THE RELATIONSHIP OF MULTIPLE MEASURES OF SEX ROLE IDENTITY TO IRRATIONAL BELIEFS

By

GREGORY TODD EELLS

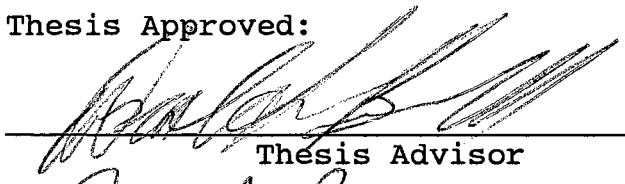
Bachelor of Arts
Greenville College
Greenville, Illinois
1989

Master of Arts
Eastern Illinois University
Charleston, Illinois
1991

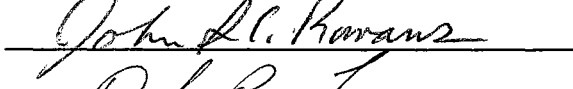
Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
July, 1996

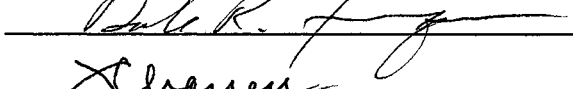
THE RELATIONSHIP OF MULTIPLE MEASURES OF SEX ROLE IDENTITY TO IRRATIONAL BELIEFS

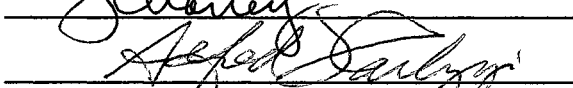
Thesis Approved:

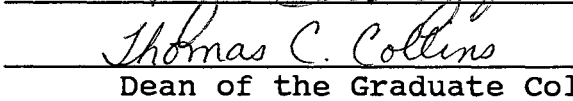


Thesis Advisor









Dean of the Graduate College

ACKNOWLEDGEMENTS

Many people have contributed a great deal to this project as well to my graduate training. It would be impossible to thank all of them due to the limited space. I would, however, like to specifically thank several of them for their own unique and invaluable contributions.

First, I would like to express my sincere gratitude to my entire dissertation committee for their assistance on this project. I would like to thank the director of my dissertation, Dr. Don Boswell. Dr. Boswell has been a mentor for me throughout my entire graduate career. He has taken a strong interest in my professional development by providing me with continual support, encouragement, and friendship. Without his assistance the completion of this project would not have been possible.

I would next like to thank my committee chairperson, Dr. Dale Fuqua. Dr. Fuqua has always made time to assist me in the development of this research project and others. He has a joy and enthusiasm for research that hopefully I can take with me throughout my professional career.

I would like to thank Dr. John Romans for his ideas which significantly contributed to the development of this research project. He assisted me in putting my yet

unorganized ideas into some semblance of order. His support during the proposal defense and throughout my entire training is something for which I will always be grateful.

I thank Dr. Al Carlozzi for his assistance on this project and his supervision which greatly contributed to my skills as a therapist. His support, friendship, and long letter of recommendation will always be appreciated.

I would also like to thank Dr. John Chaney for contributing to this project and for his excellent work in the Marriage and Family Clinic. He was the first person who provided me with live supervision and I found the experience invaluable.

I thank my classmates in the Counseling Psychology doctoral program. Thank you Lorena Burris, Thelma Chambers-Young, Paul Cooper, and Ralph Lindsey for your support and friendship throughout the program.

Finally, I would like to thank my family. I thank my father, Richard A. Eells. Though he is no longer alive his spirit is with me in everything I do. I thank my mother, Jeanette Eells-Rich for her love, support, and the emphasis she always placed on learning. I thank my brother, Jeffrey Eells, for his intellect and his humor. He has always been willing to talk to me about anything. Most importantly I would like to thank my wife, Michelle. She has been understanding, loving, and tolerant when my training and my research took time away from her. She has given me the

encouragement which has made the completion of my degree possible.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

Overview of the Study

In American society and in many other societies and cultures, men and women are expected to differ and do differ in numerous ways. These differences can be related to social behavior, attitudes, and preferences. Our society is confronted with a myriad of social, political, economical, and psychological issues that are associated with the changing of these societal expectations for individual behavior based on gender, that are commonly referred to as sex roles. The relationship between sex role identity and other psychological variables has generated a great deal of interest within the social sciences. Sex role identity is considered by many social scientists to be a very important aspect of a person's psychological state (Costos, 1986).

A major contribution of the feminist movement to the field of psychology has been the challenging of many of the longstanding assumptions concerning the relationships

between sex role identity and psychological variables such as self-esteem (Unger, 1979). Because of these challenges psychology has undergone a paradigm shift in the last twenty years from the perspective that reality constructs the individual, given an invariant set of causal variables whose past actions determine present behavior, to a view that the person constructs reality, acknowledging the importance of the individual's view of themselves and the conditions that help formulate their behavior (Buss, 1978). The study of gender and sex role identity is an area of psychology that exemplifies this change. To understand the implications of these changes for our society it is essential to develop a better understanding of the relationship between sex role identity and other psychological variables (Long, 1989).

The relationship between sex role identity and mental health is one area that has generated a considerable amount of theoretical interest as well as empirical study. It is central to sex role theory as posited by Bem (1974) as well as many other models. These models have been proposed to both explain this relationship and to prescribe a sex role orientation that is necessary for optimal psychological well-being. Results of studies that have probed the nature of this relationship, however, have proven to be inconclusive. The lack of clarity in the literature focuses on what type of sex role identity is more conducive to greater psychological well-being.

According to Whitley (1983) the relationship between sex role identity and psychological well-being have been guided by three competing theoretical models. These models include the congruence model, the androgyny model, and the masculinity model.

The congruence model is the most longstanding of the models and represents assumptions in the field of psychology before the previously mentioned paradigm shift. This model is based on the assumption that masculinity and femininity are opposite poles of a single dimension. In this model, one must exhibit either a masculine or feminine gender identity because the two orientations are incompatible and mutually exclusive. The hypothesis that followed this assumption was that psychological well-being would occur only if an individual's gender was congruent with their sex role identity (Kagan, 1964; Mussen, 1969). The congruence model has been reformulated with the demonstration that sex role orientation encompasses complimentary dimensions of masculinity and femininity rather than being a unidimensional construct (Bem, 1974; Spence & Helmreich, 1978). Within the reformulated model, psychological well-being depends on a sex role by gender interaction. High masculinity and low femininity in men, and low masculinity and high femininity in women results in psychological well-being under this model (Lubinski, Tellegen, & Butcher, 1981).

The demonstration that sex role identity is not unidimensional led to the development of the androgyny model (Bem, 1974; Spence & Helmreich, 1978). This model operates from the assumption that masculinity and femininity, rather than being incompatible dimensions, are independent and complementary. Individuals can exhibit a high degree of both masculinity and femininity in their sex role identity. Individuals that do exhibit these characteristics are considered androgynous. Persons can also exhibit a high degree of one sex role identity and a low degree of another. These people are considered to have a masculine or a feminine identity depending on which sex role they emphasize to a higher degree. Individuals can also exhibit a low degree of both masculinity and femininity, in which case they are considered to exhibit an undifferentiated identity. This model proposed that a person's psychological well-being is maximized when he or she has a androgynous gender identity (Bem, 1974).

The relationship postulated by the androgyny model between sex role identity and psychological well-being has been questioned by empirical findings that suggest the relationship can be accounted for by the masculinity component of androgyny (Antill & Cunningham 1979; Silvern & Ryan, 1979). This model is called the masculinity model. Within this model a person's psychological well-being is related to the extent that they have a masculine sex role

identity, despite gender. It has also been suggested that masculinity, as measured by current sex role inventories, may be better described as dominance or instrumental traits and femininity may be better described as nurturance or expressive traits (Deaux, 1984).

In a review of relevant studies, Whitley (1983) concluded that there is empirical support for the relationship between sex role orientation and psychological well-being. A possible factor that has been found to be related to mental health (Daly & Burton, 1983; LaPointe & Crandell, 1980) but has not been investigated in relation to sex role identity is the presence of irrational beliefs to which an individual subscribes.

It has been hypothesized that similar societal forces that shape an individual's sex role identity also work to shape the extent an individual subscribes to irrational beliefs. Albert Ellis, the founder of rational-emotive therapy, considers the culture in which an individual exists to have a significant influence on the development of irrational beliefs (Ellis & Grieder, 1977). Ellis, however, has not asserted that irrational beliefs are more-characteristic of either gender. Nonetheless, Cultural "rules" in our society have been described for men and women where men must prove their masculinity in numerous areas of life and must be rational, whereas women are expected to be emotional, which in our culture is oftentimes equated with

irrationality (Forisha, 1978). Feminist scholars, however, have argued against this link between rationality and masculinity saying that it has been defined too narrowly in an effort to maintain an unequal power base that excludes women from positions of power in society (Oliver, 1991). The present study attempts to investigate the relationship between the presence of irrational beliefs and the sex role identity the individual has developed.

Background of the Problem

In an attempt to understand the relationship between sex role identity and irrational beliefs it is necessary to first discuss how these constructs are measured. Two personality inventories have gained considerable popularity in the study of sex role phenomena. These two inventories are the Personal Attributes Questionnaire (PAQ; Spence & Helmreich, 1978; Spence, Helmreich, & Stapp, 1975) and the Bem Sex Role Inventory (BSRI; Bem, 1974).

Although the BSRI and the PAQ are very similar in content, they are embedded in very different theories about the organization of gender-related characteristics. One of the central tenets of the theory in which the PAQ is derived is that gender phenomena are multifactorial, more specifically, the PAQ is a measure of desirable aspects of instrumentality and expressiveness and is not a measure of broad gender concepts such as Masculinity- Femininity, sex-

typing, or gender schematization. The BSRI, however, is embedded in Bem's gender schema theory (Bem, 1981) in which gender schema is seen as a lens through which an individual organizes his or her world. Frable (1989) has argued that the BSRI measures gender schematization whereas the PAQ does not.

The controversy between the types of gender-related constructs the BSRI and the PAQ purportedly measure illustrates the underlying theoretical differences between the originators of both instruments. It is acknowledged that theoretically the BSRI is a measure of gender schematization as postulated by Bem's gender schema theory (Bem, 1981a). However, empirical evidence indicates that the two instruments measure the same constructs (Spence, 1991; 1993). Therefore, in the present study both the Masculinity (M) and Femininity (F) scales of the BSRI and both the Instrumentality (I) and Expressiveness (E) scales of the PAQ will be treated as measures of the personality traits of instrumentality and expressiveness as demonstrated by Spence (1993). Therefore, the BSRI will not be used to classify individuals into various gender schema as hypothesized by Bem (1981). Both instruments, however, will be used in the present study to get a more complete understanding of sex role phenomena and the relationship of these two instruments to each other.

A number of instruments were initially developed to

measure the extent to which an individual endorses the original 11 irrational beliefs that Ellis hypothesized were related to decreased functioning. These included the Irrational Beliefs Test (Jones, 1968), the Rational Behavior Inventory (Shorkey & Whiteman, 1977), and the Self Inventory (Plutchik, 1976). However, all of these tests and others as well were criticized for including items that not only measured irrational ideation but also the affective content that irrational ideation was hypothesized to cause. The Survey of Personal Beliefs (SPB) is an instrument that was developed to answer this criticism as well as to reflect more recent theoretical changes regarding core irrational ideas (Demaria, Kassinove, & Dill, 1989).

Statement of the Problem

There is a paucity of research on the relationship of irrational beliefs and sex role orientation. Though a considerable amount of research has been conducted on the relationship of both of these constructs to mental health, only a handful of studies were found that examined the relationship of both of these constructs. The studies that did examine this relationship utilized only a single measure of sex role identity and measures of irrational beliefs that have more recently been criticized. Therefore, empirical investigation is needed which utilizes both the PAQ and the BSRI in the measurement of sex role identity and a measure

of irrational beliefs with more effective psychometric properties, the SPB. This investigation would include elucidating the similarities and differences between how the BSRI and the PAQ measure aspects of sex role identity and then how these instruments relate to different irrational beliefs as measured by the SPB.

Significance of the Study

Despite the considerable amount of empirical investigations into the relationship between both sex role identity and psychological well-being as well as irrational beliefs and mental health few studies have been conducted that explore the direct relationship of both sex role identity and irrational beliefs. It is important to investigate this relationship if it is the intent of our society to socialize our children toward development that results in mental health. Also if it is our intent as mental health professional to promote psychological well-being in both men and women, then we must first develop a better understanding of the relationship between sex roles and a variety of components of mental health. In the present study these components of mental health that are examined are irrational beliefs. Understanding how irrational beliefs occur in relation to sex role identity has important implications for all mental health professionals.

Research Questions

The following five research questions were addressed in this study:

1. Is there a significant relationship between men's scores on the PAQ and irrational beliefs as measured by the SPB?

2. Is there a significant relationship between women's scores on the PAQ and irrational beliefs as measured by the SPB?

3. Is there a significant relationship between men's scores on the BSRI and irrational beliefs as measured by the SPB?

4. Is there a significant relationship between women's scores on the BSRI and irrational beliefs as measured by the SPB?

5. Is there convergent validity between the BSRI and the PAQ?

Assumptions and Limitations

Several basic assumptions underlie the present study. The first of these is that sex role identity is not a unidimensional construct, but that it encompasses complementary dimensions of masculinity and femininity or instrumentality and expressiveness (Bem 1974; Spence & Helmreich, 1978). Based on this assumption, persons can exhibit high or low scores of instrumentality and expressiveness either simultaneously or exclusively. The

second assumption is that the extent to which individuals hold irrational beliefs operates on a continuum.

There are also several limitations to the present study. The first is that self-report instruments were used to obtain information on sex role identity and irrational beliefs. The second limitation is that the subject pool was limited to undergraduate students who were enrolled in a large Southwestern university. Consequently, the results of this study may not be generalizable to other populations.

Definitions

Sex role identity, also referred to in the present study as sex role orientation, is the fundamental sense of one's maleness or femaleness and the societal and contextual expected characteristics that are part of that fundamental sense. It is the "acceptance of one's gender as a social-psychological construction that parallels the acceptance of ones's biological sex" (Spence, 1985; p. 59). It has been found to be independent of biological gender (Bem, 1977; Spence & Helmreich, 1978). For the present study sex role identity will be measured by the BSRI (Bem, 1974) and the PAQ (Spence & Helmreich, 1978; Spence, Helmreich, Stapp, 1975). Different theorists have different definitions of the construct. Bem (1981) views sex role identity in terms of her gender schema theory in which gender schema is seen as a lens through whic an individual organizes his or her

world. Spence views sex role identity as multifactorial personality constructs (Spence & Helmreich, 1978).

Androgynous sex role identity is part of Bem's gender schema theory and refers to a person that endorses an equally high number of both masculine and feminine personality characteristics (Bem, 1977; 1981).

Gender schematic masculine sex role identity is part of Bem's gender schema theory and refers to a man who endorses a significantly higher number of masculine personality characteristics as compared to feminine characteristics (Bem, 1977; 1981).

Gender schematic feminine sex role identity is part of Bem's gender schema theory and refers to a woman who endorses a significantly higher number of feminine personality characteristics as compared to masculine characteristics (Bem, 1977; 1981).

Undifferentiated sex role identity is part of Bem's gender schema theory refers to a person that endorses an equally low number of both masculine and feminine personality characteristics (Bem, 1977; 1981).

Masculine cross sex-typed sex role identity is a part of Bem's gender schema theory and refers to a woman who endorses a greater number of masculine characteristics which would be in the counterstereotypic direction (Bem, 1977; 1981).

Feminine cross sex-typed sex role identity is a part of Bem's gender schema theory refers to a man who endorses a greater number of feminine characteristics which would be in the counterstereotypic direction (Bem, 1977, 1981).

Instrumentality refers to personality traits that reflect dominance and competitiveness. These traits are related to a cognitive focus on performance and problem solving and have been traditionally associated with male characteristics as measured by the PAQ (Spence, 1991).

Expressiveness refers to personality traits that reflect nurturance and relating to others. These traits include the emotional concern for the welfare of others and the harmony of the group. They have been traditionally associated with female characteristics as measured by the PAQ (Spence, 1991).

Irrational Beliefs are beliefs individuals hold about themselves and their environment that contribute to or cause individuals psychological difficulty (Ellis, 1962). For the present study, irrational beliefs are measured by the SPB (Demaria, Kassinove, & Dill, 1989).

CHAPTER II

REVIEW OF THE LITERATURE

The present study will examine the relationship of sex role identity and irrational beliefs. The first section of the review of the literature will examine the history and theories regarding the construct of sex role identity and the relationship of sex role identity with several measures of psychological well-being. The next section will review the history and the theory leading up to the development of the construct of irrational beliefs. This section will also examine the relationship of irrational beliefs with several measures of mental health. The last section will examine the related research on the relationship between sex role identity and irrational beliefs.

Sex Role Identity and Mental Health

Theories of sex role identity began to develop when psychologists realized the limitations of sex as a psychological variable. In summarizing the research on sex-of-subject difference, Deaux (1984) says that "differences are less pervasive than many have thought. Main effects of sex are frequently qualified by situational interactions, and the selection of tasks plays a critical role in eliciting or suppressing differences" (p.108). Other problems with sex as a psychological variable include the fact that it is descriptive rather than conceptual and dichotomous rather than continuous (Deaux, 1977).

These limitations of biological sex as a psychological variable facilitated research into sex role identity. In the early history of gender differentiating phenomena, instruments were developed that assessed masculinity and femininity as a bipolar, unifactorial variable. Within this model, all of the behaviors and psychological characteristics that differentiate between men and women in any society contribute to a single masculinity-femininity dimension. Therefore, it is possible to assign any person a position along this hypothetical continuum (Spence, 1993).

Constantinople (1973) presented a critique of these early measures by carefully examining the assumptions on which these scales were based. Constantinople questioned whether masculinity and femininity are best represented as

bipolar opposites, whether the concept of sex role orientation is unidimensional, and whether or not the construct is best defined in terms of biological sex differences in item responses.

The constructs of masculinity and femininity have been considered in our culture and other cultures to represent complimentary domains of positive traits and behaviors. Early in the study of sex role identity, femininity had been associated with expressive traits. These traits include the emotional concern for the welfare of others and the harmony of the group. The masculine identity was associated with what has been considered instrumental traits or a cognitive focus on performance and problem solving (Parsons & Bales, 1955). It has also been suggested that femininity is associated with a concern for the relationship between oneself and others and masculinity is associated with a concern for oneself as an individual (Bakan, 1966).

In the 1970's a great deal of empirical attention was given to the concept of masculinity and femininity existing independent from biological sex differences. Most scales were developed to assess masculinity and femininity as separate and orthogonal constructs. The two best known and widely used of these instruments was the BSRI (Bem, 1974) developed by Sandra Bem and the PAQ (Spence, Helmreich, & Stapp, 1975) developed by Janet Spence and Robert Helmreich.

Bem (1974), before developing her instrument, proposed

an important revision to the previously mentioned theoretical model. The earlier models focused on individuals that fall at the extremes of the masculinity-femininity continuum. Bem focused on the individuals that fell in the middle of the distribution. These men and women were initially referred to as being androgynous (Bem, 1974). Bem later referred to these individuals as being gender aschematic in her gender schema theory (Bem, 1981). According to gender schema theory, sex typed, gender schematic men and women, have developed a sex role identity that has facilitated their acquiring and displaying attitudes, traits, and behaviors that meet their society's expectations for their gender. Individuals that are gender schematic utilize gender as an organizing principle that facilitates their processing information about the external world as well as themselves. Individuals that are described as non-sex-typed, or gender aschematic, are viewed as relatively immune to the gender expectations of their society with respect to themselves and the world.

The BSRI as it has developed has been utilized to determine to what extent persons are sex-typed. Individuals with equal scores on the masculinity and femininity scales are identified as gender aschematic or non-sex-typed. Individuals with high scores on both scales are categorized as androgynous. Individuals with low scores on both scales are categorized as undifferentiated. Individuals with

unequal scores on the masculinity and femininity scales and with the imbalances being in the stereotypic direction are classified as gender schematic or sex-typed. These individuals would be feminine women and masculine men. Individuals with unequal scores in the counter stereotypic direction are categorized as cross-sex-typed. These individuals would be feminine men and masculine women.

Another theoretical approach related to Bem's gender schema theory but considered a more general theory is Markus' self-schemata theory (Crane & Markus, 1982). This theory is considered a two-factor theory. It is proposed by Markus and her colleagues that persons scoring higher on the BSRI Masculine (M) scale should be more highly schematized than individuals that score low with respect to male related stimuli but not with respect to female-related stimuli. Persons that score high on the Femininity (F) scale should be more highly schematized than low-scoring individuals in response to only female-related stimuli (Markus, Crane, Bernstein, & Siladi, 1982). This theory is more general than Bem's in the sense that it theorizes that the BSRI M and F scales are global measures of the tendency of individuals to use masculine schema and feminine schema, respectively.

More recently, several investigators have advocated a multifactorial approach to sex role identity rather than the traditional unifactorial model (Deaux & Major, 1990; Edwards

& Spence, 1987; Signorella, 1992). Within this conception, the numerous categories of attributes, attitudes, behaviors, and preferences that have been empirically designated to distinguish between men and women do not contribute to a single underlying construct but to various independent factors that are more or less independent.

Deaux and Major (1990) in their social-psychological model of gender emphasize the flexibility, fluidity, and variability in gender-related behavior without denying the regularities in this behavior that are the result of biological propensity or socialization experience. They also emphasize the individual choices men and women make about their behavior based on several factors. These factors include the importance of sex role identity to the individual, the degree to which associations with gender are invoked in a social situation or context, and the influence of the individual's other identities besides gender.

Spence (1985; 1993) posited her own theory based on the construct of gender identity and built on the assumptions of the multifactorial approach. According to this theory, the attributes that contribute to each gender-differentiating factor have developmental histories that are different across individuals and are influenced by a myriad of sources that are not related to gender. These factors are related to each other in various ways and to different degrees. They also interact with each other at any given

developmental stage to determine individual behavior. Consequently, there is a great deal of variability within each sex as to the specific cluster of gender-congruent qualities individuals display. Despite this considerable variability most men and women develop a clear sense of sex role identity.

Sex role identity within this theory is a "basic psychological sense of belongingness to one's own sex" (Spence, 1993; p. 635). It is theorized that this identity is developed quite early in childhood and is maintained throughout the life span. For both men and women specific sets of gender-relevant characteristics that individuals possess and the sex roles that they occupy at any given time serve to define and verify each individual's personal sense of masculinity and femininity (Spence & Sawin, 1985). This multifactorial gender identity theory denies the validity of such all encompassing constructs as sex role orientation, gender-schematization, or masculinity-femininity based on the assumption that sex-linked behaviors and qualities contribute to a single factor (Spence, 1993). Within this theoretical conceptualization instruments such as the BSRI and the PAQ do not measure the previously mentioned constructs but rather measure desirable aspects of instrumental and expressive personality traits (Spence, 1993).

Therefore, Spence (1993) argues that neither the BSRI

or the PAQ should be related to gender-linked characteristics and behaviors except as they happen to be related to instrumentality and expressiveness. Advocates of the gender-schema theory argue, however, that the BSRI measures the sex-typing concept while the PAQ does not. Frable (1989) stated: "[T]he authors of the PAQ believe their inventory measures only instrumentality and expressiveness. Using the PAQ to measure gender attitudes and discriminatory behavior is then inappropriate. The author of the BSRI believes that her instrument measures the individual's readiness to use gender as a lens to view the world. . . . Thus, the BSRI is the appropriate measurement instrument for studies trying to link gender personality and ideology. However, many gender studies use both instruments or randomly choose between the two disregarding the theoretical implications of such a procedure." (p. 106)

Spence (1991; 1993) has questioned this assertion that the BSRI measures sex typing while the PAQ measures only instrumentality and expressiveness. She has made the counterassertion that the BSRI also measures primarily instrumentality and expressiveness and that any difference between the two instruments can be accounted for by the presence of items on the BSRI that describe characteristics other than instrumental and expressive traits and not properties of the scales as a whole. Spence (1991; 1993) has found empirical support for these counterassertions that

the PAQ and the BSRI measure the same constructs. In one study (Spence 1993) the BSRI and the PAQ were administered 316 college students along with 3 measures of sex role attitudes. Spence (1993) found that differences in correlations between the two personality measures and attitude measures were traced to responses to two items on the BSRI, which were the terms masculinity and femininity. Spence concluded that this confirmed a multifactorial approach to gender as opposed to a unifactorial gender schema theory.

These conceptualizations of sex role identity have contributed to several hypotheses regarding how the differences in these complimentary domains of traits in people would influence their psychological functioning. The hypothesis that sex role identity would be related to psychological functioning can be traced back to the congruence model where it was hypothesized that mental health would be fostered only if an individual's sex role identity was congruent with their gender (Mussen, 1969). This hypothesis was based on the assumption that masculinity and femininity were opposite poles of a single dimension. Bem (1974), as previously stated, questioned this assumption of a sex role dichotomy. She stated: "Thus, whereas a narrowly masculine self-concept might inhibit behaviors that are stereotyped as feminine, and a narrowly feminine self-concept might inhibit behaviors that are stereotyped as

masculine, a mixed, or androgynous, self-concept might allow an individual to freely engage in both "masculine" and "feminine" behaviors" (p.155). She went on to postulate a different relationship between sex role identity and mental health by saying: "In a society where rigid sex-role differentiation has already outlived its utility, perhaps the androgynous person will come to define a more human standard of psychological health" (p.162).

Numerous studies have been conducted since Bem asserted this relationship between androgyny and mental health. These studies have utilized a myriad of indicators of mental health.

Oliver and Toner (1990) examined the relationship between sex role identity and how it influenced the expression of depressive symptoms. In this study undergraduates were administered the BSRI and the Beck Depression Inventory. Sex role identity differences emerged on the Beck Depression Inventory with feminine participants reporting more emotional symptoms than masculine participants and masculine participants reporting more withdrawal and somatic symptoms that feminine subjects

In another study the relationship of instrumental and expressive traits to expression of empathy was examined. In this study 51 graduate students majoring in counseling and student personnel were administered the Extended Personal Attributes Questionnaire and the Affective Sensitivity

Scale, Form E-A-2. A positive relationship was found between empathy and expressive traits and no relationship was found between instrumental traits and empathy (Carlozzi & Hurlburt, 1982).

Other studies have examined a number of variables in conjuntion with sex role identity including anxiety, and locus of control (Grimmell & Stern, 1992). In a more recent study, Huselid and Cooper (1994) explored how sex role identity served as a mediator in the actual expression of pathology in adolescents through either internally directed psychological distress or externally expressed deviant behavior. They found that instrumental traits reduced internalized distress, whereas expressive traits reduced external behavior problems. The results of the Huselid and Cooper (1994) study regarding the relationship between instrumental traits and decreased internalized distress are similar to the results of much of the research with the most commonly used indicator of mental health which has overwhelmingly been self-esteem.

Spence, Helmreich, and Stapp (1975) conducted one of the first investigations using self-esteem to test Bem's original hypothesis regarding androgyny and mental health. In this investigation 248 male and 282 female participants were administered the PAQ and were asked to rate themselves and then compare themselves to the typical male and female college student. They were also administered the Attitudes

Toward Women Scale and a measure of social self-esteem. They found that for both men and women, "masculinity" on the male-valued items and "femininity" on the female-valued items were significantly related and positively correlated to self-esteem. They concluded from these results that the correlations between the male-valued and female-valued items and their strong positive individual correlations with self-esteem suggested that the two factors functioned in an additive manner to determine an individuals self-concept. Therefore, a high degree of masculinity and femininity, or androgyny, may lead to the most desirable social consequences.

An abundant number of investigations were conducted after the landmark studies of Bem (1974) and Spence, Helmreich, and Stapp (1975) to investigate the relationship of sex role orientation and self-esteem. The most commonly used instruments to measure sex role orientation in these studies were the BSRI and the PAQ (Whitley, 1983). Whitley (1983) conducted a meta-analytic review of 35 relevant studies that had been conducted up to the time of the review. He concluded that three theoretical models had guided the studies included in the meta analysis. These models were the congruence model, the androgyny model, and the masculinity model. Analysis did not find the sex differences related to self-esteem as would be predicted by the congruence model. Results, however, did provide weak

support for the additive and interactive conceptualizations of the androgyny model. The interaction effect sizes for femininity were statistically significant, nonetheless, femininity accounted for only approximately 3% of the self-esteem variance in the overall sample. Given the small effect sizes, Whitley (1983) concluded that the relationship between femininity and self-esteem may have "little practical significance." Masculinity, on the other hand, accounted for approximately 27% of the self-esteem variance in the overall sample. Whitley concluded that this could be practically significant and that the results of the meta-analysis provided the strongest support for the masculinity hypothesis.

Whitley (1983), however, proffered several caveats about the relationship between masculinity and self-esteem and discussed several methodological considerations. The first of these considerations was that the psychometric instruments used in the studies could exhibit shared measurement variance. He suggested that one possible source of this shared measurement variance could be could be the use of socially desirable traits in both the BSRI and the PAQ. It could be argued that social desirability is inherent in both constructs of psychological masculinity and self-esteem. A second methodological consideration was the multidimensionality of the construct of self-esteem. Some dimensions of self-esteem, such as social self-esteem, were

found to have a stronger relationship with masculinity than was global self-esteem. A third methodological consideration was the meaning of sex role. Whitley emphasized that the measurement instruments utilized in the reviewed studies emphasized only the personality traits aspect of psychological sex role. The final methodological consideration was to emphasize more complex theories and relationships between sex role orientation and self-esteem.

Many of the studies since Whitley's (1983) meta-analysis have found results congruent with Whitley's conclusions. Gauthier and Kjervik (1982) conducted a study just after Whitley's meta-analysis and came to similar conclusions. They used a sample of 96 female graduate nursing students and administered the BSRI and the Coopersmith Self-Esteem Inventory to all participants. They then divided them into four categories: low masculine-low feminine, low masculine-high feminine, high masculine-low feminine, and high masculine-high feminine. They found that participants in the high masculine-low feminine and the high masculine-high feminine groups exhibited a higher mean self-esteem scores than participants in the other two groups.

Lundy and Rosenberg (1987) in a similar study administered the Coopersmith Self Esteem Inventory and the BSRI to 91 male and 103 female participants. They found that level of self-esteem was almost entirely a function of an androgyny scale that emphasized masculinity. This

conclusion was the result of strong independent positive correlations between masculinity and self-esteem. They found virtually no effects due to the interaction of femininity and masculinity, femininity alone, or sex. They concluded that the masculinity-self-esteem relationship is an artifact of a "strong self-image" component in the masculine stereotype. This component, however, was not found to distinguish between males and females.

Marsh, Antill, and Cunningham (1987) in a reanalysis of data from Antill and Cunningham (1979; 1980) found similar support for masculinity's contribution to self-esteem. In this investigation participants were 133 women and 104 men enrolled in introductory psychology and behavioral science courses. They were administered five measures of masculinity and femininity including the BSRI and the PAQ. They were also administered two self-esteem instruments and two social desirability instruments. Scores of each of these measures were standardized and analyzed using multiple regression. Results from this investigation provided clear support for the masculinity model and found little support for either the androgyny model or the congruence model.

Other researchers have investigated the relationship of self-esteem and self-acceptance to sex role identity. Vonda Olson Long has conducted several studies on the relationship of these constructs with specific populations. In the first of these studies Long (1986) found continued support for the

masculinity model. Using participants that included only female professionals, clients, victims of domestic violence, and college students she found masculinity to be the best predictor of both self-esteem and self-acceptance.

Long (1989) later conducted a follow-up study using only male participants. She hypothesized, based on previous studies, that the sex role socialization process in our society is more stringent for men than for women and that boys receive significantly more disapprobation for cross-sex behavior than do girls. She posited that men may experience psychological difficulty because of fear of appearing feminine, experiencing societal pressure to restrict emotional expression, and dealing with issues of competition, achievement, performance stress, and aggression. In the study the relationship of masculinity to self-esteem and self-acceptance was investigated in male professionals, clients, and college students. Participants were administered the Personal Orientation Inventory (POI), the BSRI, and the Internal-External Locus of Control Scale. Of the variables masculinity, femininity, education, occupation, and locus of control, masculinity was found to be the best predictor of self-esteem for male professionals and clients. Masculinity was also the best predictor of self-acceptance for clients. Femininity did not correlate with either self-esteem or self-acceptance in any of the groups of male participants.

In a more recent study, Long (1990) investigated the relationship between masculinity, femininity, self-esteem, and self-acceptance in women scientists. In this investigation Long compared differences in these constructs among women scientists, women professionals other than scientists, women college students, women clients, and women who were victims of domestic violence. These participants were administered the POI and the BSRI. Masculinity was found to correlate with self-esteem for all of the groups except the student group. These findings are congruous with previous research findings that indicate instrumental masculine-characteristics are predictive of self-esteem in women. Masculinity was found to correlate with self-acceptance for all of the groups except the student group and the scientist group. This finding was partially explained by a negative relation found between self-acceptance and educational level. A final interesting finding in this study was significantly lower level of femininity reported for the scientist group as compared to the other groups.

Lau (1989) investigating the relationship of sex role orientation and different domains of self-esteem, also found support for the masculinity model, similar to the previously delineated studies. This investigation, however, also found tenuous support for the androgyny model. In this study participants were 191 eleventh-grade Chinese students. They

were administered the BSRI, the Rosenberg Self Esteem Scale, and measures of academic self-esteem, social self-esteem, physical ability, and appearance self-esteem. Masculine and androgynous groups were found to exhibit higher levels of academic, appearance, and general self-esteem than the feminine and undifferentiated groups. The masculine and androgynous groups were also higher in physical ability self-esteem than the feminine group. It was also noted that the androgyny group was superior in the domain of social self-esteem. Regression analysis of the data showed support for the masculinity model. Masculinity was most strongly associated with self-esteem whereas the effects of femininity were much less evident.

Studies since Whitley's (1983) have provided support for conclusions similar to those reached by Whitely in his meta analysis. Little to no recent evidence was found that supports the congruous model. The androgyny model, however, has received moderate support in the literature. Nonetheless, the masculinity model has the greatest amount of empirical support.

Irrational Beliefs and Mental Health

The concept of irrational beliefs is taken from Albert Ellis' framework on which he constructed Rational Emotive Therapy (RET). RET like all cognitive therapies are based on the premise that when people are exposed to varying

external events their cognitive appraisals of those events lead to very different behavioral and emotional reactions. Oftentimes the individuals are not reacting to the actual event but the cognition the event has elicited in them. The focus of RET and all cognitive therapies is to alter the cognitions or beliefs that are held by the individual that lead to maladaptive behaviors and emotional responses. RET as well as all other types of cognitive therapies consist of three fundamental steps. The first step is to determine the schematas, thoughts, and beliefs that are causing the negative behaviors and emotions. The second step is to help the client analyze these thoughts and beliefs to determine their validity and usefulness. This step is where the various approaches often differ in the method they take to accomplish this goal. The third step is to alter the individuals irrational beliefs and perceptions. The therapists attempts to replace the harmful and irrational beliefs with useful and rational ones (McMullen, 1986).

RET holds that individuals practically never experience emotions separate from thoughts and actions. When people consistently act "emotionally disturbed" after an unpleasant event occurs in their life RET puts the "disturbance" in an ABC format. "A" represents an activating experience which is unpleasant in nature. Individuals bring certain goals to these "A"s that are usually thwarted. They then feel and act "disturbed" at "C", the emotional and behavioral

Consequences. RET hypothesizes that because of how individuals naturally think they conclude that "A" directly "causes" or "creates" "C". According to RET this thinking is false. "A" definitely contributes to "C" but more importantly and more directly related to "C" is "B", people's Belief System about what happened to them at "A". The most inappropriate and self-defeating consequences are almost always the result of some form of irrational belief. These irrational beliefs usually take some form of absolutistic evaluation evidenced by "I must" or "I have to" statements (Ellis, 1980). Ellis (1962) originally categorized the main irrational beliefs that people hold into eleven major headings. He posited that these beliefs were universally inculcated into Western society and "would seem inevitably to lead to widespread neurosis." These beliefs and some rational beliefs RET attempts to replace them with are as follows:

1. **It is essential that a person be loved or approved by virtually everyone in the community.** It is certainly nice to have love and approval but it is not a dire necessity for an adult to receive love and approval from all significant others. We will be happier if we learn to separate that which is desirable from that which is truly necessary.
2. **A person must be perfectly competent, adequate, and achieving to be considered**

worthwhile. There is a difference between striving for accomplishments and driving oneself to excel compulsively for the sake of excelling. We will be much happier if we realize that we do not determine self-worth by achievement, adequacy or external competence, but rather by our limitless value as unique irreplaceable human beings.

3. **Some people are bad, wicked, or villainous and therefore should be blamed and punished.** Wrongdoers ought not be blamed or punished or labeled "bad", "wicked", or "sinful". Criminal and antisocial acts are committed out of ignorance, stupidity, or emotional disturbance. The same applied to self-blame, which should be replaced by full acceptance of the fact that one is fallible, (i.e. that we all make mistakes), followed by a sincere endeavor to become less fallible.

4.**It is a terrible catastrophe when things are not as a person wants them to be.** When things are not the way one would like them to be, we will be happier if we do not make a catastrophe out of the situation.

5. **Unhappiness is caused by outside circumstances, and a person has no control over it.** Nearly all

instances of unhappiness are due to internal thoughts rather than external events. People define various annoyances or inconveniences as "upsetting" then proceed to act "upset".

6. **Dangerous or fearsome things are cause for great concern, and their possibility must be continually dwelt upon.** We will be happier if we live each day as it comes. Anticipation of a dreaded event is often worse that the actual event itself. Worrying about dangers and dwelling on the possibilities of dreaded events will not ward off the feared situations.

7. **It is easier to avoid certain difficulties and self- responsibilities than to face them.** We will be happier if we set a middle course between being too hard on ourselves and too easy. Too much self-discipline is usually a sign of guilt and self-punishment. Constant taking the easy way out by avoiding responsibilities and difficulties usually leads to laziness, fear, and boredom.

8. **A person should be dependent on others and should have someone stronger on whom to rely.** We will be happier if we are more independent, instead of leaning on or relying on "someone stronger than oneself." To be completely independent though is both unrealistic and

undesirable. there is a vast difference between parasitic dependence and rational patterns of cooperation, togetherness, and friendship.

9. **Past experiences and events are the determinants of present behavior; the influence of the past cannot be eradicated.** Everyone's past history has inevitably influenced his present behavior but we will be happier if we decide not to let it keep directing and affecting us. It is not impossible to break away from one's past experiences and set up a new and different course through one's life.

10. **A person should be quite upset over other people's problems and disturbances.** We will be happier if we give constructive advice and loving help to others and yet avoid upsetting ourselves for them or over them and their problems. There is no value in becoming upset over other people's problems and disturbances. It will not help you to help them.

11. **There is always a right or perfect solution to every problem, and it must be found or the result will be catastrophic.** Any quest for perfection or absolute control over life's ups and downs is likely to cause panic and inefficiency. To make mistakes is human because people are fallible. The

world is one of probability and change and we must adapt to it---it will not adapt to us (p. 143).

Ellis (1977) later simplified these eleven irrational beliefs into three more general structures. They are as follows:

1. I must do well and win approval for my performances, or else I rate as a rotten person.
2. Others must treat me considerately and kindly in precisely the way I want them to treat me; if they don't society and the universe should severely blame, damn, and punish them for their inconsiderateness.
3. Conditions under which I live must get arranged so that I get practically everything I want comfortably, quickly, and easily, and get virtually nothing that I don't want (p. 195).

As rational-emotive theory progressed, Ellis' 11 original irrational beliefs and the three simplified beliefs previously discussed were incorporated into four core ideas which were judged to contain the essential irrational philosophy (Demaria, Kassinove, & Dill, 1989). The first of these is awfulizing beliefs. This is the idea that objectively negative and aversive life experiences, like being rejected in a relationship, are terrible catastrophes. The second of these four core ideas is should, ought, and

must beliefs. These are beliefs that include unrealistic demands and inflexible standards about how the world should be. The third are low frustration tolerance beliefs. These are beliefs that aversive situations cannot be adapted to or tolerated. The final core beliefs are self-worth beliefs. These are beliefs indicating an evaluation of the entire person rather than specific behaviors and actions.

The 11 original irrational beliefs, as well as the ABC model, and the four core ideas provide the philosophical underpinnings on which RET is based. Identifying irrational beliefs is one of the first steps of RET and has important implications for other cognitive therapies as well as psychotherapy as a whole. The most prevalent instrument used to measure the existence of the original irrational beliefs is the Irrational Beliefs Test (Jones, 1968). A more recently developed instrument, the Survey of Personal Beliefs developed by Kassinove and Berger, was designed to measure the extent that an individual holds an irrational philosophy as determined by their adherence to the four previously mentioned core ideas.

In RET irrational beliefs are considered the primary determinant of psychological disturbances. The presence of irrational beliefs has been found to be related to a number of psychological distresses. The three primary measures of mental health that irrational beliefs have been found to be related to are anxiety, depression, and self-esteem.

Irrationality has been correlated with several types of anxiety and related constructs. These include social anxiety (Sutton-Simon & Goldfried, 1979) and trait-anxiety (LaPointe & Crandell, 1980; Lohr & Bonge, 1981). In one such study the relationship between irrational beliefs, anger, and anxiety was investigated. In this study 382 Introductory Psychology students were administered the Irrational Beliefs Test, the Anger Inventory, and the Trait Anxiety Inventory. Using regression analyses it was determined that personal perfection, anxious overconcern, blame proneness, and catastrophizing were predictors of general anger while anxious overconcern, problem avoidance, catastrophizing, and personal perfection were significant regression factors for the full range of general anxiety (Zwemer & Deffenbacher, 1984).

Several studies have also examined the relationship of irrational beliefs as measured by the Irrational Beliefs Test and depression. Two of the studies that examined the association between the scores on the Irrational Beliefs Test and self-reported depressive symptomology found the expected positive relationship (LaPointe & Crandell, 1980). In a second, more recent study, Cash (1984) examined the relationship between scores on the Irrational Beliefs Test, depression, and other cognitive variables that have been found to be associated with depression. In this study 144 female undergraduate students were administered the

Irrational Beliefs Test, the Adult Nowicki-Strickland Internal-External Locus of Control Scale, the Success-Failure Inventory, the College Self-Expression Scale, and the Beck Depression Inventory. The total score of the Irrational Beliefs Test correlated significantly with scores of each of the four other instruments. Individuals who more strongly endorsed irrational beliefs exhibited a more external locus of control, espoused a less optimistic cognitive set related to academic successes and failures, reported less social assertiveness, and admitted to higher levels of depression. More specifically the irrational beliefs most associated severity of self-reported depression were the beliefs of anxious overconcern, high self-expectations, demand for approval, problem avoidance, helplessness over the past, and frustration reactivity.

Daly and Burton (1984) conducted one of the first empirical investigations that examined the relationship of self-esteem to irrational beliefs. In their study they tested the hypothesis, derived from theoretical postulations and suggested empirical evidence, that irrational beliefs would be related to lower levels of self-esteem. Participants in this investigation were administered the Irrational Beliefs Test and the Janis-Field Feelings of Inadequacy Scale. A significant negative correlation was reported between the total Irrational Beliefs Test scores and self-esteem. This correlation accounted for

approximately 25% of the variance, suggesting that self-esteem is an underlying variable in Ellis' theory of irrational beliefs. The specific irrational beliefs that best predicted low self-esteem were demand for approval, high self-expectation, anxious overconcern, and problem avoidance.

In another study the construct of self-esteem was included in the examination of the relationship of irrational beliefs with depression (McLennan, 1987). In this investigation 268 participants were administered the Irrational Beliefs Test along with the Rosenberg Self-Esteem Scale, and the Zung Depression Inventory. High depression scores and low self-esteem scores were related high scores on the Anxious Overconcern, High Self-Expectations, Demand for Approval, Problem Avoidance, Frustration Reactivity, and Helplessness scales of the Irrational Beliefs Test.

More recently, the Survey of Personal Beliefs (SPB) has been used as a measure of irrational beliefs in exploring the relationship between these beliefs and mental health. Nottingham (1992) utilized the SPB to determine the relationship of irrational beliefs to depression, helplessness, and anxiety. In this study 143 individuals admitted to a private psychiatric hospital served as participants and 77 individuals admitted to a chemical dependency unit served as a comparison group. Significant Pearson correlations were reported between the SPB total

score and the Beck Depression Inventory, the Automatic Thoughts Questionnaire, the Beck Hopelessness Scale, and the Beck Anxiety Inventory.

In general, irrational beliefs have been found to be related to higher levels of expressed depression, higher levels of several different types of anxiety and lower levels of general self-esteem.

Sex Role Identity and Irrational Beliefs

As previously discussed it is widely accepted that biological sex and sex role orientation are not synonymous (Bem, 1977; Spence, Helmreich, & Stapp, 1975). It has been hypothesized, however, that individuals with different sex role orientations will adhere to different irrational beliefs (Coleman & Ganong, 1987). Unfortunately, little research has been reported that examines this postulation.

Two studies were found, however, that did investigate the relationship between sex role orientation and irrational beliefs. The first of these studies was conducted in Norway (Alsaker, Hovland, & Vollmer, 1985). Both men and women served as participants. The participants were administered the PAQ as a measure of sex role orientation and a 12-item instrument developed by the researchers that purportedly measured an irrational value orientation as a measure of irrational beliefs. They reported a significant negative correlation between masculinity and irrational beliefs. No

relationship was reported between either femininity and irrational beliefs or androgyny and irrational beliefs.

In this study no attempt was made to control for gender in determining the relationship of sex role identity to gender. Also only one measure of sex role identity was used, the PAQ, and the measure of irrational beliefs consisted of only 12-items and its psychometric properties were not validated outside of the study.

The second study was conducted in the Midwestern United States by Coleman and Ganong (1987). Participants were 147 male and 123 female college students. They were administered the BSRI and the Irrational Beliefs Test. Data were analyzed using a 2 (Sex) by 4 (Sex role orientation) multivariate analysis of variance. The nine subscales of the Irrational Beliefs Test were the dependent variables. No clear pattern was reported regarding sex differences for irrational beliefs but it was reported that irrational beliefs are more strongly influenced by sex role orientation rather than sex. In this study a feminine sex role orientation was found to be positively related to irrational beliefs and masculine and androgynous sex role orientations were found to be negatively related to irrational beliefs. The researchers concluded, however, that since the main effects of sex and sex role orientation were found on different scales of the Irrational Beliefs Test an unambiguous attribution of these findings to differences in

sex role socialization between men and women could not be made. Nonetheless, tentative support was provided for the hypothesis that differences in sex role socialization does contribute to the subscription of irrational beliefs.

This study, though providing valuable information about the relationship between sex role identity and gender, utilized only the BSRI as a measure of sex role identity. Also the Irrational Beliefs Test was used as the measure of irrational beliefs. The psychometric properties of this instrument have been questioned as well as its relationship to new theories in RET (Demaria, Kassinove, & Dill, 1989).

CHAPTER III

METHOD

This chapter presents the participants, the instruments, the procedures for data collection, the null hypotheses, and the procedures for statistical analyses.

Participants

Participants were 314 undergraduate students attending a large Southwestern university during the fall of 1994. Two participant's records were omitted due to missing data in the instruments. Participants ranged in age from 17-46. Table 1 contains the age means and standard deviations of the sample according to sex. Of the 312 participants whose records were used in the study, 161 of the participants were females and 151 were males. Table 2 contains other relevant demographic information of the sample.

Table 1

Age Means and Standard Deviations of the Sample According to Sex

Sample	N	Mean Age	Age Standard Deviation
Total Sample	312	20.34	4.38
Females	161	20.28	4.55
Males	151	20.40	4.22

Table 2

Demographic Information of Entire Sample with Regard to Gender, Ethnicity, Marital Status, and Years of Education

Category	Number	%
Gender		
Male	151	48
Female	161	52
Ethnicity		
African-American	10	3
Asian-American	11	3
White/Caucasian	258	83
Native American	10	3
Hispanic	10	3
Other	13	4

Marital Status		
Single	276	88
Married	18	6
Divorced	7	2
Significant Partner	10	3
Education		
First Year College	132	42
Second Year College	120	38
Third Year College	43	14
Fourth Year College	12	4
Fifth Year Undergraduate	5	2

Participants were recruited entirely from general psychology courses and were given extra credit for their participation. Other opportunities were available for students to obtain extra credit if they chose not to participate in the present study. All participants were advised at the time of recruitment and data collection that they were free to withdraw from the study at any time without any repercussions prior to the submission of their materials.

Instrumentation

Bem Sex Role Inventory

The Bem Sex Role Inventory (BSRI) is a self-report measure that was originally developed by Sandra L. Bem in 1974. It includes both a Masculinity (M) scale and a Femininity (F) scale. These scales were developed by instructing judges to rate 200 personality characteristics that appeared to Bem to be positive in value and either masculine or feminine in tone. The judges rated these characteristics on a 7-point scale ranging from 1, which was not at all desirable for either a man or a woman, to seven, which was considered extremely desirable for a man or a woman. Personality characteristics qualified as feminine if they were independently judged by both male and female judges to be significantly more desirable for a woman. The M scale was developed using the same procedure. Both the M and F scales were narrowed down to 20 personality characteristics. The instrument was developed on the theory that the sex-typed person is someone who has internalized society's sex-typed standards of desirable behavior for men or women (Bem, 1974). The personality characteristics, therefore, were selected for each respective scale if they were judged to be socially desirable for either a man or a woman in American society.

The BSRI consists of 60 items. Each item is scored on a 1 to 7 Likert scale where 1/never true of self and

7/always true of self. Twenty of these items are filler items and do not appear on either the M or F scale. Bem (1981b) reported reliability coefficients of .75 and .78 for the F scale and .87 to .86 for the M scale in both male and female undergraduate samples, respectively. A retest was conducted four weeks later which yielded retest reliability coefficients of .82 and .89 for the F scale and .94 and .76 for both male and female participants, respectively. Bem also reported low nonsignificant correlations between the M and F scales which supported her contention that masculinity and femininity are orthogonal constructs.

In the present study, a shortened form of the BSRI was used. It consists of 30 items. Both the M and F scale consist of 10 items and the other ten items are filler items. This form was developed in response to criticisms about the content and psychometric properties of the longer instrument (Pedhazur and Tetenbaum 1979). The BSRI Short Form was developed through factor analytic procedures and measures only desirable masculine and feminine characteristics. Bem (1981b) reported alpha coefficients of .84 for the F scale and .87 and .85 for the M scale.

Personal Attributes Questionnaire

The Personal Attributes Questionnaire (PAQ) (Spence, Helmreich, & Stapp, 1974) was originally a 55-item questionnaire that was developed from an item pool that was

composed of a list of bipolar items developed to tap descriptive and prescriptive gender stereotypes. During the development procedure, this item pool was administered to three samples of male and female undergraduates. Two of the samples were instructed to rate the typical man and the typical woman on the statements. The third sample was instructed to rate the ideal man and the ideal woman on each of the items. The items that were selected for the initial version of the PAQ were chosen from the items that evidenced significantly different ratings of the typical man and the typical woman. The ratings of the ideal man and the ideal woman were then used to assign items to the respective scales.

The PAQ in its final form is a 24-item questionnaire that consists of two major scales, each containing eight bipolar items accompanied by 5-point rating scales. The other eight items of the instrument are filler items. Participants are asked to compare directly the typical male and female on a specific attribute. One endpoint is labeled "Much more characteristic of the male"; the midpoint is labeled "Equally characteristic of both sexes"; and the other endpoint is labeled "Much more characteristic of the female." The Femininity scale, later renamed the Expressiveness (E) scale, is composed exclusively of socially desirable expressive traits that have been judged to be more characteristic of woman than men. The

Masculinity scale, renamed the Instrumentality (I) scale, is composed exclusively of self-assertive, instrumental traits that had been judged to be more characteristic of men than women but were judged to be socially desirable to some degree for both sexes.

Reliability coefficients were reported for the PAQ for both men and women from the original sample. The values for men and women, respectively, were .85 and .94 for the I scale, and .79 and .84 for the E scale (Spence, Helmreich, & Stapp, 1975).

Several studies have addressed the relationship between the BSRI and the PAQ. A number of studies have reported correlations between the parallel scales of the two instruments. Spence (1991) reported that correlations between the Masculinity scale of the BSRI and Instrumentality scale of the PAQ are consistently high, ranging form .72 to .84. The reported correlations between the Femininity scale of the BSRI and the Expressiveness scale of the PAQ are significant but substantially lower than the previously mentioned correlations, ranging from .52 to .71 (Spence, 1991). Spence (1991) suggests that the lower correlations between the F scale and the E scale can be explained by the inclusion of several items on the BSRI F scale that do not reflect socially desirable expressive traits. Other studies have supported the use of the BSRI M and F scales as measures of expressiveness and

instrumentality (Wong, McCreary, & Duffy, 1990).

Survey of Personal Beliefs

The Survey of Personal Beliefs (SPB) is a relatively new self-report instrument that was developed to answer the criticism that previous measures of irrational beliefs had included affect in the questions which would result in spuriously high correlations between the irrational beliefs reported and the emotional states to which irrational beliefs theoretically contribute. The SPB is based on Berger's (1983) Belief Scale for Parents which was later developed into the Personal Beliefs Test. The SPB in its present form consists of 50 items which are scored in a 6-point Likert scale format. It was designed for individuals above the age of 16 years of age. It consists of five subscales and yields a general rationality subscale. The five subscales include the awfulizing (awf) scale, the low frustration tolerance (lft) scale, the self-directed dictatorial shoulds (sds) scale, the other-directed dictatorial shoulds (ods) scale, and the self-worth (slw) scale. Test-retest correlations for the subscales were reported as follows: r = .65 for awf, r = .81 for sds, r = .67 for ods, r = .73 for lft, and r = .82 for slw (Demaria, 1986). A later study, conducted with 280 participants from a nonclinical setting, reported Cronbach's alphas of .67 for awf, .63 for sds, .57 for ods, .72 for lft, .66 for slw. An

alpha of .89 was reported for the total score (Demaria, Kassinove, & Dill, 1989).

Spielberger, Jacobs, Russell, and Crane (1983) conducted a validity study on the SPB and found that the total rationality score was significantly correlated with guilt ($r = -.52$, $p < .01$) as measured by the Problematic Situations Questionnaire. In addition, the total rationality score was also found to be negatively related to trait anger.

Procedure

Participants were asked to complete a packet of materials that contained the BSRI, the PAQ, the SPB, a consent form (See appendix C), and a demographic information questionnaire (See Appendix A). The packets were administered in a group setting at various scheduled times. Standardized instructions were read to each group prior to administration (See Appendix B). The order of the instruments in the packets were determined randomly to prevent order effects.

The consent form within the packets contained instructions and a statement asking for the participants cooperation in the study. This consent form assured all participants that their participation in this study was voluntary, that their anonymity would be maintained, and that the results of the study would be reported in aggregate

form (See Appendix B).

Each packet was screened for completeness of each document. All instruments were also screened for scoreability. All instruments were then scored and coded along with the demographic information. Any response styles on the instruments determined to be invalid due to incompleteness or unusual response patterns were excluded from the data analysis.

Hypotheses

The purpose of this study was to determine the relationship between instrumental and expressive traits and specific irrational beliefs and to demonstrate the convergent validity between the BSRI and the PAQ. In order to accomplish this, instrumentality and expressiveness were treated as dependent or criterion variables and the subscales of the SPB (irrational beliefs) were treated as independent or predictor variables.

Ho1: There is no significant relationship between men's scores on the PAQ and irrational beliefs as measured by the SPB.

Ho2: There is no significant relationship between women's scores on the PAQ and irrational beliefs as measured by the SPB.

Ho3: There is no significant relationship between men's scores on the BSRI and irrational beliefs as measured by the SPB.

Ho4: There is no significant relationship between women's scores on the BSRI and irrational beliefs as measured by the SPB.

Ho5: There is no convergent validity between the PAQ and the BSRI.

Statistical Analysis

To test Ho1 through Ho4, the entire sample was divided into two groups based on gender. Data were then analyzed using a total of eight regression equations. Four regression equations were conducted on both the male and the female groups. The first pair of these regression equations conducted on both the male and female sample used the five subscale scores from the SPB as independent variables and the Instrumentality score from the PAQ as the dependent variable. The second pair of equations were conducted using the five subscale scores from the SPB as independent variables and the Expressiveness score from the PAQ as the dependent variable on both the male and female samples. These four regression equations tested Ho1 and Ho2. The third pair of regression equations included the five subscale scores from the SPB as independent variables and the Femininity score from the BSRI as the dependent

variable. The fourth pair of equations were conducted using the five subscale scores from the SPB as independent variables and the Masculinity score from the BSRI as the dependent variable. These four regression equations tested Ho3 and Ho4. In all eight regression equations all variables were forced into the regression equation.

To test Ho5, analyses included the calculation of Cronbach alpha reliability coefficients for all four of the scales of the BSRI and the PAQ. Next Pearson product moment correlations were calculated for the four scales of the BSRI and the PAQ to determine the convergent validity of the two instruments.

Limitations

1. The sample in the present study was not a random sample of all college students and, therefore, may not be representative of a university population.

2. The homogeneous nature of the sample also does not reflect the greater variance in the population with regard to ethnicity, age range, socio-economic status, or marital status. Therefore, the generalizeability of the results may be limited.

3. All of the data were gathered using self-report instruments. This method of data collection can be subject to a number of response sets, such as positive or negative response sets, which could lead to spurious results.

CHAPTER IV

RESULTS

The present chapter reports the results of this study. Null hypotheses 1 through 4 were tested through the use of multiple regression analyses. Null hypothesis 5 was tested through the use of correlational analysis.

The means and standard deviations of the participants' scores on the scales of the BSRI, the PAQ, and the SPB are reported in Table 3. The separate means and standard deviations of the female and male participants' scores on the scales of the BSRI, the PAQ, and the SPB are reported in Table 4 and Table 5. For the BSRI M and F scales and the PAQ I and E scales, the higher the score the more the participant displays the trait. For the SPB, the higher the scores on the five subscales, the lower the level of prescription to that specific type of irrational belief. Also, the higher the grand total score on the SPB the lower the level of overall prescription to irrational beliefs.

Table 3

Means and Standard Deviations of Participants' (n = 312) Scores on the Scales of the BSRI, PAQ and SPB

Instrument Scale	Mean	Standard Deviation
BSRI M	4.95	0.81
BSRI F	5.39	0.93
PAQ I	32.78	4.83
PAQ E	31.73	4.32
SPB awf	24.74	6.23
SPB sds	23.90	6.40
SPB ods	29.51	4.79
SPB lft	33.34	5.89
SPB slw	30.06	7.21
SPB grt	141.67	22.25

Table 4

Means and Standard Deviations of Female Participants' (n = 161) Scores on the Scales of the BSRI, the PAQ, and the SPB

Instrument Scale	Mean	Standard Deviation
BSRI M	4.75	0.80
BSRI F	5.67	0.95
PAQ I	31.34	4.44
PAQ E	33.45	3.94
SPB awf	24.14	5.94
SPB sds	23.42	5.97
SPB ods	29.68	4.25
SPB lft	33.12	5.89
SPB slw	28.71	6.61
SPB grt	139.06	20.02

Table 5

Means and Standard Deviations of Male Participants' (n = 151) Scores on the Scales of the BSRI, PAQ, and SPB

Instrument Scale	Mean	Standard Deviation
BSRI M	5.14	0.79
BSRI F	5.12	0.84
PAQ I	34.31	4.78
PAQ E	29.89	3.96
SPB awf	25.38	6.47
SPB sds	24.41	6.82
SPB ods	29.34	5.31
SPB lft	33.59	5.90
SPB slw	31.51	7.56
SPB grt	144.46	24.18

Before research questions 1 through 4 were addressed, correlation matrices were calculated to determine the independent nature of the relationship of the five subscales and the grand total score of the SPB to the scales of the BSRI and the PAQ. Also, correlation matrices were calculated to determine the relationship of the five subscales and grand total score of the SPB to each other. These matrices were calculated for the entire sample as well

as for the male and female populations independently. These matrices are displayed in Tables 6 and 7 respectively.

Table 6

Pearson Correlations for the Total Sample, Male Sample, and Female Sample Between the BSRI Scales, PAQ Scales, and SPB Subscales

Total Sample (n = 312)

	BSRI M	BSRI F	PAQ I	PAQ E
SPB awf	-.02	-.22**	.09	-.28**
SPB lft	-.01	-.04	.20**	-.04
SPB ods	-.01	-.05	.06	.08
SPB sds	-.04	-.25**	.04	-.29**
SPB slw	.12*	-.16**	.34**	-.19**
SPB grt	.02	-.21**	.21**	-.25**

Male Sample (n = 151)

	BSRI M	BSRI F	PAQ I	PAQ E
SPB awf	-.10	-.24**	-.03	-.24**
SPB lft	-.03	-.03	.19**	-.04
SPB ods	.00	-.17	.08	-.15
SPB sds	-.04	-.24**	.02	-.34**
SPB slw	.10	-.15	.27**	-.26**
SPB grt	-.01	-.22**	.14	-.27**

Female Sample (n = 161)

	BSRI M	BSRI F	PAQ I	PAQ E
SPB awf	.02	-.18*	.16*	-.28**
SPB lft	-.01	-.02	.20**	-.08
SPB ods	-.01	-.03	.07	.04
SPB sds	-.08	-.25**	.01	-.24**
SPB slw	.05	-.08	.34**	-.03
SPB grt	-.01	-.15	.23**	-.17*

**Significance level of .01 *Significance level of .05

From Table 6 it can be observed that for the entire sample as well as for the male and female subsets there were no significant relationships between the grt scale of the SPB and the Masculinity scale of the BSRI. The Femininity scale of the BSRI, however, is negatively correlated with the SPB grt for the total sample ($r. = -.211$, $p < .01$) and the male sample ($r = -.223$, $p < .01$). The Instrumentality scale of the PAQ is positively correlated with the grt scale for the total sample ($r = .211$, $p < .01$) and the female sample ($r = .234$, $p < .01$). The Expressiveness scale of the PAQ is negatively correlated with the grt scale for the total sample ($r = -.253$, $p < .01$) as well as the male ($r = -.266$, $p < .01$) and female samples ($r = -.179$. $p < .05$). These results indicate that in general higher levels of

instrumentality are related to lower levels of irrationality and higher levels of expressiveness are related to higher levels of irrationality. The correlational relationship of the individual subscales of the SPB to the scale of the BSRI and PAQ are also reported in Table 6.

Pearson correlations were also calculated between each of the subscales of the SPB to determine the level of multicolinearity before performing the regression analyses. These correlations are reported in Table 7. It can be observed from Table 7 that for the total sample, as well as the male sample, significant positive correlations were reported between all of the subscales of SPB and the grt scale. For the female sample, significant positive correlations were reported between all of the subscales of SPB except for between sds and ods.

Table 7

Pearson Correlations for the Entire Sample, the Male Sample, and Female Sample Between the Five Subscale and the grt Scale of the SPB

Total Sample (n = 312)

	SPB awf	SPB lft	SPB ods	SPB sds	SPB slw
SPB awf	1.00				
SPB lft	.475**	1.00			
SPB ods	.311**	.300**	1.00		
SPB sds	.511**	.345**	.303**	1.00	
SPB slw	.558**	.393**	.344**	.491**	1.00
SPB grt	.797**	.688**	.575**	.745**	.796**

Male Sample (n = 151)

	SPB awf	SPB lft	SPB ods	SPB sds	SPB slw
SPB awf	1.00				
SPB lft	.487**	1.00			
SPB ods	.399**	.332**	1.00		
SPB sds	.487**	.326**	.440**	1.00	
SPB slw	.589**	.476**	.495**	.548**	1.00
SPB grt	.788**	.686**	.677**	.756**	.842**

Female Sample (n = 161)

	SPB awf	SPB lft	SPB ods	SPB sds	SPB slw
SPB awf	1.00				
SPB lft	.462**	1.00			
SPB ods	.214**	.269**	1.00		
SPB sds	.532**	.364**	.130	1.00	
SPB slw	.510**	.309**	.176*	.412**	1.00
SPB grt	.805**	.699**	.452**	.727**	.734**

**Significance level of .01 *Significance level of .05

Research Question 1

Is there a significant relationship between men's scores on the PAQ and irrational beliefs as measured by the SPB?

Null hypothesis 1 addressed this question with the assumption of no significant relationship between men's scores on the PAQ and irrational beliefs as measured by the SPB. Two regression equations were used to test this question. In the first equation, male participants' scores on the five subscales from the SPB were used as the independent or predictor variables and their scores from the PAQ I scale were used as the dependent or criterion variable. In the second equation, male participants' scores on the five subscales from the SPB were used as independent variables or predictor variable and their scores from the PAQ E scale were used as the dependent or criterion variable. In both regression equations, the forced entry method was used. The first regression equation was significant with all of the variables entered, F (5, 145) = 5.27, p = .0002. Using this entry method, the slw and lft subscales of the SPB made significant contributions to the variance in instrumentality at the .01 significance level. The contribution of each individual subscale of the SPB to the overall variance can be observed in Table 8 in the R square change (RsqCh) column along with the zero order correlations. F values are also displayed for the overall

equation at each step (Feqn) and for the contribution of each individual variable (Fch). An R Square of .155 was observed when all of the subscales of the SPB were entered. This indicates that 15.5% of the variance in I was accounted for by all of the SPB subscales. The second regression equation was also significant with all of the variables entered, F (5, 145) = 6.33, $p < .0001$. Using this entry method, the awf, lft and sds subscales of the SPB made significant contributions to the variance in expressiveness at the .01 significance level. The contribution of each individual subscale of the SPB to the overall variance can be observed in Table 8 in the RsqCh column along with the zero order correlations. An R square of .180 was observed when all of the subscales of the SPB were entered. This indicates that 18% of the variance in E was accounted for by all of the SPB subscales.

Table 8

Multiple Regression Analyses of Male Participants' Scores on the Survey of Personal Beliefs (SPB) Subscales and Their Scores on the Instrumentality and Expressiveness Scales

Variable entered	R	Rsq	F(eqn)	RsqCh	F(ch)	r
		Criterion: Instrumentality				
SPB awf	.029	.001	0.13	.001	0.13	-.03
SPB sds	.045	.002	0.15	.001	0.17	.02
SPB ods	.100	.010	0.49	.008	1.18	.08
SPB lft	.242	.059	2.26**	.049	7.50**	.19
spb slw	.393	.155	5.27**	.096	16.37**	.27
Total Rsq		.155				
		Criterion: Expressiveness				
SPB awf	.245	.060	9.43**	.060	9.43**	-.24
SPB sds	.351	.123	10.35**	.063	10.66**	-.34
SPB ods	.352	.124	6.87**	.000	0.04	-.15
SPB lft	.410	.168	7.32**	.044	7.73**	.04
spb slw	.425	.180	6.33**	.012	2.13	-.26
Total Rsq		.180				

**Significance level of .01 *Significance level of .05

Research Question 2

Is there a significant relationship between women's scores on the PAQ and irrational beliefs as measured by the SPB?

Null hypothesis 2 addressed this question with the assumption of no significant relationship between women's scores on the PAQ and irrational beliefs as measured by the SPB. Two regression equations were used to test this question. In the first equation, female participants' scores on the five subscales of the SPB were used as the independent or predictor variables and their scores from the PAQ I scale were used as the dependent or criterion variable. In the second equation, female participants' scores on the five subscales from the SPB were used as independent variables or predictor variable and their scores from the PAQ E scale were used as the dependent or criterion variable. In both regression equations the forced entry method was used. The first regression equation was significant with all of the variables entered, F (5, 155) = 5.53, p = .0001. Using this entry method, the slw and awf subscales of the SPB made significant contributions to the variance in instrumentality at the .01 an .05 levels of significance, respectively. The contribution of each individual subscale of the SPB to the overall variance can be observed in Table 9 in the R square change column along with the zero order correlations. F values are also

displayed for the overall equation at each step (Feqn) and for the contribution of each individual variable (Fch). An R square of .151 was reported when all of the subscales of the SPB were entered. This indicates that 15.1% of the variance in I was accounted for by all of the SPB subscales. The second regression equation was also significant with all of the variables entered, F (5, 155) = 5.11, $p < .0002$. Using this entry method, the slw and awf subscales of the SPB made significant contributions to the variance in expressiveness at the .05 significance level. The contribution of each individual subscale of the SPB to the overall variance can be observed in Table 9 along with the zero order correlations. An R square of .142 was observed when all of the subscales of the SPB were entered. This indicates that 14.2% of the variance in E was accounted for by all of the SPB subscales.

Table 9

Multiple Regression Analyses of Female Participants' Scores on the Subscales of the Survey of Personal Beliefs (SPB) and Their Scores on the Instrumentality and Expressiveness Scales

Variable entered	R	Rsq	F(eqn)	RsqCh	F(ch)	r
		Criterion: Instrumentality				
SPB awf	.155	.024	3.93*	.024	3.93*	.16
SPB sds	.176	.031	2.51	.007	1.09	.01
SPB ods	.180	.032	1.75	.002	0.25	.07
SPB lft	.236	.056	2.30	.023	3.83	.20
spb slw	.389	.151	5.53**	.096	17.51**	.34
Total Rsq		.151				
		Criterion: Expressiveness				
SPB awf	.280	.079	13.57**	.079	13.57**	-.28
SPB sds	.299	.090	7.77**	.011	1.90	-.24
SPB ods	.300	.090	5.17**	.000	0.64	-.04
SPB lft	.308	.095	4.09**	.005	0.87	-.08
spb slw	.376	.142	5.11**	.047	8.42**	.03
Total Rsq		.142				

**Significance level of .01 *Significance level of .05

Research Question 3

Is there a significant relationship between men's scores on the BSRI and irrational beliefs as measured by the SPB?

Null hypothesis 3 addressed this question with the assumption of no significant relationship between men's scores on the BSRI and irrational beliefs as measured by the SPB. Two regression equations were used to test this question. In the first equation, male participants' scores on the five subscales from the SPB were used as the independent or predictor variables and their scores from the BSRI M scale were used as the dependent or criterion variable. In the second equation, male participants' scores on the five subscales from the SPB were used as independent variables or predictor variable and their scores from the BSRI F scale were used as the dependent or criterion variable. In both regression equations all predictor variables were forced into the equations. The first regression equation was not significant with all of the variables entered, F (5, 145) = 1.63, p = .1544. Using this entry method, none of the subscales of the SPB made significant contributions to the variance in masculinity at the .05 significance level. The minimal contribution of each individual subscale of the SPB to the overall variance can be observed in Table 10 in the RsqCh column along with the zero order correlations. F values are also displayed for

the overall equation at each step (Feqn) and for the contribution of each individual variable (Fch). An R square of .057 was observed when all of the subscales of the SPB were entered. This indicates that 5.7% of the variance in M was accounted for by all of the SPB subscales. The second regression equation, however, was significant with all of the variables entered, F (5, 145) = 3.12, $p < .011$. Using this entry method, only the awf subscale of the SPB made a significant contribution to the variance in femininity at the .01 significance level. The contribution of each individual subscale of the SPB to the overall variance can be observed in Table 10 in the RsqCh column along with the zero order correlations. An R square of .097 was observed when all of the subscales of the SPB were entered. This indicates that 9.7% of the variance in F was accounted for by all of the SPB subscales.

Table 10

Multiple Regression Analyses of Male Participants' Scores on the Survey of Personal Beliefs (SPB) Subscales and Their Scores on the Masculinity and Femininity Scales

Variable entered	R	Rsq	F(eqn)	RsqCh	F(ch)	r
		Criterion: Masculinity				
SPB awf	.104	.011	1.64	.011	1.64	-.10
SPB sds	.106	.011	0.83	.000	0.04	-.04
SPB ods	.115	.013	0.66	.002	0.31	.00
SPB lft	.116	.014	0.50	.000	0.05	-.03
spb slw	.238	.057	1.73	.043	6.57*	.10
Total Rsq		.057				
		Criterion: Femininity				
SPB awf	.242	.059	9.21**	.059	9.21**	-.24
SPB sds	.281	.079	6.30**	.020	3.24	-.24
SPB ods	.283	.080	4.24**	.001	0.22	-.17
SPB lft	.310	.096	3.84**	.016	2.51	-.03
spb slw	.311	.097	3.10*	.001	0.14	-.15
Total Rsq		.097				

**Significance level of .01 *Significance level of .05

Research Question 4

Is there a significant relationship between women's scores on the BSRI and irrational beliefs as measured by the SPB?

Null hypothesis 4 addressed this question with the assumption of no significant relationship between women's scores on the BSRI and irrational beliefs as measured by the SPB. Two regression equations were used to test this question. In the first equation, female participants' scores on the five subscales from the SPB were used as the independent or predictor variables and their scores from the BSRI M scale were used as the dependent or criterion variable. In the second equation, female participants' scores on the five subscales from the SPB were used as independent variables or predictor variable and their scores from the BSRI F scale were used as the dependent or criterion variable. In both regression equations all predictor variables were forced into the equations. The first regression equation was not significant with all of the variables entered, F (5, 155) = 0.58, p = .7134. Using this entry method, none of the subscales of the SPB made significant contributions to the variance in masculinity at the .05 significance level. The minimal contribution of each individual subscale of the SPB to the overall variance can be observed in Table 11 in the RsqCh column along with the zero order correlations. F values are also displayed

for the overall equation at each step (Feqn) and for the contribution of each individual variable (Fch). An R square of .016 was observed when all of the subscales of the SPB were entered. This indicates that 1.6% of the variance in M was accounted for by all of the SPB subscales. The second regression equation, however, was significant with all of the variables entered, F (5, 155) = 2.53, $p < .0314$. Using this entry method, the awf and sds subscales of the SPB made a significant contribution to the variance in femininity at the .05 significance level. The contribution of each individual subscale of the SPB to the overall variance can be observed in Table 11 in the RsqCh column along with the zero order correlations. An R square of .078 was observed when all of the subscales of the SPB were entered. This indicates that 7.8% of the variance in F was accounted for by all of the SPB subscales.

Table 11

Multiple Regression Analysis of Female Participants' Scores on the Survey of Personal Beliefs (SPB) Subscales and Their Scores on the Masculinity and Femininity Scales

Variable entered	R	Rsq	F(eqn)	RsqCh	F(ch)	r
		Criterion: Masculinity				
SPB awf	.015	.000	0.04	.000	0.04	.02
SPB sds	.101	.010	0.82	.010	1.60	-.08
SPB ods	.102	.010	0.55	.000	0.02	-.01
SPB lft	.102	.010	0.41	.000	0.00	-.01
spb slw	.127	.016	0.51	.006	0.90	.05
Total Rsq		.016				
		Criterion: Femininity				
SPB awf	.178	.032	5.23*	.032	5.23*	-.18
SPB sds	.252	.064	5.39**	.032	5.41*	-.25
SPB ods	.263	.069	3.90**	.005	0.91	.03
SPB lft	.276	.076	3.22*	.007	1.17	-.02
spb slw	.279	.078	2.61*	.001	0.25	-.08
Total Rsq		.078				

**Significance level of .01 *Significance level of .05

Research Question 5

Is there convergent validity between the PAQ and the BSRI?

Null hypothesis 1 addressed this question with the assumption of no convergent validity between the scales of the PAQ and the BSRI. Pearson correlations between the Masculinity and Femininity scales of the BSRI and the Instrumentality and Expressiveness scales of the PAQ were then calculated for the entire sample as well as for the independent male and female samples. These results are displayed in Table 12.

It can be observed from Table 12 that there are significant positive relationships between the BSRI M scale and the PAQ I scale, for the entire sample as well as for the male and female samples. Significant positive relationships were also reported between the BSRI F scale and the PAQ E scale for the entire sample as well as the independent male and female samples. These result indicate that there is convergent validity between the PAQ and the BSRI.

Significant positive relationships, however, were also found between the BSRI F scale and the BSRI M scale for the entire sample, the male sample, and the female sample. These results indicate that the two scales of the BSRI Short Form may not be orthogonal.

In addition to the calculation of Pearson correlations

of the scales of the BSRI and the PAQ, Cronbach alpha reliability coefficients were calculated for the scales of these instruments. The alpha obtained for the M Scale of the BSRI was 0.84. The alpha obtained for the F scale of the BSRI was 0.93. The alpha levels obtained for the I and E scales of the PAQ were 0.73 and 0.78, respectively. These results indicate strong internal consistency in the scales of these instruments which has important implications for the construct validity of both the BSRI and the PAQ.

Table 12

Pearson Correlations on the Total Sample, the Male Sample, and the Female Sample Between the BSRI Scales and the PAQ Scales

Total Sample (n = 312)

	BSRI M	BSRI F	PAQ I	PAQ E
BSRI M	1.00			
BSRI F	.171**	1.00		
PAQ I	.594**	-.083	1.00	
PAQ E	-.105	.652**	-.107	1.00

Male Sample (n = 151)

	BSRI M	BSRI F	PAQ I	PAQ E
BSRI M	1.00			
BSRI F	.187*	1.00		
PAQ I	.565**	.004	1.00	
PAQ E	-.058	.642**	.097	1.00

Female Sample (n = 161)

	BSRI M	BSRI F	PAQ I	PAQ E
BSRI M	1.00			
BSRI F	.301**	1.00		
PAQ I	.566**	.006	1.00	
PAQ E	.030	.588**	-.053	1.00

* Significance level of .05 ** Significance level of .01

Post Hoc Analyses

In addition to testing the five hypotheses in this study, another area that was explored pertained to research question 5. The high Cronbach alpha reliability coefficients and the strong relationship between the respective scales of the BSRI and the PAQ lead to a further investigation of the factor structure of the M, F, I, and E scales to determine if they were measuring similar constructs.

The ten items that comprise the Masculinity scale of the BSRI, the ten items that comprise the Femininity scale of the BSRI, the nine items that comprise the Expressiveness scale of the PAQ, and the eight items that comprise the Instrumentality scale of the PAQ were subjected to a principle components factor analysis. Based upon an examination of eigenvalues, a scree plot of eigenvalues, and the nature of the factors obtained, a four factor solution was decided upon. The four factors were subjected to an orthogonal (varimax) rotation. The decision to perform and report the principle components solution with varimax rotation was made due to the satisfying solution. However, oblique solutions were also experimented with prior to making a final decision. These solutions, nonetheless, produced factor structures similar to the principle components solution. Loadings of each of the items on the four factors are presented in Table 13. From Table 13 it

Table 13

Factor Loadings, Eigenvalues, and Communality From the Factor Analysis on the BSRI and the PAQ

Item	Factor 1 (Femnty.)	Factor 2 (Masclnty)	Factor 3 (Instrm)	Factor 4 (Exprss)	Commun.
BSRI Masculinity Scale					
Defend my own beliefs	0.53*	0.19	0.49*	-0.15	0.59
Independent	0.26	0.19	0.58*	-0.15	0.46
Assertive	0.27	0.60*	0.20	-0.06	0.47
Strong personality	0.43*	0.51*	0.37	-0.11	0.59
Forceful	-0.32	0.66*	-0.17	-0.10	0.59
Have leadership abilities	0.38	0.49*	-0.29	0.04	0.48
Willing to take risks	0.18	0.42*	0.39	-0.18	0.39
Dominant	-0.05	0.74*	0.18	-0.14	0.60
Willing to take a stand	0.35	0.30	0.56*	-0.24	0.58
Aggressive	-0.04	0.81*	0.07	-0.14	0.68
BSRI Femininity Scale					
Affectionate	0.76*	0.00	-0.16	0.20	0.64
Sympathetic	0.78*	-0.07	-0.05	0.24	0.68
Sensitive to needs of others	0.76*	0.04	0.02	0.31	0.67
Understanding	0.76*	0.07	0.07	0.12	0.61
Compassionate	0.80*	-0.00	-0.17	0.27	0.74
Eager to soothe hurt feelings	0.74*	-0.04	-0.05	0.16	0.57

(table continues)

Warm	0.78*	0.04	0.03	0.25	0.68
Tender	0.75*	-0.06	-0.20	0.25	0.67
Love children	0.58*	0.12	0.08	0.14	0.37
Gentle	0.75*	-0.03	-0.09	0.26	0.64
PAQ Instrumentality Scale					
Independent	0.00	0.01	0.46*	0.04	0.21
Active	0.09	0.56*	0.10	0.19	0.37
Competitive	-0.05	0.55*	0.15	0.17	0.33
Unneedful of others approval	-0.21	0.04	0.50*	-0.23	0.35
Makes decisions easily	-0.13	0.24	0.50*	0.09	0.33
Never gives up easily	0.04	0.26	0.45*	0.39	0.42
Self-confident	-0.10	0.36	0.54*	0.22	0.48
Feels superior	-0.15	0.42*	0.46*	0.18	0.44
Stands up well under pressure	-0.15	0.14	0.69*	0.16	0.54
PAQ Expressiveness Scale					
Emotional	0.30	0.09	-0.54*	0.16	0.41
Able to devote self completely to others	0.23	0.02	-0.11	0.45*	0.27
Gentle	0.36	-0.27	-0.26	0.32	0.37
Helpful to others	0.28	0.03	0.09	0.60*	0.44
Kind	0.27	-0.10	0.10	0.81*	0.75
Aware of others' feelings	0.36	-0.03	-0.13	0.56*	0.46

(table continues)

Understanding of others	0.27	-0.10	0.10	0.81*	0.75
Warm in relation to others	0.38	0.02	-0.06	0.58*	0.48
Eigenvalues	8.96	5.99	2.33	1.84	

Factor loeadings $\geq$ .40 are marked with an asterisk (*)

can be seen that a fairly clear factor structure emerged.

The largest of the four factors was factor one, which consisted of 12 items. All ten of the items from the BSRI Femininity scale loaded on this factor as well as the "Defend my own beliefs"and "Strong personality" items from the BSRI Masculinity scale. Factor one was labeled the Femininity Factor. The second largest factor was comprised primarily of items from the BSRI M scale. A total of nine items loaded on this factor, seven from the BSRI M scale and two from the PAQ I scale. This factor was labeled the Masculinity Factor. Factor three consisted of ten items. This factor included seven items from the PAQ Instrumentality scale and three items from the BSRI Masculinity scale. This factor was labeled the Instrumentality Factor. The fourth factor was comprised of six items, all from the PAQ E scale. This factor was labeled the Expressiveness Factor.

A second post hoc analysis was conducted to determine if the Androgyny Model exhibited any explanatory value for

the relationship of sex role identity to irrational beliefs. To test this model participants' scores on the BSRI short form were used to divide them into four groups by using the median splits as suggested in the BSRI manual (Bem, 1981b). These four groups were the androgynous group (both Masculine and Feminine scores above the median splits), the masculine group (Masculine score above the median split, Feminine score below the median split), the feminine group (Feminine score above the median split, Masculine score below the median split), and the undifferentiated group (both Masculine and Feminine scores below the median split). Three separate oneway analyses of variance (ANOVAs) were then conducted on the general sample, the male sample, and the female sample using grouping as the independent variable and the SPB grt as the dependent variable. No significant difference was found between the four groups on the grt in the general sample, F (3, 309) = 1.42, p = .236, the male sample, F (3, 148) = 0.29, p = .830, or the female sample, F (3, 159) = 0.858, p = .465.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

This chapter presents a summary of the study, conclusions and discussion based on the results, implications for theory and practice, and recommendations for future research.

Summary

The problem addressed in this study was to expand on the paucity of research investigating the relationship of irrational beliefs and sex role identity. Though a large body of research exists that addresses the relationship of both of these constructs to other measures of mental health, only several studies had been found that examined the relationship of these constructs directly.

An additional problem addressed by this study was the use of only a single measure of sex role identity in previous studies. Therefore, in the present study, two of

the most common measures of sex role identity, the PAQ and the BSRI, were used. Investigation of the psychometric principles of both of the instruments was included in the investigation. A final problem addressed in this study was the use of a measure of irrational beliefs with improved psychometric properties over the instruments used in other studies.

A total of 312 university students enrolled in general psychology courses were administered the BSRI (Bem, 1974), The PAQ (Spence, Helmreich, & Stapp, 1974), and the SPB (Berger, 1983) in random order. All data were collected during the fall of 1994.

Five null hypotheses were tested in the present study. Null hypotheses 1 through 4 were tested through the use of eight multiple regression analyses conducted independently on the male and female participants. Pearson correlations were used to test null hypothesis 5. The following is a summary of the five null hypotheses with accompanying results from the statistical analyses.

Null Hypothesis 1. There is no significant relationship between men's scores on the PAQ and irrational beliefs as measured by the SPB.

Multiple regression analyses using the forced entry method indicated the SPB subscales accounted for a significant amount of the variance in instrumentality and

expressiveness in men. The slw and lft subscales of the SPB were significant predictors of Instrumentality scores at the .01 level. The awf, sds, and lft subscales were significant predictors of Expressiveness scores in men at the .01 level. In the first regression equation all of the subscales of the SPB accounted for 15.5% of the variance in instrumentality. In the second regression equation the subscales of the SPB accounted for 18% of the variance in expressiveness in men.

Null Hypothesis 2. There is no significant relationship between women's scores on the PAQ and irrational beliefs as measured by the SPB.

Multiple regression analyses using the forced entry method indicated the SPB subscales accounted for a significant amount of the variance in instrumentality and expressiveness in women. The slw and awf subscales of the SPB were significant predictors of Instrumentality scores at the .01 and .05 levels, respectively. The slw and awf subscales were significant predictors of Expressiveness scores in women at the .01 level. In the first regression equation all of the subscales of the SPB accounted for 15.1% of the variance in instrumentality. In the second regression equation the subscales of the SPB accounted for 14.2% of the variance in expressiveness in women.

Null Hypothesis 3. There is no significant relationship

between men's scores on the BSRI and irrational beliefs as measured by the SPB.

Multiple regression analyses using the forced entry method indicated the SPB subscales accounted for a significant amount of the variance in femininity but not masculinity in men. None of the individual subscales of the SPB were significant predictors of Masculinity scores at the .05 level. The awf subscale, however, was a significant predictor of Femininity scores in men at the .05 level. In the first regression equation all of the subscales of the SPB accounted for 5.7% of the variance in masculinity. In the second regression equation the subscales of the SPB accounted for 9.7% of the variance in femininity in men.

Null Hypothesis 4. There is no significant relationship between women's scores on the BSRI and irrational beliefs as measured by the SPB.

Multiple regression analyses using the forced entry method indicated the SPB subscales accounted for a significant amount of the variance in femininity but not masculinity in women. None of the individual subscales of the SPB were significant predictors of Masculinity scores at the .05 level. The sds and awf subscales were significant predictors of Femininity scores in women at the .05 level. In the first regression equation all of the subscales of the SPB accounted for 1.6% of the variance in masculinity. In

the second regression equation the subscales of the SPB accounted for 7.8% of the variance in femininity in women.

Null Hypothesis 5. There is no convergent validity between the PAQ and the BSRI.

Strong alpha coefficients were reported for all scales of the PAQ and the BSRI indicating internal consistency as well as construct validity. Significant correlations were reported between the corresponding scales of the PAQ and the BSRI. The BSRI Masculinity Scale was significantly correlated with the Instrumentality Scale of the PAQ. The Femininity Scale of the BSRI was significantly correlated with the Expressiveness Scale of the PAQ indicating that the scales were measuring similar constructs.

Post Hoc Analyses

A post hoc factor analysis revealed that the items of both the BSRI and the PAQ loaded primarily on separate independent factors providing conflicting results about the nature of the constructs the scales were measuring but providing support for the hypothesis that the instruments do have high construct validity.

Three oneway ANOVAs were also calculated on participants BSRI score as part of a post hoc analysis to determine the efficacy of the Androgyny Model in explaining the relationship between sex role identity and irrational

beliefs. None of the three ANOVAs, conducted on the entire sample, the male sample and the female sample, revealed differences between androgynous, masculine, feminine, or undifferentiated individuals.

Conclusions and Discussion

The conclusions obtained from the data analyses reported in chapter IV are made within the framework of the following limitations:

1. The sample in the present study was not a random sample of all college students and, therefore, may not be representative of a university population.

2. The homogeneous nature of the sample also does not reflect the greater variance in the population with regard to ethnicity, age range, socio-economic status, or marital status. Therefore, the generalizability of the results may be limited.

3. All of the data were gathered using paper and pencil tests. This method of data collection can be subject to a number of response sets which could lead to spurious results.

Results of the present study provide tentative support for the hypothesis that different subscription to different sex role identities are related to different levels of irrational beliefs. In the general sample, femininity and expressiveness are related to higher levels of irrational

beliefs while instrumentality is related to lower levels of irrational beliefs. Though these results are statistically significant their practical significance should be explored in future research.

One of the most salient findings of this study is that no significant relationship was found between masculinity as measured by the BSRI and any of the SPB subscales for either total population or the independent male or female populations. This contrasts with much of the research that has been conducted on the relationship of sex role identity to various mental health constructs. More specifically, these findings conflict with the conclusions reached by Whitley (1983) in his meta-analytic review of the relationship of sex role identity to self-esteem. In Whitley's study, it was concluded that masculinity accounted for the largest portion of the variance in self-esteem. The results of the present study also conflict with the findings of Coleman and Ganong (1987) who reported a significant negative relationship between masculinity as measured by the BSRI and levels of reported irrational beliefs. These conflicting results can be partially explained by the use of two different measures of irrational beliefs.

In contrast to the finding that no significant relationship existed between the BSRI M scale and irrational beliefs, the PAQ I scale was found to be significantly related to irrational beliefs in both the general and female

samples. Female participants who scored high on Instrumentality had significantly lower levels of overall irrationality. On the individual subscales of the SPB they exhibited lower levels of irrationality with regards to self-worth and awfulizing. Male participants who scored high on the I scale did not exhibit significantly lower levels of overall irrationality. However, they did exhibit lower levels of irrationality with regard to self-worth and low frustration tolerance. From these results it can be hypothesized that women who express instrumental traits are more likely to have lower levels of irrationality than men who express the same instrumental traits in some areas.

These findings are similar to the results reported by Alsaker et al.(1985). They found a similar significant negative relationship between instrumentality as measured by the PAQ and overall irrational beliefs as measured by an instrument constructed by the authors. One explanation for the significant relationship between instrumentality and irrational beliefs is the significant amount of variance the self-worth subscale accounts for in instrumentality. The self-worth subscale of the SPB measures a construct similar to many of the self-esteem instruments. Based on the large body of research on the relationship between sex role identity and self-esteem it would be predicted that a subscale measuring a construct similar to self-esteem, which has been found to have a significant relationship to

instrumentality (Whitley, 1983), would also exhibit a similar significant relationship.

Results from the statistical analyses of the relationship between the BSRI F scale and irrational beliefs yielded similar results to previous research (Coleman & Ganong, 1987). Femininity was found to have a significant negative relationship to overall irrational beliefs in the general and male samples. In the male sample irrational beliefs related to awfulizing accounted for a significant amount of the variance in Femininity indicating that higher levels of femininity were related to higher levels of awfulizing in men. Irrational beliefs related to self-directed dictatorial shoulds and awfulizing accounted for a significant amount of the variance in Femininity in the female sample. These results Indicate that higher levels of femininity were related to higher levels of self-directed dictatorial shoulds and awfulizing, though no significant relationship was reported between femininity and overall irrational beliefs. It can be concluded that the expression of feminine traits in men is related to higher levels of irrational beliefs, whereas the expression of the same traits in women is not related to higher levels of irrational beliefs.

These results in relation to general irrational beliefs are similar to the findings of Coleman and Ganong (1987). Using the BSRI as a measure of sex role identity, they

concluded that feminine individuals subscribe to irrational beliefs more than masculine individuals do.

Results from the analyses of the relationship between participants' scores on the PAQ E scale and irrational beliefs indicated a significant relationship between the two constructs. In female participants, a small negative relationship between overall irrational beliefs and expressiveness was reported. With regard to the individual subscales of the SPB a significant amount of the variance in expressiveness was accounted for by the awfulizing and self-worth subscales of the SPB. These results indicate that women with high scores on expressiveness have higher levels of irrational beliefs with regard to self-worth and awfulizing. In male participants, a significant negative correlation was reported between overall irrational beliefs and expressiveness. With regards to the individual subscales of the SPB a significant amount of the variance in expressiveness was accounted for by irrational beliefs related to awfulizing, self-directed dictatorial shoulds, and low frustration tolerance. These results indicate that men with high scores on expressiveness have higher levels of irrational beliefs with regard to self-directed dictatorial shoulds, low frustration tolerance, and awfulizing. These findings differ from those reported by Alsaker et al. (1985). They found no significant relationship between expressiveness as measured by the PAQ and irrational

beliefs. These differences in findings could be accounted for by the differences in the sample used and the differences in the measures or irrational beliefs.

Another important finding of this study is that different significant relationships were found between general irrational beliefs and sex role identity in both the male and female subsets of the sample. For men there was no relationship between general irrational beliefs and either masculinity or instrumentality. There were, however, significant relationships between femininity and expressiveness and irrational beliefs indicating that men who express these traits have higher levels of irrational beliefs. For women, the expression of feminine or expressive traits resulted in only marginally higher levels of irrational beliefs while the expression of instrumental traits resulted in significantly lower levels of irrationality. Also, differences in the relationship of specific irrational beliefs and sex role identity were found in the male and female samples. The findings of different overall and specific irrational beliefs based on gender suggests that the sex role socialization that contributes to the prescription of irrational beliefs differs in men and women. Men with higher scores on the Instrumentality scale exhibited lower levels of irrational beliefs with regard to self worth and awfulizing. Women with higher scores on Instrumentality exhibited lower levels of irrational beliefs

with regard to self worth only. Men with higher scores on the Femininity scale exhibited higher levels of irrational beliefs related to self-directed dictatorial shoulds where women exhibited higher levels of irrational beliefs related to awfulizing. Men with higher scores on expressiveness exhibited higher levels of irrational beliefs with regard to self-directed dictatorial should, low frustration tolerance, and awfulizing while women with similar expressiveness scores exhibited higher levels of irrational beliefs with regard to self-worth and awfulizing. These results raise the question about how similar sex role socialization processes may affect men and women differently. For example, a woman who develops a more instrumental sex role identity may be affected differently with regard to the development of irrational beliefs than a man who develops a similar instrumental sex role identity. These differences may develop as a result of varying social pressures placed on men and women in our society.

The present study is also relevant within the context of the three most prevalent models of how sex role identity relates to mental health. The first of these models, the congruence model, suggests that optimal mental health would occur when an individual's sex role identity was congruent with their physical gender (Kagan, 1964; Musen, 1969). Based on this model, it would be predicted that in the present study, higher scores on expressiveness and

femininity would be positively correlated with lower overall irrational beliefs in women and the opposite would be found in men. Results in the present study, however, contradict this hypothesis. In fact the exact opposite relationship was found. Also, based on this model it would be predicted that men with higher scores on masculinity and instrumentality would have lower levels of irrational beliefs. The opposite would be predicted for women. The present study found the predicted relationship for men but the opposite of the predicted relationship was found for women.

The results on instrumentality support more closely the third model discussed at the beginning of this study, the masculinity model. The masculinity model states that the significant relationship between sex role identity and mental health constructs is most often accounted for by the masculinity component (Antill & Cunningham, 1979; Silvern & Ryan, 1979). In the present study this model is supported by the significant positive relationship of instrumentality to irrational beliefs found in both the male and female samples.

The final model explaining the relationship of sex role identity to mental health is the androgyny model. This model hypothesizes that an individual who expresses both desirable masculine and feminine traits is generally more likely to have greater mental health (Bem, 1974). Though the present

study was not designed to specifically test this hypothesis, a post hoc analysis was conducted on participants scores on the BSRI to determine how the results fit with this model. No support was found for the androgyny model in this analysis.

Another important finding of this study is the finding that the BSRI and the PAQ may be measuring slightly different constructs. Though the correlations between their respective scales are high, the factor analysis yielded four fairly clear independent factors for the two instruments. Also, the very different relationships that the scales of the two instruments yielded to the subscales of the SPB indicate that the PAQ and BSRI are possibly measuring different constructs. This contrasts with much of the work done by Spence and others on the relationship of these two instruments (Spence, 1991; Pedhazur & Tetenbaum, 1978).

Implications

In addition to the conclusions presented in this chapter, there are two implications which follow from the findings of the study.

1. The findings on the relationships between scores on the BSRI and the PAQ to irrational beliefs have theoretical as well as practical implications. Theoretically these findings support much of the research which would predict a strong relationship between higher levels of instrumentality

and lower levels of irrational beliefs. However, these results do not address the question of a possible inherent bias in the concept of rationality toward favoring more instrumental traits, given the negative relationship found between femininity and expressiveness. This relationship may also be indicative of an inherent bias in our society toward rewarding these types of traits in both genders as suggested by Oliver (1991). Feminist scholars have also argued that the concept of rationality within psychology represents an inherent male bias in defining mental illness or mental health.

Practically, these findings provide some insight into the types of irrational beliefs that may be associated with various sex role socialization processes in both men and women. This information could assist cognitive therapists, especially those utilizing RET, in understanding the dynamics involved in the development of irrational beliefs. This increased understanding would facilitate the identification of irrational beliefs as well as other cognitions which may contribute to psychological difficulties. This more efficient identification would contribute to a more efficacious cognitive therapeutic process.

2. The results on the relationship of the PAQ to the BSRI raise several questions regarding how sex role identity is conceptualized and measured. Though the two instruments'

respective scales are highly correlated they appear to be measuring somewhat different constructs.

Recommendations

Based on the conclusions and implications of this study it is recommended that future research be conducted to further examine the complex relationship that exists between sex role identity and irrational beliefs. It may beneficial to conduct similar studies on populations that intuitively would have higher levels of irrational beliefs, such as individuals in a clinical population, or possibly more traditional views of sex roles such as individuals in a more rural setting. The present study was conducted utilizing only participants who were university students, therefore limiting its generalizability.

Future studies could also examine the relationship of these two variables to more prosocial constructs such as empathy. Much of the research discussed in this study focused only on mental health constructs that were related to individual functioning. Examining how sex role identity and irrational beliefs relate to how a person interacts with others may also provide some insight into the sex role socialization process.

Finally, it is recommended that more studies be undertaken on the validity of the BSRI-short form and the PAQ. The relationship between these two instruments is

ambiguous and can only be clarified through further research.

REFERENCES

Alsaker, F. D., Hovland, O. J., & Vollmer, F. (1985). Sex- role related personality traits and irrationality. Scandinavian Journal of Psychology, 26, 187-189.

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.

Antill, J. K., & Cunningham, J. D. (1980). The relationship of masculinity, femininity, and androgyny to self-esteem. Australian Journal of Psychology, 32, 195-207.

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

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

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). Gender schema theory: A cognitive account of sex-typing. Psychological Review, 88, 369-371.

Bem, S. L. (1981b). A manual for the Bem Sex Role Inventory. Palo alto, CA: Consulting Psychologist Press.

Berger, A. (1983). Irrational cognitions and emotional disturbances in parents. Dissertation Abstracts International, 44, 01B, 296.

Buss. A. R. (1978). The Structure of Psychological Revolutions. Journal of the History of the Behavioral Sciences, 14, 57-64.

Carlozzi, A. F. & Hurlburt, J. D. (1982). Empathy, expressivenes, and instrumentality. The Humanist Educator, 20, 154-160.

Cash, T. F. (1984). The Irrational Beliefs Test: Its relationship with cognitive-behavioral traits and depression. Journal of Clinical Psychology, 40, 1399-1405.

Coleman, M., & Ganong, L. H. (1987). Sex, sex-roles, and irrational beliefs. Psychological Reports, 61, 631-638.

Constantinople, A. (1973). Masculinity-femininity: An exception to a famous dictum? Psychological Bulletin, 80, 389-407.

Costos, D. (1986). Sex role identity in young adults: Its parental antecedents and relation to ego development. Journal of Personality and Social Psychology, 50, 602-611.

Crane, M. & Markus, H. (1982). Gender identity: The benefits of a self-schemata approach. Journal of Personality and Social Psychology, 43, 1195-1197.

Daly, M. J. & Burton, R. L. (1983). Self-esteem and irrational beliefs: An explanatory investigation with implications for counseling. Journal of Counseling Psychology, 30, 361-366.

Deaux, K. (1977). Sex differences. In T. Blass (Ed.), Personality variables in social behavior (pp. 357-377). Hillsdale, NJ: Erlbaum.

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

Deaux, K. & Major, B. (1990). Social-psychological model of gender. In D. L. Rhode (Ed.). Theoretical Perspectives on Sexual Difference. New Haven: Yale University Press.

Demaria, T. P., Kassinove, H., & Dill, C. A. (1989). Psychometric properties of the survey of personal beliefs: A rational-emotive measure of irrational thinking. Journal of Personality Assessment, 53, 329-341.

Edwards, V. J. & Spence, J. T. (1987). Gender-related traits, stereotypes, and schemata. Journal of Personality and Social Psychology, 53, 146-154.

Ellis, A. (1962). Reason and emotion in psychotherapy. New York: Lyle Stuart.

Ellis, A. (1977). Rejoinder: Elegant and inelegant RET. Counseling Psychologist, 1, 73-82.

Ellis, A. (1980). An overview of the clinical theory of rational-emotive therapy. In Grieger, R., & Boyd, J. (1980). Rational-Emotive Therapy. New York: Van Nostrand Reinhold Company.

Forisha, B. L. (1978). Sex roles and personal awareness. Morristown, NJ: General Learning Press.

Frable, D. E. S. (1989). Sex typing and gender ideology: Two facets of the individual's gender psychology that go together. Journal of Personality and Social Psychology, 56, 95-108.

Gauthier, J., & Kjervik, D. (1982). Sex role identity and self-esteem in female graduate nursing students. Sex Roles, 8, 45-55.

Grimmell, D. & Stern, G. S. (1992). The relationship between gender role ideals and psychological well-being. Sex Roles, 27, 487-497.

Huselid, R. F. & Cooper, M. L. (1994). Gender roles as mediators of sex differences in expressions of pathology. Journal of Abnormal Psychology, 103, 595-603.

Jones, R. G. (1968). A factored measure of Ellis' irrational belief system with personality and maladjustment correlated. Wichita, KS: Test System.

Kagan, J. (1964). Acquisition and significance of sex-typing and sex-role identity. In M. L. Hoffman & L. W. Hoffman (Eds.), Review of child development research. New York: Russell Sage Foundation.

LaPointe, K. A., & Crandell, C. J. (1980). Relationship of irrational beliefs to self-appointed depression. Cognition Therapy and Research, 4, 247-250.

Lau, S. (1989). Sex role orientation and domains of self-esteem. Sex Roles, 21, 415-422.

Lohr, J. M., & Bonge, D. (1981). The factorial validity of The Irrational Beliefs Test: A psychometric investigation. Cognitive Therapy and Research, 6, 225-230.

Long, V. O. (1986). Relationship of masculinity to self-esteem and self-acceptance in female professionals, college students, clients, and victims of domestic violence. Journal of Consulting and Clinical Psychology, 54, 323-327.

Long, V. O. (1989). Relation of masculinity to self-esteem and self-acceptance in male professionals, college students, and clients. Journal of Counseling Psychology, 36, 84-87.

Long, V. O. (1990). Masculinity, femininity, and women scientists' self-esteem and self-acceptance. The Journal of Psychology, 125, 263-270.

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.

Lundy, A. & Rosenberg J. A. (1987). Androgyny, masculinity,and self-esteem. Social Behavior and Personality, 15, 91-95.

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., Anthill, J. K., & Cunningham, J. D. (1987). Masculinity, femininity, and androgyny: Relations to self-esteem and social desirability. Journal of Personality, 55, 661-683.

McLennan J. P. (1987). Irrational beliefs in relation to self-esteem and depression. Journal of Clinical Psychology, 43, 89-91.

McMullen, R.E. (1986). Handbook of Cognitive Therapy Techniques. New York: W. W. Norton Company.

Mussen, P. H. (1969). Early sex role development. In D. A. Goslin (Ed.), Handbook of socialization theory and research. Chicago: Rand McNally.

Nottingham, E. J. (1992). Use of the survey of personal beliefs scale: Further validation as a measure of irrational beliefs with psychiatric inpatients. Journal of Rational-Emotive & Cognitive-Behavior Therapy, 10, 207-217.

Oliver, P. (1991). "What do girls know anyway?": Rationality, gender, and social control. Feminism and Psychology, 1, 339-360.

Oliver, P. J., & Toner, B. B. (1990). The influence of gender role typing on the expression of depressive symptoms. Sex Roles, 22, 775-790.

Parsons, R. & Bales, R. F. (1955). Family, Socialization and Interaction Process. New York: Free Press.

Pedhazur, E. J., & Tetenbaum, T. J. (1979). Bem Sex Role Inventory: A theoretical and methodological critique. Journal of Personality and Social Psychology, 52, 996-1016.

Plutchik, R. (1976). The self-inventory: A measure of irrational attitudes and behavior. Rational Living, 11, 31-33.

Signorella, M. L. (1992). Remembering gender-related information. Sex Roles, 27, 143-156.

Shorkey, C. & Whiteman, V. (1977). Development of the Rational Behavior Inventory: Initial reliability and validity. Educational and Psychological Measurement, 37, 527-534.

Silvern, L., & Ryan, V. (1979). Self-rated adjustment and sex-typing on the Bem Sex-Role Inventory: Is masculinity a primary factor of adjustment? Sex Roles, 5, 739-763.

Spence, J. T. (1985). Gender identity and its implications for the concepts of masculinity and femininity. In T. B. Sonderegger (Ed.), Psychology and gender: Nebraska Symposium on Motivation (pp. 59-96). Lincoln: University of Nebraska Press.

Spence, J. T. (1991). Do the BSRI and the PAQ measure the same or different concepts? psychology of Women Quarterly, 15, 141-165.

Spence, J. T. (1993). Gender-related traits and gender ideology: Evidence for a multifactorial theory. Journal of Personality and Social Psychology, 64, 624-635.

Spence, J. T., & Helmreich, R. L. (1978). Masculinity and femininity. Austin: University of Texas Press.

Spence, J. T., Helmreich, R. L., & Stapp, J. (1975). Ratings of self and peers on sex-role attributes and their relations to self-esteem and conceptions of masculinity and femininity. Journal of Personality and Social Psychology, 32, 29-39.

Spence J. T., & Sawin, L. L. (1985) Images of masculinity and femininity: A reconceptualization. In V. O'Leary, R. Unger, & B Walston (Eds.), Sex, gender, and social psychology. Hillsdale, NJ: Erlbaum.

Spielberger, C. D., Jacobs, G., Russell, S., & Crane, R. S. (1983). Assessment of anger: The state-trait anger scale. In J. N. Butcher & C. D. Spielberger (Eds.), Advances in Personality Assessment (Vol 2). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Sutton-Simon, K., & Goldfried, M. R. (1979). Faulty thinking patterns in two types of anxiety. Cognitive Therapy and Research, 3, 193-203.

Unger, R.K. (1979). Female and male: Psychological perspectives. New York: Harper Row.

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

Wong, F. Y., McCreary, D. R., & Duffy, K. G. (1990). A further validation of the Bem Sex Role Inventory: A multitrait-multimethod study. Sex Roles, 22, 249-259.

Zwemer, W. A. & Deffenbacher, J. L. (1984). Irrational beliefs, anger and anxiety. Journal of Counseling Psychology, 31, 391-393.

PARTICIPANT STANDARDIZED INSTRUCTIONS

My name is Gregory Eells. I am currently a graduate student in counseling psychology at Oklahoma State University. I would appreciate your voluntary participation in the present study. The purpose of this study is to examine the relationship between sex role identity and irrational beliefs. If you are between the ages of 18 and 75 your voluntary and anonymous participation in this study would be greatly appreciated.

You will be asked to complete three paper and pencil instruments, a demographic questionnaire, and two consent forms. Please, fill out the consent forms first. Keep one for yourself and turn in the other one in separate from your other materials. Do not write your noame on any of the instruments.

It is not anticipated that you will experience any immediate or long-range unfavorable mental health difficulties as a result of your participation. If, however, you do experience any unfavorable reaction as a result of your participation in the study and express a desire for assistance, mental health services will be made available to you. If you choose not to participate, please return the materials unmarked. If after you have completed the materials and you decide not to participate, mark "withdraw" on the forms and return them. The anonymous nature of the study does not allow you to withdraw from participation after you have returned the materials. The information gathered in the study will be stored on computer and it will be impossible to identify individual participants.

Once the study is completed, I will be glad to provide the results to you. If you have any questions please call or write:

Gregory T. Eells
Department of Applied Behavioral Studies in Education
Oklahoma State University
Stillwater, OK 74078
(405) 744-6040

Consent Form

I _____, hereby authorize Donald L. Boswell, or associates or assistants of his choosing, to administer the Bem Inventory Short-Form, a 30-item measure, the Survey of Personal Beliefs, a 50-item measure, and the Personal Attributes Questionnaire, a 24-item measure. I understand that 20-25 minutes of my time will be required, and that my responses will be provided anonymously and that the study materials will in no way be linked to me. I understand that it is not foreseen that I will experience any discomfort or risk to my mental or physical health. I also understand that benefits to society will include increased knowledge about the psychological constructs of sex role identity and irrational beliefs. This is done as part of an investigation entitled, "Sex Role Identity and Gender as Related to Irrational Beliefs."

I understand that participation is voluntary, that there is no penalty for refusal to participate, and that I am free to withdraw my consent and participation in this project at any time prior to turning in the study materials. I also understand that due to the confidential nature of the study I will not be able to withdraw after this time because my materials will not be able to be identified.

I may contact either Donald L. Boswell at (405) 744-6036 or Gregory T. Eells at (405) 744-6040 should I wish further information about the research. I may also contact Jennifer Moore, University Research Services, 001 Life Sciences East, Oklahoma State University, Stillwater, OK, 74078: Telephone: (405) 744-5700.

I have read and fully understand the consent form. I sign it freely and voluntarily. A copy has been given to me.

Date: _____ Time _____(a.m./p.m.)

Signed _____

DEMOGRAPHIC INFORMATION

Please write your age in the blank provided and circle the appropriate response to the remaining items. Participation in this study is designed to be anonymous so **DO NOT** write your name anywhere in the packet of information.

Age _____ Gender: Female
Male

Marital Status: Single
Married
Divorced
Separated
Widowed
Partnered

Education Level you are currently pursuing:

1st year of college
2nd year of college
3rd year of college
4th year of college
5th year of college
Graduate studies

Ethnicity: African American
Asian American
Caucasian/ White
Hispanic
Native American
Other _____

College Major: _____

VITA 2

Gregory T. Eells

Candidate for the Degree of

Doctor of Philosophy

Thesis: THE RELATIONSHIP OF MULTIPLE MEASURES OF SEX ROLE IDENTITY TO IRRATIONAL BELIEFS

Major Field: Applied Behavioral Studies

Biographical:

Personal Data: Born in Fairfield, Illinois, on January 31, 1967, the son of Richard and Jeanette Eells

Education: Graduated from Salem Community High School, Salem, Illinois in May 1985; received Bachelor of Arts degree in Psychology and Biology from Greenville College, Greenville, Illinois in May 1989; received Master of Arts degree in Psychology from Eastern Illinois University, Charleston, Illinois in December 1991. Completed requirements for Doctor of Philosophy degree in Applied Behavioral Studies with an emphasis in Counseling Psychology at Oklahoma State University in July 1996.

Experience: Employed as a crisis intervention specialist and practicum counselor at Coles County Mental Health Clinic, 1989 to 1990. Employed as an instructor in Psychology at Greenville College, 1990 to 1991. Employed as an adolescent substance abuse counselor by Clinton/Washington Schools Consortium, 1991 to 1992. Employed as a teaching and research assistant by the Department of Applied Behavioral Studies at Oklahoma State University, 1992 to present. Employed as an intake counselor at University Counseling Services, Oklahoma State University, 1994 to present.

Professional Memberships: American Psychological Association - Graduate Student, Midwestern Educational Research Association.

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 09-22-94 **IRB#:** ED-95-015

Proposal Title: SEX ROLE IDENTITY AND GENDER AS RELATED TO IRRATIONAL BELIEFS

Principal Investigator(s): Donald L. Boswell, Gregory T. Eells

Reviewed and Processed as: Expedited

Approval Status Recommended by Reviewer(s): Approved

APPROVAL STATUS SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Signature: _____ Date: October 19, 1994

Chair of Institutional Review Board