only did highly interdependent individuals experience greater positive affect under deception, but they also experienced being more verbally fluent and more psychologically involved under deception as opposed to truth. As previously argued, those with highly developed interdependent self construals are connected with their social context and the relationships within them (Markus & Kitayama, 1991). As opposed to those with highly independent construals of the self, they are more sensitive to others and emphasize interpersonal relations. Because individuals with dominant interdependent self-construals demonstrate a high concern for the feelings of others and often consider how they will be evaluated by others in the social unit, they carefully monitor and restrict the expression of their true inner feelings if the expression of those feelings might potentially damage the social relationship. Thus, individuals with highly developed interdependent self-construals will tend to withhold the expression of their “true” feelings and emotions, and avoid voicing their true opinions, if doing so might have negative effects on the relationship. Deceptive communication is a highly effective way to avoid confrontation and possible conflict which may be potentially damaging to the other’s face or to the relationship as a whole. By engaging in deceptive communication, the discomfort and uneasiness caused by threats to the other is averted and the other’s face is protected and preserved.
Hence, researchers of deceptive communication must begin to move away from the view that deception is an entirely "negative" phenomenon that is tied to moral issues of right and wrong. The idea that deception is a phenomenon involving issues of good and bad, right and wrong, has permeated much of the theorizing about the behaviors associated with deceptive communication, and as such, provides an incomplete view of the actual range of behaviors that can be seen to accompany deceptive communication. This can be extremely dangerous when attempting to appraise the truthfulness or deceptiveness of a message that is produced by an individual who does not fit the characteristic mold of the highly independent individual.

Thus, a major implication of the current research is that psychological and emotional reactions in response to engaging in deceptive communication may indeed vary by those possessing differing cultural orientations. Hence, if psychological reactions vary, and "leaky" behaviors are theorized to become manifest as a result of experiencing those psychological and emotional reactions, then it follows logically that configurations of behavior are also likely to vary across differing degrees of independent and interdependent self-construal. Results of the current investigation revealed that individuals characterized by high degrees of interdependence are not likely to experience the same type of guilt and negative affect in response to engaging in deceptive communication. Thus, whereas the motivational impairment hypothesis posits that nonverbal "leakage" is the result of negative affect associated with not telling the truth, results of the current investigation indicate that not everyone experiences the same negative affect that is associated with not telling the truth. Instead, those high in interdependence were found to experience positive affect in situations involving deception, rather than in those involving the speaking of truth. If it is the case that these
highly interdependent individuals experience positive affect under deception, one is not likely to witness the "leakage" of nonverbal cues expected to result from the experience of negative affect. Consequently, this may lead to faulty conclusions regarding the deceptiveness of a message that are drawn based on the producer's overt behavior. To illustrate, although the highly interdependent individual may be engaged in deceptive communication, he or she experiences positive affect while deceiving, and hence, does not show behaviors indicative of high arousal or nervousness. This leads to researchers to conclude that the individual is being truthful, when in fact, he or she is not. The current example is a situation in which researchers overlook the deceptiveness of a message. However, the reverse situation is also possible, in which researchers inadvertently judge a message to be deceptive when it is in fact, truthful. In the current experiment, higher scores on interdependence were found to be negatively associated with positive affect under truth. Accordingly then, if the highly interdependent individual were to exhibit low degrees of positive affect, this may lead to the conclusion that he or she is not telling the truth, when in fact, he or she is providing a truthful statement.

Hypothesis 3: Independent and Interdependent Self-Construals and Perceptions of the Truthteller/Deceiver

In terms of partner judgments of deceiver behaviors, higher scores on independence were found to be associated with partner judgments of greater positive affect under conditions of truth, but less positive affect under conditions of deception. Thus, two pertinent associations come to the forefront when attempting to make sense of these findings. First, those with higher independence scores were judged by their partners as exhibiting greater positive affect when telling the truth than those with lower independence scores, and second, those with higher independence scores were judged by
their partners as exhibiting greater positive affect under the truth condition as opposed to the deceptive condition. The finding that those with higher independence scores were perceived to exude greater positive affect under truth rather than deceptive conditions is consonant with prior research which has asserted that cultures characterized by high degrees of individualism are likely to be those which exhibit a greater tendency toward telling the truth. Thus it follows that those characterized by high degrees of independence would demonstrate a greater sense of comfort and composure under conditions in which they speak the truth. Conversely, in situations in which the highly independent individual must engage in any of the various forms of deception, it is logical that the discomfort that stems from engaging in deception is likely to manifest itself in the correspondent nonverbal behaviors. This particular finding is consistent with the work of Zuckerman, DePaulo, and Rosenthal (1981) which has suggested that nonverbal “leakage” is the result of guilt-feelings about having engaged in a deceptive act. However, the idea that is most noteworthy of attention concerns the degree to which one is characterized as being independent. To the extent that one is characterized as being highly independent, one is likely to witness positive affect under truth, and conversely, less positive affect under deception.

Furthermore, higher scores on interdependence were related to partner perceptions of greater nervousness under deception than under truth. Thus, higher interdependence scores were associated with judgments of greater nervousness, while lower interdependence scores were associated with judgments of less nervousness. Furthermore, higher interdependence scores were found to be related to judgments of greater nervousness under deceptive conditions than under truth. While the latter results involving interdependence and partner perceptions of nervousness are contrary to the
hypothesis, these findings make sense in view of the findings regarding the motivations for deceptive communication. To be specific, higher levels of interdependence were found to be related to higher levels of motivation to protect both the partner and the self. These higher levels of motivations could have caused highly interdependent deceivers to exhibit greater signs of nervousness. Conversely, lower levels of interdependence were found to be related to lower levels of motivation to protect both the partner and the self. These lower levels of motivation, then, might explain why deceivers showed less nervousness when deceiving.

However, an inspection of the means of both independents and interdependents on the dependent variable of nervousness revealed that while those scoring higher on interdependence were found to exhibit significantly more nervousness than those scoring lower on independence, the overall levels of nervousness exhibited by both groups was indeed low. In particular, the mean score on nervousness for those scoring higher on interdependence in the deceptive condition was a 2 on the 1 to 7 scale measuring nervousness. This mean rating remains indicative of fairly low degrees of nervousness. Thus while the groups were found to significantly differ in terms of the degree of nervousness displayed, overall levels of nervousness were infinitesimal. Hence, results are not entirely inconsistent with the hypothesis.

**Hypothesis 4: Observer Judgments of the Behaviors of Truthtellers/Deceivers**

Interestingly, observer judgments of deceiver behaviors revealed that the behaviors could be reliably discerned based on the dimension of independence. Higher levels of independence were associated with less kinesic involvement and pleasantness, more nervousness in the direction of decreased bodily movement, less vocal pleasantness, and less vocal relaxation under conditions of deception. However, the more interesting
relationships worthy of consideration are the one’s involving deceivers possessing lower degrees of independence. Viewed from this perspective, lower scores on independence were associated with greater kinesic involvement and pleasantness, less nervousness (in the direction of behaviorally rigidity), more vocal pleasantness, and more vocal relaxation under deception. These findings introduce a whole new dimension to the study of deceptive communication. Whereas it has been previously concluded that deceivers in general, as opposed to truth tellers, would display less kinesic pleasantness and involvement, and less vocal pleasantness and relaxation when deceiving as opposed to when telling the truth, the findings of the current investigation reveal that this pattern would only hold true for those with higher independence scores. It was previously noted that a majority of the investigations involving deceptive communication have employed samples characterized largely by high independence. Hence, it is logical that these studies would yield the behavioral pattern characteristic of those scoring high in independence. However, given samples in which individuals are characterized by low degrees of independence, the opposite pattern of results was found to emerge. Thus, if one were to apply only the findings of prior research in attempting to judge the deceptiveness of a message to populations which are characterized by low degrees of independence, one would end up with a dangerous pattern of faulty conclusions. Henceforth, it is absolutely essential to consider the cultural influences that can be brought to bear on individual cognition, and to consider how those cognitions can entirely alter the effects of deceptive communication on discrete patterns of behavior.
Research Questions 1 & 2: Interdependence, Relational Familiarity, Truth Bias, and Deception Detection

Thus far, interdependence has been shown to be the best predictor of self-perceptions of deceptive behavior, while independence emerged as the predominant predictor of partner and observer perceptions of behaviors under deception. When it comes to accuracy at detecting deception, however, results of the current investigation reveal that interdependence was the better predictor of deception detection accuracy. Those with high interdependence scores were found to be less accurate than those with lower interdependence scores. This finding is not surprising given the highly interdependent individual’s focus on the group and social relationships. It is comprehensible that individuals with high interdependence scores would be more socially invested in their relationships, and as such, would be hesitant to put those relationships in jeopardy. Suspicion that a member of one’s social unit had spoken something other than the truth would cast doubt upon that particular relationship, and could possibly lead to its dissolution. McComack and Parks’ (1986) notion of a “truth bias” can account for the difficulty that people experience in detecting deception from a relational partner. Because of the relational costs associated with accusing a partner of deception, partners involved in intimate relationships seem to operate on an assumption of truth. Two studies provide some support for the existence of the truth bias (McComack & Parks, 1986; Levine & McComack, 1992). In both studies, a couple’s level of relationship development was positively associated with the existence of a truth bias. Truth bias, in turn, was negatively associated with detection accuracy.

In a related vein, interdependence was also found to bear a significant positive association with the bias toward judging others as truthful. As previously mentioned,
highly interdependent individuals place a high emphasis on social relationships, and as such, are unlikely to want to jeopardize those relationships. As with much of the research that has been conducted involving deception among strangers versus friends, truth bias seemed to increase with relational familiarity. The explanation provided involved valuing the relationship such that friends did not want to believe that they were being lied to as it might have put the relationship in jeopardy. The same line of reasoning can be said to apply in the case of those scoring high in interdependence. Given the high premium of highly interdependent individuals on social relationships, it is unlikely that they would want to invite trouble by presuming that their partners were being less than truthful. This would be a viable explanation for why they tended to rate their partners as being more truthful than they actually were. Those scoring lower on interdependence, however, showed a negative association with truth-bias, indicating that those who were less invested in maintaining their social relationships might have been better able to assess the absolute truth value in their partners' messages.

Implications for Nonverbal and Deceptive Communication Research

The findings of this particular study bear a number of important implications for the future of deceptive communication research and the ways in which scholars of deceptive communication approach the study of nonverbal behaviors linked to communicating deceptively. Prior research by Zuckerman, DePaulo, and Rosenthal (1981) has theorized that the nonverbal behaviors that become manifest as a result of communicating deceptively (i.e., nonverbal “leakage”) can be attributed to four primary factors: arousal, negative affect, cognitive effort, and attempted control. Results of this particular study, however, cast a reasonable shadow of doubt on the extent to which these factors are applicable when applied in cultural settings which differ from the Euro-
American backdrop. Firstly, the arousal factor maintains that nonverbal behavioral "leakage" is the result of the arousal one experiences from engaging in deceptive communication. However, it is plagued with the assumption that arousal will invariably be linked to communicating deceptively. Clearly, the results of this research illustrate that those scoring higher on the dimension of interdependence reported experiencing greater comfort and composure under conditions of deception rather than under conditions involving the speaking of truth. Particularly, it was discovered that higher scores on interdependence were related to self-perceptions of greater positive affect, greater fluency, and greater involvement under deceptive conditions than under truth. On the other hand, being in the truth condition was associated with self-judgments of being less positive affectively, less fluent, and less involved. These findings challenge the prior notion that arousal will invariably accompany communication that departs from the truth.

Furthermore, considerable danger lies in assuming that the arousal that one experiences is linked to deceptive communication. It is clear from this research that those scoring higher on the interdependence dimension reported being less comfortable and less composed in the truth condition. Counter to prior theorizing, arousal is likely to be linked to having to tell the truth, rather than to having communicated deceptively. Thus, if one experiences arousal as a result of engaging in truthful communication and those nonverbal behaviors mirror those that result from engaging in deceptive communication, one may lead to the faulty conclusion that deceptive communication is occurring when indeed it is not. Henceforth, it is extremely critical to take into account the cultural self-identity of the individual before rendering an assessment of the veridicality or deceptiveness of a message. As is shown by this research, depending on one's independent/interdependent configuration of cultural self-identity, some may experience
arousal as a result of telling a lie, but others may experience arousal as a result of speaking the truth. Precisely how these different situations manifest themselves in different configurations of nonverbal behavior has yet to be investigated. However, as a starting point, it is extremely crucial to take the dimensions of cultural self-identity seriously in the future of conducting deception research involving the effects of physiological arousal on manifestations of nonverbal behavior.

The next factor theorized to affect the nonverbal behaviors associated with deceptive communication is negative affect. According to Zuckerman and colleagues (1981), nonverbal behaviors are thought to result from the guilt that is associated with not telling the truth. While this may hold true when applied to members of Euro-American cultural backdrops, results of this study have shown that this may not necessarily be the case for those with high interdependence scores. To the contrary, higher scores on interdependence were found to be associated with self-reports of greater positive affect when deceiving, and less positive affect when telling the truth. These findings run counter to previous thinking which has maintained that nonverbal behaviors are often the result of guilt about communicating deceptively. While not directly tested in this particular study, the results contained herein hint at the notion that guilt may just as well be the result of engaging in truthful communication in cases where deception may have better served one’s purposes. Again, taking into account the independent and interdependent configuration of a person’s cultural self-identity will enable one to render a more informed judgment as to whether a deceptive act may or may not be occurring.

Similarly, prior researchers have theorized that engaging in deceptive communication is cognitively taxing, and as a result, deceivers are likely to engage in a host of nonverbal behaviors that indicate substantial cognitive load (see Zuckerman,
DePaulo, & Rosenthal, 1981; Zuckerman & Driver, 1985, for a review). However, results of this study point to the notion that those with higher interdependence scores may exhibit the same types of cognitive effort when attempting to carefully plan out how to state the truth without unduly damaging or severely jeopardizing the relationship. Certainly, there are cases in which one faces obligations to tell the truth even when deceptive communication may well have been the means to a happy end. Given the findings of this research, it is foreseeable that individuals with certain configurations of cultural self-identity are likely to lend themselves more than others to exhibiting the cues indicative of cognitive effort.

Finally, attempted control has often been pinpointed as a factor affecting the nonverbal behavioral outcomes associated with communicating deceptively. It has been theorized that deceivers who are well aware that they are obfuscating are likely to attempt to control “leaky” behaviors so as to appear truthful. This attempted control has been theorized to lend itself to increased behavioral rigidity in highly-controllable areas of the body. Results of this research, however, suggest that behavioral rigidity under deceptive conditions can systematically vary according to one’s cultural self-identity. Higher degrees of independence, for example, were found to bear a positive relationship to greater behavioral rigidity under deception rather than under truth. However, lower degrees of independence, then, can be seen to manifest itself in less behavioral rigidity under conditions of deception, and correspondingly, greater rigidity under truth.

In the final analysis, it is pertinent for scholars of deceptive communication to begin to take cultural dimensions into account when theorizing about the nonverbal behaviors linked to deceptive communication. The current mono-cultural view of deceptive communication phenomena only lends itself to half of the picture of the entire
range of deceptive cues that may be associated with engaging in deceptive versus truthful communication. The current study represents one of the first attempts to incorporate cultural dimensions (via the independent and interdependent dimensions of self-construals) into theorizing about deceptive communication phenomena.

**Implications for Cross-Cultural Communication**

The findings of the current research testify to the utility of examining cultural differences by means of the independent and interdependent dimensions of self-construal. When subject nationality was used as the main variable distinguishing culture, distinct within-cultural differences failed to be detected. However, depending on the outcome variable of interest, both the independent and interdependent dimensions were equally useful in predicting the dependent measures. In terms of self-perceptions of behavior, the interdependent dimension was useful in predicting one's own assessment of his or her behavior under truthtelling versus deception. However, in terms of outside-observer judgments of behavior, the independence dimension emerged as the more useful predictor of actual nonverbal behavioral outcomes.

The findings of the current investigation also bear a range of important implications for cross-cultural communication. Misconceptions regarding the exact shape and form of deceptive behavior have often led to such well-known stereotypes as the "unscrupulous Japanese" or the "rude American." Notwithstanding country of nationality, a highly interdependent individual facing obligations to tell the truth may be prematurely interpreted as deceitful merely because he or she appears to struggle with how to appropriately formulate the truth. Likewise, the individual scoring low on independence may also be seen as uninvolved, detached, and less pleasant both kinesically and vocally, despite the fact that he or she is in fact issuing a true statement. Without taking cultural
dimensions into account, one is likely to render inaccurate assessments about daily interpersonal behavior, and relationships face the possibility of being prematurely abandoned.

Furthermore, the findings regarding the independent/interdependent dimensions of self-construals and their effects on deceptive communication motivation sheds new understanding on the reasons why individuals may prefer deceptive communication over truth. In the current study, highly interdependent individuals showed a marked inclination to want to protect the other or to save the other’s “face.” Thus, they may engage in deceptive communication if it means preserving significant relationships with others. However, this can often be a crude source of misunderstanding. To illustrate, a researcher goes into a classroom in a foreign country in order to recruit subjects for an experimental study. The researcher receives many sign-ups of students who indicate that they are willing to participate in the research study. However, when each student’s appointment time to complete the study arrives, more than half of the students fail to show up at the time that they had indicated. Normally, one might jump to the hasty conclusion that the students were merely irresponsible and could not honor their promises. However, equipped with the knowledge of why members of certain cultural orientations may choose to engage in deceptive behaviors, the researcher can understand the situation from a cultural point of view. More precisely, although students were unavailable to participate in the study due to the need to study for final exams, they proceeded to sign up for the study in order to protect the face needs of the researcher. Had the students not signed up for the study, the students may have felt as if they let the researcher down. Thus, an understanding of the ways in which cultural orientations can affect motivations for
engaging in deceptive communication can serve to prevent a host of misunderstanding and eliminate the engendering and exacerbation of inaccurate stereotypes.

Limitations and Directions for Future Research

Although results of this investigation were mainly consistent with the hypotheses under consideration, limitations of the current experiment merit attention. It was noted earlier that the mean scores on interdependence for the Japanese subjects was found to be lower than the mean scores of American subjects. This finding runs contrary to previous research which has generally characterized the Japanese culture as being one endorsing higher degrees of interdependence. Several explanations are proffered which address these findings. First, participants from the Japanese sample were primarily college students between the ages of 18-25 years old. In order to attend college, many of these students have moved out of their parents' homes and are living on their own. As such, this type of lifestyle may be one that endorses less interdependence and rather, more independence. Hence, their attitudes about independence and interdependence may be affected by their current situational status as a college student. This problem presents possible limits to the generalizability of findings. Specifically, the findings of this investigation represent the attitudes of the young generation of Japanese college-attending students. Furthermore, data for this investigation were collected on a well-known college campus in the largest metropolitan area of Japan, where attitudes tend to be more westernized than in other rural areas which make up a large part of Japan. Thus, the lack of more clear-cut findings regarding the cross-cultural differences in nonverbal deceptive behaviors is likely to be a product of the lack of variability in interdependence between the American sample participants and the Japanese sample participants. Whereas very little variation was found to exist between the American and Japanese college
student sample on the interdependence dimension, greater variation might be found when sampling from other rural areas of Japan, using participants other than college students. For the moment, while the findings of the current investigation might be said to represent the new generation of Japanese thought, much more research needs to be done which examines the effects of the variables employing a wider age-range of participants from various urban and rural areas.

A further limitation of the current study is the small sample size employed in the experiment. Notably, conducting cross-cultural experimental research involving the use of human participants is highly time-, labor- as well as cost-intensive. Furthermore, an interesting cultural factor presented an additional complication. Whereas in the U.S. college classroom, professors may often introduce “extra credit” as compensation for participating in research projects, in Japan, the concept of “extra credit” is relatively unfamiliar. Thus, while obtaining participants from the U.S. population can be done with relative ease, enticing participants from the Japanese population to participate in the absence of any form of desirable compensation can pose somewhat of a challenge. A larger sample size would allow for greater statistical power to detect differences in the population, and as such, might have allowed for further findings to approach conventional levels of significance.

Relatedly, an additional cultural factor might have encouraged participation from a select sample of students among the Japanese population, rather than from a population of randomly selected participants. Particularly, relative to the United States, this type of social-psychological experimental research is a relatively new concept in the Japanese culture. As such, students are hesitant to partake in a project in which they have a great
deal of anxiety and uncertainty about. For a majority of them, this was the first time that they were faced with the opportunity to participate in social psychological lab research. Thus, the students who did volunteer to participate were often those who were interested in international affairs and were eager to learn about cross-cultural practices dissimilar from their own. This sort of biased sample might have also accounted for why there were no significant differences between the American and Japanese samples in terms of the interdependence dimension.

In conducting cross-cultural research, there is always the possibility of differences in the ways in which members of differing cultural orientations conceptualize various constructs. The construct of 'pleasantness' and/or 'friendliness', for example, have the potential to be perceived differently by members of differing cultural backgrounds. As such, ratings of pleasantness by members of the American culture versus the Japanese culture might have been confounded by differences in perceptions of the construct of what it means to be 'pleasant' or 'friendly.' In cultures characterized by high degrees of interdependence, an individual might be seen as pleasant insofar as he or she is able to suppress his or her true opinions, feelings, and emotions. However, in cultures that are characterized by higher degrees of independence, an individual might be perceived as pleasant and/or friendly, insofar as he or she is mainly honest and truthful. In order to partition these perceptual differences in conceptualization of the constructs from actual between-culture differences in perceptions of nonverbal behavior, a follow-up study is currently underway which compares the perceptions made by American outside-observers and Japanese outside-observers of both American and Japanese deceivers.
In addition, cultures may vary in terms of the degree of gender equality exercised by males and females in the culture. These gender inequalities may map themselves onto the nonverbal behaviors displayed by males versus females. Japanese culture, for example, has typically been characterized as one high in masculinity. As such, males are often seen as the power base, and as being more assertive and aggressive. Women are viewed as being more relationship-oriented, and as such, less aggressive in their relationships with others. Furthermore, there is a clear cut division between the roles of male and female which may possibly affect the nonverbal behavioral outcomes associated with engaging in deceptive communication. Future research should be conducted to discern if differences among males versus females in deceptive communicative behaviors indeed exist. Separation of gender effects may yield clearer distinctions in the patterns of nonverbal behavior associated with deceptive communication.
V. CONCLUSION

This investigation represents one of the first attempts to examine cross-cultural variations in the nonverbal behavioral outcomes associated with engaging in deceptive communication, using the independent and interdependent dimensions of self-construal. Specifically, this study examined one's own perceptions of the self when engaged in deceptive communication, participant-partner perceptions of the deceiver, and outside-observer perceptions of the individual engaged in deceptive communication. This study is also one of the first to investigate the relationships between the variable of interdependence and truth-bias and detection accuracy. Where members of different cultures are of concern, findings from this investigation implicate the need to examine the nonverbal behavioral indices associated with deceptive communication through a cross-cultural lens. More exactly, separate templates for examining deceptive communication behavioral trends need to be implemented when examining the nonverbal behaviors of members of cultures other than those characterized by high degrees of independence.

Thus far, research on the behavioral cues associated with deceptive communication has been conducted primarily on samples characterized by high degrees of independence. Results of this investigation are consistent with the findings of prior research, primarily for those scoring high on independence. However, in cases where members of a culture are generally characterized by lower degrees of independence, (e.g., the Japanese sample was found to score significantly lower on independence than the American sample), the reverse trend in nonverbal behavioral displays was often found to occur. For example, partners perceived those scoring higher on independence as exhibiting less positive affect under deception, and outside-observers perceived those scoring higher on independence as exhibiting less kinesic pleasantness, increased
nervousness as characterized by higher levels of behavioral rigidity, less vocal pleasantness, and less vocal relaxation. However, results of the regression analyses revealed that the opposite trend would apply for those characterized by lower degrees of independence. Particularly, those scoring lower on independence were found to exhibit greater positive affect, greater kinesic pleasantness, less nervousness (in the form of decreased bodily movement), and more vocal pleasantness and relaxation when engaged in deceptive communication.

Such findings strongly suggest the need for building computer and system prototypes that have the capacity to adapt and apply different cultural templates for classifying deceptive versus truthful nonverbal behavioral displays. Without such built-in flexibility, the utility of computer prototypes to accurately identify deceptive communication will undoubtedly be compromised, and the security of those involved will be seriously jeopardized. Currently, there is sufficient data to begin the programming of computer devices to flag deceptive messages produced by those characterized by high degrees of independence. The next feasible step is to begin to build a template for those characterized by lower degrees of independence. The results of this investigation provide the first step in that direction. Further research is needed to widen the bandwidth on the range of nonverbal behaviors that are typically associated with deceptive communication, and to replicate and verify the findings of the current research.

In light of recent events involving the conflict in the Middle East, the need for technological communication devices that allow for the accurate identification of deceptive cues has never been more critical. Currently, it is no secret that the U.S. government has allocated billions of dollars in funding to agencies and institutions specializing in the development of computerized software designed with the capacity to
signal deceptive behaviors as they occur in "real" time. The caveat, however, is that in designing this type of software, it becomes extremely critical to accurately program software to be able to identify these "deceptive" cues. Faulty and misinformed programming will invariably lead to misinformed judgments regarding the relative truthfulness or deceptiveness of a message. Thus far, a majority of the research that has been conducted to date identifying the behavioral cues associated with deceptive messages has been performed employing samples primarily from the U.S.. Hence, while researchers have made extensive strides in the area of identifying the behavioral cues associated with the production of deceptive messages, the ethological generalizability of these findings is largely confined to members of the U.S. culture. This becomes extremely dangerous when considering the notion that where national security is a concern, conflict often involves the need to reliably discern the deceptiveness of messages produced by leaders and/or militant groups of foreign countries.

Furthermore, this investigation undertook to examine the effects of cultural orientation on the behavioral cues exhibited by members of differing cultural backdrops in order to better inform management information systems engineers regarding the ways in which cultural factors may exert an impact on the overt manifestations of behavior associated with the production of deceptive messages. A more detailed and refined understanding of how deceptive behaviors vary across cultures will allow for more detailed and precise programming of computerized software designed to discern the relative deceptiveness of a message produced by members of other cultures. The result of a more accurately programmed system can range from being able to reliably detect real
and imminent dangers to national security, to saving the lives of innocent civilians and protecting the health and welfare of the general public.
APPENDIX A:
INTERVIEW QUESTIONS

1. Where were you born and raised?
2. What is one event from your childhood that you remember most vividly?
3. Tell me about your current or past jobs.
4. Please tell me about the kinds of people you dislike or hate.
5. What do you think I can do to give a better impression of myself to others?
6. What do you think are your most positive characteristics?
7. Have you ever thrown things (like cans, cigarettes, etc.) on the street?
8. Imagine that I borrowed a sizable amount of money from you. Although I promised you that I would return the money by a certain date, the date has already passed and I seem to forget the fact that I borrowed the money. What, if anything, would you say to me?
9. Have you ever spoken ill of your friend behind his/her back? Why didn’t you talk directly to him/her?
10. Have you ever been envious of your best friend’s/sibling’s performance in school or in the work place? Can you tell me about that situation?
11. If I told you that I believe that taking care of myself is more important than taking care of my family, what would you think about me? Why?
12. If I told you that I had a fairly big secret that I haven’t told my significant other (e.g., spouse, relational partner, parent(s), best friend, sibling(s), and I haven’t revealed that secret because I am not sure what effects it would have on the relationship, what would you think about me?
APPENDIX B:
EXPERIMENTAL PROTOCOL

1. When participants arrive, have each person sign two copies of the consent form. One is for the record, and the other copy is for participants to keep.

   State the following:

   "We are interested in observing different styles of communication among members of different cultures. So, you will both be participating in an interview in which one of you will serve as the interviewer and the other will serve as the interviewee. For today's discussion, (Name), you will be Person A, the interviewee (that is, you will be the person being interviewed), and (Name), you will be Person B, the interviewer. Before starting the interview, I need both of you to fill out some pre-interview questionnaires. Because we do not want you to influence one another's answers, I would like you, Person B, to come with me to complete your questionnaires in the next room. Person A, you can have a seat and complete your questionnaires here. Do you have any questions?"

2. Take Person B into the back room and have Person B complete the pre-interaction questionnaires.

3. Once both Person A and Person B are finished with the questionnaires, give them the list of interview questions that they will be discussing in the interview. Whomever finishes the questionnaires first, give them the interview questions and explain that these are the questions that they will be discussing in the interview.
INSTRUCTIONS FOR PERSON A:

Truth Condition ONLY:

"When we have conducted similar experiments in the past, we have often found that people tend to misrepresent their true feelings, opinions, or beliefs in actual conversation. However, today, in answering the questions asked by your partner, we would like you to aim towards being 100% truthful. To do this, your answers should be an accurate reflection of your true thoughts, opinions, feelings, and beliefs. Again, we want you to be 100% honest in providing your answers in the upcoming interview. So, you should be as truthful as possible in giving your answers to ALL questions. Your partner does NOT know that you have received these instructions, so please do not tell your partner that you have been given these explicit instructions. One of our goals is to determine if partners can recognize truthful answers. Is everything clear? Do you have any questions?"

Deception Condition ONLY:

"When we have conducted similar experiments in the past, we have often found that people tend to misrepresent their true feelings, opinions, or beliefs in actual conversation. There are several reasons why one might not be completely truthful in a conversation. For example, you might not tell the truth in order to present a positive image of yourself. Or, you might refrain from speaking the truth in order to protect the other person’s feelings. Yet another reason to not tell the truth is to avoid feeling awkward in the conversation. These are all reasons why you might decide not to be completely honest with your partner. So, today, we would like you to practice your
skills in not telling the truth in the upcoming interview. Particularly, we would like you to “not tell the truth” starting question four. For questions one through three, however, please provide truthful answers to the questions. From questions four, please do not forget to begin to “not tell the truth.” Your partner does NOT know that you have received these instructions, so please do not tell your partner that you have been given these explicit instructions. One of our goals is to determine if partners can recognize answers that fall short of the truth. So, please remember, we would like you to be completely UNTRUEFUL on all of the questions, starting from question four. Is everything clear? Do you have any questions?”

INSTRUCTIONS FOR PERSON B:

“Person B, as the interviewer, you have several responsibilities. First, please read through each question thoroughly so that you are familiar with the contents of each question. If there are any questions you are unclear about, please ask me before the start of the interview. Second, please ask the questions in their proper order. Do not skip questions or change the order. However, if you find that you have accidentally missed asking a question, please go back and address it after you have finished discussing the current question. Finally, it is your job as the interviewer to keep the conversation moving forward. To do this, we would like you to ask follow-up questions to the answers that your partner provides in the interview until you feel you have fully and thoroughly understood your partner’s thoughts and viewpoints. If there is anything your partner says that you are unclear about, it is your task to ask further questions until you are clear on what your partner is saying. Simple ‘yes’ or ‘no’
answers given by your partner are not sufficient for us to examine communication styles, so please keep that in mind, and strive to get your partner to communicate. Do you have any questions?"

4. Allow five minutes for dyad members to review the questions. Then, collect the interview question sheet back from Person A. Bring Person A back into the room to join Person B.

State the following:

"We will now start the interview. In order to examine communication styles more closely, we would like to videotape this interview. Is it all right to videotape this interview?" [if subjects give consent, proceed with the following:] You will have 13-15 minutes to complete the interview. Once I leave the room, you and your partner should introduce yourselves (by first names only) and start discussing the items. If you are finished before the time is up, please say "we're finished" and I will come in and give you further instructions. If you are not finished discussing the items after 15 minutes, I will abruptly stop the interview and give you further instructions."

5. Start video-recorder, then, leave the room.

6. After fifteen minutes have elapsed, return to the room and stop the discussion.

Separate Person A and Person B once again and give them their final post-test measures.

7. When they are done with the questionnaires, give participants the Debriefing form and have them sign and date it. Debrief them on the study and ask for consent to use their videotape for coding and/or instructional purposes. If they consent to use of their
videotape for the aforementioned purposes, have them mark the debriefing form in the appropriate area to give their consent. Give one copy to the subject, and keep one copy for our records. Remind the participants that they should not discuss the study with others because the study is currently in progress and doing so might affect the results. Finally, thank the subjects for their time and for their participation in the study.
APPENDIX C:
ITEMS MEASURING THE INDEPENDENT AND INTERDEPENDENT
DIMENSIONS OF SELF-CONSTRUALS

Independent items.
1. I should be judged by my own merit.
2. I voice my opinions in group discussions.
3. My personal identity, independent of others, is very important to me.
4. I prefer to be self-reliant rather than dependent on others.
5. I act as a unique person, separate from others.
6. I don’t like depending on others.
7. I take responsibility for my own actions.
8. It is important for me to act as an independent person.
9. I have an opinion about most things: I know what I like and I know what I don’t like.
10. I enjoy being unique and different from others.
11. I don’t change my opinions in conformity with those of the majority.
12. Speaking up in a work/task group is not a problem for me.
13. Having a lively imagination is important to me.
14. Understanding my self is a major goal in my life.
15. I enjoy being admired for my unique abilities.
Interdependent items.

1. I feel uncomfortable disagreeing with my group.

2. I conceal my negative emotions so I won't cause unhappiness among the members of my group.

3. My relationships with those in my group are more important than my personal accomplishments.

4. My happiness depends on the happiness of those in my group.

5. I often consider how I can be helpful to specific others in my group.

6. I am careful to maintain harmony in my group.

7. When with my group, I watch my words so I won't offend anyone.

8. I would sacrifice my self-interest for the benefit of my group.

9. I try to meet the demands of my group, even if it means controlling my own desires.

10. It is important to consult close friends and get their ideas before making decisions.

11. I should take into consideration my parents’ advice when making education and career plans.

12. I act as fellow group members prefer I act.

13. The security of being an accepted member of a group is very important to me.

14. If my brother or sister fails, I feel responsible.

Note: Taken from Leung and Kim (1997).
APPENDIX D:

ITEMS MEASURING DECEPTIVE COMMUNICATION MOTIVATION

Motivation to tell the truth.
1. be as honest as possible?
2. give your true opinions?
3. be very direct in communicating your thoughts?
4. express your true feelings?

Motivation to protect the self.
5. avoid embarrassing yourself?
6. make a good impression on your partner?
7. project a positive self-image?
8. be liked by your partner?

Motivation to protect the partner or the relationship.
9. avoid hurting your partner’s feelings?
10. protect your partner’s self image?
11. avoid embarrassing your partner?
12. help your partner protect his/her positive self-image?
13. avoid tension and conflict in the conversation?

Note: The above questions follow from the statement, “How important is it to YOU to:” and will be rated on a scale of 0 (Not at all important to you) to 10 (Very important to you).
APPENDIX E:

ITEMS MEASURING SELF AND PARTNER RATINGS OF BEHAVIOR

_Nervousness._

1. appeared nervous during the conversation.
2. was relaxed and at ease during the conversation.
3. used a lot of nervous self-touching during the conversation.
4. used a lot of nervous laughter.
5. displayed a lot of rocking, shifting, and/or restless behavior during the conversation.
6. appeared to be fidgety and uncomfortable during the conversation.

_Positive affect._

7. tried to make a good impression on my partner.
8. made lots of eye contact during the conversation.
9. had a pleasant vocal quality during the conversation.
10. avoided making eye contact with my partner during the conversation.
11. used pleasant facial expressions during the conversation.

_Fluency_

12. was fluent in the conversation.
13. kept the conversation flowing smoothly.

_Hesitancy_

14. took a long time to respond to my partner's questions.
15. used a lot of pauses during the conversation.
Psychological involvement.

16. was highly involved in the conversation.
17. made our conversation seem intimate.
18. was interested in the conversation.
19. seemed cold and detached during the conversation.
20. created a sense of distance between us.

Behavioral Involvement.

21. leaned forward a lot during the conversation.
22. appeared stiff during the conversation.
23. was expressive and animated during the conversation.
24. smiled frequently during the conversation.
25. gestured frequently throughout the conversation.

Note. Items measuring Self-Ratings of Behavior were prefixed with, “I...” Items measuring Partner Ratings of Behavior were prefixed with, “My partner...”
APPENDIX F:
ITEMS USED TO CODE KINESIC BEHAVIORS

_Involvement._
1. Directness of eye contact
2. Leaning
3. Frequency of gestures
4. Involvement

_Pleasantness._
5. Facial pleasantness
6. Pleasantness

_Nervousness (Increased body movement)._  
7. Frequency of shifting, rocking, twisting
8. Frequency of self-adaptors
9. Frequency of random foot and leg movement
10. Frequency of random hand and arm movement

_Nervousness (Decreased body movement)_
11. Behaviorally stiff/rigid
12. Tense
13. Relaxed
14. Nervous

_Note:_ Rankings were made on 1 (not at all) to 7 (very much) Likert-scales, with the exception of item #2 (leaning) which was ranked on a 1 (all back) to 7 (all forward) scale.
APPENDIX G:
ITEMS USED TO CODE VOCALIC BEHAVIORS

*Items Used to Code Vocalic Behaviors*

*Fluency.*

1. Long response latencies
2. Frequency of speech errors/hesitations
3. Frequency of filled pauses
4. Fluent

*Vocal involvement.*

5. Involved
6. Confident

*Vocal pleasantness.*

7. Pleasant
8. Cold
9. Friendly

*Nervousness* 

10. Relaxed
11. Nervous
インタビュークエスチョン

1. どちらの（御）出身ですか？

2. あなたの子供時代の一番鮮明に記憶に残っている出来事は何ですか？

3. あなたの今の仕事、または過去にしていた仕事について教えてください。

4. あなたの嫌いな人のタイプを教えてください。

5. 自分の印象をもっとよくしたいのですが、どうすればいいと思いますか？

6. あなたの一番の長所はどこですか？

7. あなたは（空き缶や吸殻などの）ポイ捨てをしたことがありますか？

8. 私が、あなたからかなりの額のお金を借りたとしてください。約束の期限が過ぎてもまだ私がお金を返しておらず、それどころか私はお金を借りたことをすら忘れていているように見えます。

   私のことをどう思いますか？

9. 本人のいないところで友人の悪口を言ったことがありますか？なぜ直接本人に言わなかったのですか？

10. 親友や兄弟の、学校・職場での成績・業績を始ましく思ったことがありますか？

    あったら、少し詳しく教えてください。

11. もし私が、「家族のことより自分のことを一番に心配すべきだ」、と思っているとしたら、

    あなたは私のことをどう思いますか？ ゆっくり考えてから答えてください。

12. 実は私には、親しい間柄の人（夫・妻、彼・彼女、親、親友、または兄弟）に隠している大きな秘密があるのですが、正直に話すとその人との関係はどうなってしまうか自信が持てないので、ずっと秘密に隠しています。あなたは私のことをどう思いますか？
APPENDIX I:

EXPERIMENTAL PROTOCOL (JAPANESE VERSION)

1. When participants arrive, have each person sign two copies of the consent form.
   One is for the record, and the other copy is for participants to keep.
   
   State the following:
   「私は個人的なトピックについて日本人とアメリカ人の違いを研究しています。それで、
今日、それについて、インタビューをしてもらいます。そのために______はインタビュー
する人になってもらい、______はインタビューされる人になってもらいます。インタビュー
を始める前にアンケートに答えてもらいたいと思っています。インタビューされる人、外で、
アンケートに答えてください。インタビューする人、ここでしてください。質問がありましたら、
必ず、聞いてください。」

2. Take Person B into the back room and have Person B complete the pre-interaction
   questionnaires.

3. Once both Person A and Person B are finished with the questionnaires, give them
   the list of interview questions that they will be discussing in the interview.
   Whomever finishes the questionnaires first, give them the interview questions and
   explain that these are the questions that they will be discussing in the interview.

INSTRUCTIONS FOR PERSON A:

Truth Condition ONLY:
「私たちは実際の会話の中でこれらの質問に答える時、人は本当の感情や行動を正確に伝えない
傾向があるのでないと考えています。しかし、今日のインタビューの間、質問に答えると
きは絶対に正直に答えてください。時には、人を傷つけたり本音を言わない時がありますけど、
このインタビューは絶対に本音で答えてください。時には本音を言わない方がいいときもありま
Deception Condition ONLY:

「私たちは実際の会話の中でこれらの質問に答える時は、人は本当の感情や行動を正確に伝えない傾向があるのではないかと着目しています。時には本音を言わない方がいい時もあります。例えば、パートナーのイメージを守ったり自分自身を良く見せる為に本当のことを言いません。ということで、今日、インタビューの間、質問に答える時は絶対に正直に答えないでください。特に、四番から最後まで、絶対に正直に答えないで下さい。しかし、一番から三番まで普通に答えて下さい。このインタビューでは正直ではない答えを使ってもらわないで困ります。また、あなたのパートナーは真実で答えようとしているそのようなあなたの姿勢については何も知らされていないということでも覚えておいてください。何か質問がありますか？」

INSTRUCTIONS FOR PERSON B:

「３つ大切なことを言わないといけない。 （1）まず、この内容をよく理解するために一つずつよく読んでください。 （2）次に、順番に質問を尋ねて下さい。 （3）最後に、このインタビューをもっと普通のようにするために、_____ さんはパートナーの答えがまったく分かったと思うまでそれぞれの質問に対して引き続き行ってください。言い換えれば、自分で作った質問をもっと詳しく尋ねて下さい。でも、それは必ずしもしゅしんしたがってください。質問がありますか？」

5. Allow five minutes for dyad members to review the questions. Then, collect the interview question sheet back from Person A. Bring Person A back into the room to join Person B.
State the following:

「インタビューを始めましょう。ビデオを撮ってもよろしいですか？このインタビューはすべて、十三分か十五分ぐらいかかります。それに、インタビューが始まる前に、私はこの部屋を出てしまいますので終わりましたら、「終わった！」って言って下さい。その時に、ここに戻ります。」

6. Start video-recorder, then, leave the room.

7. After fifteen minutes have elapsed, return to the room and stop the discussion. Separate Person A and Person B once again and give them their final post-test measures.

8. When they are done with the questionnaires, give participants the Debriefing form and have them sign and date it. Debrief them on the study and ask for consent to use their videotape for coding and/or instructional purposes. If they consent to use of their videotape for the aforementioned purposes, have them mark the debriefing form in the appropriate area to give their consent. Give one copy to the subject, and keep one copy for the record. Remind the participants that they should not discuss the study with others because the study is currently in progress and doing so might affect the results. Finally, thank the subjects for their time and for their participation in the study.
APPENDIX J:

ITEMS MEASURING THE INDEPENDENT AND INTERDEPENDENT DIMENSIONS OF SELF-CONSTRUALS (JAPANESE VERSION)

Independent items.

1. 自分自身の実力に応じて、どんな人間なのか判断されるべきと考えます。
2. グループディスカッションで自分の意見をはっきり言います。
3. 私自身のアイデンティティー（自己同一性）、他人から自立することを重要と考えます。
4. 私は他人に頼ることより、自分自身を頼りにすることを好みます。
5. 私は他人とは異なる、個性的な人間であろうとします。
6. 私は他人に頼るのが好きではありません。
7. 私は自分自身の行動に責任を持っています。
8. 自立した人間としてふるまうことは大切です。
9. 私は様々なトピックについて自分なりの見解（好き、嫌い）を持っています。
10. 私は個性的で他人と違うということを楽しんでいます。
11. 私は多数の賛成が得られている状況でも、自分の意見を変えません。
12. 仕事のグループの中で自分の意見を言うことは私にとっては問題ではありません。
13. 生き生きとした想像力を持つことは大切です。
14. 自分自身を理解することは私の人生において主要な目標です。
15. 私は自分の個性的な能力を賞賛することを楽しんでいます.
Interdependent items.

1. 自分のグループの意見に反対することには抵抗を感じます。
2. グループのメンバー間にいざこざを起こさないように、自分の否定的な意見は隠します。
3. グループ内の関係は、私個人の業績よりももっと重要です。
4. 私の幸せは、グループメンバーの幸せによって成り立っています。
5. 私はしばしば私のグループ内の人をどうやっても助けできるだろうかと考えています。
6. 私はグループの中で、全体の調整を保つことに気をつかっています。
7. グループの人というとき、私は自分の言葉が誰かを攻撃することがないように注意を払っています。
8. 私はグループの利益のために自分自身の興味を犠牲にしています。
9. 私はたとえ自分自身の願望を抑制したとしても、グループに合わせようと考えています。
10. 決断をする前に、親友に相談し、彼らの意見を得ることは重要です。
11. 私は就学や就業のプランをたてるとき、両親のアドバイスを考慮に入れるべきだと考えています。
12. 私は自分が思うやり方よりも、グループ全体の方向に従うようにしています。
13. グループのメンバーに受け入れられているという安心感は私にとってとても重要です。
14. もし私の兄弟や姉妹が失敗したら、そのことに対して私は責任を感じます。
APPENDIX K:
ITEMS MEASURING DECEPTIVE COMMUNICATION MOTIVATION
(JAPANESE VERSION)

Items Measuring Deceptive Communication Motivation

Motivation to tell the truth.
1. できるだけ正直になること
2. 本音を言うこと
3. 率直に考えを伝えること
4. 本当の感情を表現すること

Motivation to protect the self.
5. 自分が恥ずかしい思いをしないようにすること
6. 相手にいい印象を与えること
7. 前向きなイメージを出すこと
8. 相手に好かれること

Motivation to protect the partner and/or the relationship.
9. 相手の感情を損ねないようにすること
10. 相手のイメージを大切にすること
11. 相手を恥ずかしがらせないようにすること
12. 相手の前向きなイメージを分かってあげようとすること
13. 会話の中での緊張や衝突を避けること
APPENDIX L:
ITEMS MEASURING SELF AND PARTNER RATINGS OF BEHAVIOR
(JAPANESE VERSION)

**Items Measuring Self and Partner Ratings of Behavior**

*Nervousness.*

1. 会話の間神経質であった
2. 会話の間気楽にリラックスしていた
3. 会話の間神経質に自分の体をよく触っていた
4. 顔をひきつらせて笑っていた
5. 会話の間体を揺らしたり、動かしたり落ち着かない振る舞いをしていた
6. 会話の間落ち着かない様子で不快そうであった

*Positive affect.*

7. 私に良い印象を与えようとしていた
8. 会話の間よく視線を合わせていた
9. 会話の間声が楽しそうだった
10. 会話の間私と視線を合わせようとしなかった
11. 会話の間楽しそうな表情だった

*Fluency.*

12. 流暢に話していたと思う
13. 会話がスムーズだったと思う
Hesitancy.

14. パートナーの質問に答えるのに長い時間がかかった

15. 会話の間たくさん間をとった

Psychological involvement.

16. 会話にとても熱中していた

17. 会話を親密にしようとした

18. 会話に興味を持っていた

19. 態度が冷淡で心が通っていない気がした

20. 私との間に距離を置こうとしていた

Behavioral involvement.

21. 会話の間よく前かがみになっていた

22. 会話の間よそよそしい感じがした

23. 会話の間表情豊かで生き生きとしていた

24. 会話の間よく笑っていた

25. 会話の間よくジェスチャーをしていた
APPENDIX M:

ITEMS USED TO CODE KINESIC BEHAVIORS (JAPANESE VERSION)

*Items Used to Code Kinesic Behaviors (Japanese version)*

*Involvement.*
1. 相手を見つめる頻度はどうですか？
2. どちら側に体を傾けているか？
3. ジェスチャーの頻度はどうか？
4. 熱中しているか？

*Pleasantness.*
5. 顔に喜びの表情があるか？
6. 愉快そうに見えるか？

*Nervousness (Increased body movement).*
7. 体を揺らし、ねじっているか？
8. 自分の体や髪を触っているか？
9. 無意識に足を動かしている頻度はどうか？
10. 無意識に手や腕を動かしている頻度はどうか？

*Nervousness (Decreased body movement).*
11. 体が硬直しているか？
12. 緊張しているか？
13. リラックスしているか？
14. 不安そうに見えるか？
APPENDIX N:

ITEMS USED TO CODE VOCALIC BEHAVIORS (JAPANESE VERSION)

Items Used to Code Vocalic Behaviors (Japanese version)

*Fluency.*

1. 返答に時間がかかっているか？
2. 言い間違いや返答をためらう頻度はどうか？
3. 「え~と」や「あの~」などを使う頻度はどうか？
4. 流暢に話していますか？

*Vocal involvement.*

5. 熱中しているような声で話していますか？
6. 自信がある声ですか？

*Vocal pleasantness.*

7. 喜んでいるような声ですか？
8. 冷たい声で話していますか？
9. 親しみのある声ですか？

*Nervousness.*

10. リラックスした声で話していますか？
11. 不安そうな声ですか？
REFERENCES


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