

USING THE CIRCUMPLEX MODEL TO EXAMINE THE RELATIONSHIP
BETWEEN GENDER, GENDER-ROLE IDENTITY, AND
ATTACHMENT STYLE

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ABSTRACT

Using the Circumplex Model to Examine the Relationship Between Gender, Gender-Role Identity, and Attachment Style

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The relationship between gender, gender-role identity, and attachment style was examined using the circumplex model. Participants included 490 college students who completed the Bem Inventory, the Relationship Questionnaire, and the Interpersonal Adjective Scales. Primary hypotheses were formulated to explore parallels within the gender-role and attachment literature. Secondary hypotheses were formulated to: (a) explore, by gender, the masculinity effect in gender-role research along the dimensions of dominance and affiliation; (b) differentiate cross-sex gender-role-types (i.e., masculine females and feminine males) from same-sex gender-role-types (i.e., masculine males and feminine females); and, (c) distinguish, by gender, undifferentiated gender-role types from the remaining gender-role types. Circulinear grouped frequency distributions were prepared and 95% confidence intervals were calculated. Polar vectors among hypothesized types were compared using a circulinear test of significance. As predicted, androgynous gender-role and secure attachment types endorsed dominant and affiliative traits with parity. Masculine gender-role types endorsed more dominant traits than

remaining gender-role and attachment types. Also as predicted, preoccupied attachment types and feminine gender-role types endorsed more affiliative traits than remaining types. However, contrary to the hypothesis regarding fearful avoidant attachment and undifferentiated gender-role types, these types endorsed a trait pattern similar to preoccupied and feminine types. Dismissing avoidant attachment types endorsed a trait pattern similar to androgynous and secure types. The unusual grouping of dismissing avoidant types with more socially adept androgynous and secure types was attributed to an artifact in assessment methodology. When trait endorsement patterns were examined by gender, it was found that: (a) masculine males endorsed more dominant and fewer affiliative traits than remaining types; (b) masculine females, androgynous males, and androgynous females endorsed both dominant and affiliative traits with parity; (c) and feminine males, feminine females, and undifferentiated females endorsed more affiliative traits and fewer dominant traits than remaining types. Data regarding undifferentiated males was not tested since the maximum likelihood estimators for this group were too low to be reliable. Since gender-role research has traditionally been analyzed using factor analytic methods, a multivariate factorial MANOVA was used concurrently to test all hypotheses regarding gender, gender-role identity, attachment style, and dispositional traits. Results of the MANOVA and follow-up discriminant function tests support circular significance test results.

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CHAPTER 1

Introduction

In Western culture, masculinity and femininity have traditionally been viewed unidimensionally and thought to be inversely correlated (Hare-Mustin & Marecek, 1990). Psychological as well as physical dichotomy between males and females was assumed. With the beginning of the modern feminist movement in the 1960's, this dichotomous view of gender was challenged. Re-examination of the gender literature in this light revealed that differences other than higher verbal ability in girls, higher visual-spatial and mathematical ability in boys, as well as higher levels of aggression, are attributable to the interaction of biological and sociocultural processes (Jacklin, 1989). As a result, gender-linked personality traits came to the forefront of psychological research and the term "sex" became circumscribed to biological sex; whereas, "gender" is used to refer to "a dynamic construct that draws on and impinges upon processes at the individual, interactional, group, institutional, and cultural levels" (Deaux, 1999, p. 11).

In the 1970's, researchers moved from a unidimensional, inversely correlated model of masculinity and femininity to a two-dimensional model in which masculinity and femininity were no longer construed as polar opposites. Bem (1974) formulated the term gender-role identity in order to describe each individual's basic sense of masculinity or femininity. An individual's gender-role identity originates with the early labeling of the child's biological sex, which begins the process of gender-typing (Cook, 1985).

Gender-typing refers to the way a person “acquires and values the particular characteristics considered appropriate for his or her sex in [their] culture” (Cook, 1985, p. 3). Gender-role identity, therefore, can be defined as that constellation of gender-related personality traits, characteristics, and behaviors adopted by an individual as culturally desirable.

When Bem (1974) provided a method for measuring both masculine and feminine dimensions of personality, androgyny became a measurable construct. Bem’s model provided a method by which an individual can be classified as masculine or feminine regardless of gender (i.e., masculine male or female; feminine male or female). An individual who integrates aspects of both masculinity and femininity is classified as androgynous. Androgyny is thought to be the ideal among gender-role typologies, as it became linked with flexibility, adaptability, social competence, and psychological adjustment (Bem, 1975; Bem, Martyna, & Watson, 1976; Lubinski, Tellegen, & Butcher, 1981; Orlofsky & O’Heron, 1987; Spence, Helmreich, & Stapp, 1975).

Attachment theory, on the other hand, provided a model within which researchers can assess the impact of early developmental history upon current behavioral and psychological functioning. Bowlby’s (1969) model was conceptualized in an attempt to make psychoanalytic theory amenable to research. Recent research has provided measurement instruments for assessing attachment styles in adolescence and adulthood. Studies linking attachment styles to personality, social functioning, and psychopathology

have proliferated. Similar to the results of research on androgyny within the gender-role literature, secure attachment has been linked to social and cognitive competence, self-esteem, life satisfaction, and psychological well-being (Arend, Gove, & Sroufe, 1979; Armsden & Greenberg, 1987; Armsden, McCauley, Greenberg, Burke, & Mitchell, 1990; Bretherton, 1985; Greenberg, Siegel, & Leitch, 1983; Kenny & Donaldson, 1991; Kobak & Sceery, 1988; Lapsley, Rice, & Fitzgerald, 1990; Matas, Arend, & Sroufe, 1978; Sroufe, 1978, 1979; Sroufe, Fox, & Pancake, 1983).

Recently researchers have noted theoretical and empirical similarities between secure attachment and androgyny (Collins & Read, 1990; Shaver, Papalia, Clark, Koski, Tidwell, & Nalbone, 1996). Parallels existing between the gender-role and attachment literature originate from the view that behavior is influenced by context and manifests in complex behavioral patterns that have social, emotional, and cognitive components. Bem (1981b) postulated that gender-role identity originates in self-concept, which becomes assimilated into a cognitive schema regulating gender-related behavior. Attachment theory applies schematic cognitive processing to developmental tasks as well by postulating that early attachment patterns between an infant and its caretakers evolve into a working model which organizes behavior (Ainsworth & Bowlby, 1991; Bowlby, 1969; Bretherton, 1985; Main, Kaplan, & Cassidy, 1985).

Both gender-role theory and attachment theory imply that optimal functioning involve two dimensions of personality: masculine or instrumental/agentive characteristics

and feminine or expressive/communal characteristics. Personality trait theorists contend these dimensions (i.e., dominance and affiliation) are the primary interpersonal determinants of behavior (Bakan, 1966; McCrae & Costa, 1989; Parsons & Bales, 1955; Wiggins, 1979). Since both gender-role and attachment theory incorporate dimensions of dominance and affiliation, the circumplex model which was designed to measure aspects of these dimensions was chosen as the methodological framework within which the relationship between gender-role identity and attachment style would be explored.

CHAPTER 2

Literature Review

Gender-Role Theory

During the early 1970's, theorists began to challenge traditional gender polarization and moved to a two-dimensional model of masculinity and femininity in which these constructs were no longer construed as dichotomous. In order to distinguish the concepts of masculinity and femininity, researchers looked to the earlier work of Parsons and Bales (1955) and Bakan (1966). Parsons and Bales posited an instrumental-expressive continuum, within which expressive is defined as sensitivity and responsiveness towards others and instrumental is defined as goal-directed behavior. Bakan postulated an agentic-communal continuum, with agentic referring to concern for self and communal referencing the self in relationship with others. Instrumental-agentic characteristics are generally attributed to masculinity, while expressive-communal characteristics are attributed to femininity.

Bem's (1974) seminal work on the development of a two-dimensional model of masculinity and femininity resulted in the creation of a self-report instrument designed to assess gender-role identity. Bem (1974) asserted that individuals are not either masculine or feminine, but incorporate aspects of both masculinity and femininity. Bem's (1974) inventory classified individuals as masculine, feminine, or androgynous based on their endorsement of specific personal attributes. Individuals who scored: (a) high on

masculinity and on low femininity were classified as masculine; (b) low on masculinity and high on femininity were classified as feminine; and, (c) similarly on masculinity and femininity were classified as androgynous. As investigators questioned the fact that androgynous individuals who scored high on both the masculinity and femininity scales and individuals who scored low on both scales received the same classification (i.e., androgynous; Heilbrun, 1976; Orlofsky, Aslin, & Ginsburg, 1977; Sedney, 1981; Strahan, 1975), Bem's (1974) classification procedure was revised in order for high-high scorers to be categorized as androgynous, and low-low scorers to be categorized as undifferentiated (Bem, 1977).

Researchers also examined which gender-role classification instruments most accurately assessed gender-role identity (Archer, 1989; Downs & Langois, 1988; Hungerford & Sobolew-Shubin, 1987; Spence, 1991). It is generally agreed that the two most common instruments (i.e., Bem Sex-Role Inventory, Bem, 1974; 1981a; Personal Attributes Questionnaire, Spence & Helmreich, 1974) measure socially desirable instrumental and expressive traits. Spence and Helmreich (1980) state that "the personal qualities of instrumentality and expressiveness measured by these instruments . . . have considerable importance for many socially significant behaviors, some of them role related" (p. 161-162).

Gender-role research has been guided by three theoretical perspectives. The first, social learning theory, states that the acquisition of gender-role identity occurs by

learning through the processes of imitation, modeling, and reinforcement (Schaffer, 1981). Within this model, observation and interaction with others shapes behavior. Gender-role research from this perspective concentrates on identifying parental characteristics and attitudes which might be linked to children's gender-role identity.

Although studies suggest the greater influence of a same-sex parent upon the development of same-sex traits in their children, research has typically failed to show that the gender-role identity of parents influences that of their children (Cook, 1987; Huttunen, 1992; Juni & Grimm, 1993; Stephens & Day, 1979). Mother's gender-role attitudes, however, as well as parenting style, have been found to influence daughter's gender-role attitudes (Arditti, Godwin, & Scanzoni, 1991). A meta-analytic study comparing father-absent and father-present children on a variety of measures concluded there are few differences between father-present and father-absent females on gender-role measures, but "father-present boys were more stereotypically sex-typed than father-absent boys" (Stevenson & Black, 1988, p. 807).

Jackson, Ialongo, and Stollak (1986) examined the relationship between the gender-role typology of young adults and that of their parents. Results indicated that both parents influenced the development of masculinity and femininity in their children, but same-sex parents seemed to have more influence (Jackson et al., 1986). The findings of Juni and Grimm (1993), in an examination of gender-role similarities between young adults and their parents, also support same sex modeling for gender-roles. When

modeling occurs with the opposite sex parent, it “seems weighted toward the sex-role which is consonant with the child’s gender. That is, daughters model their father’s femininity role, while sons model (marginally) their mother’s masculinity role” (Juni & Grimm, 1993, p. 250). Stephens & Day (1979), however, in a study of the impact of mother-absent, father-absent, and intact families upon daughters, found that daughters’ gender-role identities were not related to the gender-role identities of their parents.

In spite of the proliferation of studies exploring the antecedents of gender-role identity, findings remained inconclusive, and investigators turned toward individual differences in an attempt to attain more consistent findings. The cognitive-developmental model focuses on individual differences in behavior, personality, and values between the various gender-role typologies and is the second theoretical perspective guiding gender-role research. This model implies that gender-role identity is the result of the interaction between a child’s cognitive processes and information from the environment (Block, 1973; Kohlberg, 1966). As children develop, cognitive processes affect the information received from the environment, and gender-role identity becomes a result of children’s attempt to understand the world around them. Kohlberg’s view emphasized an internal motivation for adopting gender-role identity by positing that gender is such an obvious natural descriptor that children use it to discern rules for social behavior (Martin & Halverson, 1981). Block (1973) proposed a model of development for gender-role identity that parallels Loevinger’s stages of ego development. Within this framework it is

assumed than an individual at the highest level of ego development would exhibit a gender-role identity consonant with the integration of both masculine and feminine traits and values (i.e., androgyny).

Bem (1981b) reformulated gender-role theory in terms of cognitive structures based on developments in cognitive psychology and shifted the focus from individual choice regarding the incorporation of gender-role identity (i.e., actively discovering social rules) to the insidious impact our androcentric culture has upon children's cognitive processes (Bem, 1993). Bem's (1993) premise is that "American culture is so gender polarizing in its discourse and its social institutions, children come to be gender schematic . . . without even realizing it" (p. 125). To be gender schematic implies a predisposition to adopt a gender-role identity in accordance with gender-consistent behaviors and attributes.

Bem (1981b) supported gender schema theory with the results of studies in which she found same-sex-typed individuals (i.e., masculine males or feminine females) to cluster a significantly higher percentage of words on the basis of gender than either the cross-sex gender-role-typed (i.e., feminine males or masculine females), androgynous, or undifferentiated groups on a recall task. Bem also found that same-sex gender-role-typed subjects were significantly faster than the other groups when making schema-consistent judgments about themselves.

Replicative studies of gender schematic processing have failed to produce consistent results (Deaux, Kite, & Lewis, 1985; Spence, 1991). One reason for this failure has been attributed to the fact that gender, rather than gender-role identity, has been found to be a better predictor of schematic processing in memory studies when stimulus materials are not relevant to the participant (Signorella, 1999). Bem's (1981b) theory, which showed gender-role identity as a better predictor of stimulus items than gender, was based on predictions about self. Second, although "differences in adult gender schemata have been presumed to relate to differing childhood socialization experiences (Bem, 1985; Taylor & Crocker, 1981), the link has not been empirically demonstrated since it has been difficult to assess the development of gender schemata in children" (Katz, 1987, p. 40). In early childhood, knowledge of gender role stereotypes has typically been used to explore gender schemata (Katz, 1987). However, knowledge of both gender and gender stereotypes influences results and produces ceiling effects at an early age (Fagot, Leinbach, & O'Boyle, 1992; Katz, 1987). Fagot, Leinbach, and O'Boyle (1992) found children who understood gender labels showed more knowledge of gender stereotypes.

Beyond preschool, children's gender schemata have been assessed by measuring gender preferences for toys (Katz, 1987). Several studies of children's toy preferences seem to support gender schema theory (Martin, 1999). Martin, Eisenbud, and Rose (1995) found that children preferred toys labeled for their own sex, rather than toys

labeled for the other sex. In studies using novel toys, researchers found that children are less interested in and retain less knowledge of toys that are labeled for the other sex (Bradbard & Endsley, 1983; Bradbard, Martin, Endsley, & Halverson, 1986). Bauer (1993), observing imitative gender-consistent or gender-inconsistent play sequences, found boys more likely to imitate gender-consistent sequences.

According to Edwards and Spence (1987; see also Spence, 1984, 1999), however, Bem's gender schema model, while propounded to be a two-factor model, remains essentially unidimensional. Although Bem establishes masculinity and femininity as separate and independent dimensions, in reality a single continuum is specified running from sex-typed or gender-schematic to non-sex-typed or gender-aschematic (1987). Sex-typed women and sex-typed men are classified together even though they exhibit a different trait pattern (1987). In contrast, Markus, Crane, Bernstein, and Siladi (1982) postulate two gender-schematic dimensions, one masculine and one feminine. According to their two-factor theory, masculinity scores are positively related to the use of masculine schemata and femininity scores are positively related to the use of feminine schemata. In both men and women, therefore, high masculine traits are related to the use of masculine schemata and high feminine traits are related to the use of feminine schemata.

Research on individual differences related to gender-roles has not, however, explained the diversity of findings within the various gender-congruent and gender-

incongruent constellations of characteristics and behavior. Therefore, recent models of gender-role identity combine both the internal aspects of gender-related traits with external gender-related behaviors (Deaux & Major, 1987). The social constructionist model, the third approach to studying gender-role related behavior, deals with the display of gender-related behaviors that are believed to be related to social functioning. The implication is that gender-related self-conceptions interact with context and personal goals, and it is this interaction that accounts for the wide variability of gender-related phenomena (1987). This model differs from others by the inclusion of proximal (contextual) as well as distal (biological and socialization) causes of gender-related behaviors (1987).

As early as 1968, studies have documented that the self-concepts of both genders mirror their respective stereotypes (Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968) which have been found to be “tenaciously unchanged over long periods of time and across cultures” (Prinsloo, 1992, p. 84). A substantial amount of literature exists indicating that conventionally gendered individuals (i.e., masculine males and feminine females) are more likely to organize information on the basis of gender and “to restrict their behavior in accordance with cultural definitions of gender appropriateness” (Bem, 1993, p. 156). Ziegler, Dusek, and Carter (1984) found that masculine and androgynous individuals scored higher on achievement/leadership (instrumental) and feminine and androgynous individuals scored higher on congeniality/sociability (expressive). This

finding seems to support the contention of Marsh and Byrne (1991) that females have higher self-concepts for more stereotypical feminine qualities, and males have higher self-concepts for more stereotypical masculine qualities.

Many studies found that both masculine and androgynous gender-role-typed individuals scored higher on various aspects of self-concept, self-esteem, and effective functioning (Alpert-Gillis & Connell, 1989; Antill & Cunningham, 1979; Autor, Suyemoto, & Harder, 1988; Bem, 1975; Bem, Martyna, & Watson, 1976; Flaherty & Dusek, 1980; Lamke, 1982; Lubinski et al., 1981; Orlofsky & O'Heron, 1987; Spence, Helmreich, & Stapp, 1975). Other findings have linked androgyny with behavioral flexibility, adaptability, social competence, self-esteem, and psychological adjustment (Bassoff & Glass, 1982; Bem, 1975; Lubinski, Tellegen, & Butcher, 1981; O'Heron & Orlofsky, 1990; Orlofsky & O'Heron, 1987; Payne, 1987; Whitley, 1983, 1984). These results have been explained by the masculinity effect which refers to the potential that masculine behaviors have for being more socially desirable than feminine behaviors in Western culture (Jones, Chernovetz, & Hansson, 1978; Kelly & Worrell, 1977; Pedhazur & Tetenbaum, 1979; Taylor & Hall, 1982; Whitley, 1984). The implication inherent in the masculinity effect is that what is being measured in an individual who is classified as androgynous are socially desirable masculine characteristics rather than an independent characteristic of androgyny (Spence & Helmreich, 1984).

When sex is viewed as a social category, children's judgments of others have been shown to rely on biological sex more than gender-related information; adults, however, have been shown to use both biological sex and gender-related information to make inferences about others (Martin, 1999). One example is the study by Porter, Geis, and Jennings (1983) in which adult subjects were asked to discern the leader in a photograph of male and female graduate students in a variety of seating positions around a rectangular table. It was found that males, when seated at the head of the table, were identified as the leader, but when females were shown seated at the head of the table, they were not identified as the leader. On the other hand, when adult perceivers are given unambiguous or highly individuating information, sex as a category is less influential (Biernat & Kobrynowicz, 1999). For example, if a target individual were described as having masculine characteristics, predictions about that individual would involve masculine roles and occupations.

In spite of the volume of gender-role research stimulated by researchers investigating the interactive aspects of gender-role related characteristics and behavior, generalizable findings continue to be elusive. Theorists now endorse a broader systemic perspective by calling attention to larger influences of biological essentialism, androcentrism, patriarchy, and gender polarization, all of which are inherently related to gender-role identity (Bem, 1993). Some researchers have postulated that since gender-role development is thought to be primarily determined by sociocultural factors (Block,

1973; Deaux, 1984; Deaux & Major, 1987; Maccoby, 1988), and the primary agents of socialization for the child are usually the caregivers (Huston, 1983), there might be a relationship between attachment behavior and gender-role identity (Haigler, Day, & Marshall, 1995). Haigler et al. (1995) reported feminine and androgynous gender-role types to endorse more positive relationships with parents than masculine and undifferentiated gender-role types. Other researchers, noting parallels between the gender-role literature and attachment literature, have also speculated on the relationship between attachment styles and gender-role identities, and found that androgyny and secure attachment are related (Shaver et al., 1996).

Attachment Theory

Attachment theory, based upon ethological research and evolutionary theory, was subsequently enhanced by developments in cognitive psychology and systems theory (Ainsworth & Bowlby, 1991). According to attachment theory, an infant forms internal representations of the self, an attachment figure, and the environment during the early stages of development (Bowlby, 1969). Consequently, the attachment system becomes a fundamental component of the cognitive structure subject to developmental change and environmental influence (Ainsworth, 1989). An infant's attachment behavior results in a behavioral repertoire equivalent to other species-characteristic behaviors such as feeding, mating, and exploratory behavior (Ainsworth, 1969). Attachment behavior manifests in crying, smiling, and vocalizing; and these behaviors are survival oriented by serving to

keep the infant in proximity to significant others for the purpose of protection (Ainsworth & Bowlby, 1991; Bowlby, 1969; Bretherton, 1985; Main, Kaplan, & Cassidy, 1985).

Conceptualized as a “goal-directed control system” (Bowlby, 1969; Bretherton, 1985), attachment behavior is organized so that “feelings of security and actual conditions of safety are highly correlated” (Ainsworth, 1969, p. 6). Affect, as well as cognition, is seen as instrumental in promoting attachment behavior (Sroufe & Waters, 1977). Since the set goal of the attachment system is perceived security (Bischof, 1975), behavior is seen to be influenced by context, and attachment is viewed as the organization of behavior which results from the interaction between individual and environment (Sroufe & Waters, 1977). Attachment, therefore, in addition to being an independent biologically-based system, also includes social, emotional, cognitive, and behavioral components.

Attachment theory has stimulated extensive research, the majority of which has been on infant-mother relationships. Ainsworth’s innovative research on the classification of individual differences in attachment organization in infants found varying patterns of behavior which manifest in response to the manipulation of the balance between attachment and exploratory behaviors (Ainsworth & Bell, 1970; Bell & Ainsworth, 1972; Stayton, Ainsworth, & Main, 1973). The three patterns of behavior found by Ainsworth (i.e., secure, insecure-avoidant, insecure-ambivalent; Ainsworth & Bell, 1970; Bell &

Ainsworth, 1972; Stayton et al., 1973) “reflect strategies used by the infant to manage affective arousal during interactions with, separations from, and reunions with the caregiver” (Goldberg, 1991, p. 394). Securely attached infants experience their mother as readily available and responsive; therefore, they participate in exploratory behavior which leads to mastery of the environment thus promoting their sense of competence. The attachment system of secure infants is activated only when security is threatened. Insecure-avoidant infants, however, continually monitor the attachment figure during exploration thus detracting to some degree from that exploration and their ability to develop self-competence. Finally, insecure-ambivalent infants remain preoccupied with the attachment figure substantially reducing their sense of mastery of the environment and sense of self-competence. In the 1980’s, it was found that maltreated infants were unclassifiable within the three original classifications. A fourth attachment pattern was identified, and labeled disorganized-disoriented. These infants exhibited unusual and conflicted behaviors in the presence of their parents, such as “freezing all movement, arms in air, with a trancelike expression; moving away from the parent to lean head on wall when frightened; and rising to greet the parent then falling prone” (Main, 1996, p. 239).

Research utilizing Ainsworth’s attachment classifications have repeatedly shown that the quality of early attachment relationships not only influences later attachment relationships but also affects components of personality development (Bretherton, 1985;

Main et al., 1985; Sroufe, 1978, 1979). A longitudinal study by Arend, Gove, and Sroufe (1979) linked effective autonomous functioning in infancy and toddlerhood with ego-control and ego-resiliency at ages four to five. Young children with histories of secure attachment have been found to be more persistent, more autonomous, more self-confident, more enthusiastic, more curious, and more affectively positive than children with histories of anxious attachment (Matas et al., 1978; Sroufe et al., 1983). Other studies have shown relationships between insecure attachment and dependent/compliant behavior in girls and more aggressive, disruptive, and attention-seeking behavior in boys (Turner, 1991). Since early attachment behavior consistently has been found to influence social and cognitive competence (Arend et al., 1979; Bretherton, 1985; Matas et al., 1978; Sroufe, 1978, 1979; Sroufe et al., 1983), the two central assumptions of attachment theory are that responsive caregiving establishes secure relationships and secure relationships lead to the development of competence.

Based upon the premise that attachment relationships continue to be important throughout the lifespan (Ainsworth, 1989; Bowlby, 1988; Bretherton, 1997), attachment theory research has expanded. Initially, assessment for the purpose of studying attachment in adolescence and adulthood relied on interviews that attempted to determine the individual's current working model of attachment based on interview information obtained regarding early attachment relationships. A longitudinal study using the Adult Attachment Interview found high correlations between early security of attachment and

later observations of behavior (Main et al., 1985). Disorganized-disoriented attachment behavior in infancy has been related to psychopathology in adolescence (Main, 1996). Several longitudinal studies report a greater than 70% correspondence between participants' attachment ratings in infancy, and their attachment interviews in young adulthood (Main, 1996).

Hazan and Shaver (1987) designed a self-report instrument for the purpose of classifying adults into categories that corresponded to Ainsworth's childhood attachment categories. Bartholomew and Horowitz (1991) later developed a four-category model of attachment in adulthood based on positive and negative internal models of self and other. The empirically-based research of Bartholomew and Horowitz identified four prototypical attachment patterns: (a) secure individuals exhibit positive views of self and others and are comfortable with intimacy and autonomy; (b) preoccupied individuals exhibit negative views of self, positive views of others, and are preoccupied or enmeshed with relationships; (c) dismissing-avoidant individuals exhibit positive views of self, negative views of others, and are dismissing of intimacy; and, (d) fearful-avoidant individuals exhibit negative views of both self and other and are socially avoidant.

As research expanded for the purpose of studying attachment in adolescent and adulthood, studies have reported a high positive relationship between adaptive functioning (i.e., higher self-esteem, increased life satisfaction, higher perceived competence, more willingness to seek social support, and better adjustment to college),

adaptive emotional functioning (i.e., less anxiety, distress, and hostility), and positive reports of parental and peer attachment (Armsden & Greenberg, 1987; Berman & Sperling, 1991; Greenberg et al., 1983; Kenny & Donaldson, 1991; Kobak & Sceery, 1988; Lapsley et al., 1990). Studies on attachment and romantic relationships have found that individuals who were identified as securely attached are involved in longer-lasting love relationships, are comfortable with intimacy, and experience higher levels of trust and commitment than anxiously and avoidantly attached individuals (Collins & Read, 1990; Simpson, 1990).

In addition, numerous studies have linked the less desirable attachment styles (i.e., preoccupied and avoidant) with negative behavioral and personality characteristics such as psychiatric distress, interpersonal distance, defensiveness, and vulnerability (Klohn & Bera, 1998; Pianta, Egeland, & Adam, 1996; Rosenstein & Horowitz, 1996). Recent studies have also examined attachment style with respect to attributional style, affect regulation, self-appraisal, and self-other similarity (Collins, 1996; Mikulincer, 1998; Mikulincer, Orbach, & Iavnieli, 1998). Collins (1996) found different styles of attachment predicted different attributional styles. Preoccupied and avoidant participants, when compared to secure participants, used more negative explanations and reported more emotional distress when explaining hypothetical relationship events. Mikulincer et al. (1998) found attachment-related concerns and needs affected self-other appraisals during a stress-inducing event (failure). Affect regulation was related to attachment style

in the determination of subject self-other similarity. When compared to secure individuals, avoidants underestimated and anxious-ambivalents overestimated self-other similarity. Negative affect increased differences and positive affect decreased differences. Searle and Meara (1999), in a study that explored attachment style, gender, and emotional experience, found that gender typically distinguished emotional experience, but not within attachment styles. Secure individuals were found to be less intent and more expressive. Preoccupied individuals were found to be more intent and more expressive. Dismissing individuals were found to be less intent and less expressive. Fearful individuals were found to be more intent and less expressive. Although Searle and Meara found gender differences in emotional experience (i.e., intensity and expressivity), males and females within the same attachment typologies were more similar than different.

Similar to gender-role research, attachment theory has also created a substantial volume of research exploring the cognitive, developmental, and situational determinants of attachment behavior. Since attachment has been found to be both gender and culturally neutral, gender-role researchers are now utilizing attachment theory to help establish more consistent and/or conclusive findings regarding role-related determinants of behavior. The common constructs upon which this new research is based are dominance (i.e., agency) and affiliation (i.e., communion), and these constructs also form the nomological basis of the circumplex model (Gurtman, 1991, 1992, 1993).

The Circumplex Model

Personality traits, reported as stable over time, describe consistencies in interpersonal behavior (Buss, 1989). The interpersonal circumplex was devised to describe and assess trait aspects of personality and interpersonal behavior along the dimensions of dominance and affiliation, both of which have been linked to gender, gender-role identity, and attachment (Bakan, 1966; Parsons & Bales, 1955; Bem, 1974, 1981a; Birtchnell, 1997; Spence, Helmreich, & Stapp, 1974). Recently, Birtchnell (1997) conceptualized Bowlby's definition of attachment (i.e., "attaining or retaining proximity to some undifferentiated and preferred individual;" Bowlby, 1977, p. 203) as the affiliative dimension of interpersonal functioning, and Bowlby's definition of the object of attachment (i.e., an individual "who is usually conceived of as stronger and/or wiser;" Bowlby, 1977, p. 203) as the dominance dimension of interpersonal functioning. Radecki-Bush (1989), in a study using gender-roles to predict interpersonal behavior, "concluded that BSRI instrumentality and expressiveness are related to self-described interpersonal behaviors that reflect patterns of control and affiliation behaviors" (as cited in Kiesler, 1996, p. 44). Since the dimensions of dominance and affiliation have been linked to gender, gender-role identity, and attachment style, the circumplex, which nomologically incorporates these interpersonal dimensions, was chosen as the model within which to explore the relationship between gender, gender-role identity, and attachment style.

The circumplex model is grounded in trait theory, which evolved from the use of factor analytic procedures as a method for describing consistencies in interpersonal behavior (Buss, 1989). Individuals who cluster within a particular conceptualized psychological dimension are considered to exhibit similar dispositional behavior, which would be dissimilar from the dispositional behavior of individuals who cluster within a different conceptualized psychological dimension. The circumplex model incorporates Sullivan's (1953) view that interpersonal interactions are the primary influence upon personality development. Therefore, the circumplex is designed to include only those traits related to the interpersonal domain (Wiggins, 1979, 1995).

In contrast, the five factor model of personality includes affective, experiential, and motivational traits in addition to interpersonal traits (McCrae & Costa, 1989). The five factors have been identified as extroversion, agreeableness, conscientiousness, emotional stability (i.e., neuroticism), and openness to experience. The factors of extraversion and agreeableness in the five-factor model define the circumplex dimensions of dominance and affiliation (McCrae & Costa, 1989). Regarding the remaining factors within the five-factor model, "neuroticism, openness, and conscientiousness are not intrinsically interpersonal," since these constructs exhibit intrapersonal qualities (McCrae & Costa, 1989, p. 586). The five-factor model and the circumplex models have been found to complement each other in describing personality (McCrae & Costa, 1989).

Leary (1957), one of the early contributors to the circumplex model, expanded Sullivan's (1953) work by conceptualizing interpersonal interactions along Cartesian coordinates. The vertical axis represents dimensions of power (i.e., dominance vs. submission), and the horizontal axis represents dimensions of affiliation (i.e., love vs. hostility; Tracey, 1994). The interpersonal concepts (i.e., dominance and affiliation) attributed to these coordinates have been consensually adopted by numerous investigators (Benjamin, 1974; Kiesler, 1983; Leary, 1957; Lorr & McNair, 1963; Plutchik & Conte, 1997; Wiggins, 1979).

Essentially, the circumplex is a correlation pattern having a distinct circular ordering, which is redefined as a circle (Gurtman, 1997), and the mathematical properties of the circle have allowed researchers to develop a comprehensive taxonomy of interpersonal tendencies (e.g., goals, traits, problems, emotions; Plutchik & Conte, 1997). Among interpersonal assessment measures, only octant versions meet trigonometric standards for ideal circumplexity (Kiesler, 1996). Among interpersonal measures designed utilizing octants, Wiggins' Interpersonal Adjective Scales (IAS) demonstrates the best fit to circumplex structure attained to date (Kiesler, 1996).

Purpose of Study

Four primary hypotheses were formulated to explore parallels between the gender-role and attachment literature along the dimensions of dominance and affiliation. First, in line with Shaver et al.'s (1996) findings that androgyny and secure attachment

are related and, in accordance with previous research supporting more adaptive functioning for both androgynous (Bem, 1975; Bem et al., 1976; Lubinski et al., 1981; Orlofsky & O'Heron, 1987; Spence et al., 1975) and securely attached individuals (Arend et al., 1979; Bretherton, 1985; Matas et al., 1978; Rice, 1990; Sroufe, 1978, 1979; Sroufe et al., 1983), it is hypothesized that both secure and androgynous individuals will endorse more dominant traits coupled with more affiliative traits than the remaining attachment and gender-role types. Second, based on findings from the attachment literature linking more females to a preoccupied attachment style and more males to a dismissing attachment style (Bartholomew & Horowitz, 1991), it is hypothesized that both dismissing and masculine types will endorse more dominant traits coupled with less affiliative traits than the remaining types; and, third, preoccupied and feminine types will endorse fewer dominant traits coupled with more affiliative traits than the remaining types. Fourth, it is hypothesized that both fearful and undifferentiated types will endorse fewer dominant traits coupled with fewer affiliative traits than the remaining groups based on findings that both undifferentiated and fearful-avoidant types rate low on adaptive functioning (Bartholomew & Horowitz, 1991; Ziegler et al., 1984).

A second set of hypotheses were formulated in an attempt to: (a) explore, by gender, the masculinity effect in gender-role research along the dimensions of dominance and affiliation; (b) differentiate cross-sex gender-role-types (i.e., masculine females and feminine males) from same-sex gender-role-types (i.e., masculine males and feminine

females); and, (c) distinguish, by gender, undifferentiated gender-role-types from remaining gender-role types. Hypotheses were: (a) androgynous males and females will endorse more dominant traits coupled with more affiliative traits than the remaining gender-role types with the exception of masculine males, who will endorse more dominant coupled with fewer affiliative traits than the remaining types; (b) feminine males will endorse more affiliative traits than masculine males, but more dominant traits than feminine females; (c) masculine females will endorse more dominant traits than feminine females, but fewer affiliative traits than masculine males; (d) feminine and undifferentiated females will endorse fewer dominant coupled with more affiliative traits than the remaining gender-role types, but undifferentiated females will endorse fewer affiliative traits than feminine females; and (e) masculine and undifferentiated males will endorse more dominant coupled with fewer affiliative traits than the remaining gender-role types, but undifferentiated males will endorse fewer dominant traits than masculine males.

Since the circumplex provides a theoretical framework within which the positive and negative correlates of agency and communion can be located within a two-dimensional space, it was anticipated that an emergent pattern might appear which would enable researchers to make predictions with more specificity regarding which gender-role or attachment types will endorse similar or dissimilar intrapersonal or interpersonal tendencies. Utilizing the same logic, predictions could be made regarding gender

differences between males and females within each gender by gender-role type regarding more specific dimensions of attitudes, characteristics, or behavior.

CHAPTER 3

Methods

Participants

Participants for this study included 490 male and female students recruited from two community colleges in an urban area of the Southwest. Demographic information regarding campus, student majors, student classifications, gender, age, ethnicity, religious affiliation, annual income, marital status, sexual orientation, and occupation is presented in Table 1.

One college was represented by 329 students (67.1%), and the other was represented by 161 students (32.9%). Declared majors represented 87.4% of the sample; 11.6% were undecided; and, 1% did not report. Of those who declared majors, 30.4% declared biological science; 16.3% declared psychology or social work; 13.3 % declared business or computer science; 8.2% declared education; 5.1% declared criminal justice, law, or fire science; 3.5% declared liberal arts; 3.3% declared fine arts; 3.1% declared communications; 2.0% declared engineering, math, or professional pilot; 1.2% declared history; and, 1.0% declared mortuary science. Freshman accounted for 53.7% of the sample; 37.9% were sophomores; 5.9% were juniors; 1.2% were seniors; 0.6% were graduate students; and, 0.6% did not report.

Males accounted for 35.5% of the sample, and females accounted for the remaining 64.7%. Participants ranged in age from 18 to 85 years with 75.3% of the

Table 1

Demographic Information

	Frequency	Percentage
<hr/>		
Campus		
One	161	32.9
Two	329	67.1
Major		
Psychology/Social Work	80	16.3
Liberal Arts	17	3.5
Biological Science	149	30.4
Business/Computers	65	13.3
Education	40	8.2
Criminal Justice/Law/Fire Science	25	5.1
Engineering/Math/Pilot	10	2.0
Fine Arts	16	3.3
Communications	15	3.1
History	6	1.2

(table continues)

	Frequency	Percentage
Mortuary Science	5	1.0
Undecided	57	11.6
Unreported	5	1.0
Student Classification		
Freshman	263	53.7
Sophomore	186	38.0
Junior	29	5.9
Senior	6	1.2
Graduate	3	0.6
Unreported	3	0.6
Gender		
Male	173	35.3
Female	317	64.7
Age		
18-24	369	75.3
25-35	74	15.1
36-45	22	4.5

(table continues)

	Frequency	Percentage
46-55	8	1.6
57-65	0	0.0
65+	2	0.4
Unreported	15	3.1
Ethnic Status		
Asian	18	3.7
Hispanic	270	55.1
Caucasian	176	35.9
African-American	16	3.3
American Indian	3	0.6
Other	4	0.8
Unreported	3	0.6
Religious Affiliation		
Catholic	233	47.6
Jewish	3	0.6
Protestant	166	33.9
None	60	12.2

(table continues)

	Frequency	Percentage
Other	26	5.3
Unreported	2	0.4
Annual Income		
Below \$15,000	335	68.4
\$15-\$29,999	91	18.6
\$30-\$49,999	31	6.3
\$50-\$99,999	8	1.6
\$100,000+	5	1.0
Unreported	20	4.1
Marital Status		
Single	384	78.4
Married	74	15.1
Divorced	24	4.9
Widowed	2	0.4
Other	4	0.8
Unreported	2	0.4

(table continues)

	Frequency	Percentage
Sexual Orientation		
Heterosexual	460	93.9
Gay	2	0.4
Lesbian	5	1.0
Bisexual	9	1.8
Uncertain	2	0.4
Unreported	12	2.5
Occupation		
Sales/Retail	69	14.1
CSR/Telemarketing	37	7.6
Restaurant/Bar	58	11.8
Administrative	47	9.6
Cashier/Teller	21	4.3
Beauty/Nail Technician	5	1.0
Nanny/Other	48	9.8
Medical/Dental/Pharmacy	26	5.3
Professional	4	0.8

(table continues)

	Frequency	Percentage
Self-Employed	11	2.2
Student/Unemployed	163	33.3
Unreported	1	0.2

population falling within the 18-24 age group; 15.1% falling within the 25-35 age group; 4.5% falling within the 36-45 year age group; 0.4% falling within the 65+ age group; and, 4.1% not reporting their age. Hispanics accounted for 55.1% of the sample population, and 35.9 % were Caucasian. Of the remaining ethnic groups, 3.7% were Asian; 3.5% were African-American; 0.6% were American Indian; 0.8% reported “Other;” and, 0.6% did not report their ethnicity. Catholic religious affiliation was reported by 47.6% of the participants; Protestant by 33.9%; “None” by 12.2%; “Other” by 5.3%; Jewish by 0.6%; and, 0.4% did not report. The majority of participants reported an annual income of less than \$15,000 per year (68.4%); 18.6% reported an income between \$15-\$29,999; 6.3% reported \$30-\$49,900; 1.6% reported \$50-\$99,999; 1% reported income at \$100,000+; and, 4.1% did not report.

The majority of participants were single (78.4%); 15.1% were married; 4.9% were divorced; 0.4% were widowed; 0.8% reported “Other;” and, 0.4% did not report. Heterosexuals were represented by 93.9% of the participants with 1.8% reporting bisexual; 1% reporting lesbian; 0.4% reporting gay; 0.4% reporting “Uncertain;” and, 2.5% not reporting. Unemployed students represented 33.3% of the sample population. Of those students who were employed, 14.1% worked in sales/retail; 7.6% in customer service/telemarketing; 11.8% in restaurant/bars; 9.6% administrative; 4.3% as cashier/tellers; 1% beauty/nail technicians; 9.8% as nanny/other; 5.3% medical/dental/pharmacy; 0.8% professional; 2.2% self-employed; and, 0.2% did not report.

Instruments

Each participant completed four questionnaires. Gender-role identity was measured by the Bem Sex-Role Inventory. Attachment style was measured by the Relationship Questionnaire. Dispositional traits were measured by the Interpersonal Adjectives Scale. Each participant also completed a demographic questionnaire (see Appendix A).

Bem Sex-Role Inventory – Short Form. The Bem Sex-Role Inventory – Short Form (BSRI) is a 30-item self-report measure designed to classify individuals on the basis of their gender-role identity (see Appendix B). The BSRI utilizes a Likert scale ranging from 1 (never or almost never true) to 7 (always or almost always true). The 30 items consist of a set of personality characteristics 10 of which represent stereotypically feminine attributes, 10 of which represent stereotypically masculine attributes, and 10 of which serve as filler items representing neutral attributes (Bem, 1981a). Respondents are instructed to indicate which of the listed characteristics is self-descriptive utilizing a 7-point Likert scale. The test is labeled simply “Bem Inventory” to reduce the possibility that responses might be influenced by a knowledge of the purpose of the scales. The BSRI has been utilized primarily with adults and college students.

The BSRI was developed as a research tool and has been used extensively by researchers whose interests lie in the relationship between gender-role identity and some other aspect of personality and behavior. Construction of the Bem is based on the following theoretical assumptions: (a) cultural definitions of femininity and masculinity

are internalized, and (b) an individual is characterized as masculine, feminine, or androgynous as a result of the extent to which they are motivated to regulate their behavior in accordance with cultural definitions of femininity and masculinity (1981a). Consequently, the preliminary item pool for the BSRI consisted of a list of approximately 200 personality characteristics from which the final masculine and feminine items were chosen. Judges, using a 7-point Likert scale ranging from 1 (not at all desirable) to 7 (extremely desirable) were requested to rate each item from the perspective of how American culture would rate that characteristic for either a man or a woman. The identified characteristic was qualified as masculine or feminine if it was judged by both males and females as significantly more desirable for one gender. In addition, filler items were selected from the original item pool on the basis of their being rated no more desirable for one sex than the other.

BSRI normative data were obtained with Stanford University undergraduates in a 1973 sample of 279 females and 444 males and a 1978 sample of 340 females and 476 males. Internal consistency is high (.75 to .90) and was estimated separately for females and males in both samples for the femininity score, the masculinity score, and the femininity-minus-masculinity difference score (Bem, 1981a). In addition to the masculinity and femininity scores being logically independent, they are also empirically independent with correlations ranging from -0.14 to $+0.19$ (1981a). Test-retest reliability after four weeks ranged from .76 to .94 (1981a). Social desirability response was empirically evaluated by comparing an individual's BSRI scores to scores obtained on

the Marlowe-Crowne Social Desirability scale and correlations were (- 0.15 to + 0.24) low (1981a). Construct validity was based on empirical research in which theoretically derived experimental hypotheses involving the concept of gender roles were tested. Five validation studies were conducted which demonstrated that the BSRI does identify the groups of individuals it was designed to identify: (a) feminine, high feminine-low masculine scorers; (b) masculine, high masculine-low feminine scorers; (c) androgynous, high feminine-high masculine scorers; or (d) undifferentiated, low feminine-low masculine scorers (1981a).

The Relationship Questionnaire. The Relationship Questionnaire (RQ) is a four-item adaptation (Bartholomew & Horowitz, 1991) of the Hazan and Shaver (1987) self-report measure. The RQ directs respondents to read prototypical descriptions of four attachment styles (i.e., secure, preoccupied, dismissing avoidant, and fearful avoidant), and to endorse the description that best describes themselves (see Appendix C). This measure has been widely used, shows adequate validity, and is considered an appropriate measure of current attachment orientation (Bartholomew & Horowitz, 1991; Hazan & Shaver, 1987; Horowitz, Rosenberg, & Bartholomew, 1993; Sperling, Berman, & Fagan, 1992; Sperling, Foelsch, & Grace, 1996).

The Interpersonal Adjective Scales. The Interpersonal Adjective Scales (IAS) is a self-report instrument that provides assessment of the primary dimensions of interpersonal transactions (i.e., dominance and affiliation; see Appendix D). Responses to the items yield scores on eight interpersonal octants (i.e., assured-dominant, cold-hearted,

unassured-submissive, warm-agreeable, arrogant-calculating, aloof-introverted, unassuming-ingenuous, and gregarious-extraverted), which provide information about how an individual typically behaves in interpersonal situations (Wiggins, 1995). The measure consists of 64 adjectives which subjects rate on an 8-point Likert scale from 1 (extremely inaccurate) to 8 (extremely accurate). A glossary of terms, which clarifies the meaning of the 64 adjectives, is included with the test booklet. The IAS, which requires 10th grade reading ability, was normed on 4,000 college students and adults. Separate norms are available for each group. The IAS has proven to be reliable for studying cross-cultural differences and personality characteristics when translated into other languages (Wiggins, 1995).

The IAS is based on a theory-driven approach requiring that test items exhibit a correlation pattern which have a distinct circular ordering. This approach, in turn, implies that the underlying population of traits has a uniform distribution (Gurtman, 1997). The circumplex structure of the IAS is reliable for samples sizes of 175 or greater (Wiggins, Trapnell, & Phillips, 1988). Within the circumplex, “polar opposites are represented by a -1.0 correlation, independent or unrelated elements are represented by a 0.0 correlation, and similar elements are represented by positive correlations” (Plutchik, 1997, pp. 28-29). Convergent validity has been established with a variety of personality inventories, diagnostic rating scales, act frequency studies, and self and other ratings (Wiggins, 1995). Internal consistency coefficients for the eight scales range from $.73$ to $.87$. When

subjects are tested under anonymous conditions, the social desirability index is low (Wiggins, 1995).

The IAS also provides a software program for scoring, which eliminates the need for complex mathematical calculations of angular location and vector length (Wiggins & PAR, 1995). The program generates a profile which includes: (a) an individual's interpersonal profile; (b) a summary of the individual's scores in each of the eight IAS octants; (c) dominance and affiliation scores; (d) a grouping of individual responses by item intensity; (e) angular location, vector length, and vector length \underline{T} score. The dominance and affiliation scores provide the Cartesian coordinates for locating the respondent in the circumplex space. Angular location provides information about the respondent's interpersonal type. Vector length is an indication of the intensity of the scores.

Procedure

At the request of the investigator, the study was announced in classes by instructors. Students were advised by both the instructor and the investigator that their participation was voluntary. Questionnaire packets were then distributed by the investigator to all students in each class. Students who did not wish to participate were requested to remain in class and were advised to return their uncompleted packets in the return envelope provided. The investigator advised all participants that the study was anonymous, and in order to insure anonymity, no identifying information was requested. Students completed their questionnaire packets in approximately 30 minutes and returned

their questionnaires to the investigator in a closed envelope upon completion. No incentives were offered to participants by the investigator or by the instructors.

Questionnaire packets included the following: (a) a brief description of the study, (b) a demographic questionnaire; (c) the Bem Inventory; (d) the Relationship Questionnaire; (e) the Interpersonal Adjective Scales; and, (f) a clasp envelope in which participants would return their completed or uncompleted packet. Test items were presented in alternating sequences in each packet to control for order effects.

CHAPTER 4

Results

Participants were classified by gender and gender-role identity as shown in Table 2. The median split method was used for classification into gender-role groups as recommended by Bem (1981a), and participants were classified based on the present sample's norms. The actual medians (femininity scale, $\underline{Md} = 5.54$; masculinity scale, $\underline{Md} = 5.04$) were weighted since 65% of the sample was female. The weighted medians (femininity scale, $\underline{Md} = 5.60$; masculinity scale $\underline{Md} = 5.10$) were used for classification. Individuals who scored below the median on both scales were classified as undifferentiated; individuals who scored above the median on both scales were classified as androgynous; individuals who scored below the median on the femininity scale and above the median on the masculinity scale were classified as masculine; and individuals who scored above the median on the femininity scale and below the median on the masculinity scale were classified as feminine. Distribution of the participants among the four categories is as follows: 28.3% ($\underline{n} = 138$) were classified as androgynous; 25.5% ($\underline{n} = 124$) were classified as feminine; 22% ($\underline{n} = 107$) were classified as masculine; and 24.2% ($\underline{n} = 118$) were classified as undifferentiated.

Independent samples chi-square analyses were conducted to identify significant relationships between gender-role identity and other relevant variables such as age ($\chi^2 0.12$, $\underline{df} = 9$, $p = .340$); ethnicity ($\chi^2 0.10$, $\underline{df} = 15$, $p = .453$); religious affiliation

Table 2

Frequency of Gender-Role Identity by Gender Categories

Gender	Gender-Role Identity				Row
	Androgynous	Feminine	Masculine	Undifferentiated	Total
Males	46	25	45	55	171
Females	92	99	62	63	316
Total	138	124	107	118	487

(χ^2 0.09, df = 12, p = .416); income (χ^2 0.14, df = 12, p = .106); sexual orientation (χ^2 0.10, df = 12, p = .253); and marital status (χ^2 0.11, df = 12, p = .142). The chi-square test for gender was significant (χ^2 0.21, df = 3, p = .000). Examination of the distributions indicated that the majority of individuals classified as feminine were female.

Classification of participants by attachment style, as shown in Table 3, was based on each individual's endorsement of a self-reported attachment style. Distribution of the participants among the four categories is as follows: 40% (n = 195) were classified as secure; 21.7% (n = 106) were classified as dismissing avoidant; 13.5% (n = 66) were classified as preoccupied; and 24.8% (n = 121) were classified as fearful avoidant. Independent samples chi-square analyses were conducted to identify significant relationships between attachment style and other relevant variables such as gender (χ^2 0.04, df = 3, p = .860); age (χ^2 0.09, df = 9, p = .171); ethnicity (χ^2 0.124, df = 15, p = .10); religious affiliation (χ^2 0.09, df = 12, p = .383); income (χ^2 0.09, df = 12, p = .556); sexual orientation (χ^2 0.081, df = 12, p = .682); and marital status (χ^2 0.126, df = 12, p = .026). The chi square test for marital status was significant and an examination of the distributions indicated that the majority of married individuals were classified as secure.

The first set of hypotheses to be tested were: (a) both secure and androgynous types would endorse more dominant traits coupled with more affiliative traits than the remaining attachment and gender-role types; (b) both dismissing avoidant and

Table 3

Frequency of Attachment Style by Gender Categories

Gender	Attachment Style				Row Total
	Secure	Dismissing		Fearful	
		Avoidant	Preoccupied	Avoidant	
Males	68	40	23	39	170
Females	127	66	43	82	318
Total	195	106	66	121	488

masculine types would endorse more dominant traits coupled with less affiliative traits than the remaining attachment and gender-role types; (c) both preoccupied and feminine types would endorse fewer dominant traits coupled with more affiliative traits than the remaining types; and (d) both fearful avoidant and undifferentiated types would endorse fewer dominant traits coupled with fewer affiliative traits than the remaining types.

Circular statistical techniques were used to evaluate the similarities and differences of dominant and affiliative endorsement patterns between gender-role and attachment types. Statistical significance was determined by an examination of the confidence intervals and the application of a circilinear test of significance (Watson & Williams, 1956) to the polar vectors of hypothesized types. Gender-role types were examined first. Circilinear grouped frequency distributions of mean angles (θ) by gender-role types were prepared and 95% confidence intervals were calculated (see Table 4). A significant difference, $F(5, 954) = 17.35, p < .001$, was found between the polar vectors of the four gender-role types. Mean angles were located on the circumplex as shown in Figure 1. Masculine gender-role types ($\theta = 80.0^\circ$) were located in the Assured-Dominant (PA) octant; androgynous gender-role types ($\theta = 30.9^\circ$) were located in the Gregarious-Extroverted (NO) octant; and both feminine ($\theta = 357.5^\circ$) and undifferentiated ($\theta = 1.9^\circ$) gender-role types were located in the Warm-Agreeable (LM) octant.

Table 4

Circular-Grouped Frequency Distributions of Mean Angles by Gender-Role Types

Trait Intervals (Octants)	Androgynous	Feminine	Masculine	Undifferentiated	Total
Assured-Dominant (PA)	18	6	15	10	49
Arrogant-Calculating (BC)	7	1	19	6	33
Cold-Hearted (DE)	4	6	17	12	39
Aloof-Introverted (FG)	2	1	6	8	17
Unassured-Submissive (HI)	0	7	3	12	22
Unassuming-Ingenuous (JK)	12	23	4	16	55
Warm-Agreeable (LM)	47	66	24	20	157
Gregarious-Extroverted (NO)	49	19	19	22	109
<u>N</u>	139	129	107	106	481
<u>R</u>	92.9	88.4	32.9	24.9	212.8
<u>r</u>	.67	.69	.30	.24	.44
Standard deviation	46.6°	45.1°	67.8°	70.6°	60.6°
<u>κ</u>	1.8	2.0	.63	.50	.98

(table continues)

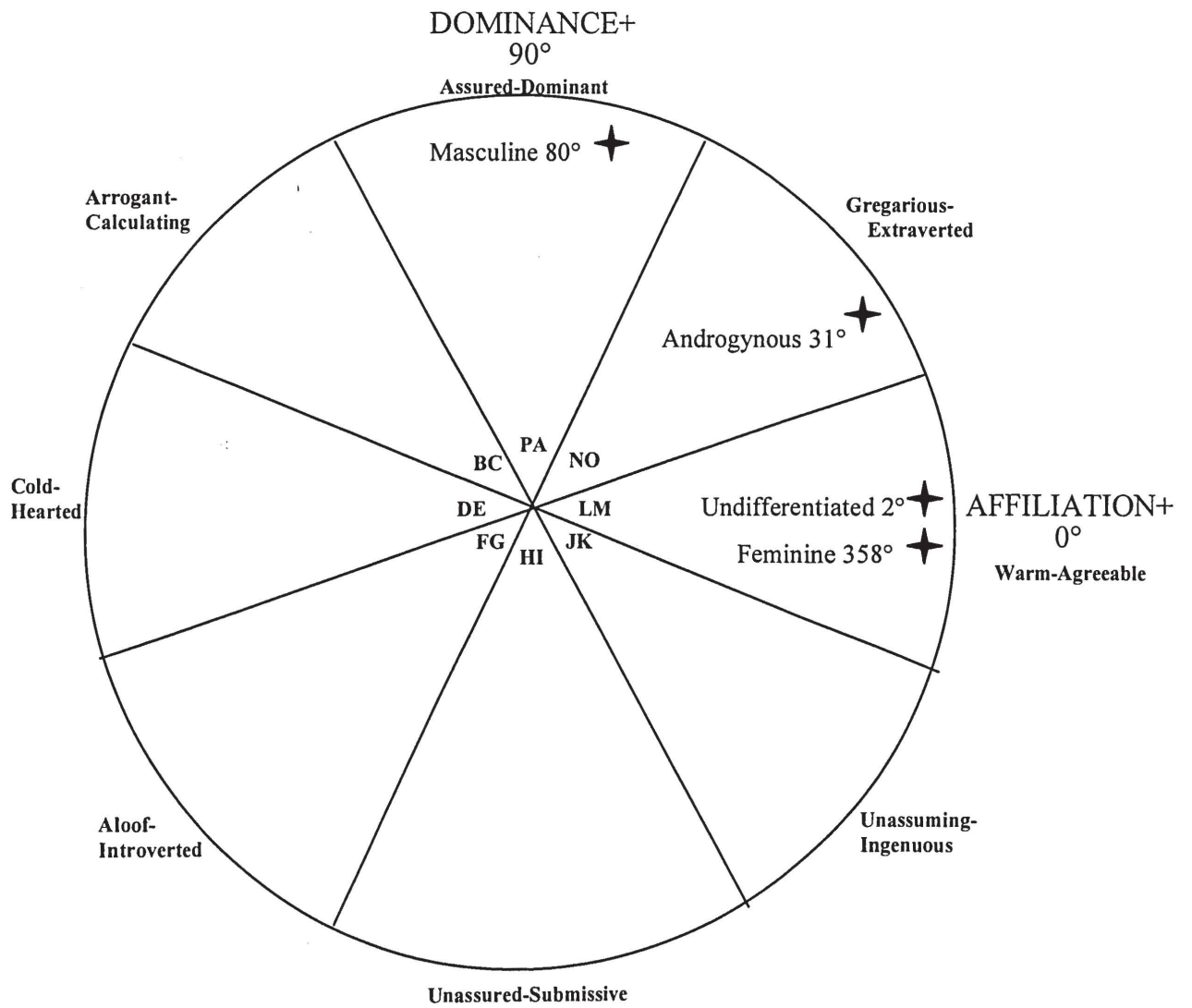
Trait Intervals (Octants)	Androgynous	Feminine	Masculine	Undifferentiated	Total
θ	30.9°	357.5°	80.0°	1.9°	21.1°
Standard error	$\pm 8.6^\circ$	$\pm 8.6^\circ$	$\pm 24.7^\circ$	$\pm 32.0^\circ$	$\pm 7.8^\circ$
Confidence Intervals	22.3°-39.5°	348.9°-6.1°	55.3°-104.7°	329.9°-33.9°	13.3°-28.9°

Note. \underline{N} = column sums; \underline{R} = vector length; \underline{r} = mean vector length; κ = an estimate of the scaling parameter of the Von Mises distribution; θ = mean angle.

Figure Caption

Figure 1. Location of mean angles by gender-role types.

Note. Types located in the same octant were significantly different at $p < .05$ from types located in different octants. Types located in the same octant did not differ at $p < .05$. Adapted and reproduced by special permission of the Publisher, Psychological Assessment Resources, Inc., 16204 North Florida Avenue, Lutz, Florida 33549, from the Interpersonal Adjectives Scale – Revised by Jerry S. Wiggins, Ph.D., Copyright 1995 by PAR, Inc. Further reproduction is prohibited without permission from PAR, Inc.



An examination of the confidence intervals (see Table 4) indicated that undifferentiated (C.I. $\approx 329.9^\circ$ to 33.9°) and feminine (C.I. $\approx 348.9^\circ$ to 6.1°) types did not differ at the .05 level of significance, nor was the difference between their polar vectors significant, $F(1, 233) = 0.00$, $p > .05$. However, the confidence intervals of masculine (C.I. $\approx 55.3^\circ$ to 104.7°) and androgynous (C.I. $\approx 22.3^\circ$ to 39.5°) types did differ significantly, $F(1, 244) = 18.68$, $p < .001$. Masculine types also differed significantly from feminine, $F(1, 234) = 47.74$, $p < .001$, and undifferentiated types, $F(1, 211) = 17.80$, $p < .001$. Similarly, androgynous differed significantly from feminine, $F(1, 266) = 23.32$, $p < .001$, and undifferentiated types, $F(1, 243) = 4.59$, $p < .05$.

Figure 1 illustrates the endorsement pattern (i.e., angular location) of each gender-role type with respect to the circumplex axes of dominance and affiliation. Androgynous gender-role types endorsed dominant and affiliative traits with more parity than the remaining types. Masculine gender-role types, however, endorsed more dominant and fewer affiliative traits than the remaining types, while undifferentiated and feminine gender-role types endorsed more affiliative and fewer dominant traits than the remaining types.

Next, attachment types were examined. Circumlinear grouped frequency distributions of mean angles (θ) by attachment types were prepared, and 95% confidence intervals calculated (see Table 5). Mean angles were located on the circumplex (see Figure 2). The mean angles of secure ($\theta = 22.5^\circ$) and dismissing avoidant ($\theta = 39.9^\circ$) attachment types were located in the Gregarious-Extraverted (NO) octant, and the

Table 5

Circilinear-Grouped Frequency Distributions of Mean Angles by Attachment Types

Trait Intervals (Octants)	Dismissing			Fearful	
	Secure	Avoidant	Preoccupied	Avoidant	Total
Assured-Dominant (PA)	19	11	8	12	50
Arrogant-Calculating (BC)	11	8	4	10	33
Cold-Hearted (DE)	9	13	6	11	39
Aloof-Introverted (FG)	3	3	1	10	17
Unassured-Submissive (HI)	6	2	3	11	22
Unassuming-Ingenuous (JK)	17	5	11	22	55
Warm-Agreeable (LM)	75	32	24	25	156
Gregarious-Extroverted (NO)	52	29	9	20	110
<u>N</u>	192	103	66	121	482
<u>R</u>	113.5	45.9	29.2	29.6	213.2
<u>r</u>	.59	.45	.44	.24	.44
Standard deviation	51.9°	60.1°	60.6°	70.6°	60.6°

(table continues)

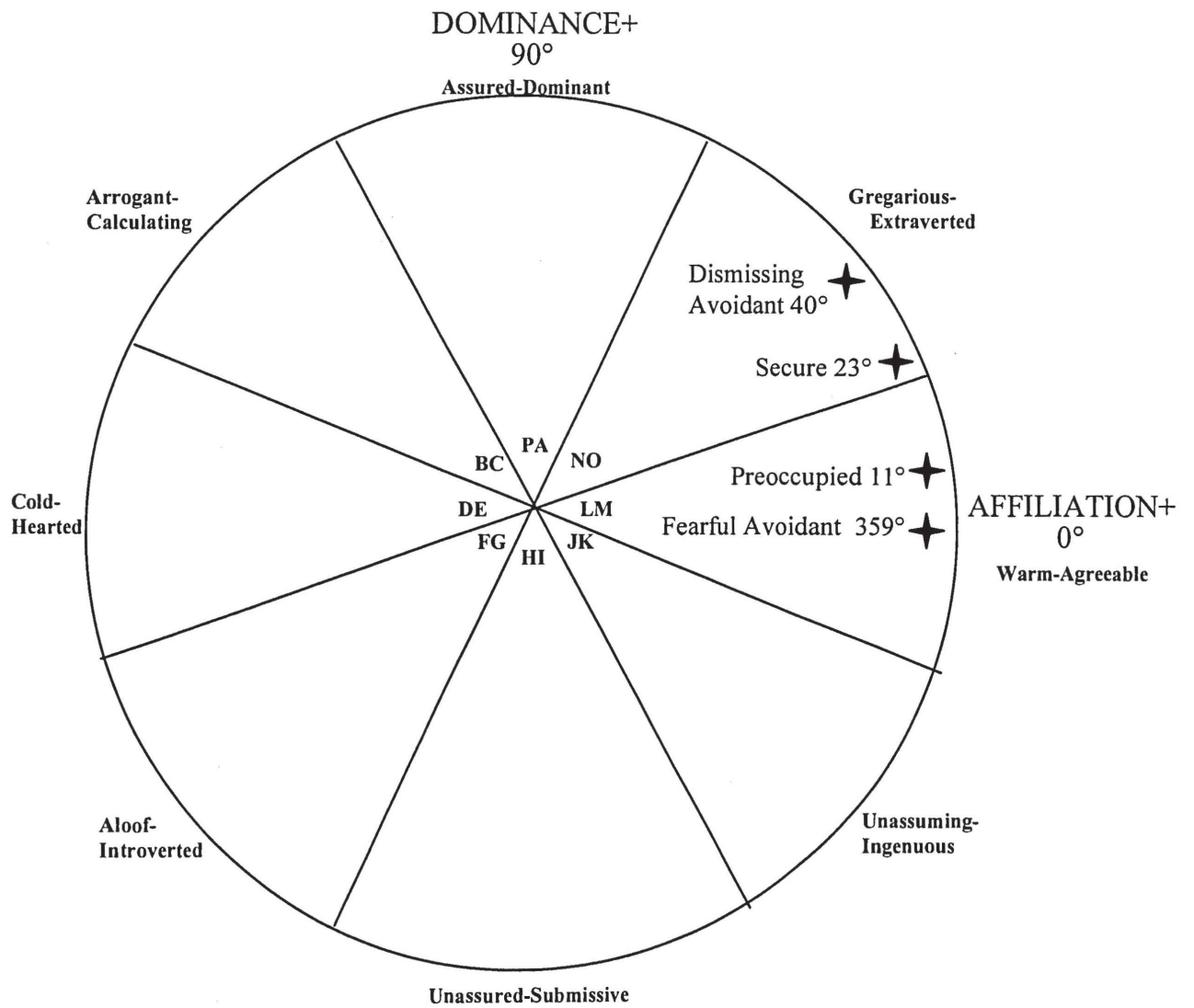
Trait Intervals (Octants)	Dismissing			Fearful	
	Secure	Avoidant	Preoccupied	Avoidant	Total
κ	1.5	1.0	1.0	.50	1.0
θ	22.5°	39.9°	11.3°	359.2°	21.5°
Standard error	$\pm 8.7^\circ$	$\pm 16.5^\circ$	$\pm 20.7^\circ$	$\pm 29.4^\circ$	$\pm 7.7^\circ$
Confidence Intervals	13.8°-31.2°	23.4°-56.4°	350.6°-32.0°	329.8°-28.6°	13.8°-29.2°

Note. \underline{N} = column sums; \underline{R} = vector length; \underline{r} = mean vector length; κ = an estimate of the scaling parameter of the Von Mises distribution; θ = mean angle.

Figure Caption

Figure 2. Location of mean angles by attachment types.

Note. Types located in the same octant were significantly different at $p < .05$ from types located in different octants. Types located in the same octant did not differ at $p < .05$. Adapted and reproduced by special permission of the Publisher, Psychological Assessment Resources, Inc., 16204 North Florida Avenue, Lutz, Florida 33549, from the Interpersonal Adjectives Scale – Revised by Jerry S. Wiggins, Ph.D., Copyright 1995 by PAR, Inc. Further reproduction is prohibited without permission from PAR, Inc.



mean angles of preoccupied ($\theta = 11.3^\circ$) and fearful avoidant types ($\theta = 359.2^\circ$) were located in the Warm-Agreeable (LM) octant. A significant difference, $F(5, 956) = 3.21, p < .01$, was found between the polar vectors of the four attachment types; however, an examination of the confidence intervals (see Table 5) revealed no significant differences between secure (C.I. $\approx 13.8^\circ$ to 31.2°), dismissing avoidant (C.I. $\approx 23.4^\circ$ to 56.4°), preoccupied (C.I. $\approx 350.6^\circ$ to 32.0°) and fearful avoidant (C.I. $\approx 329.8^\circ$ to 28.6°) attachment types.

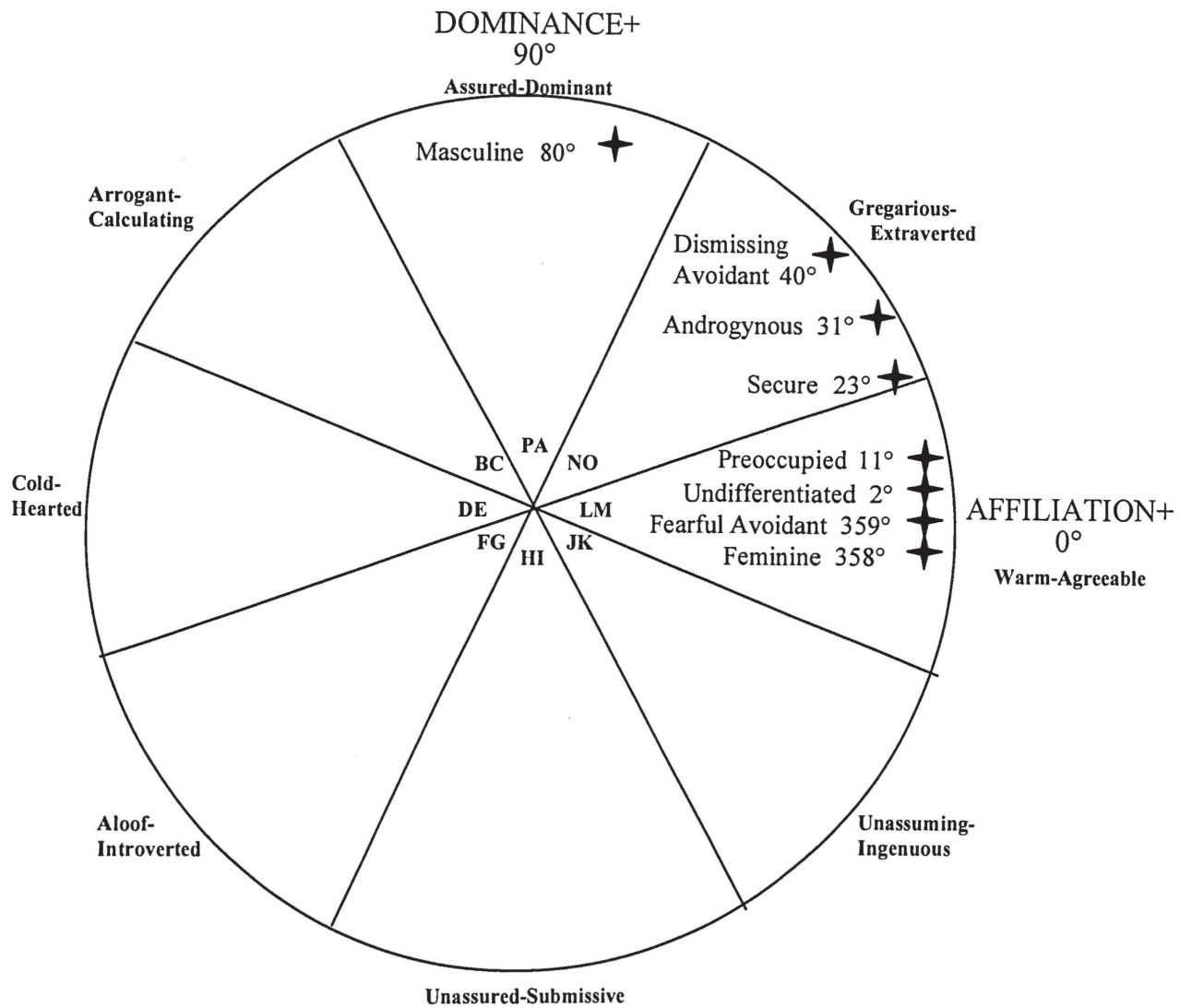
Circulinear tests of significance failed at the .05 level when secure types were compared to dismissing avoidant, $F(1, 293) = 3.03, p < .10$; preoccupied, $F(1, 256) = 1.11, p > .05$; and fearful avoidant, $F(1, 311) = 3.66, p > .05$, types; nor did a comparison of the polar vectors of preoccupied and fearful avoidant types, $F(1, 185) = 0.58, p > .05$, types attain significance. A significant difference was found, however, between the polar vectors of dismissing avoidant and preoccupied types, $F(1, 169) = 3.91, p < .05$, on the one hand, and dismissing avoidant and fearful avoidant types, $F(1, 222) = 4.63, p < .05$, on the other hand. Figure 2 shows the endorsement pattern (i.e., angular location) of each attachment type with respect to the circumplex axes of dominance and affiliation. Dismissing avoidant types endorsed more dominant traits coupled with fewer affiliative traits than secure, preoccupied, and feminine types.

Finally, all gender-role and attachment types were located within the same circumplex space by their respective mean angles (see Figure 3). The first primary hypothesis, which stated that secure and androgynous types would endorse more

Figure Caption

Figure 3. Location of mean angles by gender-role and attachment types.

Note. Types located in the same octant were significantly different at $p < .05$ from types located in different octants. Types located in the same octant did not differ at $p < .05$. Adapted and reproduced by special permission of the Publisher, Psychological Assessment Resources, Inc., 16204 North Florida Avenue, Lutz, Florida 33549, from the Interpersonal Adjectives Scale – Revised by Jerry S. Wiggins, Ph.D., Copyright 1995 by PAR, Inc. Further reproduction is prohibited without permission from PAR, Inc.



dominant traits coupled with more affiliative traits than the remaining gender-role and attachment types, was partially supported. Figure 3 shows androgynous, secure, and dismissing avoidant types were located in the Gregarious-Extraverted (NO) octant. As previously stated, the polar vectors of secure ($\theta = 22.5^\circ$) and dismissing avoidant attachment ($\theta = 39.9^\circ$) types did not attain significance at the .05 level, $F(1, 293) = 3.03$, $p < .10$. Similarly, a circilinear significance test comparing androgynous, secure, and dismissing avoidant polar vectors was not significant, $F(4, 862) = 1.05$, $p > .05$. An examination of the confidence intervals for secure (C.I. $\approx 13.8^\circ$ to 31.2°), dismissing avoidant (C.I. $\approx 23.4^\circ$ to 56.4°), and androgynous (C.I. $\approx 22.3^\circ$ to 39.5°) types reflected the findings of the circilinear significance tests. Results indicated that dismissing avoidant, as well as androgynous and secure types, endorsed more dominant coupled with more affiliative traits.

The second primary hypothesis, which stated that dismissing avoidant and masculine types would endorse more dominant traits coupled with fewer affiliative traits than the remaining attachment and gender-role types, was also partially supported. Figure 3 shows that the mean angle of dismissing avoidant ($\theta = 39.9^\circ$) attachment types was located in the Gregarious-Extraverted (NO) octant, and the mean angle of masculine ($\theta = 80.0^\circ$) gender-role types was located in the Assured-Dominant (PA) octant. A significant difference was found between the polar vectors of the two types, $F(1, 208) = 8.09$, $p < .01$, which was apparent by examination of the confidence intervals of dismissing

avoidant (C.I. $\approx 23.4^\circ$ - 56.4°) and masculine (C.I. $\approx 55.3^\circ$ - 104.7°) types. The hypothesized combination of more dominant coupled with fewer affiliative traits was endorsed by masculine gender-role types only, as evidenced by the placement of the mean angle of masculine males closer to the dominant axis and further away from the affiliative axis than the remaining attachment and gender-role types. Dismissing avoidant attachment types endorsed a trait pattern similar to the secure and androgynous types, since the placement of the mean angle of dismissing avoidant types was also in the Gregarious-Extraverted (NO) octant, closer to the affiliative axis.

The third primary hypothesis, which stated that preoccupied (C.I. $\approx 350.6^\circ$ to 32.0°) and feminine types (C.I. $\approx 348.9^\circ$ to 6.1°) would endorse fewer dominant traits coupled with more affiliative traits than the remaining attachment and gender-role groups was supported, as indicated by the location of mean angles for both types in the Warm-Agreeable (LM) octant. The difference between the polar vectors of preoccupied ($\theta = 11.3^\circ$) and feminine types ($\theta = 357.5^\circ$) was not significant, $F(1, 193) = 0.00$, $p > .05$, as evidenced by an examination of the confidence intervals.

The fourth and final primary hypothesis, which stated that fearful avoidant (C.I. $\approx 329.8^\circ$ to 28.6°) and undifferentiated (C.I. $\approx 329.9^\circ$ to 33.9°) types would endorse fewer dominant traits coupled with fewer affiliative traits than the remaining attachment and gender-role types, was not supported as indicated by placement of the mean angles of the fearful avoidant ($\theta = 359.2^\circ$) and undifferentiated ($\theta = 1.9^\circ$) types in the Warm-

Agreeable (LM) octant. As shown in Figure 3, both fearful avoidant and undifferentiated types endorsed a highly affiliative trait pattern similar to that of preoccupied and feminine types. A circilinear test of significance applied to the polar vectors of the four types failed at the .05 level, $F(5, 838) = 0.00$, $p > .05$, and was apparent by examination of the confidence intervals (see Tables 4 and 5). The endorsement patterns of these four types (i.e., preoccupied, fearful avoidant, feminine, and undifferentiated) were skewed toward the affiliative axis.

In preparation for testing the second set of hypotheses, a circilinear-grouped frequency distribution of mean angles by gender was constructed and 95% confidence intervals were calculated for males and females (see Table 6). A significant difference, $F(1, 482) = 13.76$, $p < .001$, was found for gender. Mean angles for males ($\theta = 49^\circ$) and females ($\theta = 14.2^\circ$) were located on the circumplex as shown in Figure 4. Males tended to endorse more dominant traits than females, who tended to endorse more affiliative traits.

The second set of hypotheses to be tested were: (a) androgynous males and females would endorse more dominant traits coupled with more affiliative traits than the remaining gender-role types with the exception of masculine males, who would endorse more dominant coupled with fewer affiliative traits than the remaining types; (b) feminine males would endorse more affiliative traits than masculine males, but more dominant traits than feminine females; (c) masculine females would endorse more dominant traits than feminine females, but fewer affiliative traits than masculine males;

Table 6

Circilinear-Grouped Frequency Distributions of Mean Angles by Gender

Trait Intervals (Octants)	Males	Females	Total
Assured-Dominant (PA)	20	30	50
Arrogant-Calculating (BC)	21	13	34
Cold-Hearted (DE)	23	16	39
Aloof-Introverted (FG)	8	10	18
Unassured-Submissive (HI)	7	13	20
Unassuming-Ingenuous (JK)	13	43	56
Warm-Agreeable (LM)	42	114	156
Gregarious-Extroverted (NO)	36	75	111
<u>N</u>	170	314	484
<u>R</u>	50.8	170.4	213.7
<u>r</u>	.30	.54	.44
Standard deviation	67.8°	55°	60.6°
<u>κ</u>	.6	1.3	1.0

(table continues)

Trait Intervals (Octants)	Males	Females	Total
θ	49°	14.2°	21.6°
Standard error	$\pm 19.9^\circ$	$\pm 7.6^\circ$	$\pm 7.8^\circ$
Confidence Intervals	29.1°-68.9°	6.6°-21.8°	13.8°-35.4°

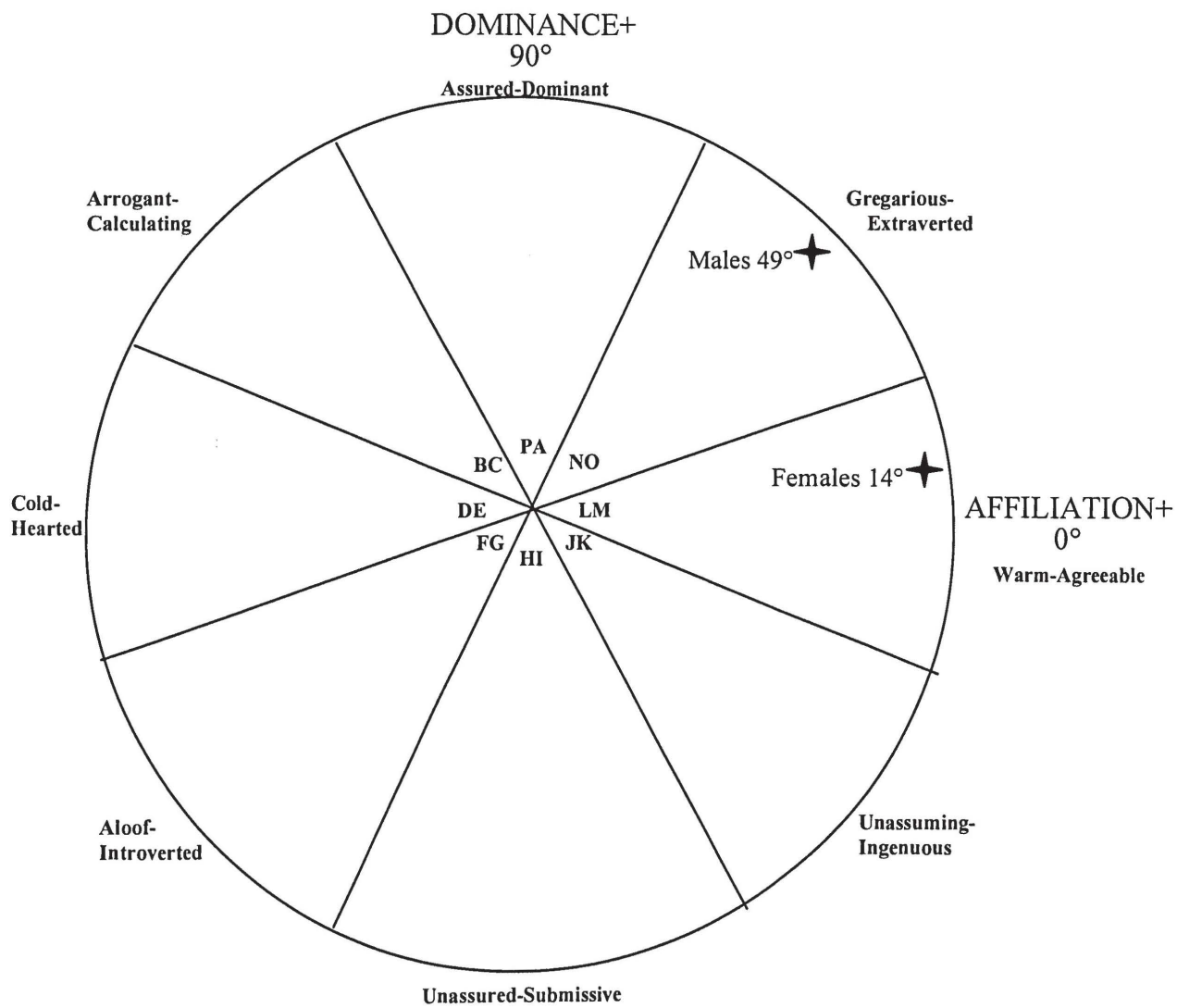
Note. \underline{N} = column sums; \underline{R} = vector length; \underline{r} = mean vector length; κ = an estimate of the scaling parameter of the Von Mises distribution; θ = mean angle.

Figure Caption

Figure 4. Location of mean angles by gender.

Note. Groups located in different octants were significantly different at $p < .05$.

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(d) feminine and undifferentiated females would endorse fewer dominant coupled with more affiliative traits than the remaining gender-role types, but undifferentiated females would endorse fewer affiliative traits than feminine females; and (e) masculine and undifferentiated males would endorse more dominant coupled fewer affiliative traits than the remaining gender-role types, but undifferentiated males would endorse fewer dominant traits than masculine males.

A circilinear-grouped frequency distribution of mean angles by gender and gender-role was prepared, and 95% confidence intervals were constructed for each gender by gender-role group (see Table 7). Mean angles were located on the circumplex (see Figure 5). Hypothesis (a), which stated androgynous males (C.I. $\approx 21.6^\circ$ to 54.2°) and females (C.I. $\approx 17.7^\circ$ to 37.5°) would endorse more dominant traits coupled with more affiliative traits than the remaining gender-role types, other than masculine males (C.I. $\approx 89.5^\circ$ - 151.9°), was partially supported at the .05 level as indicated by a comparison of the confidence intervals among the three types. As noted in Figure 5, the mean angle for masculine males ($\theta = 120.7^\circ$) was located within the Arrogant-Calculating (BC) octant, whereas the mean angles for androgynous males ($\theta = 37.9^\circ$) and females ($\theta = 27.6^\circ$) were located in the Gregarious-Extraverted (NO) octant. A circilinear significance test between polar vectors, $F(1, 137) = 1.20$, $p > .05$, indicated that androgynous males and females did not differ along the dimensions of dominance

Table 7

Circilinear-Grouped Frequency Distributions of Mean Angles by Gender and Gender-Role Types

Trait Intervals (Octants)	Males				Females			
	A	F	M	U	A	F	M	U
Assured-Dominant (PA)	7	3	6	5	11	3	9	5
Arrogant-Calculating (BC)	3	0	11	5	4	1	8	1
Cold-Hearted (DE)	3	2	10	8	1	4	7	4
Aloof-Introverted (FG)	1	0	2	4	1	1	4	4
Unassured-Submissive (HI)	0	2	2	5	0	5	1	7
Unassuming-Ingenuous (JK)	1	5	1	6	11	18	3	10
Warm-Agreeable (LM)	18	11	6	8	29	55	18	12
Gregarious-Extroverted (NO)	15	4	6	9	34	15	13	13
<u>N</u>	48	27	44	50	91	102	63	56

(table continues)

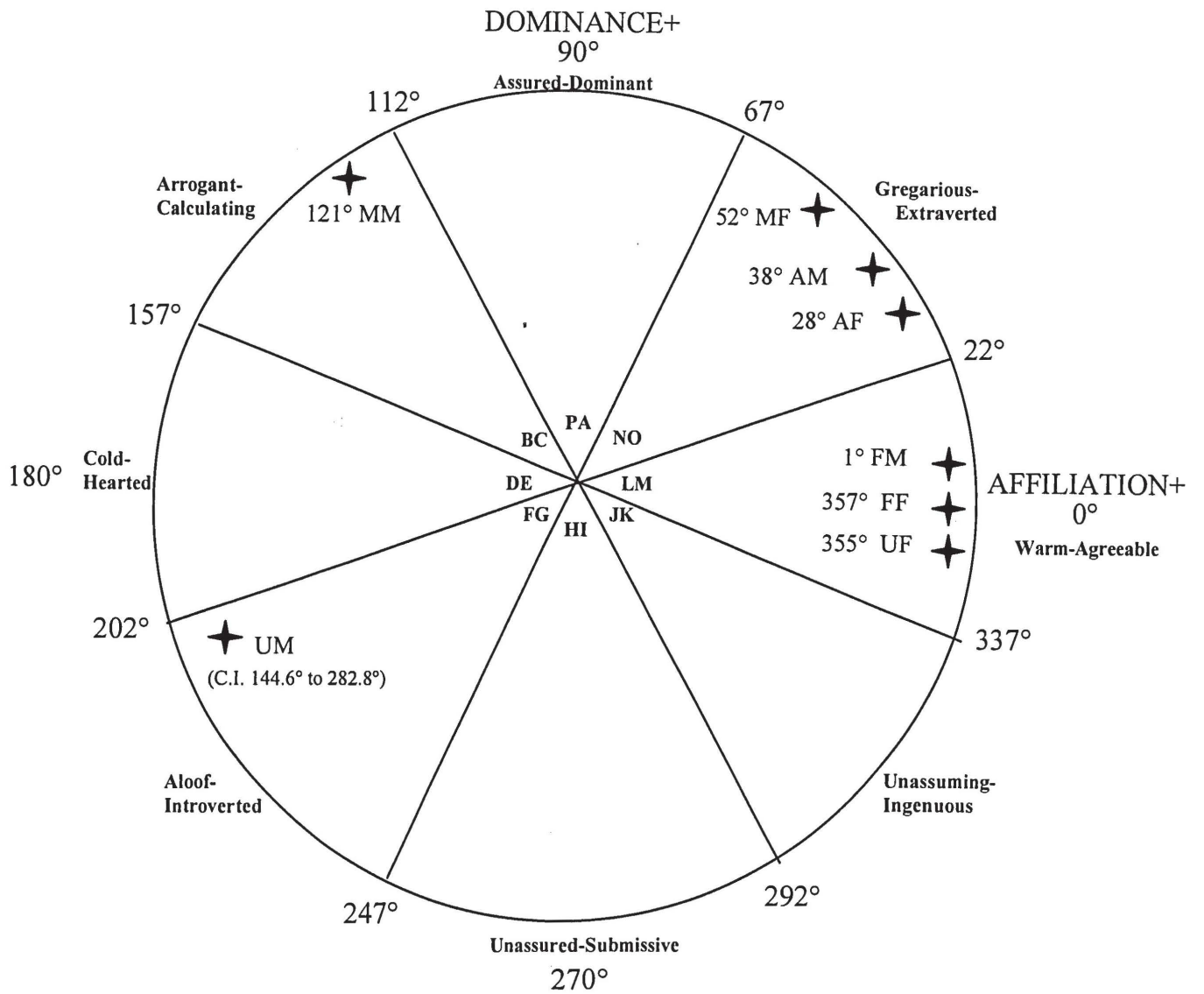
Trait Intervals (Octants)	Males				Females			
	A	F	M	U	A	F	M	U
\underline{R}	29.8	15.7	16.2	5.1	63.5	73.0	22.6	20.8
\underline{r}	.62	.57	.37	.10	.70	.72	.36	.37
Standard deviation	49.9°	53.1°	64.3°	76.9°	44.4°	42.9°	64.8°	64.3°
κ	1.6	1.4	.80	.20	2.0	2.1	.77	.80
θ	37.9°	1.1°	120.7°	33.7°	27.6°	356.8°	52.3°	354.5°
Standard error	±16.3°	±23.9°	±31.2°	±110.9°	±9.9°	±8.9°	±26.9°	±27.6°
Confidence Intervals	21.6°- 54.2°	337.2°- 25.0°	89.5°- 151.9°	144.6°- 282.8°	17.7°- 37.5°	347.9°- 5.7°	25.4°- 79.2°	326.9°- 22.1°

Note. A = Androgynous; M = Masculine; F = Feminine; U = Undifferentiated. \underline{N} = column sums; \underline{R} = vector length; \underline{r} = mean vector length; κ = an estimate of the scaling parameter of the Von Mises distribution; θ = mean angle.

Figure Caption

Figure 5. Location of mean angles by gender and gender-role types.

Note. MM = Masculine Males; MF = Masculine Females; AM = Androgynous Males; AF = Androgynous Females; FM = Feminine Males; FF = Feminine Females; UM = Undifferentiated Males; UF = Undifferentiated Females. Types located in the same octant were significantly different at $p < .05$ from types located in different octants. Types located in the same octant did not differ at $p < .05$. Adapted and reproduced by special permission of the Publisher, Psychological Assessment Resources, Inc., 16204 North Florida Avenue, Lutz, Florida 33549, from the Interpersonal Adjectives Scale – Revised by Jerry S. Wiggins, Ph.D., Copyright 1995 by PAR, Inc. Further reproduction is prohibited without permission from PAR, Inc.



and affiliation in their trait endorsement pattern. However, the polar vectors of masculine males and androgynous males, $F(1, 90) = 13.11, p < .001$, and androgynous females, $F(1, 133) = 35.35, p < .001$, were significantly different.

Hypothesis (b), which stated that feminine males (C.I. $\approx 337.2^\circ$ to 25.0°) would endorse more affiliative traits than masculine males (C.I. $\approx 89.5^\circ$ to 151.9°), but more dominant traits than feminine females (C.I. $\approx 347.9^\circ$ to 5.7°) was also partially supported at the .05 level of significance as indicated by an examination of the confidence intervals. Figure 5 shows the mean angles of feminine males ($\theta = 1.1^\circ$) and feminine females ($\theta = 356.8^\circ$) were located within the Warm-Agreeable (LM) octant, while the mean angle of masculine males ($\theta = 120.7^\circ$) was located within the Arrogant-Calculating (PA) octant. Feminine males endorsed more affiliative traits than masculine males and the polar vectors of the two groups were significantly different, $F(1, 69) = 28.2, p < .001$. However, feminine males did not endorse more dominant traits than feminine females, and a circilinear test of significance, $F(1, 127) = 0.95, p > .05$, failed at the .05 level. Feminine males endorsed an overall trait pattern similar to feminine and undifferentiated females.

Hypothesis (c), which stated that masculine females (C.I. $\approx 25.4^\circ$ to 79.2°), would endorse more dominant traits than feminine females (C.I. $\approx 347.9^\circ$ to 5.7°), but fewer affiliative traits than masculine males (C.I. $\approx 89.5^\circ$ to 151.9°), was supported as indicated by an examination of the confidence intervals. Masculine males ($\theta = 120.7^\circ$) were located

in the Arrogant-Calculating (BC) octant, masculine females ($\theta = 52.3^\circ$) were located in the Gregarious-Extraverted (NO) octant, and feminine females ($\theta = 356.8^\circ$) were located in the Warm-Agreeable (LM) octant. A significant difference was found between the polar vectors of the three types, $F(1, 262) = 27.89, p < .001$.

Hypothesis (d), which stated that feminine females (C.I. $\approx 347.9^\circ$ to 5.7°) and undifferentiated females (C.I. $\approx 326.9^\circ$ to 22.1°) would endorse fewer dominant coupled with more affiliative traits than the remaining gender-role types but undifferentiated females would endorse fewer affiliative traits than feminine females, was partially supported. Figure 5 shows that feminine males ($\theta = 1.1^\circ$; C.I. $\approx 337.2^\circ$ to 25.0°) as well as feminine ($\theta = 356.8^\circ$) and undifferentiated females ($\theta = 354.5^\circ$), were located in the Warm-Agreeable (LM) octant. The polar vectors between these three types did not differ at the .05 level of significance, $F(4, 364) = 0.00, p > .05$.

Hypothesis (e), which stated that masculine and undifferentiated males would endorse more dominant coupled with fewer affiliative traits than the remaining types, but that undifferentiated males would endorse fewer dominant traits than masculine males, was not tested. As shown in Table 7, the standard error for undifferentiated males was quite large (i.e., $\pm 110.9^\circ$). Therefore, undifferentiated males were represented within the circumplex by confidence interval (C.I. $\approx 144.6^\circ$ to 282.8°) rather than mean angle. The κ statistic for undifferentiated males, which ranges from .77 to 2.1 for the remaining gender by gender-role groups, was unusually small (.20). The reciprocal of the κ statistic

“influences the circular normal distribution in the same way as σ^2 influences the linear normal one” (Gumbel, Greenwood, & Durand, 1953, p. 138); therefore, the smaller the κ statistic, the larger the error variance. In addition, the \underline{r} statistic for undifferentiated males was substantially lower ($\underline{r} = .10$) than the \underline{r} statistic for the remaining groups (Range = .36 to .72). Hypothesis (e) was rejected, since small values of κ and \underline{r} were considered unreliable estimators for undifferentiated males.

Within all gender-role types, except for masculine and undifferentiated males, a moderate to high endorsement of traits fell within the Warm-Agreeable (LM) and Gregarious-Extraverted (NO) octants (i.e., androgynous males (69%) and females (69%), feminine males (56%) and females (69%), feminine females (67 %), and undifferentiated females (45%)). In contrast, 48% of trait responses from masculine males were concentrated in the Arrogant-Calculating (BC) and Cold-Hearted (DE) octants. Undifferentiated males showed an atypical, flat, endorsement pattern compared to the remaining gender by gender-role types.

Concurrently with the above analyses, a multivariate factorial MANOVA was used to test all hypotheses regarding gender, gender-role identity, attachment style, and dispositional traits. This decision was made because gender-role research has typically been analyzed by factor analytic methods. Table 8 indicates that two main effects were found. First, there was a significant main effect for gender-role identity, $F = 11.881$, $df = 24/1279.64$, $p < .01$, by the Wilks' Lambda Criterion. Second, there was a significant

Table 8

Multivariate Analysis of Variance of Gender, Gender-Role Identity, and Attachment Style by Traits

Source of Variation	Numerator	Denominator	<u>F</u>
	<u>df</u>	<u>df</u>	
Gender	8	441.00	1.81
Gender-Role Identity (GRI)	24	1279.64	11.81*
Attachment Style	24	1279.64	2.50*
Gender x GRI	24	1279.64	1.00
Gender x Attachment Style	24	1279.64	.59
GRI x Attachment Style	72	2690.08	.81
Gender x GRI x Attachment Style	72	2690.08	.88

* $p < .01$

main effect for attachment style, $F = 2.498$, $df = 24/1269.64$, $p < .01$, by the Wilks' Lambda Criterion. These main effects duplicated the results of the circilinear tests of significance applied to the polar vectors of gender-role and attachment types. The MANOVA failed to reveal significant multivariate effects for gender at the .05 level of significance, $F = .96818$, $df = 8/441$, $p = .073$).

A discriminant function analysis was performed to determine which of the trait intervals were contributing to the significant F for attachment. Table 9 shows the dimension of difference among attachment styles tended toward the Assured-Dominant (PA) and Gregarious-Extraverted (NO) octants versus the Aloof-Introverted (FG) and Unassured-Submissive (HI) octants. This suggests that attachment style, as measured in this study, was unipolar. Inspection of the means reveals that the secure and dismissing avoidant groups scored higher on this dimension (i.e., dominance) than the preoccupied and fearful avoidant groups. A Student-Newman-Keuls analysis performed on the raw discriminant function score means among the groups confirmed that the preoccupied and fearful avoidant types differed from the secure and dismissing avoidant types at the .05 level of significance.

A discriminant function analysis was also performed to determine which of the trait intervals were contributing to the significant F for gender-role identity. Table 10 shows two dimensions of difference among gender-role types. The first dimension of difference, affiliation, tended toward the Warm-Agreeable (LM) and Gregarious-Extraverted (NO) octants versus the Cold-Hearted (DE) octant. The second dimension of

Table 9

Comparison of Attachment Types on the Eight Trait Intervals

Trait Intervals (Octants)	S	DA	P	FA	Function		
					v	v*	s'
Assured-Dominant (PA) _j	41	45	37	39	-.018	-.133	-.415
Arrogant-Calculating (BC)	22	24	23	24	-.007	-.078	.147
Cold-Hearted (DE)	15	19	16	19	-.014	-.105	.319
Aloof-Introverted (FG) _k	15	19	19	23	.073	.588	.874
Unassured-Submissive (HI) _k	23	22	29	27	.049	.433	.719
Unassuming-Ingenuous (JK)	39	38	39	37	-.028	-.253	-.075
Warm-Agreeable (LM)	51	47	50	47	-.016	-.111	-.286
Gregarious-Extroverted (NO) _j	52	49	50	45	-.020	-.152	-.746
Raw Function Scores	-1.83 _a	-1.57 _a	-1.11 _b	-.84 _b			

Note. S = Secure; DA = Dismissing Avoidant; P = Preoccupied; FA = Fearful Avoidant.

v = raw discriminant function coefficients; v* = standardized discriminant function coefficients; s' = structure coefficients or loadings. Function scores with the same subscripts did not differ at the .05 level, Student-Newman-Keuls test. Significant trait intervals have the same subscripts.

Table 10

Comparison of Gender-Role Types on the Eight Trait Intervals

Trait Intervals (Octants)	A	F	M	U	Function 1			Function 2		
					v	v*	s'	v	v*	s'
Assured-Dominant (PA) _j	45	35	47	37	.058	.417	-.030	-.100	-.727	.948
Arrogant-Calculating (BC)	23	17	29	25	.001	.008	-.285	.003	.033	.156
Cold-Hearted (DE) _k	15	13	23	18	.043	.314	-.590	.026	.187	.178
Aloof-Introverted (FG)	16	17	21	21	-.029	-.232	-.255	-.051	-.412	-.172
Unassured-Submissive (HI) _j	21	30	21	28	-.001	-.012	-.013	.037	.330	-.537
Unassuming-Ingenuous (JK)	39	43	35	36	.018	.163	.331	-.001	-.007	-.075
Warm-Agreeable (LM) _k	53	54	42	45	-.108	-.737	.929	-.030	-.202	-.036
Gregarious-Extroverted (NO) _k	55	51	47	45	-.030	-.223	.580	-.057	-.425	.356

(table continues)

Trait Intervals (Octants)	A	F	M	U
---------------------------	---	---	---	---

Raw Function Scores

Function 1 _j	-3.89 _a	-2.17 _b	-4.58 _c	-3.30 _d
Function 2 _k	-8.86 _a	-8.23 _b	-7.50 _c	-7.14 _d

Note. A = Androgynous; M = Masculine; F = Feminine; U = Undifferentiated. \underline{y} = raw discriminant function coefficients; \underline{y}^* = standardized discriminant function coefficients; \underline{g}' = structure coefficients or loadings. Function scores with the same subscripts did not differ at the .05 level, Student-Newman-Keuls test. Significant trait intervals for each function have the same subscripts.

difference, dominance, tended toward the Assured-Dominant (PA) octant versus the Unassured-Submissive (HI) octant. This result suggested that gender-role type, as measured in this study, was bipolar. Inspection of the means for the affiliation dimension (i.e., function 1) revealed that androgynous and feminine types scored higher on the Warm-Agreeable/Gregarious Extraverted octants and lower on the Cold-Hearted octant than masculine and undifferentiated types who scored higher on the Cold-Hearted octant and lower on the Warm-Agreeable/Gregarious Extraverted octants. A Student-Newman-Keuls analysis performed on the raw discriminant function score means showed that the four gender-role groups differed at the .05 level of significance. Finally, inspection of the means for the dominance dimension (i.e., function 2) revealed that androgynous and masculine groups scored higher on the Assured-Dominant octant and lower on the Unassured-Submissive octant than feminine and undifferentiated types. A Student-Newman-Keuls analysis performed on the raw discriminant function score means among the groups confirmed that the four gender-role types differed at the .05 level of significance.

CHAPTER 5

Discussion

Overall the findings of this study regarding the relationship between attachment style and gender-role identity seem to support the conclusion of Shaver et al. (1996) that, despite the conceptual and empirical similarities between attachment style and gender-role typologies, the dimensions of dominance and affiliation are more closely related to gender-role than attachment style. Attachment groups were discriminated on one dimension, with secure and dismissing avoidant types differentiated from preoccupied and fearful avoidant types by Assured-Dominant (PA)/Gregarious-Extraverted (NO) traits versus Unassured-Submissive (HI)/Aloof-Introverted (FG) traits. Dismissing avoidant and secure types endorsed more dominant and fewer affiliative traits while preoccupied and fearful avoidant types endorsed fewer dominant and more affiliative traits. Gender-role groups were discriminated on two dimensions: Assured-Dominant (PA) versus Unassured-Submissive (HI) traits, on the one hand, and Warm-Agreeable (LM)/Gregarious-Extraverted (NO) versus Cold-Hearted (DE) traits, on the other hand. Masculine types endorsed more dominant and fewer affiliative traits than the remaining gender-role types, while feminine and undifferentiated types endorsed fewer dominant and more affiliative traits

than remaining gender-role types. Androgynous types endorsed both dominant and affiliative traits with parity.

When comparing similarities and differences among attachment and gender-role typologies, both androgynous and secure types endorsed dominant and affiliative traits with parity. This result supports previous findings linking androgyny and secure attachment (Carver, 1997; Collins & Read, 1990; Shaver et al., 1996). Also as predicted, preoccupied and feminine types endorsed fewer dominant but more affiliative traits than remaining types, again supporting previous findings (Shaver et al., 1996). Results, however, did not support the hypothesis that dismissing avoidant types would exhibit a trait endorsement pattern comparable to masculine types. Rather, dismissing avoidant types endorsed a trait pattern similar to androgynous and secure types. Only masculine gender-role types endorsed more dominant traits than remaining types. Also, contrary to the hypothesis that fearful avoidant and undifferentiated types would endorse fewer dominant and affiliative traits than remaining types, fearful avoidant and undifferentiated types endorsed a trait pattern similar to preoccupied and feminine types. Finally, gender was not related to attachment style; however, gender was consistently related to gender-role identity along the dimensions of dominance and affiliation when circilinear, but not factor analytic, statistical techniques were applied to the data.

In accordance with predictions regarding hypotheses on the relationship between gender and gender-role identity, androgynous males and females endorsed both dominant and affiliative traits with parity; and masculine males endorsed more dominant and fewer affiliative traits than the remaining gender-role types. Predictions regarding masculine females were also supported since masculine females endorsed both dominant and affiliative traits with parity (viz., more dominant traits than feminine females and fewer affiliative traits than masculine males). Also as predicted, feminine males endorsed more affiliative traits than masculine males; but, contrary to the prediction that feminine males would endorse more dominant traits than feminine females, feminine males endorsed a dominant trait pattern similar to feminine females. Feminine females, undifferentiated females, and feminine males endorsed fewer dominant and more affiliative traits than remaining types, partially supporting predictions about these types. Findings regarding undifferentiated males were rejected on statistical grounds.

Specific Findings

Gender-Role Identity. Within the gender-role literature, socially desirable masculine and feminine characteristics are the foundation upon which gender-role typologies are based (Spence & Helmreich, 1980). Theorists agree that masculinity is indicative of agentic traits, characteristics, and behaviors; whereas,

femininity is indicative of communal traits, characteristics, and behaviors (Bakan, 1966; Parsons & Bales, 1955). Within the circumplex model, agency and communion are differentiated along the dimensions of dominance and affiliation, and researchers have noted that masculinity and femininity are strongly related to these circumplex dimensions (Lippa, 1995; Paulhus, 1987; Wiggins & Trobst, 1997). Within this study's framework, results indicate that androgynous, feminine, and masculine gender-role types are clearly delineated within the circumplex by trait dimensions typically attributed to each type by researchers (Bem, 1974, 1975; Orlofsky & O'Heron, 1987; Spence & Helmreich, 1980). (Findings regarding undifferentiated types will be discussed in a separate section.)

Masculine gender-role types were located in the Assured-Dominant (PA) octant which has been "correlated with dominance scales from several personality inventories" (Wiggins & PAR, 1995, p. 22). Androgynous types were located in the Gregarious-Extraverted (NO) octant which "tends to be highly desirable in nature" (p. 26), a description that seems to fit androgyny's depiction as an ideal type. Feminine types were located in the Warm-Agreeable (LM) octant, which is indicative of nurturance and representative of individuals who are "well-adjusted" (p. 26).

Gender and Gender-Role Identity. When gender was used as a distinguishing characteristic among gender-role types, results showed that

masculine males endorsed more dominant coupled with fewer affiliative traits than remaining gender by gender-role types. Masculine males were located in the Arrogant-Calculating (BC) octant which seems to reflect negative aspects of agency in that “scores on this octant are correlated with aggression scales from several personality inventories, [and with] Spence, Helmreich, and Holahan’s (1979) Negative Masculinity [scale]” (Wiggins & PAR, 1995, p. 24). These findings, when viewed in conjunction with recent findings regarding the bimodal aspects of agency which will be discussed in a separate section, seem to indicate that the negative aspects of agency distinguish masculine males from other gender by gender-role types.

Androgynous males and females endorsed traits “highly desirable in nature” (Wiggins & PAR, 1995, p. 26) as evidenced by the location of these types in the Gregarious-Extraverted (NO) octant which contains traits which indicative of the positive aspects of agency (i.e., mastery and self-confidence). Individuals located in this octant are described as “actively . . . [seeking] out settings and situations that will permit harmonious interactions with others” (p. 26). The Gregarious-Extraverted (NO) octant also included females who endorsed a significant number of masculine traits (i.e., masculine females). These findings seem to suggest that the positive aspects of agency are adopted by females who score high on masculinity.

The trait endorsement pattern of feminine males was similar to that of feminine females. Predictions regarding feminine females were supported as evidenced by the placement of this type in the Warm-Agreeable (LM) octant. Also as predicted, feminine males endorsed more affiliative traits than masculine males. Contrary to prediction, feminine males did not endorse more dominant traits than feminine females and were also located in the Warm-Agreeable (LM) octant.

Undifferentiated Gender-Role Types. Undifferentiated types were located in the Warm-Agreeable (LM) octant along with feminine types. The Warm-Agreeable (LM) octant has been positively correlated with femininity and the circumplex placement of feminine types was in accordance with expectations. The circumplex location of undifferentiated types, however, was expected to be more oriented toward the Unassured-Submissive (HI) octant which is representative of individuals typically found to exhibit low self-confidence and low self-esteem (Ziegler et al., 1984). When viewing these findings with gender as a distinguishing factor the results seem to yield more information. Undifferentiated females are found to exhibit a clear pattern of trait endorsements similar to that of feminine types. Undifferentiated males, however, were found to exhibit a vague, diffuse endorsement pattern that rendered their data unreliable on statistical grounds. The unusual endorsement pattern of undifferentiated males

could be attributable to the BSRI median split scoring procedure; however, in view of the fact that undifferentiated females exhibited a statistically reliable trait endorsement pattern, undifferentiated males could be atypical in some unknown way.

Attachment. Hypotheses regarding attachment types were based on prototypical descriptions of each type along the dimensions of dominance and affiliation. Bowlby (1977) described attachment as “attaining or retaining proximity to some undifferentiated and preferred individual who is usually conceived of as stronger and/or wiser” (p. 203). Birtchnell (1996), therefore, described the affiliative dimension of attachment as seeking proximity and the dominance dimension of attachment as the object of attachment (i.e., someone stronger or wiser). This study utilized the prototypical descriptions of the four attachment types promulgated by Bartholomew and Horowitz (1991) and prototypical descriptions of trait classifications within the circumplex model (Wiggins & PAR, Inc., 1995).

In spite of the fact that hypotheses were soundly based on theory and research, findings regarding attachment patterns within the circumplex seemed confounded by avoidant types. Results indicated that dismissing avoidant and secure types were both located in the Gregarious-Extraverted (NO) octant. This result was unexpected since dismissing avoidant types, who are characterized by a

downplaying of the importance of close relationships [and] restricted emotionality” (Bartholomew & Horowitz, 1991, p. 228), were not predicted to endorse a trait pattern indicative of the highly desirable social and emotional functioning represented by the Gregarious-Extraverted (NO) octant. Results also indicated that both the preoccupied and fearful avoidant attachment types were located in the Warm-Agreeable (LM) octant. This finding was again unexpected since fearful avoidant types have been described as avoidant of close relationships (Bartholomew & Horowitz, 1991) and the Warm-Agreeable (LM) octant has been positively correlated with nurturance.

Attachment and Gender-Role Identity. Androgynous and secure types were located in the Gregarious-Extraverted (NO) octant congruent with traits representative of that octant and supportive of other findings (Shaver et al., 1996). Dismissing avoidants, however, were unexpectedly located in this octant as well. Since dismissing avoidants have been described as socially avoidant in conjunction with being independent and self-reliant (Bartholomew & Horowitz, 1991, p. 228), this attachment type was expected to exhibit a trait pattern similar to masculine gender-role types.

Masculine types were located in the Assured-Dominant (PA) octant which supported predictions since that octant has been positively correlated with both masculinity and dominance. Hypotheses regarding preoccupied and feminine

types were also supported since both types were located in the Warm-Agreeable (LM) octant. Contrary to prediction, however, fearful avoidant types were also located in the Warm-Agreeable (LM) octant. This finding seemed irregular since fearful avoidant types are characterized as avoidant of intimacy and as holding a negative disposition toward others (Bartholomew & Horowitz, 1991). These characteristics seem incongruent with the primary description of Warm-Agreeable (LM) types as nurturant.

Avoidant Attachment Types. It is possible that the findings of this study linking dismissing avoidant attachment types to sociable behavior and fearful avoidant attachment types to nurturance could be an artifact attributable to the current limitations of adult attachment self-report measures. This interpretation seems supported by results of the MANOVA which revealed only one significant function for attachment, which tended toward the dominance axis of the circumplex (i.e., Assured-Dominant and Gregarious-Extraverted octants versus Aloof-Introverted and Unassured-Submissive octants). In contrast, the MANOVA revealed two significant functions for gender-role. The first function, dominance, tended toward the Assured-Dominant (PA) versus the Unassured-Submissive (HI) octants. The second function, affiliation, tended toward the Cold-Hearted (DE) versus the Warm-Agreeable (LM) and Gregarious-Extraverted (NO) octants.

Although current measures for assessing adult attachment styles have provided productive and user-friendly inroads for expanding research, the only continuous measures of attachment are unipolar (i.e., high or low) and yield one global score (Sperling, Foelsch, & Grace, 1996). Other available attachment measures are categorical and the one used in this study has been found to be vigorous when compared to other similar measures (Carver, 1997). However, since the IAS traits represented by the octants of the circumplex have a substantial empirical basis, it seems possible that current self-report measures of attachment assess only the positive aspects of communion.

Implications for Theory

Recently, researchers have been suggesting that attachment styles “should be seen as part of a larger system of human motivation” (Diehl, Elnick, Bourbeau, & Labouvie-Vief, 1998, p. 1667; see also, Baumeister & Leary, 1995). Agency and communion, respectively defined as self and other dimensions of motivation, are viewed by many theorists as the primary conceptual coordinates for delineating interpersonal relationships and personal identity (Bakan, 1966; Bowlby, 1973; Wiggins & Trobst, 1997). The concepts of agency and communion, therefore, are viewed as metabehaviors defining the “two fundamental modalities of human existence” (Helgeson, 1993, p. 807) and these modalities manifest as both an individual/self focus (i.e., agentic) and a

collective/other focus (i.e., communal). It is traditionally agreed that agentic behavior is more characteristically masculine and communal behavior is more characteristically feminine (Bakan, 1966). Researchers have also concluded that gender-role identity is related to masculinity and femininity as measured along the dimensions of dominance (i.e., instrumental or agentic characteristics and behavior) and affiliation (i.e., expressive or communal characteristics and behavior) (Deaux & Lewis, 1984; Spence, 1999). Since gender-role identity is measured along the dimensions of masculinity and femininity and the circumplex provides a “nomological net” (Gurtman, 1992, 1997) for the measurement of these characteristics along dimensions of dominance and affiliation, utilization of the BSRI within the circumplex model was a good fit.

Findings regarding attachment, however, seemed to be confounded by the limitations of available measures of attachment. When viewing attachment types using the theoretically and empirically-based model of Bartholomew and Horowitz (1991), it can be noted that secure and dismissing avoidant attachment types endorse positive views of self and opposing views of other while preoccupied and fearful avoidant attachment types endorse negative views of self and opposing views of other. In line with the Bartholomew and Horowitz model, the results of the current study placed attachment with positive views of self in the same octant (i.e., Gregarious-Extraverted) and types with negative views of self in

the same octant (i.e., Warm-Agreeable). However, incongruously, results also indicated that types with opposing views of other were located in the same octant. In other words, dismissing avoidant types, who endorse a negative view of others, were located in the same octant as secure types, who endorse a positive view of others, and preoccupied types, who endorse a preoccupied view of others, were located in the same octant as fearful avoidant types, who endorse a negative view of others. It seems, therefore, that the self-report measure used in this study, was able to detect the self-agentic similarity of secure and dismissing avoidants, on the one hand, and preoccupied and fearful avoidants, on the other hand, but was unable to accurately distinguish attachment types on an other/communal dimension. Attachment theorists have only recently noted the inability of current measures of attachment to tap the constructs of agency and communion two-dimensionally (Carver, 1997; Helgeson, 1993, 1994).

Circumplex findings seem to support the contention of other researchers that current attachment measures are limited and must be expanded (Helgeson, 1994). Helgeson has distinguished the constructs of agency and communion from their unmitigated counterparts. She described extreme agency as “unmitigated agency, meaning agency not mitigated by communion . . . , and extreme communion as unmitigated communion, meaning communion not mitigated by agency” (p. 413). Helgeson cited research linking the positive aspects of agency

to psychological well-being (Bassoff & Glass, 1982; Whitley, 1984) and its negative aspects (i.e., unmitigated agency) to aggression and delinquency (Horowitz & White, 1987; Payne, 1987). She also cited research showing that the positive aspects of communion are beneficially related to interpersonal relations (Antill, 1983; Orlofsky & O'Heron (1987) and its negative aspects (i.e., unmitigated communion) to higher rates of depression and lower self-esteem (Whitley, 1984). In view of the foregoing, some researchers now believe that attachment theory should incorporate the negative aspects of these constructs (Helgeson, 1993, 1994). The findings of the current study seem to support that contention.

Implications for Research

Since both agency and communion have been related to positive and negative aspects of health and well-being (Helgeson 1993, 1994), these constructs provide useful parameters for research. The question then becomes, are there undesirable components of agency and communion that have been unacknowledged in the measurement of attachment which may be confounding results? Likewise, in view of the findings of the current study regarding gender differences within gender-role types, are there undesirable components of agency and communion that are more socially acceptable for either males or females confounding results in gender-role research?

Other questions, which the current study brings to mind, are does communion mitigate the undesirable aspects of agency in masculine females but not in masculine males? Or, do masculine females adopt only the desirable aspects of agency? Do masculine males adopt only the undesirable aspects of agency? How do masculine females differ from feminine males along the positive and negative dimensions of agency and communion? Does communion attenuate the negative aspects of agency in feminine males? Or, do feminine males endorse only the positive aspects of agency? How does social desirability relate to the adoption or expression of communal traits in feminine males? Why do undifferentiated females endorse a clear, reliable trait pattern but undifferentiated males endorse a vague, diffuse, and unreliable trait pattern? To what extent have findings regarding undifferentiated gender-role types been confounded by gender?

Aggression. In light of current results indicating aspects of dominance and aggression are differentiating characteristics between masculine males and all remaining types, a further exploration of differences between masculine males and remaining gender-role and attachment types should provide important directions for future research. Since attachment theory provides a method for identifying elements of adult interpersonal behavior from patterns developed in early childhood unrelated to gender, the differentiation of masculine males from feminine males in studies of aggression might yield information regarding

precursors of aggressive behavior related to male socialization. Perhaps information regarding what might mediate the propensity toward aggression could be found.

Saragovi et al. (1997), in a multidimensional study exploring agency, communion, and well-being, found that agentic items split into two factors: (a) agentic interests and role behaviors, and (b) agentic traits. Koestner and Aubè (1995) found evidence of gender differences for agentic behaviors but not for agentic traits. In addition, boys have been found to be more likely to imitate gender-consistent sequences than girls (Bauer, 1993, p. 11). A longitudinal study of males utilizing a variety of attachment, personality, gender-role, and behavioral measures might provide information on how modeling, role-related behavior, and early determinants of attachment behavior relate to the development of aggressive tendencies.

Interestingly, Feingold (1994) found “no gender difference in assertive behaviors among children . . . [but] male adolescents and adults scored higher than female adolescents and adults on personality scales of assertiveness” (p. 437). Feingold notes these meta-analytic results were confounded since studies of assertiveness in children typically use behavioral measures while adolescent and adult studies rely on personality scales. Nonetheless, it would be interesting to explore what changes occur between childhood and adolescence that culminate in

gender-related differences in assertiveness and/or aggression. Are there early precursors related to gender-role or attachment socialization that inhibit or exacerbate the development of aggression in males, or females, between childhood and adolescence? If so, a comparison of these developmental precursors between masculine males and feminine males would be interesting. Another direction for research might be to explore whether differences in levels of assertiveness and aggression between childhood and adolescence relate to aspects of emotional development.

Affect. Since attachment has a strong affective component (Ainsworth & Bell, 1970; Bell & Ainsworth, 1972; Sroufe & Waters, 1977; Stayton, Ainsworth, & Main, 1973), studies exploring differences along its mitigated and unmitigated dimensions might reveal how affect interacts with socialization. Turner (1991) found attachment style to be significantly related to gender-related differences in aggressive and compliant behavior among 4-year-olds. However, the current study found that feminine males endorsed a trait pattern similar to feminine females. This finding is interesting in light of previous findings showing females score higher than males on communal traits (Feingold, 1994; Saragovi et al., 1997).

Based on the findings of the current study, perhaps investigators can begin to more clearly document gender differences in affective development. For

example, a comparison of similarities and differences between masculine females and masculine males, and masculine males and feminine males, might yield useful information regarding the socialization of emotional development in relation to gender, gender-roles, and attachment. In addition, a longitudinal study aimed at differentiating the developmental patterns of masculine females, feminine females, and feminine males along the multiple dimensions of agency and communion might produce information regarding early correlates of gender-related differences in affective disorders.

Helgeson (1993, 1994; see also Fritz & Helgeson, 1998) and others (Saragovi et al., 1997) have begun research in this area. Many studies have found perceived and received social support reduces mortality and increases psychological well-being (Helgeson, 1993, 1994). The ability to relate to and be open to others originates in early attachment experiences. One might explore to what extent the negative aspects of communion are endorsed by androgynous gender-role and secure attachment types. If not, can androgynous and secure types be distinguished from remaining gender-role and attachment types? Are there any factors that can be identified as precursors to the development of emotional dependency or hypersensitivity? Are these factors gender-related, attachment related, or trait related? Saragovi et al. (1997) found evidence suggesting that “qualities related to communion may be more coherently integrated within

individuals than are those related to agency” (p. 605). Is this true when comparing normal versus clinical samples or males versus females? In light of the findings of the current study, is this true for masculine males?

Assessment. One interesting aspect of this study is that the circilinear tests were able to reveal significant results for gender, but the MANOVA did not ($p < .07$). The ability of circilinear statistics to detect differences would seem to support the usefulness of the “nomological net” in research (Gurtman, 1992). Of course, a replicative study would be relevant. By approaching measurement of personality-related constructs along its primary conceptual coordinates (i.e., agency and communion) coupled with influential determinants of behavior (i.e., gender-role identity and attachment style) perhaps the influences of culture and socialization upon early developmental patterns might become more clearly differentiated from the element of biological sex.

Along these lines, the development of a standard protocol, theoretically similar to that used by Katz (1998) in his work on assessing the multiple components of depression, could be useful for teasing out gender differences related to both gender-role and attachment socialization processes. If such a protocol were to be developed, it might include a gender-role measure, an attachment measure, and a circumplex trait measure against which other domains of interest (i.e., self-esteem, self-concept, depression, aggression, anger, attitudes,

beliefs, etc.) could be compared. A standard assessment battery might assist in tracking developmental precursors of the optimal personality including its negative aspects, and yield more differentiated but more consistent findings regarding determinants (i.e., gender, gender-role, and attachment style) of social, emotional, and cognitive development.

Implications for Practice

Since gender-role identity and attachment behavior are inherently and measurably related to agency and communion, the fundamental metabeaviors of human motivation (Baumeister & Leary, 1995; Diehl, Elnick, Bourbeau, & Labouvie-Vief, 1998; Helgeson, 1993), these characteristics provide conceptually useful information to the clinician. In addition, there is research addressing the impact of agency and communion upon physical and psychological health (Helgeson, 1993, 1994). Agency has been found to have a positive influence on both physical and psychological well-being but has the potential to exert a negative influence on physical health (1994). Communion, on the other hand, has been found to exert a positive effect on physical health and well-being but has the potential to exert a negative influence on psychological health (1994).

With regard to the findings of the current study, it should be noted that the population was a normal and not a clinical sample. However, results seem to provide some useful clinical information. The finding indicating that masculine

males can be differentiated from the remaining gender by gender-role groups based on the negative aspects of masculinity might be interesting to a clinician. For example, if a clinician were to assess for gender-role identity, the finding that a male client endorsed a masculine gender-role could cue the clinician to explore aspects of negative masculinity with that client in more depth. On the other hand, if a clinician does not assess for gender-role identity, the findings of the current study indicate that it is important for the clinician to be aware that endorsement of the negative aspects of agency is not characteristic of all males. Also, feminine females did not endorse a trait pattern typical of individuals with low self-esteem or low self-confidence but endorsed a trait pattern indicative of individuals who are “well-adjusted.” Therefore, when working with a female client on issues of self-esteem and self-confidence, the clinician might want to insure that the feminine tendency toward affiliation is not devalued. On the other hand, working to increase agentic behaviors in some females might lead to an increased sense of psychological well-being. Summarily, findings seem to support the importance to clinicians of maintaining an awareness of and sensitivity to gender-related issues. On a final note, the culturally aware clinician will have observed that the current sample was 55% “Hispanic,” 36% “Caucasian,” and 9% “other” with no significant differences emerging for ethnicity by gender, gender-role identity, or attachment.

Limitations

There are several limitations to this study. First, attachment style endorsement patterns fell within a very narrow range of the circumplex which seemed anomalous and, therefore, confounded. The conclusion was that current self-report attachment measures are not a good fit within the circumplex model. Second, this study utilized a four-category attachment classification system although attachment theorists continue to debate the differences between a three-versus-four category system. Third, attachment measures among adolescents and adults do not yet seem to assess the multidimensionality of attachment behavior. This issue is only currently being addressed in the literature.

Fourth, as is typical of most research utilizing college students, generalization to other population domains is limited. Fifth, in spite of prolific findings within the body of gender-role research, results are inconsistent (Cook, 1985, 1987) creating a lack of generalizability commonly attributable to the fact that most instruments measuring gender-role identity assess only the socially desirable aspects of masculinity and femininity (Bem, 1993; Helgeson, 1993, 1994; Spence, 1999).

Sixth, critics of trait psychology contend that traits do not account for contextual variables in that “traits are only weak determinants of behavior”

(Buss, 1989, p. 1378). The foundation of the current study was the circumplex model, which is embedded in trait psychology.

Seventh, although gender stereotypes remain largely unchanged over time and across cultures, females have been endorsing more instrumental traits without a comparable increase in men's endorsement of expressive traits (Twenge, 1997). It is unknown whether or not this pattern exists in ethnically and socioeconomically diverse populations; nor is it known what effect it has, if any, upon this study's gender-role measure.

Eighth, the use of the median-split methodology for categorizing gender-role types remains controversial and may increase the risk of erroneous classification of some gender-role types (i.e., undifferentiated types) (Autor et al., 1988; Briere, Ward, & Hartsough, 1983; Orlofsky et al., 1977; Sedney, 1981). This study found differences in the trait endorsement pattern of undifferentiated males and females, which could be attributable to either the median-split methodology or gender differences.

Summary

This study related gender to gender-role identity but not to attachment style. The findings regarding gender and gender-role identity differentiated masculine males from remaining types based on the negative aspects of agency. On the other hand, undifferentiated males were not distinguishable from remaining types. Masculine females

were similar to androgynous types, and feminine males were similar to feminine and undifferentiated females. Findings regarding attachment and gender-role identity again found masculine types distinguishable from remaining types; androgynous and secure types were similar; and preoccupied, undifferentiated, and feminine types were similar. Results regarding avoidant types were considered anomalous and attributable to an artifact of instrumentation. Other researchers have noted the limitations of attachment measures with respect to the unmitigated aspects of agency and communion (Fritz & Helgeson, 1998; Helgeson, 1993, 1994; Saragovi et al., 1997).

Although causal conclusions cannot be drawn due to the correlational nature of the study, this research provides useful information regarding the relationship between gender, gender-role identity, and attachment style along the trait dimensions of agency and communion as defined by the circumplex model of interpersonal behavior. The study contributes to the literature by: (a) confirming the limitations of current measures of attachment style previously noted by other researchers (Helgeson, 1994); (b) utilization of a measurement tool developed specifically to assess the constructs upon which it was based thus validating both constructs (i.e., dominance and affiliation) and their measures; (c) coupling recent adaptations in circilinear statistical methods with traditional factor analytic methods in order to address Deaux's comment: "If gender is complex, then . . . methodology must reflect that complexity. No single method can be used to uncover all of the facets of a domain such as gender" (1999, p. 23); and (d) confirms the assertion of

Spence (1993, 1999) that gender-role research must be multidimensional as well as multifactorial because it is so deeply contextualized (Spence, 1993, 1999).

Previous researchers have also found relationships between gender, gender-role identity, and attachment behavior (Collins & Read, 1991; Shaver et al., 1996). Saragovi et al. (1997) suggested that “researchers who seek to trace gender differences . . . to the effects of differential socialization . . . need to consider these aspects of personality [i.e., agency and communion] in addition to broad dispositional traits” (p. 605). It is the conclusion of this author that a standard assessment protocol designed to measure personality along the dimensions of agency and communion be developed utilizing perspectives from gender-role, attachment, and interpersonal trait theory defined by positive and negative views of self and other would be useful to future research, and that such a battery would yield more consistent information regarding differential socialization than is currently obtained.

References

Ainsworth, M. D. S. (1969). Object relations, dependency, and attachment: A theoretical review of the infant-mother relationship. Child Development, 40, 969-1025.

Ainsworth, M. D. S. (1989). Attachments beyond infancy. American Psychologist, 44, 709-716.

Ainsworth, M. D. S., & Bell, S. M. (1970). Attachment, exploration, and separation: Individual differences in strange-situation behavior of one-year-olds. Child Development, 41, 49-67.

Ainsworth, M. D. S., & Bowlby, J. (1991). An ethological approach to personality development. American Psychologist, 46, 333-341.

Alpert-Gillis, L. J., & Connell, J. P. (1989). Gender and sex-role influences on children's self-esteem. Journal of Personality, 57, 97-114.

Antill, J. K., & Cunningham, J. D. (1979). Self-esteem as a function of masculinity in both sexes. Journal of Consulting and Clinical Psychology, 47, 783-785.

Archer, J. (1989). The relationship between gender-role measures: A review. British Journal of Social Psychology, 28, 173-184.

Arditti, J. A., Godwin, D. D., & Scanzoni, J. (1991). Perceptions of parenting behavior and young women's gender role traits and preferences. Sex Roles, 25, 195-211.

Arend, R., Gove, L., & Stroufe, L. A. (1979). Continuity of individual adaptation from infancy to kindergarten: A predictive study of ego-resiliency and curiosity in preschoolers. Child Development, 50, 950-959.

Armsden, G. C., & Greenberg, M. T. (1987). The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. Journal of Youth and Adolescence, 16, 427-454.

Armsden, G. C., McCauley, E., Greenberg, M. T., Burke, P. M., & Mitchell, J. R. (1990). Parent and peer attachment in early adolescent depression. Journal of Abnormal Child Psychology, 18, 683-697.

Autor, D. H., Suyemoto, K. L., & Harder, D. W. (1988). Negative androgyny and self-esteem: Towards a confound-free scale. Psychological Reports, 63, 643-650.

Bakan, D. (1966). The duality of human existence. Chicago: Rand McNally.

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. Journal of Personality and Social Psychology, 2, 226-244.

Bassoff, E. S., & Glass, G. V. (1982). The relationship between sex roles and mental health: A meta-analysis of twenty-six studies. The Counseling Psychologist, 10, 105-112.

Bauer, P. J. (1993). Memory for gender-consistent and gender-inconsistent event sequences by twenty-five-month children. Child Development, 64, 185-297.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. Psychological Bulletin, 117, 497-529.

Bell, S. M., & Ainsworth, M. D. S. (1972). Infant crying and maternal responsiveness. Child Development, 43, 1171-1190.

Bem, S. L. (1974). The measurement of psychological androgyny. Journal of Consulting and Clinical Psychology, 42, 155-162.

Bem, S. L. (1975). Sex role adaptability: One consequence of psychology androgyny. Journal of Personality and Social Psychology, 31, 634-643.

Bem, S. L. (1977). On the utility of alternative procedures for assessing psychological androgyny. Journal of Consulting and Clinical Psychology, 45, 196-205.

Bem, S. L. (1981a). Bem Sex-Role Inventory: Professional manual. Palo Alto, CA: Consulting Psychologists Press.

Bem, S. L. (1981b). Gender schema theory: A cognitive account of sex typing. Psychological Review, 88, 354-364.

Bem, S. L. (1993). The lenses of gender: Transforming the debate on sexual inequality. New Haven: Yale University Press.

Bem, S. L., Martyna, W., & Watson, C. (1976). Sex-typing and androgyny: Further explorations of the expressive domain. Journal of Personality and Social Psychology, 34, 1016-1023.

Benjamin, L. S. (1974). Structural analysis of social behavior. Psychological Review, 81, 392-425.

Berman, W. H., & Sperling, M. D. (1991). Parental attachment and emotional distress in the transition to college. Journal of Youth and Adolescence, 20, 427-440.

Biernat, M., & Kobrynowicz, D. (1999). A shifting standards perspective on the complexity of gender stereotypes and gender stereotyping. In W. B. Swann, J. H., Langlois, & L. A. Gilbert (Eds.), Sexism and stereotypes in modern society: The gender science of Janet Taylor Spence (75-106). Washington, DC: American Psychological Association.

Birchnell, J. B. (1996). Personality set within an octagonal model of relating. In Plutchik, R., & Conte, H. R. (Eds.), Circumplex Models of Personality and Emotions (155-182). Washington, DC: American Psychological Association.

Bischof, N. (1975). A systems approach toward the functional connections of attachment and fear. Child Development, 46, 801-817.

Block, J. H. (1973). Conceptions of sex role: Some cross-cultural and longitudinal perspectives. American Psychologist, 28, 512-526.

Bowlby, J. (1969). Attachment and loss: Vol. 1. Attachment. New York: Basic Books.

Bowlby, J. (1973). Attachment and loss: Vol. 2. Separation: Anxiety and anger. New York: Basic Books.

Bowlby, J. (1977). The making and breaking of affectional bonds: I. Aetiology and psychopathology in the light of attachment theory. British Journal of Psychiatry, 130, 201-210.

Bowlby, J. (1988). Developmental psychiatry comes of age. The American Journal of Psychiatry, 145, 1-10.

Bradbard, M. R., & Endsley, R. C. (1983). The effects of sex-typed labeling on preschool children's information seeking and retention. Sex Roles, 9, 247-260.

Bradbard, M. R., Martin, C. L., Endsley, R. C., & Halverson, C. F. (1986). Influence of sex stereotypes on children's exploration and memory: A competence versus performance distinction. Developmental Psychology, 22, 481-486.

Bretherton, I. (1985). Attachment theory: Retrospect and prospect. In I. Bretherton & E. Waters (Eds.), Growing points in attachment theory and research. Monographs of the Society for Research in Child Development (Vol. 50; Serial No. 109, 3-35).

Bretherton, I. (1997). Bowlby's legacy to developmental psychology. Child Psychiatry and Human Development, 28, 33-43.

Briere, J., Ward, R., & Hartsough, W. R. (1983). Sex-typing and cross-sex-typing in "androgynous" subjects. Journal of Personality Assessment, 47, 300-302.

Buss, A. H. (1989). Personality as traits. American Psychologist, 44, 1378-1388.

Carver, C. S. (1997). Adult attachment and personality: Converging evidence and a new measure. Society for Personality and Social Psychology, 23, 865-883.

Collins, N. L. (1996). Working models of attachment: Implications for explanation, emotion, and behavior. Journal of Personality and Social Psychology, 71, 810-832.

Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. Journal of Personality and Social Psychology, 58, 644-663.

Cook, E. P. (1985). Psychological androgyny. Elmsford, NY: Pergamon Press.

Cook, E. P. (1987). Psychological androgyny: A review of the research. The Counseling Psychologist, 15, 471-513.

Deaux, K. (1984). From individual differences to social categories: Analysis of a decade's research on gender. American Psychologist, 39, 105-116.

Deaux, K. (1999). An overview of research on gender: Four themes from 3 decades. In W. B. Swann, J. H., Langlois, & L. A. Gilbert (Eds.), Sexism and stereotypes in modern society: The gender science of Janet Taylor Spence. Washington, DC: American Psychological Association.

Deaux, K., Kite, M., & Lewis, L. (1985). Clustering and gender schemata: An uncertain link. Personality and Social Psychology, 11, 386-397.

Fritz, H. L., & Helgeson, V. S. (1998). Distinctions of unmitigated communion from communion: Self-Neglect and overinvolvement with others. Journal of Personality and Social Psychology, 75, 121-140.

Goldberg, S. (1991). Recent developments in attachment theory and research. Canadian Journal of Psychiatry, 36, 393-400.

Greenberg, M. T., Siegel, J. M., & Leitch, C. J. (1983). The nature and importance of attachment relationships to parents and peers during adolescence. Journal of Youth and Adolescence, 12, 373-386.

Gumbel, E. J., Greenwood, J. A., & Durand, D. (1953). The circular normal distribution: Theory and tables. Journal of the American Statistical Association, 48, 131-152.

Gurtman, M. B. (1991). Evaluating the interpersonalness of personality scales. Personality and Social Psychology Bulletin, 17, 670-677.

Gurtman, M. B. (1992). Construct validity of interpersonal personality measures: The interpersonal circumplex as a nomological net. Journal of Personality and Social Psychology, 63, 105-118.

Gurtman, M. B. (1993). Constructing personality tests to meet a structural criterion: Application of the interpersonal circumplex. Journal of Personality, 61, 237-263.

Gurtman, M. B. (1997). Studying personality traits: The circular way. In R. Plutchik & H. R. Conte (Eds.), Circumplex models of personality and emotions (pp. 81-102). Washington, DC: American Psychological Association.

Haigler, V. F., Day, H. D., & Marshall, D. D. (1995). Parental attachment and gender-role identity. Sex Roles, 33, 203-220.

Hare-Mustin, R. T., & Marecek, J. (Eds.). (1990). Making a difference: Psychology and the construction of gender. New Haven: Yale University Press.

Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. Journal of Personality and Social Psychology, 52, 511-524.

Heilbrun, A. B. (1976). Measurement of masculine and feminine sex role identities as independent dimensions. Journal of Consulting and Clinical Psychology, 44, 183-190.

Helgeson, V. S. (1993). Implications of agency and communion for patient and spouse adjustment to a first coronary event. Journal of Personality and Social Psychology, 64, 807-816.

Helgeson, V. S. (1994). Relation of agency and communion to well-being: Evidence and potential explanations. Psychological Bulletin, 116, 412-428.

Horowitz, L. M., Rosenberg, S. E., & Bartholomew, K. (1993). Interpersonal problems, attachment styles, and outcome in brief psychodynamic psychotherapy.

Journal of Consulting and Clinical Psychology, 61, 549-560.

Horowitz, A. V., & White, H. R. (1991). Becoming married, depression, and alcohol problems. Journal of Health and Social Behavior, 32, 221-237.

Hungerford, J. K., & Sobolew-Shubin, A. P. (1987). Sex-role identity, gender identity, and self-schemata. Psychology of Women Quarterly, 11, 1-10.

Huston, A. C. (1983). Sex-typing. In P. H. Mussen (Ed.), Handbook of child psychology. New York: John Wiley & Sons.

Huttunen, J. (1992). Father's impact on son's gender role identity. Scandinavian Journal of Educational Research, 36, 251-260.

Jacklin, C. N. (1989). Female and male: Issues of gender. American Psychologist, 44, 127-133.

Jackson, L. A., Ialongo, N., & Stollak, G. E. (1986). Parental correlates of gender role: The relations between parents' masculinity, femininity, and child-rearing behaviors and their children's gender roles. Journal of Social and Clinical Psychology, 4, 204-224.

Jones, W. H., Chernovetz, M. D. O'C., & Hansson, R. O. (1978). The enigma of androgyny: Differential implications for males and females? Journal of Consulting and Clinical Psychology, 46, 298-313.

Juni, S., & Grimm, D. W. (1993). Sex-role similarities between adults and their parents. Contemporary Family Therapy, 15, 247-251.

Katz, M. M. (1998). Need for a new paradigm for the clinical trials of antidepressants. Neuropsychopharmacology, 19, 517-522.

Katz, P. A. (1987). Variations in family constellation: Effects on gender schemata. In Liben, L. S., & Signorella, M. L. (Eds.), Children's gender schemata. New Directions for Child Development, 38, (pp. 39-56). San Francisco: Josey-Bass.

Keisler, D. J. (1983). The 1982 interpersonal circle: A taxonomy for complementarity in human transactions. Psychological Review, 90, 185-214.

Keisler, D. J. (1996). Contemporary interpersonal theory and research: Personality, psychopathology, and psychotherapy. New York: John Wiley & Sons.

Kelly, J. A., & Worell, L. (1977). New formulations of sex roles and androgyny: A critical review. Journal of Consulting and Clinical Psychology, 45, 1101-1115.

Kenny, M. E., & Donaldson, G. A. (1991). Contributions of parental attachment and family structure to the social and psychological functioning of first-year college students. Journal of Counseling Psychology, 38, 479-486.

Klohnen, E. C., & Bera, S. (1998). Behavioral and experiential patterns of avoidantly and securely attached women across adulthood: A 31-year longitudinal perspective. Journal of Personality and Social Psychology, 74, 211-223.

Kobak, R. R., & Sceery, A. (1988). Attachment in late adolescence: Working models, affect regulation, and representations of self and others. Child Development, 59, 135-146.

Koestner, R., & Aubè, J. (1995). A multifactorial approach to the study of gender characteristics. Journal of Personality, 63, 681-710.

Kohlberg, L. (1966). A cognitive-developmental analysis of children's sex-role concepts and attitudes. In E. E. Maccoby (Ed.), The development of sex differences (pp. 82-173). Stanford, CA: Stanford University Press.

Lamke, L. (1982). The impact of sex-role orientation on self-esteem in early adolescence. Child Development, 53, 1530-1535.

Lapsley, D. K., Rice, K. G., & Fitzgerald, D. P. (1990). Adolescent attachment, identity, and adjustment to college: Implications for the continuity of adaptation hypothesis. Journal of Counseling and Development, 68, 561-565.

Leary, T. (1957). Interpersonal diagnosis of personality. New York: Ronald Press.

Lippa, R. (1995). Gender-related individual differences and psychological adjustment in terms of the big five and circumplex models. Journal of Personality and Social Psychology, 69, 1184-1202.

Lorr, M., & McNair, D. M. (1963). An interpersonal behavior circle. Journal of Abnormal and Social Psychology, 67, 68-75.

Lubinski, D., Tellegen, A., & Butcher, J. N. (1981). The relationship between androgyny and subjective indicators of emotional well-being. Journal of Personality and Social Psychology, 40, 722-730.

Maccoby, E. E. (1988). Gender as a social category. Developmental Psychology, 24, 755-765.

Main, M. (1996). Introduction to the special section on attachment and psychopathology: 2. Overview of the field of attachment. Journal of Consulting and Clinical Psychology, 64, 237-243.

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.), Growing points in attachment theory and research. Monographs of the Society for Research in Child Development (Vol. 50; Serial No. 209, 66-104).

Markus, H., Crane, M., Bernstein, S., & Siladi, M. (1982). Self-schemas and gender. Journal of Personality and Social Psychology, 42, 38-50.

Marsh, H. W., & Byrne, B. M. (1991). Differentiated additive androgyny model: Relations between masculinity, femininity, and multiple dimensions of self-concept. Journal of Personality and Social Psychology, 61, 811-828.

Martin, C. L. (1999). A developmental perspective on gender effects and gender concepts. In W. B. Swann, J. H., Langlois, & L. A. Gilbert (Eds.), Sexism and

stereotypes in modern society: The gender science of Janet Taylor Spence (pp. 45-73).

Washington, DC: American Psychological Association.

Martin, C. L., Eisenbud, L., & Rose, H. (1995). Children's gender-based reasoning about toys. Child Development, 66, 1453-1471.

Martin, C. L., & Halverson, C. F. (1981). A schematic processing model of sex typing and stereotyping in children. Child Development, 52, 1119-1134.

Matas, L., Arend, R. A., & Stroufe, L. A. (1978). Continuity of adaptation in the second year: The relationship between quality of attachment and later competence. Child Development, 49, 547-556.

McCrae, R. R., & Costa, P. T., Jr. (1989). The structure of interpersonal traits: Wiggin's circumplex and the five-factor model. Journal of Personality and Social Psychology, 56, 586-595.

Mickelson, K. D., Kessler, R. C., & Shaver, P. R. (1997). Adult attachment in a nationally representative sample. Journal of Personality and Social Psychology, 73, 1092-1106.

Mikulincer, M. (1998). Adult attachment style and affect regulation: Strategic variations in self-appraisals. Journal of Personality and Social Psychology, 75, 420-435.

Mikulincer, M., Orbach, I., & Iavnieli, D. (1998). Adult attachment style and affect regulation: Strategic variations in subjective self-other similarity. Journal of Personality and Social Psychology, 75, 436-448.

Mikelson, K. D., Kessler, R. C., & Shaver, P. R. (1997). Adult attachment in a nationally representative sample. Journal of Personality and Social Psychology, 73, 1092-1106.

O'Heron, C. A., & Orlofsky, J. L. (1990). Stereotypic and nonstereotypic sex role trait and behavior orientations, gender identity, and psychological adjustment. Journal of Personality and Social Psychology, 58, 134-143.

Orlofsky, J. L., Aslin, A. L., & Ginsburg, S. D. (1977). Differential effectiveness of two classification procedures on the Bem Sex Role Inventory. Journal of Personality Assessment, 41, 414-416.

Orlofsky, J. L., & O'Heron, C. A. (1987). Stereotypic and nonstereotypic sex role trait and behavior orientations: Implications for personal adjustment. Journal of Personality and Social Psychology, 52, 1034-1042.

Parsons, T., & Bales, R. F. (1955). Family, socialization and interaction process. New York: The Free Press.

Paulhus, D. L. (1987). Effects of group selection on correlation and factor patterns in sex role research. Journal of Personality and Social Psychology, 53, 314-327.

Payne, F. D. (1987). "Masculinity," "femininity," and the complex construct of adjustment. Sex Roles, 17, 359-374.

Pedhazur, E. J., & Tetenbaum, T. J. (1979). Bem Sex Role Inventory: A theoretical and methodological critique. Journal of Personality and Social Psychology, 37, 996-1016.

Pianta, R. C., Egeland, B., & Adam, E. K. (1996). Adult attachment classification and self-reported psychiatric symptomatology as assessed by the Minnesota Multiphasic Personality Inventory-2. Journal of Consulting and Clinical Psychology, 64, 273-281.

Plutchik, R., (1997). The circumplex as a general model of the structure of emotions and personality. In R. Plutchik & H. R. Conte (Eds.), Circumplex models of personality and emotions (pp. 17-45). Washington, DC: American Psychological Association.

Plutchik, R., & Conte, H. R. (Eds.). (1997). Circumplex models of personality and emotions. Washington, DC: American Psychological Association.

Porter, N., Geis, F. L., & Jennings, J. (1983). Are women invisible as leaders? Sex Roles 9, 1035-1049.

Prinsloo, C. H. (1992). The tenacity of sex-role stereotypes. South African Journal of Psychology, 22, 76-86.

Rice, K. G. (1990). Attachment in adolescence: A narrative and meta-analytic review. Journal of Youth and Adolescence, 19, 511-538.

Rosenkrantz, P., Vogel, S., Bee, H., Broverman, I., & Broverman, D. M. (1968). Sex-role stereotypes and self-concepts in college students. Journal of Consulting and Clinical Psychology, 32, 287-295.

Rosenstein, D. S., & Horowitz, H. A. (1996). Adolescent attachment and psychopathology. Journal of Consulting and Clinical Psychology, 1996, 64, 244-253.

Saragovi, C., Koestner, R., Dio, L. D., Aubè, J. Agency, communion, and well-being: Extending Helgeson's (1994) model. Journal of Personality and Social Psychology, 73, 593-609.

Schaffer, K. F. (1981). Sex roles and human behavior. Cambridge, MA: Winthrop Publishers, Inc.

Searle, B., & Meara, N. M. (1999). Affective dimensions of attachment styles: Exploring self-reported attachment style, gender, and emotional experience among college students. Journal of Counseling Psychology, 46, 147-158.

Sedney, M. A. (1981). Comments on median split procedures for scoring androgyny measures. Sex Roles, 7, 217-222.

Shaver, P. R., Papalia, D., Clark, C. L., Koski, L. R., Tidwell, M. C., & Nalbone, D. (1996). Androgyny and attachment security: Two related models of optimal personality. Personality and Social Psychology Bulletin, 22, 582-597.

Signorella, M. L. (1999). Multidimensionality of gender schemas: Implications for the development of gender-related characteristics. In W. B. Swann, J. H., Langlois, &

- Sroufe, L. A., & Waters, E. (1977). Attachment as an organizational construct. Child Development, 48, 1184-1199.
- Stayton, D. J., Ainsworth, M. D. S., & Main, M. (1973). The development of separation behavior in the first year of life: Protest, following, and greeting. Developmental Psychology, 9, 213-225.
- Stephens, N., & Day, H. D. (1979). Sex-role identity, parental identification, and self-concept of adolescent daughters from mother-absent, father-absent, and intact families. The Journal of Psychology, 103, 193-202.
- Stevenson, M. R., & Black, K. N. (1988). Paternal absence and sex-role development: A meta-analysis. Child Development, 59, 793-814.
- Strahan, F. (1975). Remarks on Bem's measurement of psychological androgyny: Alternatives, methods and a supplementary analysis. Journal of Consulting and Clinical Psychology, 43, 563-571.
- Sullivan, H. S. (1953). The interpersonal theory of psychiatry. New York: Norton.
- Taylor, M. D., & Hall, J. A. (1982). Psychological androgyny: Theories, methods and conclusions. Psychological Bulletin, 92, 347-366.
- Tracey, T. J. (1994). An examination of the complementarity of interpersonal behavior. Journal of Personality and Social Psychology, 67, 864-878.
- Turner, P. J. (1991). Relations between attachment, gender, and behavior with peers in preschool. Child Development, 62, 1475-1488.

Twenge, J. M. (1997). Changes in masculine and feminine scores across time: A meta-analysis. Sex Roles, 36, 305-326.

Watson, G. S., & Williams, E. J. (1956). On the construction of significance tests on the circle and the sphere. Biometrika, 43, 344-352.

Whitley, B. E., Jr. (1983). Sex-role orientation and self-esteem: A critical meta-analytic review. Journal of Personality and Social Psychology, 44, 765-778.

Whitley, B. E., Jr. (1984). Sex-role orientation and psychological well-being: Two meta-analyses. Sex Roles, 12, 207-225.

Wiggins, J. S. (1979). A psychological taxonomy of trait-descriptive terms: The interpersonal domain. Journal of Personality and Social Psychology, 37, 395-412.

Wiggins, J. S. (1995). Interpersonal Adjectives Scales: Professional manual. Odessa, FL: Psychological Assessment Resources.

Wiggins, J. S., & PAR Staff (1995). Interpersonal Adjective Scales (IAS) scoring program. Odessa, FL: Psychological Assessment Resources.

Wiggins, J. S., Trapnell, P., & Phillips, N. (1988). Psychometric and geometric characteristics of the revised interpersonal adjective scales (IAS-R). Multivariate Behavioral Research, 23, 517-530.

Wiggins, J. S., & Trobst, K. K. (1997). When is a circumplex an "interpersonal circumplex"? The case of supportive actions. In R. Plutchik & H. R. Conte (Eds.),

Circumplex models of personality and emotions (pp. 57-80). Washington, DC:

American Psychological Association.

Ziegler, C. B., Dusek, J. B., & Carter, D. B. (1984). Self-concept and sex-role orientation: An investigation of multidimensional aspects of personality development in adolescence. Journal of Early Adolescence, 4, 25-29.

APPENDIX A

Demographic Questionnaire

Demographic Questionnaire

I UNDERSTAND THE RETURN OF THIS COMPLETED QUESTIONNAIRE PACKET CONSTITUTES MY INFORMED CONSENT TO ACT AS A SUBJECT IN THIS RESEARCH.

DO NOT PUT YOUR NAME ON THIS SHEET OR ON ANY OTHER SHEET CONTAINED IN THIS PACKET.

Please respond to each item of this demographic questionnaire by circling the appropriate letter or filling in the blank. Please follow the directions for completing the remaining questionnaires by reading the instructions detailed on each questionnaire. Please respond to each item and please complete all questionnaires included in the packet.

1. College Campus: _____ 2. Major: _____

3. Classification:	4. Gender:	5. Ethnicity:	6. Age: _____
a) freshman	a) male	a) Asian	
b) sophomore	b) female	b) Hispanic	
c) junior		c) Caucasian	
d) senior		d) African-American	
e) graduate student		e) American Indian	
		f) Other: _____	

7. Religious Affiliation:	8. Marital Status:
a) Catholic	a) Single
b) Jewish	b) Married
c) Protestant	c) Divorced
d) None	d) Widowed
e) Other: _____	

9. Occupation: (if employed) _____	10. Income Per Year:
	a) Less than \$15,000
	b) \$15-\$29,999
	c) \$30-\$49,999
	d) \$50-\$99,000
	e) Over \$100,000

APPENDIX B

Bem Sex-Role Inventory

Bem Sex-Role Inventory

Information regarding this copyrighted instrument may be obtained by writing to:

Consulting Psychologists Press, Inc.

P. O. Box 10096
Palo Alto, CA 94303-0979

APPENDIX C

The Relationship Questionnaire

The Relationship Questionnaire

Please read each of the following paragraphs and choose the one paragraph that describes you the best by placing a mark in the appropriate box.

- ☐ It is easy for me to become emotionally close to others. I am comfortable depending on others and having others depend on me. I don't worry about being alone or having others not accept me.

- ☐ I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

- ☐ I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.

- ☐ I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

APPENDIX D

The Interpersonal Adjectives Scales

The Interpersonal Adjectives Scales

Information regarding this copyrighted instrument may be obtained by writing to:

Psychological Assessment Resources, Inc.

P. O. Box 998
Odessa, FL 33556