

INTERPERSONAL COMMUNICATION MOTIVES:
A COMMUNIBIOLOGICAL PERSPECTIVE

THESIS

Presented to the Graduate Council of
Southwest Texas State University
in Partial Fulfillment of
the Requirements

For the Degree
Master of Arts

By

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San Marcos, Texas

May, 2002

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2002

This thesis is dedicated to my father, Dr. John Paulsel, and mother, Mary Paulsel.
Thanks for encouraging me to pursue my master's degree and accomplish my educational goals.

ACKNOWLEDGEMENTS

Thanks to Dr. Timothy P. Mottet for being a true mentor. His support and guidance continues to help me understand the value of my education and career goals. Thanks to Dr. M. Lee Williams for his pearls of wisdom. His life lessons will stay with me throughout my career. Most importantly, I will always remember to eat an elephant one bite at a time. Thanks to Dr. Melinda Morris Villagran for her support while completing this thesis. Her encouragement helped me finish this thesis with a smile.

This manuscript was submitted on April 4, 2002.

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ABSTRACT

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This study examined the relationships between interpersonal communication motives (ICM) and temperament traits. Specifically, this study sought to determine if ICM were communication traits based on their correlations with the temperament traits of extroversion, neuroticism, and psychoticism. Additionally, the unique and shared variance of the temperament variables was examined for each ICM.

Results indicated that extroversion was positively correlated with the interpersonal communication motives of pleasure, affection, inclusion, escape, and relaxation and was not correlated with control. Neuroticism was positively correlated with inclusion, escape, and control, negatively correlated with pleasure, and not correlated with affection and relaxation. Psychoticism was positively correlated with

control, negatively correlated with pleasure, affection, inclusion, and relaxation, and not correlated with escape.

Results for the research questions suggest that extroversion accounts for the most unique variance in the pleasure and relaxation motives. Neuroticism accounts for the most unique variance in the escape motive. Psychoticism accounts for the most unique variance in the interpersonal motives of affection and inclusion. Limitations of the current study and directions for future research were offered.

CHAPTER ONE

INTRODUCTION

When Mendel conducted his breeding experiments with peas, he could easily look at a pea seed and determine whether that seed was smooth or wrinkled. If humans were more like peas, understanding interpersonal communication would be a simple task. A person would only need to look at the outward appearance of the behaviors others demonstrate and the messages they send. Unfortunately, interpersonal communication cannot be so easily organized. Human interactions are far more complicated than the simple, physical characteristics that Mendel studied in his pea plants (Steen, 1996). The underlying motivations people have for communicating are an important part of understanding interpersonal communication.

Development of Interpersonal Communication Motives

Maslow (1954) developed a hierarchy of needs to explain what needs must be met before people can achieve their highest potential. The primary needs Maslow identified included physiological, safety, social-affiliation, ego-achievement, and self-actualization. Physiological needs refer to food and water. These needs must be fulfilled before the others. Safety refers to protection from harm. Social needs focus on belonging, friendship, and acceptance from others. Ego-achievement needs refer to self-esteem, confidence, personal achievements, recognition, and approval. Finally, self-actualization

is the realization of an individual's fullest potential. While all of these needs can lead to behavior, they are simply needs, not motives to act or communicate. Needs are defined as things lacked, while motives are reasons for action (Rubin & Martin, 1998). Ultimately, basic human needs produce motives to achieve particular goals (Rubin & Martin, 1998).

Schutz (1966) developed a more parsimonious set of needs people have in social interactions. He argued that group members have interpersonal needs for inclusion, control, and affection. According to Schutz, these needs must be satisfied for the group experience to be rewarding. Inclusion is the person's need to feel belonged by the group, affiliated with others, or have companions. Control concerns the ability to gain compliance within the group by exerting power on others or giving others power. Affection focuses on the need to be liked, express love, and be loved by others. Schutz believed that when group members fulfilled their interpersonal needs within the group, they were more committed to the group, willing to work more diligently, and more likely to build relationships with other group members. However, when their interpersonal needs were not met, group members were dissatisfied with the group experience. Similar to Maslow's hierarchy of needs, Schutz's interpersonal needs can spur people to communicate. However, they are not inherently motivations to communicate. They are needs that must be fulfilled.

The uses and gratifications (U and G) theory focuses on reasons why people turn to the media to satisfy their needs (Katz, Blumler, & Gurevitch, 1974). The theory laid the foundation for the development of interpersonal communication motives. Katz, Blumler, and Gurevitch (1974) outlined the tenets of the U and G theory within mass media research. First, the theory explains how media are used by individuals to satisfy

their needs. Second, the U and G theory identifies people's motives for media use. Third, the theory identifies outcomes that follow from needs, motives, and media use. These three tenets of the U and G theory assume that people play an active role in seeking out media to fulfill their needs (Rubin & Martin, 1998).

The U and G theory led to the development of interpersonal communication motives (ICM), which are defined as relatively stable, personal characteristics explaining why people communicate with others and how people communicate to satisfy interpersonal needs (Graham, Barbato, & Perse, 1993). Rubin, Perse, and Barbato (1988) developed the ICM scale to measure why people are motivated to communicate. They asked college students to keep a diary detailing their reasons for communicating with others. Based on their findings, a 28-item, self-report measure was developed that asks people to rate how closely the listed reasons for communicating relate to their personal reasons for communicating. The ICM scale was one of the first instruments to differentiate interpersonal communication motives from Maslow's and Schutz's needs.

Rubin, Perse, and Barbato (1988) included six salient motives for interpersonal communication in the ICM scale. First, people communicate for pleasure. When individuals communicate for pleasure, they want to have fun and enjoy communicating, be excited or pepped up, have a good time, be thrilled or stimulated, or be entertained. Second, individuals communicate for affection to help others, express caring or encouragement, thank others, and show concern for others. The third reason why people communicate is for inclusion. When people communicate for inclusion, they need someone to talk with and discuss problems, to overcome loneliness, and to be with others. Fourth, individuals communicate in order to escape or procrastinate, avoid

pressing demands or responsibilities, and fill empty time. Fifth, people communicate for relaxation to rest, unwind, and feel less tense. Finally, people communicate for control. Communicating for control helps individuals gain compliance in interpersonal situations by getting someone else to do something for them, telling others what to do, or getting something they do not have.

Significance of Interpersonal Communication Motives

ICM remain important to the study of communication because the motives are related to numerous communication variables that help predict, explain, and describe people's communication behavior. For example, the use of nonverbal immediacy is positively correlated with the pleasure and affection motives and negatively correlated with the escape and control motives (Myers & Ferry, 2001). ICM remain important to the study of communication because a variety of communication variables are related to the construct including loneliness (Anderson & Martin, 1995b; Holladay, Crutcher, Gustavson, Jones, Laughlin, & McKown, 1997; Hosman, 1991), the contextual age of elders (Barbato & Perse, 1992; Holladay, Crutcher, Gustavson, Jones, Laughlin, & McKown, 1997), self-disclosure and communicator style (Graham, Barbato, & Perse, 1993), communication apprehension (Kondo, 1994), assertiveness and responsiveness (Anderson & Martin, 1995a), communication channels (Westmyer & DiCioccio, 1998), and nonverbal immediacy (Myers & Ferry, 2001). Further research is needed to determine other variables that may be related to ICM and that may predict interpersonal communication behavior.

Purpose of Study

The purpose of this study is to examine ICM from a trait perspective by focusing on temperament. Continuing to examining ICM is important in order to see how they influence communication behaviors. However, a significant limitation with this line of research is that it has not been examined as a trait (Rubin & Martin, 1998). Previous research focused on ICM in specific situations or states including types of intimate relationships (Graham, Barbato, & Perse, 1993), small groups (Anderson & Martin 1995b), various communication channels (Holladay, Crutcher, Gustavson, Jones, Laughlin, & McKown, 1997; Westmyer & DiCioccio, 1998), and instructional settings (Martin, Myers, & Mottet, 1999). ICM have yet to be examined from a trait perspective (Rubin & Martin, 1998).

According to Bates (1989), temperament refers to “biologically-rooted individual differences in behavioral tendencies across various kinds of situations and over the course of time” (p. 4). Everyone has a unique temperament, which is made up of traits. Guilford (1959) defined a trait as “any distinguishable, relatively enduring way in which one individual differs from others” (p. 6). Studies examining identical twins suggest that traits are inherited (Buss & Plomin, 1984; Loehlin & Nichols, 1976; Lykken, 1982). Trait-like behaviors are different from state-like behaviors. A state behavior varies from one situation to the next. However, trait-like behaviors are relatively constant. Examining communication from a trait perspective allows researchers to predict with greater accuracy how a person will respond in different states (Eysenck & Eysenck, 1985).

Tupes and Christal (1961) identified five traits that make up people’s temperament. They labeled the traits as the Five-Factor Model (FFM). The traits include

extroversion, neuroticism, openness to experience, agreeableness, and conscientiousness. The FFM was considered to be the most parsimonious categorization of traits until Eysenck and Eysenck (1985) established new categories. Eysenck and Eysenck's operationalization of traits is considered superior to the FFM because it is based on people's neurobiological structures (Beatty, McCroskey, & Heisel, 1998).

Eysenck and Eysenck's (1985) operationalization of temperament included these traits: extroversion (E), neuroticism (N), and psychoticism (P). An extroverted person is defined as sociable, adaptable, and cooperative. The opposite of E is introversion. A neurotic person is characterized as having strong feelings of guilt and depression. A person with a high level of N is also anxious, emotionally unstable, and has a negative self-image. The opposite of N is emotional stability. A person with a high level of psychoticism is characterized as impersonal and aggressive. A person with a high level of P is also ego-centric, autonomous, deviant, and disregards common sense. The opposite of P is impulse control. Every individual possesses E, N, and P to some degree. Eysenck and Eysenck (1985) maintain that the interaction between E, N, and P defines an individual's temperament. Beatty and McCroskey (1998) argue that temperament is manifested in communication traits or behaviors.

Significance of Study

This study is significant because examining people's underlying temperament can help predict, explain, and possibly provide more parsimony for their reasons for communicating (Rubin & Martin, 1998). Beatty and McCroskey (1998) advanced the communibiological paradigm as a means to study the correlations between neurology, temperament, and communication behaviors. Beatty, McCroskey, and Heisel (1998)

argue that communibiology has greater predictive and explanatory power and is more parsimonious than more traditional learning models. The communibiological paradigm is more predictive because temperament traits have been shown to account for significantly more variance in individuals' communication behaviors than traditional learning models (Beatty, McCroskey, & Heisel, 1998). The paradigm provides more explanation of people's communication behaviors by examining both communication traits and personality traits. Not only is the communication behavior explained, but the underlying temperament driving the communication behavior is explained. Finally, the paradigm offers a more parsimonious account for communication behaviors by focusing on the relationship between communication and only three personality traits (Beatty, McCroskey, & Heisel, 1998).

Understanding ICM from a communibiological perspective may allow researchers to predict communication behaviors with greater precision. According to the learning models, communication is learned. It can be unlearned or shaped to fit the environment. From the communibiological paradigm, it is assumed that ICM are inherited and natural. Research confirming the role of biology in ICM may alter the way people educate others about interpersonal communication. Examining the relationship between temperament and ICM is significant because the results may address the major limitation within this line of research, which is its failure to examine ICM as a collection of communication traits.

CHAPTER TWO

REVIEW OF LITERATURE

This study argues that ICM are trait-like in nature and, therefore, have a neurobiological basis. To support this argument, the review of literature reviews research related to four claims:

Claim One: Extroversion, neuroticism, and psychoticism make up an individual's temperament, which has been shown to have a neurobiological basis.

Claim Two: Communication traits are the manifestations of an individual's temperament.

Claim Three: Interpersonal communication motives are related to communication traits.

Claim Four: Interpersonal communication motives are biologically based communication traits.

To continue advancing the rationale for this study and to support the hypotheses that will be tested, four domains of literature were reviewed. The first domain explains neurobiological functioning and how temperament is related to neurological processes. The second domain explains temperament and reviews research examining extroversion, neuroticism, and psychoticism. The third domain of literature identifies and explains

communication traits and how they are related to temperament. The fourth domain reviews research examining ICM. The final section of this chapter proposes a series of hypotheses that may identify ICM as biologically based communication traits.

Neurobiology

The first domain of literature explains the neurobiological aspects of temperament. Communibiology is a trait-based communication paradigm that is grounded in neurobiological functioning (Beatty & McCroskey, 1997). Five tenets underlie this claim and explain neurobiological functioning. These tenets are widely accepted among psychologists (Strelau, 1994). The first tenet argues that cognitive, affective, and psychomotor processes involved in social interaction depend on brain activity (Beatty & McCroskey, 1998). In other words, in order for a person to know information, feel an emotion, or perform a skill, brain activity must occur. For example, social interaction often serves as the stimulus which triggers brain activity (Beatty & McCroskey, 1997). The brain's stimulation results in the expression of one's temperament (Bates, 1989). Understanding how the brain functions is fundamental to explaining thoughts, feelings, and behaviors (Beatty & McCroskey, 1998; Beatty, McCroskey, & Valencic, 2001; Valencic, McCroskey, & Richmond, 2001).

Second, brain activity precedes cognitive, affective, and psychomotor experiences. Following the reductionism stance, all mental activity is a product of the brain's functioning (Beatty & McCroskey, 1998; Beatty, McCroskey, & Valencic, 2001; Valencic, McCroskey, & Richmond, 2001). Three neurobiological structures are important in understanding the biology of communication: behavior activation system (BAS), behavior inhibition system (BIS), and fight or flight system (FFS) (Gray, 1991).

While these brain structures are not directly correlated with temperament traits, they are used to explain communication behaviors which are related to temperament traits (Beatty, McCroskey, & Valencic, 2001). The BAS is a set of neurological circuits that energizes goal-directed behavior. The BAS is activated in attempts to acquire rewards or to eliminate punishment. Impulsive people or neurotic extroverts (Gray, 1991) and psychopaths (Arnett, Howland, Smith, & Newman, 1993) have low thresholds for BAS activation.

The BIS is activated with the perception of threatening stimuli associated with anticipated punishment or the termination of a reward (Gray, 1991). People with a low threshold for BIS activation focus on threatening behavior and halt behavior. Anxiety prone individuals often have low thresholds for BIS activation (Beatty & McCroskey, 1997; Beatty, McCroskey, & Heisel, 1998; McCroskey & Beatty, 1998).

The FFS is the instigation of aggressive behavior or the onset of active withdrawal from a situation (Gray, 1991). The FFS is often referred to as the seat of rage because of its connections with the hypothalamus (Beatty & McCroskey, 1997; Beatty & McCroskey, 1998). A high FFS threshold means that the system takes longer to activate behavior which results in the inhibition of aggressive behaviors or active withdrawal from the situation. A low threshold for FFS activation results in irritability and aggressive behavior.

The BAS, BIS, and FFS are three brain systems used to explain how communication behaviors are related to temperament traits (Beatty & McCroskey, 1997; Beatty & McCroskey, 1998; Beatty, McCroskey, & Heisel, 1998; Beatty, McCroskey, & Valencic, 2001; Heisel, McCroskey, Richmond, 1999). While the systems are not directly

related to temperament traits, they provide a theoretical explanation of the relationship between temperament traits and communication behavior. A major assumption of the communibiological paradigm is that brain functioning precedes cognitive, affective, and psychomotor experiences; and neurobiological structures can be used to explain the relationships between temperament traits and communication behaviors.

The third tenet argues that the neurobiological structures underlying temperamental traits are mostly products of genetic inheritance (Beatty & McCroskey, 1998; Beatty, McCroskey, & Heisel, 1998; Beatty, McCroskey, & Valencic, 2001). Studies examining identical twins suggest that traits are inherited (Buss & Plomin, 1984; Loehlin & Nichols, 1976; Lykken, 1982). Zuckerman (1994) found insignificant differences between twins raised together and those raised apart. Additionally, Horvath (1995) found that twins inherited relaxed, open, and dominate communicator styles. These findings support the rational that temperamental traits are mostly inherited.

The fourth tenet argues that the environment has a negligible effect on interpersonal behavior (Beatty & McCroskey, 1998; Horvath, 1995; Horvath, 1998). The environment provides stimuli that result in expressions of temperament (Beatty & McCroskey, 1998). However, while the stimuli vary with different situations, people's response to the same or similar stimuli remains constant (Gray, 1991). Thomas, Chess, and Birch (1968) argued that a goodness or poorness of fit exists between the different environments and people's temperament. A goodness of fit occurs when the characteristics of an environment complement an individual's temperament. A poorness of fit occurs when an environment produces stimuli that are incongruous with an individual's temperament resulting in stress from the suppression of temperamental

urges. For example, a student with communication apprehension experiences a poorness of fit when he or she must present a speech in front of the class (Beatty, McCroskey, & Heisel, 1998; Kelly & Keaten, 2000). While environments change, Beatty and McCroskey (1998) argue that trait responses remain constant.

The fifth and final tenet explains that differences in interpersonal behavior are a result of individual differences in neurobiological functioning (Beatty & McCroskey, 1998; Beatty, McCroskey, & Valencic, 2001). Individual differences in the BAS, BIS, and FFS activation result in observable differences in behavior (Gray, 1991). For example, friendly and comforting behaviors depend the inactivation of the FFS system (Beatty & McCroskey, 1998). Verbally aggressive behaviors result from the BAS and FFS activation, but not BIS activation (Beatty & McCroskey, 1997). Beatty and McCroskey (1997) argued that when individuals have low thresholds for BAS activation and their initial attempts to gain a reward or stop punishment fail, BAS activation is converted into aggression. Additionally, approach-avoidance behaviors results from the activation of the BAS and BIS systems (Beatty & McCroskey, 1998).

The five tenets described here depart from previous thinking about communication (Beatty & McCroskey, 1998; Beatty, McCroskey, & Valencic, 2001). However, psychobiologists widely accept these propositions (Strelau, 1994). The tenets outlined in this section suggest that temperament has a neurobiological basis because psychological processes involved in social interaction depend on and are preceded by brain activity. Additionally, biological structures in the brain are mainly inherited and produce individual differences in behavior. Finally, twin research suggests that the

environment has a small effect on interpersonal behavior (Buss & Plomin, 1984; Loehlin & Nichols, 1976; Lykken, 1982). Temperament has a neurobiological basis.

Temperament

The second domain of literature examines people's temperament. People's temperament guides or fuels how they express themselves. Eysenck and Eysenck (1985) identified the most parsimonious set of traits that make up temperament. They include extroversion (E), neuroticism (N), and psychoticism (P).

Extroversion. Extroversion defines the sensation-seeking of an individual's temperament. A person with low E is considered shy, quiet, and introverted. A person with high E is characterized as active, assertive, carefree, and dominant. Everyone possesses some degree of extroversion that influences the use of communication traits.

Pavlov (1927) examined differences in the reactions of various dogs to stress in classical conditioning. This research established that excitation occurred when the brain became more alert and willing to learn. On the other hand, inhibition was the brain's ability to calm itself down. Eysenck and Eysenck (1985) used Pavlov's results as an explanation for E in humans. Because humans are animals, their brains function similar to mammals' brains. Eysenck and Eysenck explained that if dogs had excitation and inhibition, human-beings must have the same responses.

Eysenck (1971) hypothesized that a person's level of extroversion depended on a balance of inhibition and excitation in the brain. Results indicated that a person with high E had strong inhibition to conditioning. Because extroverts had a greater susceptibility to inhibition, they did not condition as well as introverts. Conditioning activated extroverts' behavior inhibition system which prevented conditioning. Eysenck also hypothesized that

introverts were more easily conditioned than extroverts because they had weak inhibition. More stimuli than was produced by conditioning was needed to activate introverts' behavior inhibition system. Results indicated that introverts showed greater conditioning performance than extroverts in most circumstances.

Pavlov and Eysenck's results laid the foundation for further research. Anthony (1977) found that more extroverted people became slightly more introverted over time; more introverted people became more extroverted as they grew older. Only minimal changes occurred in the subjects' level of introversion and extroversion. The study demonstrated that the trait of E remained relatively constant over time.

Leigh and Wisdom (1970) discovered that introverts were conditioned to learn better by following carefully sequenced instructions. Extroverts were conditioned to work better in an environment that allowed for randomness and spontaneity. People who are extroverted might naturally use more reasons to communicate than highly structured introverts because the variety of motives allows the extrovert spontaneity.

Neuroticism. Neuroticism is defined as a lack of emotional stability. Highly neurotic people over-respond to fearful stimuli. Introverts with a high level of N panic and avoid fearful situations (Eysenck & Eysenck, 1985). Extroverts with a high level of N are more likely to ignore or forget fearful situations (Eysenck & Eysenck, 1985).

Lynn (1959) hypothesized that an individual's level of anxiety had a major impact on the level of N he or she possessed. Results indicated that a high level of anxiety increased motivation to perform. However, it also disrupted a person's ability to perform by producing worries and thoughts that were irrelevant to the task.

Eysenck (1971) was interested in how consistent neuroticism was in the instructional context. Results indicated that N was positively correlated to attainment of high grades in some cases, and negatively related in others. A curvilinear relationship between N and attainment occurred in some situations.

Psychoticism. Individuals with a high level of psychoticism are not necessarily psychotic. They only possess characteristics that make them become more psychotic in certain environments (Eysenck & Eysenck, 1985). The characteristics commonly associated with P are recklessness, a disregard for common sense or conventions, inappropriate emotional expressions, or deviant behavior.

Limited research has examined psychoticism as a trait. Goh and Moore (1978) investigated the relationship between P and attainment of high grades in the classroom setting. Psychoticism correlated negatively with attainment of high grades. The researchers' analysis concluded that the uncaring and hostile nature of the people with a high level of P made the negative correlation between P and attainment seem more reasonable.

People's temperament consist of some degree of E, N, and P. Extroversion represents cooperativeness and sociability, N represents fearful avoidance, and P represents hostility and aggression (Eysenck & Eysenck, 1985). Eysenck and Eysenck (1985) found that E, N, and P are primarily due to genetic inheritance. While these three super-traits make up an individual's temperament, they also affect the expression of one's temperament.

Temperament and Communication Traits

The third domain of literature examines communication traits and how they are related to extroversion, neuroticism, and psychoticism. Communication traits are the expression of one's temperament (Beatty & McCroskey, 1997). Beatty and McCroskey (1997) advanced the communibiological paradigm as a means to study the implications of neurobiological functioning and temperament on communication. McCroskey, Heisel, and Richmond (2001a) argued that neurobiological functioning results in communication behavior. Beatty (1998) urged researchers to establish the relationships between communication traits, temperament, and neurobiological functioning. Recent studies indicate that temperament is related to numerous communication traits: communication apprehension (Beatty, McCroskey, & Heisel, 1998), shyness (Heisel, McCroskey, & Richmond, 1999), nonverbal immediacy (McCroskey, Heisel, & Richmond, 2001a), socio-communicative orientation (Cole & McCroskey, 2000), verbal aggressiveness (Wigley, 1998), argumentativeness (Rancer, 1998), and willingness to communicate (McCroskey & Richmond, 1998).

Unlike studies using the communibiological paradigm reviewed in this chapter, this study does not interpret the r as r -squared. In the studies reviewed in this chapter, a raw correlation is interpreted as variance accounted for, rather than the traditional r -squared. Beatty, McCroskey, and Valencic (2001) continue to argue that the relationships between Eysenck and Eysenck's (1985) super traits and other communication variables remain spurious in nature because there is a latent variable influencing the relationship. They argue that the latent variable is neurobiological in nature. Because of the spurious nature of the relationship, the r should be interpreted to determine effect size, rather than

the r-squared. Raw correlations are reported as the amount of variance accounted for in the following studies that review communication traits.

Communication apprehension. Beatty, McCroskey, and Heisel (1998) found communication apprehension (CA) to be a communication trait that is grounded in temperament. Communication apprehension is the manifestation of neurotic introversion (Beatty, McCroskey, & Heisel, 1998; McCroskey & Beatty, 1998; Weaver, 1998). McCroskey, Heisel, and Richmond (2001b) found that emotionally unstable and highly introverted people tend to be more apprehensive about communication. Neuroticism and extroversion accounted for approximately 75% (r value) of the variance in CA (Beatty, McCroskey, & Heisel, 1998). In a later study, temperament traits accounted for only 64% (r value) of the variance in CA (McCroskey, Heisel, & Richmond, 2001a).

Beatty, McCroskey, and Heisel (1998) also explain that the behavior inhibition system is activated when a person has CA, thus inhibiting communication. Kelley and Keaten (2000) and Beatty and Valencic (2000) offered insight to the meaning of these results. They encourage teachers of communication courses to treat CA from a temperament perspective by preventing the activation of the students' behavior inhibition system.

Shyness. Similar to CA, shyness was found to be negatively correlated with extroversion and positively correlated with neuroticism, but not correlated with psychoticism (Heisel, McCroskey, & Richmond, 1999; McCroskey, Heisel, & Richmond, 2001a, McCroskey, Heisel, & Richmond, 2001b). Both E and N accounted for unique variance in shyness; P did not (Heisel, McCroskey, & Richmond, 1999). In an early study, temperament traits accounted for 45% (r value) of the variance in shyness (Heisel,

McCroskey, & Richmond, 1999). When the study was replicated, E and N accounted for 79% (r value) of the variance in shyness (McCroskey, Heisel, & Richmond, 2001a). McCroskey, Heisel, and Richmond (2001b) concluded that stable extroverts do not tend to be shy.

Nonverbal immediacy. Self-perceived nonverbal immediacy is a communication trait related to temperament (McCroskey, Heisel, & Richmond, 2001a; McCroskey, Heisel, & Richmond, 2001b). Nonverbal immediacy was positively correlated with E, negatively correlated with N, and not correlated with P (McCroskey, Heisel, & Richmond, 2001b). Extroversion accounted for 27% (r value) of the variance in self-perceived nonverbal immediacy. Neuroticism accounted for 5% (r value) of the variance in nonverbal immediacy. Results suggest that unstable introverts tend to perceive themselves as less immediate. McCroskey, Heisel, and Richmond (2001b) explained that neurotic introverts perceived themselves as less immediate because they reported less self-acceptance.

Valencic, McCroskey, and Richmond (2001) found that teachers high in extroversion were perceived as more immediate by their students. The more introverted the teachers were, the less immediate students perceived them to be. This finding suggests that teachers' temperament traits can influence students' perceptions of the teachers' communication behavior (Valencic, McCroskey, & Richmond, 2001).

Individuals' temperament is unrelated to how they perceive others' immediacy behaviors. For example, students' perceptions of their teachers' nonverbal immediacy were not correlated with students' temperament traits (Heisel, McCroskey, & Richmond, 1999; McCroskey, Heisel, & Richmond, 2001a; McCroskey, Heisel, & Richmond,

2001b). Heisel, McCroskey, and Richmond (1999) concluded that other-perceived immediacy is not a communication trait. Because communication traits are based in neurobiological processes, students' temperament is not correlated with teachers' communication behavior. However, McCroskey, Heisel, and Richmond (2001a) hypothesized that self-perceived immediacy would be correlated with temperament traits.

Socio-communicative orientation. Richmond and Martin (1998) suggested that socio-communicative orientation might be a communication trait related to temperament because it represents the way one perceives himself or herself. On the other hand, they argued that socio-communicative style was not a communication trait because it represents the perceptions others have of that individual. Consistent with Richmond and Martin's (1998) logic, socio-communicative orientation was found to be a communication trait related to temperament (Cole & McCroskey, 2000). Assertiveness was positively correlated with E, slightly negatively correlated with N, and not correlated with P. Extroversion accounted for 45% (r value) of the variance in assertiveness. Neuroticism accounted for 3% (r value) of the variance in assertiveness. Responsiveness was positively correlated with E, negatively correlated with P, and not correlated with N. Extroversion accounted for 38% (r value) of the variance in responsiveness. Psychoticism accounted for 64% (r value) of the variance in responsiveness.

Results from the replication of the previous study indicate that assertiveness was positively correlated with E, slightly negatively correlated with N, and slightly positively correlated with P (McCroskey, Heisel, & Richmond, 2001a; McCroskey, Heisel, & Richmond, 2001b). Temperament traits accounted for 54% (r value) of the variance in assertiveness (McCroskey, Heisel, & Richmond, 2001a). Results indicate that

responsiveness was positively correlated with E, negative correlated with P, and not correlated with N (McCroskey, Heisel, & Richmond, 2001a; McCroskey, Heisel, & Richmond, 2001b). Temperament traits accounted for 58% (r value) of the variance in responsiveness (McCroskey, Heisel, & Richmond, 2001a). These results suggest that stable extroverts tend to be assertive and responsive.

Valencic, McCroskey, and Richmond (2001) examined the correlations between teachers' traits and students' perceptions of teachers' communication behaviors. They found that teachers who were highly extroverted were perceived to be significantly more assertive than introverted teachers.

Verbal aggressiveness. Beatty and McCroskey (1997) suggested that verbal aggressiveness (VA) might be another communication trait related to temperament. They argued that VA is related to neurological functioning as described by Gray (1991). Individuals with VA have a low threshold for the behavior-activation system and early activation in the fight or flight system, resulting in rage. However, they have a high threshold for the behavior-inhibition system. Consequently, people with high VA quickly become aggressive when initial attempts fail. They have insufficient inhibition to prevent the onset of aggressive behavior (Beatty & McCroskey, 1997; Wigley 1998).

Valencic, Beatty, Rudd, Dobos, and Heisel (1998) examined the relationship between VA and temperament traits. Results indicate that VA was positively correlated with P. The previous study was replicated (McCroskey, Heisel, & Richmond, 2001a; McCroskey, Heisel, & Richmond, 2001b). Results for the two replications confirmed that VA is positively correlated with P. Temperament traits accounted for 51% (r value) of the variance in VA (McCroskey, Heisel, & Richmond, 2001a).

Argumentativeness. Infante (1987) identified argumentativeness as a communication trait. Participants' motivation for participating in a particular argument was related to trait argumentativeness. Rancer (1998) suggested that argumentativeness might be a communication trait related to temperament. McCroskey, Heisel, and Richmond (2001a) examined the relationship between argumentativeness and temperament. Results indicated that argumentativeness was positively correlated with E and P and not correlated with N. Temperament traits accounted for 38% (r value) of the variance in argumentativeness.

Willingness to communicate. Willingness to communicate (WTC) was suggested to be a communication trait (McCroskey & Richmond, 1987). McCroskey and Richmond (1998) predicted that because self-esteem, CA, and self-perceived communication competence were correlated with extroversion, WTC would be correlated with extroversion as well. McCroskey, Heisel, and Richmond (2001a) found the prediction to be correct. Willingness to communicate was positively correlated to E. In addition, WTC was slightly negatively correlated with N. Temperament traits accounted for 55% (r value) of the variance in WTC.

Communication traits are the observable behaviors produced as a result of neurobiological functioning. Communication traits are also the expression of temperament. Extroversion, neuroticism, and/or psychoticism are correlated with numerous communication traits, including communication apprehension (Beatty, McCroskey, & Heisel, 1998), shyness (Heisel, McCroskey, & Richmond, 1999), nonverbal immediacy (Heisel, McCroskey, & Richmond, 1999), socio-communicative orientation (Cole & McCroskey, 2000), verbal aggressiveness (McCroskey, Heisel, &

Richmond, 2001a), argumentativeness (McCroskey, Heisel, & Richmond, 2001a), and willingness to communicate (McCroskey, Heisel, & Richmond, 2001a). These communication traits are the manifestations of temperament resulting from neurobiological functioning.

Interpersonal Communication Motives

The fourth domain of literature examines ICM. Rubin, Perse, and Barbato (1988) identified six salient motives for interpersonal communication. First, people communicate for pleasure. When individuals communicate for pleasure, they want to have fun and enjoy communicating, be excited or pepped up, have a good time, be thrilled or stimulated, or be entertained. Second, individuals communicate for affection to help others, express caring or encouragement, thank others, and show concern for others. The third reason why people communicate is for inclusion. When people communicate for inclusion, they need someone to talk with and discuss problems, to overcome loneliness, and to be with others. Fourth, individuals communicate in order to escape or procrastinate, avoid pressing demands or responsibilities, and fill empty time. Fifth, people communicate for relaxation to rest, unwind, and feel less tense. Finally, people communicate for control. Communicating for control helps individuals gain compliance in interpersonal situations by getting someone else to do something for them, telling others what to do, or getting something they do not have.

Rubin, Perse, and Barbato (1988) were the first to examine the relationship between communication apprehension and ICM. They found that people low in communication apprehension used interpersonal communication for pleasure, affection and control. On

the other hand, people with high communication apprehension communicated for inclusion.

Kondo (1994) also examined the relationship between communication apprehension and ICM. He found that subjects communicated for pleasure, affection, inclusion, and relaxation more than control and escape, regardless of their level of communication apprehension. People high in communication apprehension communicated more for escape. Participants low in communication apprehension communicated more for the pleasure and relaxation motives.

Rubin et al. (1988) found that the motives of pleasure, affection, and relaxation were related to communication satisfaction. People with low communication apprehension had more communication satisfaction when they communicated for pleasure, affection, relaxation, and escape.

Rubin et al. (1988) also found that women communicated less for control. Control was not related to communication satisfaction, suggesting that people get little satisfaction controlling others. Researchers concluded that control was not as salient as the other motives. Rubin et al. (1988) also found that ICM were related to age. Younger people communicated more for pleasure, inclusion, and escape. Older people communicated more to give affection.

Hosman (1991) examined the relationship between privacy, loneliness, conversational sensitivity, and ICM. He found that the need for privacy was related to the communication motives of pleasure and affection. Lonely people communicated less for pleasure and affection. Hosman suggests that lonely people do not communicate well and do not find interpersonal communication pleasurable. Results indicated a positive

relationship between conversational sensitivity and communicating for pleasure, affection, and relaxation.

Anderson and Martin (1995b) examined the relationship between interaction involvement, loneliness, group satisfaction, and ICM. They found that an attentive interaction involvement was negatively correlated with control and escape. Perceptive interaction involvement was positively correlated with pleasure and affection and negatively correlated with control and escape. Responsive interaction involvement was positively correlated with pleasure and negatively correlated with control, inclusion, and escape. The motive of escape was negatively correlated with loneliness. The motive of affection was positively correlated with group satisfaction.

Barbato and Perse (1992) examined contextual age, gender, and ICM. They found that contextual age was more important than chronological age in predicting ICM. Participants with a positive life position had greater life satisfaction and higher levels of social activity as measured by contextual age. Results indicated that participants reported pleasure and affection as the primary reasons for communicating with others. On the other hand, participants that were less mobile, in poor health, and less socially active communicated for control and comfort. Women communicated to express their emotions. Men communicated for the control motive.

Graham, Barbato, and Perse (1993) examined the relationships between ICM and relationship levels. Subjects were more likely to speak with spouses/lovers, close friends, and family members for pleasure, affection, and inclusion. They were least likely to communicate with strangers for these three ICM. Subjects were also less likely to communicate with co-workers for inclusion. Participants were more likely to

communicate with co-workers, family members, and spouses/lovers for relaxation. They were least likely to communicate with strangers for relaxation.

Graham et al. (1993) also examined the relationship between communicator style and ICM. They found that friendly communicator style was correlated with the motives of pleasure, affection, inclusion, and relaxation. Attentive communicator style was positively correlated with pleasure and affection and negatively correlated with relaxation, escape, and control motives. A dominate communicator style was correlated with the motives of pleasure, inclusion, escape and control. Contentious communicator style was correlated with escape. A precise communicator style was negatively correlated with pleasure and positively correlated with control. A relaxed communicator style was negatively correlated with the pleasure, inclusion, and escape motives. Animated communicator style was correlated with the motives of inclusion and relaxation. A dramatic communicator style was positively correlated with escape and control, and negatively correlated with affection.

Holladay, Crutcher, Gustavson, Jones, Laughlin, and McKown (1997) examined gender, social activity, interpersonal attraction, economic security, loneliness, and ICM. They found that females were more likely than males to report the motives of relaxation and inclusion as reasons for using telephone communication. Using telephone communication for the affection motive was predicted by participant's social activity. Communicating via the telephone for escape, relaxation, and inclusion was predicted by interpersonal interaction and social activity. Using the telephone for control was predicted by economic security and interpersonal attraction. Affection, safety, and escape accounted for 27% of the variance in loneliness.

Anderson and Martin (1995a) examined the effects of ICM on assertiveness and responsiveness. They found that competent communicators (high assertive, high responsive) communicated for affection, inclusion, and pleasure more than noncompetent (low assertive, low responsive), submissive (low assertive, high responsive), and aggressive communicators (high assertive, low responsive). Aggressive communicators communicated for control. Noncompetent types communicated for escape.

Myers and Ferry (2001) examined nonverbal immediacy and ICM. They found that nonverbal immediacy behaviors were positively correlated with pleasure and affection and negatively correlated with escape and control. Pleasure was positively correlated with using gestures. Pleasure, affection, and relaxation were positively correlated with smiling. Control was negatively correlated with smiling. Touching others was positively correlated with pleasure and affection. Sitting close to others was positively correlated with pleasure and negatively correlated with escape and control. Speaking in a monotone voice was positively correlated with inclusion and negatively correlated with escape. Looking at others was negatively correlated with escape. Having a tense body position was positively correlated with pleasure and negatively correlated with escape. Using vocal variety was positively correlated with pleasure and affection and negatively correlated with escape. Having a relaxed body position was positively correlated with pleasure and affection and negatively correlated with control.

Studies have examined the relationships between ICM and communication traits, including communication apprehension (Kondo, 1994; Rubin, Perse, Barbato, 1988), nonverbal immediacy (Myers & Ferry, 2001), socio-communicative orientation (Anderson & Martin, 1995a), and Communicator Style (Graham, Barbato, and Perse,

1993). Because ICM are related to communication traits, ICM may be biologically based communication traits.

Hypotheses and Research Questions

A rationale for why ICM may be communication traits is constructed in this final section of the chapter. A key component of this rationale is the assertion that interpersonal communication motives help to fulfill primary or secondary needs (Rubin & Martin, 1998). Maslow (1954) identified primary needs as physiological, safety, social-affiliation, ego-achievement, and self-actualization. Rubin and Martin (1998) identified secondary needs as stress reduction, information-certainty, arousal, and the alleviation of boredom. They argued that people have goals to achieve through communication. The goals motivate people to communicate in order to fulfill a need. The goals include power, belonging, love, rest, distraction, knowledge, amusement, and diversion. Based on Rubin and Martin's (1998) model of goals motivating people to communicate in order to fulfill needs, this section proposes a series of hypotheses and research questions that may identify ICM as communication traits.

Pleasure. The motive of pleasure involves fun, excitement, having a good time, being thrilled, stimulated, or entertained, enjoying communicating, and being pepped up by communicating. Rubin and Martin (1998) state that people are likely to use communication to satisfy a need. When people communicate for pleasure, they fulfill a secondary need for arousal. Arousal comes when people take action to communicate and become amused (Rubin & Martin, 1998).

Extroverts find communication enjoyable because they are sociable, cooperative beings (Eysenck, 1971; Eysenck & Eysenck, 1985). Therefore, they are likely to

communicate for pleasure as a means to become amused and fulfill the secondary need for arousal. On the other hand, neurotic introverts do not enjoy communicating and do not find it enjoyable because of their high level of communication apprehension (Beatty, McCroskey, & Heisel, 1998; Kelly & Keaten, 2000; Kondo, 1994; Rubin, Perse, & Barbato, 1988). They are not likely to communicate for pleasure. Psychotics might communicate for pleasure because they find it useful in engaging in deviant behavior and inappropriate emotional expressions (Eysenck & Eysenck, 1985). Based on this rationale, the following hypotheses and research question were tested:

H1a: Extroversion is positively correlated with pleasure.

H1b: Neuroticism is negatively correlated with pleasure.

H1c: Psychoticism is positively correlated with pleasure.

RQ1: Which temperament variables account for the most unique and shared variance in the pleasure motive?

Affection. The motive of affection includes helping others, caring about their feelings, thanking them, encouraging them, and being concerned about others. According to Maslow (1954), safety needs are fulfilled when one feels protection from harm. When people communicate to show affection, they let others know that they are loved. Showing affection decreases threatening feelings and satisfies the primary need for safety (Rubin & Martin, 1998). Rubin and Martin (1998) state that fulfilling safety needs might spur people to communicate for affection.

Extroverts can more easily express emotions than neurotics and psychotics because of their adaptive abilities and emotional stability (Eysenck & Eysenck, 1985). Also, extroverts are more nonverbally immediate than introverts (McCroskey, Heisel, &

Richmond, 2001a; McCroskey, Heisel, & Richmond, 2001b) and responsive (Cole & McCroskey, 2000; Valencic, McCroskey, & Richmond, 2001). Therefore, expressing affection might be easier for extroverts. On the other hand, neurotics are moody, tense, shy, and anxious (Eysenck & Eysenck, 1985). These characteristics might hinder their efforts to communicate for affection. Additionally, because neuroticism is negatively correlated with immediacy, neurotic individuals might not have the verbal and nonverbal means to express affection (McCroskey, Heisel, & Richmond, 2001a; McCroskey, Heisel, & Richmond, 2001b). High psychoticism is marked by ego-centric behavior and autonomy (Eysenck & Eysenck, 1985; Eysenck, Eysenck, & Barrett, 1985). People with high psychoticism are more susceptible to argumentative (McCroskey, Heisel, & Richmond, 2001a; McCroskey, Heisel, & Richmond, 2001b) and verbally aggressive behavior (Beatty & McCroskey, 1997; Valencic, Beatty, Rudd, Dobos, & Heisel, 1998). Therefore, people with high levels of P are less likely to communicate for affection. Furthermore, friendliness, bonding, and comforting behaviors depends on the suppression of fight or flight system (Beatty & McCroskey, 1998). Verbally aggressive people are unable to prevent the onset of rage (Beatty & McCroskey, 1997). Based on this rationale, the following hypotheses and research question were tested:

H2a: Extroversion is positively correlated with affection.

H2b: Neuroticism is negatively correlated with affection.

H2c: Psychoticism is negatively correlated with affection.

RQ2: Which temperament variables account for the most unique and shared variance in the affection motive?

Inclusion. The motive of inclusion involves needing someone to talk to or be with. People who communicate for inclusion want to feel less lonely and discuss their problems with others. According to Maslow (1954), social needs are fulfilled when one has a sense of belonging and acceptance from others. Fulfilling social needs might motivate people to communicate for inclusion because they can feel needed by others (Rubin & Martin, 1998).

Extroverts, by their sociable and cooperative nature, are likely to communicate with others as a means to feel accepted (Eysenck & Eysenck, 1985). Additionally, extroverts have a higher willingness to communicate than introverts (McCroskey, Heisel, & Richmond, 2001a). Extroverts are more likely to express their problems and feelings to others. Neurotic introverts are also likely to communicate for inclusion because they have a negative self-image that needs to be suppressed with feelings of acceptance (Eysenck & Eysenck, 1985). Psychoticism is marked by recklessness, a disregard for modern conventions, and autonomy (Eysenck & Eysenck, 1985; Eysenck, Eysenck, & Barrett, 1985). Therefore, the more psychotic a person is, the less likely he or she will be to communicate for inclusion. Based on this rationale, the following hypotheses and research question were tested:

H3a: Extroversion is positively correlated with inclusion.

H3b: Neuroticism is positively correlated with inclusion.

H3c: Psychoticism is negatively correlated with inclusion.

RQ3: Which temperament variables account for the most unique and shared variance in the inclusion motive?

Escape. People communicate for the motive of escape to put off work they should be doing or get away from work they should be completing. The motive of escape also includes communicating because the person has nothing better to do or wants to get away from pressures and responsibilities. People communicate for escape to fulfill a secondary need to reduce stress (Rubin & Martin, 1998). Communicating for escape allows for a distraction from the task in hand.

Extroverts are likely to communicate for escape because of their sociable nature (Eysenck & Eysenck, 1985) and their high willingness to communicate (McCroskey, Heisel, Richmond, 2001a). They are also likely to communicate for escape because of their ability to easily adapt to changes, such as switching from on task to off task behavior (Eysenck & Eysenck, 1985). Neurotic people have strong feelings of guilt and anxiety (Eysenck & Eysenck, 1985). Neurotic people might need to communicate to temporarily escape from their feelings of guilt and anxiety. Because psychotic individuals engage in deviant behavior, are reckless, and disregard common sense and conventions, they are likely to deviate from their responsibilities and communicate for escape (Eysenck & Eysenck 1985; Eysenck, Eysenck, & Barrett, 1985). Based on this rationale, the following hypotheses and research question were tested:

H4a: Extroversion is positively correlated escape.

H4b: Neuroticism is positively correlated with escape.

H4c: Psychoticism is positively correlated with escape.

RQ4: Which temperament variables account for the most unique and shared variance in the escape motive?

Relaxation. People communicate for relaxation to unwind, have a pleasant rest, or feel less tense. People who communicate for relaxation satisfy the secondary need to reduce stress (Rubin & Martin, 1998). The goal is to rest, not to postpone a task.

Because extroverts enjoy sensation-seeking and carefree behavior, they are likely to communicate in order to relax (Eysenck & Eysenck, 1985). Neurotics are highly anxious and are unlikely to communicate in order to relax because they find communication stressful (Beatty, McCroskey, & Heisel, 1998; McCroskey & Beatty, 1998). Psychotics are likely to engage in reckless behaviors and disregard common sense by communicating to relax (Eysenck & Eysenck, 1985; Eysenck; Eysenck; & Barrett, 1985). Based on this rationale, the following hypotheses and research question were tested:

H5a: Extroversion is positively correlated with relaxation.

H5b: Neuroticism is not correlated with relaxation.

H5c: Psychoticism is positively correlated with relaxation.

RQ5: Which temperament variables account for the most unique and shared variance in the relaxation motive?

Control. The motive of control includes getting others to do something for the communicator, telling others what to do, or getting something the communicator does not have. According to Maslow (1954), people communicate to fulfill their ego-achievement needs by accomplishing personal achievements and receiving recognition. People communicate for control to fulfill their ego-achievement needs (Rubin & Martin, 1998). Rubin and Martin (1998) state that when people control others, they feel as if they have the power to accomplish personal tasks and receive approval from others.

Extroverts are cooperative and active by their nature (Eysenck & Eysenck, 1985). They are unlikely to communicate for control because they enjoy working with others and can tolerate disagreement (McCroskey, Heisel, & Richmond, 2001a). Extroverts have less of a need to control others than neurotics. Neurotics need control of their anxieties, emotions, and negative self-image (Eysenck & Eysenck, 1985). They are likely to communicate for control as a means to reduce uncertainty (Kelly & Keaten, 2000). Psychotic people are impersonal (Eysenck & Eysenck, 1985; Eysenck, Eysenck, & Barrett, 1985) and aggressive (Beatty & McCroskey, 1997; Eysenck & Eysenck, 1985). Therefore, they are likely to communicate for control in order to get others to do their work. Based on this rationale, the following hypotheses and research question were tested:

H6a: Extroversion is negatively correlated with control.

H6b: Neuroticism is positively correlated with control.

H6c: Psychoticism is positively correlated with control.

RQ6: Which temperament variables account for the most unique and shared variance in the control motive?

Summary of Rationale for Study

The rationale for this study was articulated in the argument outlined in the beginning of this chapter. The argument stated that interpersonal communication motives are trait-like in nature and might have a neurobiological basis. To support this argument, four claims were analyzed in this chapter. First, extroversion, neuroticism, and psychoticism make up an individual's temperament, which has been shown to have a neurobiological basis. Research examining neurobiology and temperament traits were

presented and explained. Second, communication traits are the manifestations of an individual's temperament. Various communication traits were identified and explained, including communication apprehension, shyness, nonverbal immediacy, socio-communicative orientation, verbal aggressiveness, and willingness to communicate. The third claim stated that interpersonal communication motives are related to communication traits. To support this claim research was presented which linked ICM to communication apprehension, loneliness, communicator style, socio-communicative orientation, and nonverbal immediacy. The fourth claim argued that ICM might be biologically based communication traits. To analyze this claim, a series of hypotheses were proposed and research questions were asked. The next chapter explains the methods used to collect data for the hypotheses and research questions.

CHAPTER THREE

METHOD

This chapter outlines the methodology used in this study to test the previously stated hypotheses. The chapter is divided into four sections. In the first section, participants are defined and characteristics about them are presented. The administration of the questionnaire is explained in the second section of the chapter. The third section explains how variables were measured. The last section of this chapter explains how the data were analyzed.

Sample

Participants were undergraduate students enrolled in a large section of the basic communication course at Southwest Texas State University. The sample consisted of 325 participants, 147 (45.2%) males, 178 (54.8%) females. Demographic data indicated that the average age of the participants was approximately 20 years ($M = 20$, range 18-35). Data for the participants ethnicity indicated that 240 (73.8%) were white/non-Hispanic, 48 (14.8%) were Hispanic, 14 (4.3%) were African American, 3 (1%) were Asian American, and 19 (5.9%) identified themselves as “other.”

Data Collection and Procedure

Data used in this study were collected during the fourth week of the 15-week Spring 2002 semester. Participants were handed a five-page document consisting of a

personalized cover letter requesting their assistance along with a questionnaire containing five survey instruments approved by the university's Office of Research and Sponsored Programs and by the Internal Review Board. The cover letter stated the significance of the study and the value of each subject's participation (see Appendix A). The letter also explained that confidentiality and anonymity would be ensured. After signing the cover letter, participants proceeded to complete the surveys. Participants were asked to respond to a set of five survey instruments that dealt with their motives for communicating, temperament, and demographic information. Surveys were collected by the graduate teaching assistants in the lecture room immediately after the subjects completed the instruments. The administration of the questionnaire took approximately thirty minutes to complete.

Instrumentation

Five instruments were included in the questionnaire document. Three of the surveys evaluated the participants' temperament (see Appendix B). One instrument determined subjects' motives for communicating (see Appendix C). The last instrument asked participants to report demographic information about their sex, age, and ethnicity.

The first three instruments measured participants' temperament. All of the measures made statements related to the participants' everyday life or personal preferences. Subjects indicated their level of agreement on a 5-point, Likert-type scale. The first temperament instrument measured participants' level of extroversion (lively, venturesome, and sociable) or introversion (shy and quiet). The second temperament instrument examined participants level of neuroticism (anxious, depressed, irrational, and moody) or stability (calm, happy, and reasonable). The final instrument measured the

participants' level of psychoticism (impulsive, non-empathic, and antisocial) and impulse control (passive and feeling).

Extroversion. Participants' level of extroversion was measured using the ten-item instrument developed by Eysenck and Eysenck (1985). The extroversion instrument consists of items one through ten on Appendix B. A 5-point, Likert-type scale was used. A response of 1 indicated that the participant strongly disagreed with the item. A response of 5 indicated that the participant strongly agreed with the item. The potential range of scores was from 10 to 50. Representative items in the survey stated, "I am rather lively," "I like going out a lot," and "I can easily adapt to new and unusual situations." Only one of the items for E was reverse coded. Eysenck and Eysenck's (1985) extroversion measure has been used extensively and its validity and reliability are well established with Cronbach's alpha ranging from .80 to .82 (Valencic, McCroskey, & Richmond, 2001). Cronbach's alpha for the current study was .83. The scale yielded a mean of 3.73 ($SD = .60$).

Neuroticism. Participants' level of neuroticism was measured using Eysenck and Eysenck's (1985) ten-item measure. The neuroticism instrument consists of items eleven through twenty on Appendix B. A 5-point, Likert-type scale was used. A score of 1 indicated that the participant strongly disagreed with the item. A score of 5 indicated that the participant strongly agreed with the item. All of the items are worded such that agreement indicated neurotic tendencies. The potential range of scores was from 10 to 50. Typical items stated, "My mood often goes up and down," "I am a nervous person," and "I often feel lonely." Eysenck and Eysenck's (1985) neuroticism scale has demonstrated good reliability and validity in previous studies with Cronbach's alpha ranging from .81

to .86 (Eysenck & Eysenck, 1985). Cronbach's alpha for the current study was .86. The scale yielded a mean of 2.49 ($SD = .75$).

Psychoticism. Participants' level of psychoticism was measured using Eysenck, Eysenck, and Barrett's (1985) revised twelve-item measure. The psychoticism instrument consists of items twenty-one through thirty-two on Appendix B. A 5-point, Likert-type scale was used. A score of 1 indicated that the participant strongly disagreed with the item. A score of 5 indicated that the participant strongly agreed with the item. The potential range of scores was from 12 to 60. Representative items state, "I would like other people to be afraid of me," "I prefer to go my own way rather than act by the rules," and "I think that marriage is old-fashioned and should be done away with." Seven of the items on the survey were reverse coded. The psychoticism measure has shown acceptable reliability and validity with Cronbach's alpha ranging from .68 to .76 (Eysenck, Eysenck, & Barrett, 1985). While this reliability remains low, the scale has been validated as a measure of activation in specific neurobiological systems in the brain (Eysenck, Eysenck, & Barrett, 1985). No measures with higher reliability and with such a strong case for their validity were available (McCroskey, Heisel, & Richmond, 2001a). Cronbach's alpha for the current study was .70. The scale yielded a mean of 2.2 ($SD = .49$).

Interpersonal communication motives. The Interpersonal Communication Motives Scale developed by Rubin, Perse, and Barbato (1988) was used to measure participants' reasons for communicating. The instrument consists of 28 reasons people give for communicating. Participants indicated their level of agreement with each statement using a 5-point, Likert-type scale. A score of 5 means the participant communicates for "exactly" that reason. A score of 1 means the participant communicates for that reason

“not at all.” The potential range of scores was from 28 to 140. Items one through eight on Appendix C make up the pleasure motive. Items nine through thirteen make up the affection motive. Items fourteen through seventeen on Appendix C make up the inclusion motive. Items eighteen through twenty-one make up the escape motive. Items twenty-two through twenty-five make up the relaxation motive. Items twenty-six through twenty-eight on Appendix C make up the control motive. Typical items asks participants if they communicate “because it’s fun,” “to help others,” “because I need someone to talk to or be with,” “to put something off I should be doing,” “because it relaxes me,” and “because I want someone to do something for me.” None of the items were reverse coded. Rubin, Perse, and Barbato (1988) found the scale to be valid and reliable for all six motives. Cronbach’s alpha indicated that pleasure was reliable at .89, affection at .85, inclusion at .84, escape at .77, relaxation at .81, and control at .75 (Rubin, Perse, & Barbato, 1988). Means, standard deviations, and Cronbach’s alphas for the current study were $M = 3.73$, $SD = .68$, $\alpha = .89$ for pleasure, $M = 3.7$, $SD = .75$, $\alpha = .90$ for affection, $M = 3.75$, $SD = .72$, $\alpha = .76$ for inclusion, $M = 2.9$, $SD = .99$, $\alpha = .87$ for escape, $M = 3.08$, $SD = .82$, $\alpha = .89$ for relaxation, and $M = 2.44$, $SD = .90$, $\alpha = .85$ for control.

Data Analysis

All questionnaire data were entered and processed using SPSS. Results were calculated using one-tailed Pearson correlations to examine the relationships between temperament and ICM. Step-wise multiple regression analyses were conducted to determine which of the temperament variables accounted for the most unique and shared variance in each of the interpersonal communication motives.

CHAPTER FOUR

RESULTS

This chapter reviews the results from this investigation for each of the one-tailed correlation hypotheses and the research questions. Findings for the interpersonal communication motives of pleasure, affection, inclusion, escape, relaxation, and control are reported in relation to the temperament variables of extroversion, neuroticism and psychoticism.

Pleasure Motive

The first set of hypotheses examined the interpersonal communication motive of pleasure. Correlations are presented in Table 1. Hypothesis 1a predicted a positive correlation between extroversion and pleasure. This hypothesis was supported ($r = .46$, $N = 325$, $p < .001$, $r^2 = .21$). Hence, the more extroverted the participants were, the more likely they were to report communicating for pleasure.

Hypothesis 1b predicted a negative correlation between neuroticism and pleasure. This hypothesis was supported ($r = -.10$, $N = 325$, $p < .05$, $r^2 = .01$). The more neurotic the participants were, the less likely they were to report communicating for pleasure.

Hypothesis 1c predicted a positive correlation between psychoticism and pleasure. Contrary to the proposed hypothesis, results indicated that psychoticism was negatively correlated with pleasure ($r = -.26$, $N = 325$, $p < .001$, $r^2 = .07$). Participants with trait

psychoticism were less likely to report communicating for pleasure. Hypothesis 1c was rejected.

Table 1

Correlations between Extroversion, Neuroticism, and Psychoticism and Interpersonal Communication Motives

Motives	E	N	P
Pleasure	.46**	-.10*	-.26**
Affection	.30**	.001	-.39**
Inclusion	.18**	.15*	-.31**
Escape	.11*	.23**	.09
Relaxation	.29**	.01	-.19**
Control	.06	.20**	.21**

Note: * $p < .05$ and ** $p < .001$.

The first research question asked which temperament variables accounted for the most unique and shared variance in the pleasure motive. When predicting the interpersonal communication motive of pleasure with an $N = 325$, the extroversion ($r = .43$, $\beta = .43$, $p < .001$) and psychoticism ($r = -.21$, $\beta = -.21$, $p < .001$) semi-partial correlations, which are listed by percent of unique variance and beta weight strength, remained predictors that accounted for 22% of the total variance in the statistical model with 3% of the variance being shared [$F(2, 324) = 53.92$, $p < .001$]. Extroversion accounted for 18% of the unique variance and psychoticism accounted for 4% of the unique variance in pleasure. Neuroticism did not account for unique variance in the

pleasure motive. The amount of unique and co-linear or shared variances are presented in Table 2.

Table 2

Unique, Co-linear, and Total Variance for Extroversion, Neuroticism, and Psychoticism with Interpersonal Communication Motives

	Unique Variance Attributed to			Co-Linear	Total Variance*
	E	N	P		
Pleasure	.18	.00	.04	.03	.25
Affection	.06	.00	.12	.00	.18
Inclusion	.04	.05	.09	.00	.18
Escape	.03	.07	.00	.00	.10
Relaxation	.07	.00	.03	.01	.11
Control	.02	.04	.04	.00	.10

Note: * total variance is the sum of the unique and co-linear variances.

Affection Motive

The second set of hypotheses examined the interpersonal communication motive of affection. Hypothesis 2a predicted a positive correlation between extroversion and affection. This hypothesis was supported ($r = .30$, $N = 325$, $p < .001$, $r^2 = .09$). Hence, the more extroverted participants perceived themselves, the more likely they were to communicate for affection.

Hypothesis 2b predicted a negative correlation between neuroticism and affection. Results indicated that neuroticism and pleasure were not significantly correlated ($r = .001$, $N = 325$, $p > .05$). Thus, hypothesis 2b was rejected.

Hypothesis 2c predicted a negative correlation between psychoticism and affection. This hypothesis was supported ($r = -.39$, $N = 325$, $p < .001$, $r^2 = .15$). Participants with trait psychoticism were less likely to report communicating for affection.

The second research question asked which temperament variables accounted for the most unique and shared variance in the affection motive. When predicting the interpersonal communication motive of affection with an $N = 325$, the psychoticism ($r = -.37$, $\beta = -.35$, $p < .001$) and extroversion ($r = .25$, $\beta = .25$, $p < .001$) semi-partial correlations, which are listed by percent of unique variance and beta weight strength, remained predictors and accounted for 18% of the total variance in the statistical model with none of the variance being shared [$F(2, 324) = 42.83$, $p < .001$]. Psychoticism accounted for 12% of the unique variance and extroversion accounted for 6% of the unique variance in affection. Neuroticism did not predict the affection motive.

Inclusion Motive

The third set of hypotheses examined the interpersonal communication motive of inclusion. Hypothesis 3a predicted a positive correlation between extroversion and inclusion. This hypothesis was supported ($r = .18$, $N = 325$, $p < .001$, $r^2 = .03$). The more extroverted participants were, the more likely they were to report communicating with others to feel included.

Hypothesis 3b predicted a positive correlation between neuroticism and inclusion. This hypothesis was supported ($r = .15$, $N = 325$, $p < .05$, $r^2 = .02$). Hence, participants with a neurotic temperament trait were more likely to communicate for inclusion.

Hypothesis 3c predicted a negative correlation between psychoticism and inclusion. This hypothesis was supported ($r = -.31, N = 325, p < .001, r^2 = .10$). Participants with trait psychoticism were less likely to report communicating for inclusion.

The third research question asked which temperament variables accounted for the most unique and shared variance in the inclusion motive. When predicting the interpersonal communication motive of inclusion with an $N = 325$, the psychoticism ($r = -.30, \beta = -.30, p < .001$), neuroticism ($r = .22, \beta = .22, p < .001$), and extroversion ($r = .19, \beta = .20, p < .001$) semi-partial correlations, which are listed by percent of unique variance and beta weight strength, remained predictors and accounted for 18% of the total variance in the statistical model with none of the variance being shared [$F(3, 324) = 20.34, p < .001$]. Psychoticism accounted for 9% of the unique variance, neuroticism accounted for 5% of the unique variance, and extroversion accounted for 4% of the unique variance in inclusion.

Escape Motive

The fourth set of hypotheses examined the interpersonal communication motive of escape. Hypothesis 4a predicted a positive relationship between extroversion and escape. This hypothesis was supported ($r = .11, N = 325, p < .05, r^2 = .01$). Hence, extroverted participants reported that they communicated with others to escape from tasks or responsibility.

Hypothesis 4b predicted a positive correlation between neuroticism and escape. This hypothesis was supported ($r = .23, N = 325, p < .001, r^2 = .05$). Participants with trait neuroticism were more likely to communicate to escape.

Hypothesis 4c predicted a positive correlation between psychoticism and escape. The obtained correlation was in the predicted direction of the hypothesis ($r = .09$, $N = 325$, $p > .05$), but it was not statistically significant. This hypothesis was rejected.

The fourth research question asked which temperament variables accounted for the most unique and shared variance in the escape motive. When predicting the interpersonal communication motive of escape with an $N = 325$, the neuroticism ($r = .27$, $\beta = .28$, $p < .001$) and extroversion ($r = .17$, $\beta = .18$, $p < .001$) semi-partial correlations, which are listed by percent of unique variance and beta weight strength, remained positive predictors and accounted for 10% of the total variance in the statistical model with none of the variance being shared [$F(2, 324) = 14.57$, $p < .001$]. Neuroticism accounted for 7% of the unique variance and extroversion accounted for 3% of the unique variance in escape. Psychoticism did not predict the escape motive.

Relaxation Motive

The fifth set of hypotheses examined the interpersonal communication motive of relaxation. Hypothesis 5a predicted a positive correlation between extroversion and relaxation. This hypothesis was supported ($r = .29$, $N = 325$, $p < .001$, $r^2 = .08$). Extroverted participants were more likely to report communicating to relax.

Hypothesis 5b predicted no relationship between neuroticism and relaxation. Results indicated a nonsignificant relationship between neuroticism and relaxation ($r = .01$, $N = 325$, $p > .05$). Thus, hypothesis 5b was supported.

Hypothesis 5c predicted a positive correlation between psychoticism and relaxation. Contrary to the proposed hypothesis, results indicated a negative relationship between psychoticism and relaxation ($r = -.19$, $N = 325$, $p < .001$, $r^2 = .04$). Participants

with trait psychoticism were less likely to report communicating to relax. Thus, hypothesis 5c was rejected.

The fifth research question asked which temperament variables accounted for the most unique and shared variance in the relaxation motive. When predicting the interpersonal communication motive of relaxation with an $N = 325$, the extroversion ($r = .26$, $\beta = .27$, $p < .001$) and psychoticism ($r = -.16$, $\beta = -.16$, $p < .003$) semi-partial correlations, which are listed by percent of unique variance and beta weight strength, remained predictors and accounted for 10% of the total variance in the statistical model with 1% of the variance being shared [$F(2, 324) = 19.27$, $p < .001$]. Extroversion accounted for 7% of the unique variance and psychoticism accounted for 3% of the unique variance in relaxation. Neuroticism did not predict the relaxation motive.

Control Motive

The sixth set of hypotheses examined the interpersonal communication motive of control. Hypothesis 6a predicted a negative correlation between extroversion and control. Results indicated a non-significant, positive correlation between extroversion and control ($r = .06$, $N = 325$, $p > .05$). Thus, hypothesis 6a was rejected.

Hypothesis 6b predicted a positive correlation between neuroticism and control. This hypothesis was supported ($r = .20$, $N = 325$, $p < .001$, $r^2 = .04$). Participants with trait neuroticism reported that they communicate to control others.

Hypothesis 6c predicted a positive correlation between psychoticism and control. This hypothesis was supported ($r = .21$, $N = 325$, $p < .001$, $r^2 = .04$). Participants with trait psychoticism were more likely to communicate for control.

The sixth research question asked which temperament variables accounted for the most unique and shared variance in the control motive. When predicting the interpersonal communication motive of control with an $N = 325$, the psychoticism ($r = .21$, $\beta = .21$, $p < .001$), neuroticism ($r = .21$, $\beta = .22$, $p < .001$), and extroversion ($r = .14$, $\beta = .15$, $p < .01$) semi-partial correlations, which are listed by percent of unique variance and beta weight strength, remained positive predictors and accounted for 10% of the total variance in the statistical model with none of the variance being shared [$F(3, 324) = 11.14$, $p < .001$]. Psychoticism accounted for 4% of the unique variance, neuroticism accounted for 4% of the unique variance, and extroversion accounted for 2% of the unique variance in control.

Summary of Results

This chapter reports results for each hypothesis and research question proposed. In summary, extroversion was positively correlated with the interpersonal communication motives of pleasure, affection, inclusion, escape, and relaxation. The extroversion trait was not correlated with control. Neuroticism was positively correlated with inclusion, escape, and control, negatively correlated with pleasure, and not correlated with affection and relaxation. Psychoticism was positively correlated with control, negatively correlated with pleasure, affection, inclusion, and relaxation, and not correlated with escape.

Results for the first research question suggest that extroversion accounts for the most unique variance in the pleasure motive. Results for the second research question suggest that psychoticism accounts for the most unique variance in the affection motive. Results for the third research question suggest that psychoticism accounts for the most unique variance in the inclusion motive. Results for the fourth research question suggest

that neuroticism accounts for the most unique variance in the escape motive. Results for the fifth research question suggest that extroversion accounts for the most unique variance in the relaxation motive. Results for the sixth research question suggest that neuroticism and psychoticism equally account for the most unique variance in the control motive. It appears that the three super traits are orthogonal, meaning that minimal to no variance is shared.

CHAPTER FIVE

DISCUSSION

This chapter discusses the hypothesized and unhypothesized results of the study. The first section of the chapter reviews the argument advocated in the thesis. The second section offers interpretations for the supported hypotheses. The third section discusses and interprets the research questions. The fourth section discusses results for the unsupported hypotheses and provides theoretical and methodological explanations for the findings. The fifth section discusses the implications of the study. The sixth section of this chapter addresses limitations of the study. The seventh section offers suggestions for future research. A summary of the thesis is provided at the end of the chapter.

Review of Argument

The purpose of this study was to examine the relationships between interpersonal communication motives and temperament traits. The main argument presented in this thesis is that interpersonal communication motives are trait-like in nature and might have a neurobiological basis. To support this argument, four claims were analyzed in the second chapter. First, extroversion, neuroticism, and psychoticism make up an individual's temperament, which has been shown to have a neurobiological basis (Beatty & McCroskey, 1998; Beatty, McCroskey, & Valencic, 2001; Valencic, McCroskey, & Richmond, 2001). Research examining neurobiology and temperament traits were

presented and explained. Second, communication traits are the manifestations of an individual's temperament (Eysenck & Eysenck, 1985). Various communication traits were identified and explained, including communication apprehension, shyness, nonverbal immediacy, socio-communicative orientation, verbal aggressiveness, and willingness to communicate. The third claim stated that interpersonal communication motives are related to communication traits (Rubin & Martin, 1998). To support this claim research was presented which linked ICM to communication apprehension, loneliness, communicator style, socio-communicative orientation, and nonverbal immediacy. The fourth claim argued that ICM might be biologically based communication traits. To analyze this claim, a series of hypotheses were proposed and research questions were asked.

When interpreting the results of this study, it is important to note that, unlike other studies using the communibiological paradigm, this study does not interpret the r as r -squared. In other studies using this paradigm, a raw correlation of .30 is interpreted as variance accounted for, rather than the traditional r -squared or 9% of the variance accounted for. Beatty and McCroskey (2001) continue to argue that the relationships between Eysenck and Eysenck's (1985) super traits and other communication variables remain spurious in nature because there is a latent variable influencing the relationship. They argue that the latent variable is neurobiological in nature. Because of the spurious nature of the relationship, the r should be interpreted to determine effect size, rather than the r -squared. In this study, a more conservative or traditional approach was taken when interpreting the results. This was done as a way to meet some of the concerns expressed

by committee members advising this study and because the research community continues to question Beatty and McCroskey's methodology (Condit, 2000).

Additionally, this study reports correlations that are not corrected for attenuation. Only the raw correlations were reported in the current study. Numerous scholars dis-attenuate correlations found between temperament traits and communication behaviors (Beatty, McCroskey, & Heisel, 1998; Cole & McCroskey, 2000; Heisel, McCroskey, & Richmond, 1999; Valencic, McCroskey, & Richmond, 2001). Dis-attenuated correlations account for instruments that are less than reliable. Cronbach's alphas for all three of the temperament measures were at or above .70 in the current study. Since all of the instruments had acceptable reliabilities, there was no need to compute dis-attenuated correlations.

Supported Hypotheses

This section of the chapter discusses and interprets the supported findings. Supported hypotheses are discussed under the super traits of extroversion, neuroticism, and psychoticism.

Extroversion. The temperament trait of extroversion was found to be related to some of the interpersonal communication motives. The supported hypotheses predicted that extroversion was positively related to pleasure, affection, inclusion, escape, and relaxation. Based on Rubin and Martin's (1998) analysis of interpersonal communication motives, theoretical explanations for each of the findings are offered.

First, the more extroverted people are, the more likely they are to communicate for pleasure. Extroverts communicate for pleasure to be amused and entertained. They are

sociable and lively individuals who communicate for pleasure because it possibly fulfills the secondary need of arousal. Extroverts communicate for pleasure as predicted.

Second, the more extroverted people are, the more likely they are to communicate for affection. Extroverts possibly express emotions more easily than people with trait neuroticism and psychoticism because of their sensation-seeking nature. Also, because extroverts tend to be nonverbally immediate and responsive, they more easily express emotions to show affection (McCroskey, Heisel, & Richmond, 2001a; 2001b). Basic safety and security needs might be met when extroverted people communicate for affection to show or receive love.

Third, the more extroverted people are, the more likely they are to communicate for inclusion. Extroverts might communicate for inclusion because of their sociable and cooperative nature. Additionally, extroverts' willingness to communicate serves as a motivation for them to communicate as a means to feel belonged (McCroskey, Heisel, & Richmond, 2001a). They might receive a sense of belonging when they have social affiliations.

Fourth, the more extroverted people are, the more likely they are to communicate to escape. Extroverts possibly communicate to escape in order to be distracted from tasks and reduce stress. The venturesome and carefree nature of extroverts might allow them to communicate in order to delay tasks and avoid responsibility. Also, extroverts' sociable and sensation-seeking characteristics might allow them to focus on communicating with others instead of concentrating on tasks.

Fifth, the more extroverted people are, the more likely they are to communicate for relaxation. Similar to the escape motive, extroverts might communicate to relax as a

means to reduce stress. Their carefree nature possibly allows extroverts to want to unwind and rest.

The supported hypotheses suggest that extroversion is positively related to pleasure, affection, inclusion, escape, and relaxation. Extroversion accounted for 21% of the variance in pleasure, 9% in affection, 3% in inclusion, 1% in escape, and 8% in relaxation (using r-squared values). Extroversion had its strongest relationship with the pleasure motive. Therefore, it can be suggested that communicating for pleasure is more biologically influenced by extroversion than the other interpersonal communication motives. These findings provide some support that ICM may be a collection of communication traits since extroversion accounts for variance in five of the six interpersonal communication motives. The motives of pleasure, affection, inclusion, escape and relaxation were found to be related to the super trait of extroversion. Because extroversion is one of the three super traits that makes up an individual's temperament (Eysenck & Eysenck, 1985), the motives might be communication traits that are influenced by temperament. The next section interprets the results for the super trait of neuroticism.

Neuroticism. The temperament trait of neuroticism was found to be related to some of the interpersonal communication motives. The supported hypotheses predicted that neuroticism was positively related to inclusion, escape, and control and not related to relaxation. Theoretical explanations of the supported hypotheses concerning neuroticism are offered based on Rubin and Martin's (1998) rationale.

First, the more neurotic people are, the less likely they are to communicate for pleasure. One possible theoretical explanation for this finding is that neurotic people

might not have the goals of amusement or entertainment that are associated with the interpersonal communication motive of pleasure. Neurotic people appear to be too anxious, tense, or shy to seek pleasure from communicating with others. Furthermore, pleasure fulfills the secondary need of arousal (Rubin & Martin, 1998). Neurotics might have a heightened state of arousal because of their emotional instability. Their emotions could possibly be in a flux as they feel moody, depressed, or guilt-prone. The intense emotions that neurotics might experience could provide enough arousal that they do not need to communicate for pleasure.

Second, the more neurotic people are, the more likely they are to communicate for inclusion. Because neurotics have a negative self-image, they appear to communicate with others to feel included as a means to improve their self-image. Neurotic people possibly suppress their irrational thinking about their image by seeking out acceptance from others. Additionally, neurotics might receive a sense of belonging by communicating with others.

Third, the more neurotic people are, the more likely they are to communicate to escape. Neurotics' anxious, tense, and guilt-prone nature makes them possibly want to escape responsibility and stress from tasks. They appear to communicate to escape in order to be distracted from their emotions.

Fourth, the more neurotic people are, the more likely they are to communicate for control. They appear to try to control others and their environment. The moody, anxious, and irrational feelings neurotics experience might motivate them to communicate for control. In essence, neurotics possibly communicate to reduce uncertainty in their

environment. This would allow them to feel as if they have power and are in control of their surroundings and their emotions.

Finally, no relationship exists between neuroticism and relaxation as predicted. The findings suggest that neurotics may not communicate to relax. Many neurotics have communication apprehension, and do not find communicating relaxing. Therefore, they might reduce stress by using alternative interpersonal communication motives. The data suggest that neurotic people may not use the motive of relaxation to communicate with others.

The supported hypotheses suggest that neuroticism is positively related to inclusion, escape, and control, negatively related to pleasure, and not related to relaxation. Neuroticism accounted for 2% of the variance in inclusion, 5% in escape, and 4% in control (using r-squared values). Neuroticism appears to have relatively consistent influences on the inclusion, escape, and control motives. Even though the biological influences of neuroticism account for limited amounts of variance in interpersonal communication motives, the influences suggest that interpersonal communication motives are biologically linked to the super trait of neuroticism because the super trait has been shown to be related to an individual's inherited neurobiological structures (Beatty, McCroskey, Heisel, 1998). The next section interprets the results for the super trait of psychoticism.

Psychoticism. The temperament trait of psychoticism was found to be related to some of the interpersonal communication motives. The supported hypotheses predicted that psychoticism was related negatively to affection and inclusion and positively with

control. Theoretical explanations for the findings concerning psychoticism are offered based on Rubin and Martin's (1998) rationale.

First, the more psychotic people are, the less they tend to communicate for affection. The antisocial, impersonal, and unempathic nature of psychotics might limit their communication with others to show or receive love. Additionally, psychotic people tend to be verbally aggressive (Beatty & McCroskey, 1997). They appear to have an easily activated fight or flight system, which results in aggressive communication behaviors. Activation of the fight or flight system must be delayed for friendliness, bonding, and comforting behaviors (Beatty & McCroskey, 1998). Therefore, psychotics are likely to avoid communicating for affection if they cannot delay or prevent the activation of their fight or flight system.

Second, the more psychotic people are, the less they communicate for inclusion as predicted. The deviant, impulsive, and antisocial characteristics of psychotic people might limit their communication for inclusion. Psychotics possibly feel as if they do not need to belong to a group because they are tough-minded enough to stand alone.

Third, the more psychotic people are, the more likely they are to communicate for control. While psychotic people might not want to belong to a group, they do appear to want to control others. The aggressive, egocentric, and creative nature of psychotics might motivate them to seek power. They appear to want others to do their work in order to achieve the primary need of ego-achievement.

The supported hypotheses suggest that psychoticism is related negatively to affection and inclusion and positively with control. Psychoticism accounted for 15% of the variance in affection, 10% in inclusion, and 4% in control (using r-squared values).

Psychoticism appears to have its strongest biological influences on the affection and inclusion motives. Even though the biological influences of psychoticism account for limited amounts of variance in interpersonal communication motives, the influences suggest that interpersonal communication motives are biologically linked to psychoticism because the super trait has been shown to be related to an individual's inherited neurobiological structures (Beatty & McCroskey, 1997). The more psychotic people are, the less likely they are to communicate for affection and inclusion and the more likely they are to communicate for control.

Review of Research Questions

Six research questions asked which temperament variables accounted for the most unique and shared variance in each ICM. These research questions are important in order to determine if a dominate or multiple super trait predictors of interpersonal communication motives exist. Finding a dominate or multiple super trait predictors for each motive will help explain the role of neurobiological functioning in communication behaviors. For example, if extroversion is the dominate predictor in pleasure, we can analyze the behavior activation system to improve our understanding of communication resulting from the relationship between extroversion and pleasure. Research suggests that the behavior activation system becomes goal-directed to acquire rewards and avoid punishment. Extroverts might have a sensitive BAS if they view communication with others as a reward from which they receive pleasure.

Understanding the dominate or multiple predictors of each motive helps explain the role of neurobiological functioning in communication behaviors that result from the relationships between temperament traits and interpersonal communication motives.

Beatty, McCroskey, and Heisel (1998) provided an additional example of how we can explain the role of neurobiological functioning in communication behaviors.

Communication apprehension is the manifestation of neurotic introversion. The combination of the two super traits results in an over activate behavior inhibition system and an under active behavior activation system that ultimately inhibits communication with others. Understanding that neuroticism and introversion are the dominate predictors of communication apprehension and how the predictors are possibly influenced by neurobiological functioning helps us treat those with the fear of communicating (Kelly & Keaten, 2000). Similarly, identifying the dominate predictors of interpersonal communication motives may help us understand the neurobiological functioning underlying temperament traits and communication behaviors. Findings for each of the research questions are discussed below.

Pleasure motive. Results for the first research question indicate that 25% of the unique and shared variance in the pleasure motive is attributable to extroversion and psychoticism with extroversion being the strongest super trait predictor accounting for 18% of the unique variance. Psychoticism accounted for 4% of the unique variance in the pleasure motive. The more psychotic people are, the less likely they are to communicate for pleasure. Only 3% of the variance was shared. Out of the three super traits and the six interpersonal communication motives, the relationship between extroversion and pleasure was the strongest, meaning that the pleasure motive may be more biologically influenced than some of the other interpersonal communication motives. This finding can be explained by the sociable and sensation-seeking nature of extroverts (Eysenck & Eysenck, 1985). Extroverts may find communication rewarding, thus experiencing an

early activation of the behavior activation system. The behavior activation system possibly motivates extroverts to communicate with others as a means to feel rewarded.

Affection motive. Results for the second research question reveal that 18% of the variance in the affection motive is attributed to psychoticism and extroversion.

Psychoticism accounted for 12% of the unique variance and is the strongest super trait predictor. The more psychotic people are, the less likely they are to communicate for affection. Extroversion accounted for 6% of the unique variance in the affection motive. Psychoticism and extroversion do not share any of the variance in the affection motive and neuroticism does not account for any of the variance. The strong relationship between psychoticism and affection can be explained by the unempathic and antisocial nature of psychotics. They communicate to show affection less than sociable extroverts (Eysenck & Eysenck, 1985). The more psychotic people are, the less likely they are to communicate to show and receive affection.

Inclusion motive. Results for the third research question indicate that 18% of the variance in the inclusion motive is attributable to extroversion, neuroticism, and psychoticism. Psychoticism accounted for 9% of the unique variance in inclusion and is the strongest super trait predictor. The more psychotic people are, the less likely they are to communicate for inclusion. Extroversion accounted for 4% of the unique variance and neuroticism accounted for 5% of the unique variance in the inclusion motive. Psychoticism, extroversion, and neuroticism do not account for any shared variance in the inclusion motive. The relationship between psychoticism and inclusion can be explained by the unempathic and antisocial nature of psychotics. They communicate to be included

less than neurotics with low self-esteem and sensation-seeking extroverts. The more psychotic people are, the less likely they are to communicate to feel included.

Escape motive. Results for the fourth research question reveal that 10% of the variance in the escape motive can be attributed to the extroversion and neuroticism super traits, with neuroticism being the strongest predictor accounting for 7% of the unique variance. Extroversion accounted for 3% of the unique variance in the escape motive. Neuroticism and extroversion do not share any of the variance in the escape motive and psychoticism does not account for any of the variance. The relationship between neuroticism and escape can be explained by the anxious and guilt-prone nature of neurotics. They might need to escape responsibilities and tasks to reduce stress in their lives more than carefree extroverts.

Relaxation motive. Results for the fifth research question indicate that 11% of the variance in the relaxation motive is attributed to extroversion and psychoticism. Extroversion was the strongest super trait predictor and accounted for 7% of the unique variance. Psychoticism accounted for 3% of the unique variance in the relaxation motive. The more psychotic people are, the less likely they are to communicate for the relaxation motive. Extroversion and psychoticism share 1% of the variance in the relaxation motive and neuroticism does not account for any variance. The relationship between relaxation and extroversion can be explained by the carefree and sensation-seeking nature of extroverts. They like to relax and might use communication to do so more than antisocial psychotics.

Control motive. Results for the sixth research question reveal that 10% of the variance in the control motive is attributed to extroversion, neuroticism, and

psychoticism. Extroversion accounted for 2% of the unique variance, neuroticism accounted for 4% of the unique variance, and psychoticism accounted for 4% of the unique variance. No clear super trait predictors appeared and none of the variance was shared.

In sum, results for the research questions suggest that extroversion accounted for the most unique variance in the pleasure and relaxation motives. Neuroticism accounted for the most unique variance in the escape motive. Psychoticism accounted for the most unique variance in the interpersonal motives of affection and inclusion. Little or no variance was shared among the temperament traits for the interpersonal communication motives. In terms of biological influence, it appears that pleasure, affection, and inclusion may be the most susceptible interpersonal communication motives.

Summary of supported hypotheses and research questions. The supported findings examining the relationships between extroversion, neuroticism, and psychoticism and interpersonal communication motives suggest that ICM may be trait-like in nature and less susceptible to situational or environmental influences. Because these traits make up an individual's temperament (Eysenck & Eysenck, 1985) and have been shown to be related to neurobiological functioning (Gray, 1991) the findings provide support that ICM may be communication traits.

Unsupported Hypotheses

While the majority of the hypotheses were supported, results indicated that some of the hypotheses were not supported. This section will review and interpret the unsupported hypotheses. Theoretical and methodological explanations are offered for the unpredicted findings.

First, it was predicted that extroversion would be negatively correlated with control. Results suggest that extroversion is not related to control. Extroverted people may not use control as a motive for communicating in interpersonal contexts. A theoretical explanation for this finding might be that extroverted people do not feel as if they need to communicate in order to control others because they can fulfill their primary need of ego-achievement by communicating for other reasons. For example, extroverted people, who communicate for affection and inclusion, might believe that if they are loved and belong to a group, they have no need to control others. Their primary need of ego-achievement may be fulfilled by expressing their feelings and feeling belonged.

One of the characteristics of extroverts is that they are highly adaptable (Eysenck & Eysenck, 1985). This is supported by the results of this study that suggest that extroversion is positively correlated with all of the ICM except control. Data from the current study indicate that extroverts communicate for more reasons than neurotics and psychotics. Extroverts might use their adaptive abilities to fulfill their primary need of ego-attainment by communicating for reasons other than control.

One possible methodological explanation as to why extroversion is not related to control might be because the control factor only includes three items on the ICM scale. While the reliability for the control factor was acceptable ($\alpha = .85$), it was one of the lowest reliabilities out of the five factors that make up ICM. Additional items might represent the factor more thoroughly, increasing the reliability, and resulting in significant results.

Second, it was predicted that neuroticism would be negatively correlated with affection. This hypothesis was not supported. Results indicate that neuroticism is not

related to affection. Neurotic people may not use the ICM of affection as a reason to communicate with others. A possible theoretical explanation might be that neuroticism is negatively correlated with immediacy (McCroskey, Heisel, & Richmond, 2001a; McCroskey, Heisel, & Richmond, 2001b). Therefore, neurotic people might not have the verbal and nonverbal behaviors to express affection. Neurotic people are often shy and tense. These characteristics might motivate neurotics to suppress their feelings of love and affection toward others.

Additionally, affection fulfills the primary needs of safety and security (Rubin & Martin, 1998). Because this study found neuroticism to be positively correlated with control, neurotics may fulfill safety and security needs by attempting to control others and their environment. Communicating for the motive of control might allow neurotics to reduce uncertainty, which results in increased feelings of safety and security. Power and control appear to provide security for neurotics more than affection and love.

Third, it was predicted that psychoticism would be positively correlated with escape. This hypothesis was not supported. While the obtained correlation was in the predicted direction, the results were not significant. Psychotic people do not communicate for the ICM of escape. A theoretical explanation of this finding might stem from the impersonal and antisocial nature of psychotics. Psychotics might not communicate for escape because they do not like relying on others (Eysenck & Eysenck, 1985).

Escape fulfills the secondary need to reduce stress by being distracted from tasks and responsibilities (Rubin & Martin, 1998). Because control is the only ICM positively correlated with psychoticism, psychotics might fulfill this need by controlling others. It

could be that when psychotic people control others to get someone else to do their tasks, they also reduce their stress. Psychotics possibly use the control motive to fulfill their needs because of their impersonal and antisocial nature.

Two unexpected correlations were found with psychoticism. First, it was predicted that psychoticism would be positively correlated with pleasure. The results indicate that psychoticism is negatively correlated with pleasure. Second, it was predicted that psychoticism would be positively correlated with relaxation. The results indicate that psychoticism is negatively correlated with relaxation. The rationale for these unsupported predictions was that psychotics would find communication pleasurable and relaxing because it would help them engage in deviant, reckless behaviors. The theoretical explanation for these two unexpected correlations is the same. Psychotics are characterized as cold, antisocial, impersonal, and aggressive. All of these characteristics suggest that psychotics would not enjoy communicating with others for pleasure or relaxation.

Furthermore, the aggressive nature of psychotics causes an early activation of their fight or flight system resulting in the onset of rage (Beatty & McCroskey, 1997). Psychotics might become easily aggravated or frustrated with others when they cannot suppress the activation of their fight or flight system. Consequently, they may not find communication with others pleasurable or relaxing.

In addition to a theoretical explanation, there also might be a methodological explanation for the two unexpected hypotheses. Although the surveys were anonymous and confidential, participants might have given socially desirable responses. For example, one of the items asked participants if they would take drugs that might have strange or

dangerous effects. If participants offered socially desirable responses to such personal questions, the amount of people making up the psychotic condition would be reduced. A smaller sample of people who identified themselves as psychotic might have skewed the results.

Summary of unsupported hypotheses. The unsupported findings suggest that not all of the ICM are correlated with the three super traits. Extroversion is not related to control, neuroticism is unrelated to affection, and psychoticism and not related to escape. On the other hand, some of the unexpected findings provide additional support that ICM are communication traits. Results suggest that psychoticism is negatively correlated with pleasure and relaxation. These findings indicate that ICM might be communication traits because they are related to psychoticism.

Implications of Study

The current study has several implications for the communication discipline. Implications for the interpersonal and instructional contexts are offered in this section.

Interpersonal communication implications. This study provides implications for the interpersonal context. The data from this study suggest that the super traits of extroversion, neuroticism, and psychoticism have some predictive power, which supports the argument that interpersonal communication motives may be trait like in nature. If we know what type of temperament people have, we can predict the interpersonal communication motives that underlie their communication with others (Rubin & Martin, 1998). For example, we know that extroverts communicate for pleasure, affection, inclusion, escape, and relation. We also know that extroversion predicts communication for the pleasure and relaxation motives more than other temperament traits. So, in an

interpersonal relationship, two friends who are extroverted may enjoy communicating with each other. They may use communication as a means to pleasure and relaxation. If we know that the individuals are extroverts, we can predict that they are more likely to communicate for pleasure, affection, inclusion, escape, and relaxation.

We know that neurotics communicate for inclusion, escape, and control. Additionally, we know that neuroticism predicts communication for the escape motive more than other temperament traits. This information can be applied to the interpersonal context. People who are anxious, shy, or guilt prone might need to communicate with friends and loved ones to escape the stress associated with their temperament. Their low self-esteem might motivate them to talk with others in order to feel included. Additionally, neurotics that have communication apprehension and suffer from anxiety might need to communicate to control their surroundings in attempts to reduce uncertainty and their stress levels. Identifying people as neurotics can help predict the reasons why they might communicate with others.

We also know that psychotics communicate for control, but do not communicate for pleasure, affection, inclusion, and relaxation. From an interpersonal perspective, psychotic people may attempt to control friends and loved ones. Consequently, psychotic people might suffer from a lack of close personal relationships if they cannot show prosocial behavior (Beatty & McCroskey, 1998). Identifying people's temperament traits might help us predict why they communicate with others.

If we can predict how people might respond, it is our job to understand and accept that their responses are trait driven. Rather than trying to change people's trait responses, we should focus on adapting our communication (McCroskey & Beatty, 2000).

Additionally, we can use the findings of this study to inform others how to adapt their communication to others. Even though traits cannot be changed, people can learn adapting skills to cope with their communication and temperament traits.

Instructional implications. The results from this study also suggest some instructional implications. The results of this study suggest that the super traits have explanatory power. If we know what type of temperament people have, we can explain to a degree, the reasons why they communicate with others. We can use the information from this study to make people aware of their communication with others. Specifically, teachers can ask students to fill out the temperament trait scales. Teachers can educate students about their trait characteristics and the reasons why they might communicate based on their temperament.

Since temperament traits are thought to be innate (Eysenck & Eysenck, 1985), teachers can test students at an early age and educate them about the characteristics that accompany their temperament. Additionally, teachers can explain to students why they do or do not communicate. For example, if a student has a psychotic temperament and has difficulty making friends, a teacher can explain to the student that he or she might be more antisocial or tough-minded than the other students. A teacher should not simply explain the characteristics of a temperament. The reasons why the student does or does not communicate with other pupils might be causing the difficulty making friends. The teacher should ask the student if he or she is communicating to control the situation or other students.

If a student with a psychotic temperament is having difficulty making friends because he or she is primarily communicating to control others, then the teacher can

inform the student of coping skills. Rather than focusing on changing the student's communication behavior, the teachers should offer the student with information to help cope with the situation (McCroskey & Beatty, 2000). First, the teacher can explain that the student may not be experiencing a "goodness of fit" with the situation. If many of the students in the classroom have trait psychoticism, the environment is likely to be egocentric and unempathic. The psychoticism trait is more easily expressed and difficult to suppress. The teacher should suggest teach the students coping skills for responding to the controlling communication of others.

Second, the teacher should inform the student of all the reasons to communicate with others. If the student is primarily communicating to control others and the environment, the student might benefit from knowing that he or she can communicate for pleasure, affection, inclusion, escape, and relaxation. The student can still make a conscious effort to use alternative interpersonal communication motives even though the results from the current study suggest that psychoticism is negatively correlated with pleasure, affection, inclusion, and relaxation and not correlated with escape. While the psychotic student might have a difficult time remembering to communicate for reasons other than control, he or she may benefit from information about interpersonal communication motives.

Third, while the student will likely always have a psychotic temperament, skills training might help to lessen a moderate psychotic condition. Kelley and Keaten (2000) argue that skills training has been beneficial to students with neurotic introversion who suffer from moderate communication apprehension. While the students continue to have trait communication apprehension, they are capable of successfully communicating with

others. Teachers can inform their students of specific skills to improve their use of interpersonal communication motives. For example, the psychotic student can keep a list of all the reasons why he or she communicates with others throughout the day. If the student sees that he or she is not using a motive as much as the other ones, the student can consciously attempt to communicate for that motive.

Fourth, perhaps the most important action a teacher can take is to teach students how to adapt to their peers' communication behaviors. For example, extroverted students can be asked to find pleasure in communicating with psychotic and neurotic students. Neurotic and psychotic students can be asked to recognize that they are both likely to communicate for control. Even though neuroticism and psychoticism each accounted for only 4% of the unique variance in the control motive, self-awareness of their communication with others is an important step in order to adapt to others. Neurotic and psychotic students can be asked to adapt to the situation and monitor their communication so that attempts to control others or the environment is limited.

Regardless of students' temperaments, the explanatory power of this study can be used to help students understand their temperament and how it relates to their reasons for communicating with others. Students may benefit from basic information about traits, interpersonal communication motives, and goodness of fit. They may also benefit from skills training aimed at using multiple interpersonal communication motives. Most importantly, students can benefit from adapting to others and situations.

Limitations

Several limitation to the current study exist. They include the possible environmental influences on the participants and the research design. The first limitation

concerns the influence of the environment on people as they age. If people are born with traits, the age of the participants should not affect their temperament traits. Additionally, if interpersonal communication motives are communication traits, then they should not be influenced by age either. However, numerous studies suggest that elderly people communicate for different reasons than college aged students (Barbato & Perse, 1992; Holladay et al., 1997; Martin, Myers, & Mottet, 1999). Perhaps people learn to communicate for different reasons as they grow older. This study used participants between the ages of 18 and 35, with an average age of 20. The young participants' reported reasons for communicating might be more trait-like because they have had less time to learn how to communicate for different reasons. If different age groups communicate for different reasons, then ICM are the result of environmental influences more than heredity. This contradiction in the literature remains a limitation of the current study because it suggests that interpersonal communication motives might not be communication traits. Rather, reasons why people communicate are the result of the environment and the situations in which people communicate.

The second limitation to the study concerns the research design, which does not allow for causal relationships, unless we accept the assumption that traits are related to neurobiological functioning. The statistical analyses and the findings yielded from these analyses provide support for correlational relationships. However, the cause of the relationships cannot be completely identified (Beatty, McCroskey, & Valencic, 2001). The findings are spurious relationships, meaning that the causal variables remain unknown. Not knowing the cause of the relationships is a limitation of the current study. The findings provide useful information to explain that people with certain temperament

traits communicate for particular reasons. However, the findings do not tell us why people communicate for those reasons, unless we accept the assumption that neurobiological functioning is related to temperament traits.

Directions for Future Research

Future research should focus on three areas: improving the temperament trait measures, finding more communication traits, and examining the interaction effects of communication traits. First, temperament measures should continue to be refined and measured against the brain structures proposed by Gray (1991). While many scholars might feel that the measures should be refined by researchers in the psychology field, communication scholars should make an effort to improve the instruments to confirm their reliability and validity, especially since Eysenck and Eysenck's (1985) measures are used more widely in the communication field than the Five-Factor Model proposed by Tupes and Christal (1961). At present, the alpha reliability for the psychoticism scale is consistently low throughout numerous studies (Cole & McCroskey, 2000; McCroskey, Heisel, & Richmond, 2001a; Valencic, McCroskey, & Richmond, 2001; Wrench & McCroskey, 2001). In the current study the reliability of the psychoticism scale was significantly lower than the reliability of the extroversion and neuroticism scales as well. Improving the temperament trait measures, especially psychoticism, will result in more valid and reliable scales that can account for more unique and shared variance in communication traits.

Second, researchers should continue to examine the relationships between temperament traits and communication behaviors. Beatty (1998) explains that researchers should continue to establish the connection between communication traits and

neurobiological functioning. Extroversion, neuroticism, and psychoticism might be related to other communication behaviors, such as affinity-seeking, student motivation, and communicative adaptability. Additional communication behaviors should be examined with temperament traits to create a more in-depth understanding of the communibiological paradigm.

Third, researchers should examine the interaction effects of communication behaviors that have been found to be correlated with temperament traits. Now that multiple behaviors have been identified as communication traits, scholars should examine how those communication traits interact to affect people's behavior. For example, how do people generally behave when they have the communication traits of a high humor orientation, a high level of communication apprehension, and communicate for the motive of escape? Understanding the interaction effects of communication traits will allow scholars to account for more unique and shared variance in communication behaviors and understand the causal relationships between temperament and communication traits. Future research should continue to examine communication traits and how they interact.

Summary of Thesis

This study examined the relationships between interpersonal communication motives (ICM) and temperament traits. Specifically, this study sought to determine if ICM were communication traits based on their correlations with the temperament traits of extroversion, neuroticism, and psychoticism. Additionally, the unique and shared variance of the temperament variables were examined for each ICM.

Results indicated that extroversion was positively correlated with the interpersonal communication motives of pleasure, affection, inclusion, escape, and relaxation and was not correlated with control. Neuroticism was positively correlated with inclusion, escape, and control, negatively correlated with pleasure, and not correlated with affection and relaxation. Psychoticism was positively correlated with control, negatively correlated with pleasure, affection, inclusion, and relaxation, and not correlated with escape.

Results for the research questions suggest that extroversion accounts for the most unique variance in the pleasure and relaxation motives. Neuroticism accounts for the most unique variance in the escape motive. Psychoticism accounts for the most unique variance in the interpersonal motives of affection and inclusion.

APPENDIX A
CONSENT FORM

Dear COMM 1310 Student:

You are invited to participate in a study that investigates communication behaviors. With your assistance, I hope to understand the reasons why you communicate with others. If you decide to participate, you will be asked to complete the attached surveys. The surveys will take approximately ten minutes to complete. You are encouraged to complete each survey as accurately and thoroughly as possible; however, you may terminate your participation at any time. All survey responses will remain **anonymous** (meaning that the information cannot be linked to you personally) and **confidential** (meaning that the information is being used only for research purposes). Your participation is voluntary and there are no negative repercussions for not participating in this study.

Your signature at the bottom of this cover sheet indicates that you have read and understand the information on this cover letter and that you are willing to participate. When you are finished completing the surveys, please detach the cover letter so that your anonymity can be insured.

If you have any questions, or are interested in finding out more about this study, please feel free to contact me at (512) 245-2165.

Again, thank you for your assistance.

Michelle L. Paulsel
Master's Degree Candidate
Department of Speech Communication
Southwest Texas State University

Signature of Participant

Date

APPENDIX B

TEMPERAMENT INSTRUMENT

Instructions: This survey involves people's feelings and orientations. Hence, there are no right or wrong answers. We just want you to indicate your reaction to each item. Your response should reflect the degree to which you believe the item applies to you. Please use the following scale to indicate your level of agreement that the item applies to you:

1 = Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly Agree

- _____ 1. I am rather lively.
- _____ 2. I enjoy meeting new people.
- _____ 3. I like going out a lot.
- _____ 4. I am a happy-go-lucky person.
- _____ 5. I am mostly quiet when I am with other people.*
- _____ 6. I like mixing with people.
- _____ 7. I often make decisions on the spur of the moment.
- _____ 8. I like plenty of bustle and excitement around me.
- _____ 9. I nearly always have a "ready answer" when people talk to me.
- _____ 10. I can easily adapt to new and unusual situations.
- _____ 11. My mood often goes up and down.
- _____ 12. I sometimes feel "just miserable" for no reason.
- _____ 13. I am an irritable person.
- _____ 14. I often feel "fed up."
- _____ 15. I often am troubled about feelings of guilt.
- _____ 16. I am a nervous person.
- _____ 17. I am tense or "high strung."
- _____ 18. I often feel that life is very dull.
- _____ 19. I often feel lonely.
- _____ 20. I am easily hurt when people find fault with me or my work.
- _____ 21. I would take drugs which may have strange and dangerous effects.
- _____ 22. I prefer to go my own way rather than act by the rules.
- _____ 23. I think that marriage is old-fashioned and should be done away with.
- _____ 24. I think people spend too much time safeguarding their future with savings and

insurance.

- _____ 25. I would like other people to be afraid of me.
- _____ 26. I take a lot of notice of what other people think.*
- _____ 27. Being in debt would worry me.*
- _____ 28. Good manners and cleanliness matter a lot to me.*
- _____ 29. I enjoy cooperating with others.*
- _____ 30. It worries me if I know there are mistakes in my work.*
- _____ 31. I try not to be rude to people.*
- _____ 32. It is better to follow society's rules rather than to go one's own way.*

Note: * indicates that item is reverse-coded.

APPENDIX C

INTERPERSONAL COMMUNICATION MOTIVES INSTRUMENT

Instructions: Here are several reasons people give for why they talk to other people. For each statement, please fill in the blank with the number that best expresses your own reasons for talking with others. Use the following scale:

1 = Not at all 2 = Not much 3 = Somewhat 4 = A lot 5 = Exactly

I talk to people:

- _____ 1. Because it's fun.
- _____ 2. Because it's exciting.
- _____ 3. To have a good time.
- _____ 4. Because it's thrilling.
- _____ 5. Because it's stimulating.
- _____ 6. Because it's entertaining.
- _____ 7. Because I enjoy it.
- _____ 8. Because it peps me up.
- _____ 9. To help others.
- _____ 10. To let others know I care about their feelings.
- _____ 11. To thank them.
- _____ 12. To show others encouragement.
- _____ 13. Because I'm concerned about them.
- _____ 14. Because I need someone to talk to or be with.
- _____ 15. Because I just need to talk about my problems sometimes.
- _____ 16. Because it makes me feel less lonely.
- _____ 17. Because it's reassuring to know someone is there.
- _____ 18. To put off something I should be doing.
- _____ 19. To get away from what I am doing.
- _____ 20. Because I have nothing better to do.
- _____ 21. To get away from pressures and responsibilities.
- _____ 22. Because it relaxes me.
- _____ 23. Because it allows me to unwind.
- _____ 24. Because it's a pleasant rest.

- _____ 25. Because it makes me feel less tense.
- _____ 26. Because I want someone to do something for me.
- _____ 27. To tell others what to do.
- _____ 28. To get something I don't have.

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