THE PERSONALITY ASSESSMENT INVENTORY, WOMEN, AND POVERTY: PSYCHOMETRIC PROPERTIES AND CLINICAL UTILITY

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(Under the Direction of Linda Campbell)

ABSTRACT

The current study seeks to examine significant differences in Personality Assessment Inventory (PAI) scale scores of a community, adult, female sample with low SES as compared to scores of a census-matched norm sample (PAI; Morey, 1991). The scales of interest include Anxiety (ANX), Anxiety-related Disorders (ARD), Depression (DEP), Nonsupport (NON), and Stress (STR) and were chosen based on clinical relevance and connections with the conditions of poverty in existing literature. The results of the study indicate that there were significant differences between the current sample of community adult females with low-SES as compared to Morey’s (1991) community adult female norm sample on each of the five PAI scales of interest. When comparing the Caucasian and African American groups within the current sample, significant differences were found only on the Stress scale.

INDEX WORDS: PAI, Poverty, Social Services, Personality Inventory, Females
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For Peggy, my life’s illumination.
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CHAPTER 1
Introduction

The United States Census Bureau reported a national poverty rate of 12.1 percent in 2002. Within that broader number, subset groups were disproportionately represented; 28.8 percent of persons in female headed households, 24.1 percent for African Americans, and 16.7 percent for those residing in urban areas (U.S. Census Bureau, 2003). Of particular consideration for psychologists among the complex issues faced by those of lower socio-economic status (SES) is a thoroughly documented, statistically significant increased risk of mental illness (Hudson, 2005). Women with low socioeconomic status have been found to experience more frequent, more threatening, and more unmanageable life events than other individuals in the general population (Brown et al., 1975; Makosky, 1982).

In recent decades psychologists have emphasized a need for personality assessment as essential in developing appropriate treatment plans (Million & Davis, 1996). The Personality Assessment Inventory (PAI; Morey, 1991) offers several pragmatic advantages over the field standard Minnesota Multiphasic Personality Inventory, 2nd Edition (MMPI-2) such as reading level, administration time (number of items), and additional
clinical data, such as substance abuse and treatment indicators. The current study explores the use of this measure with low SES populations by comparing scaled scores on the PAI with a female community sample with low socioeconomic status to a census-matched community norm sample, addresses a general dearth of research addressing the use of personality inventories with low SES populations, and seeks to improve the quality of mental health referrals and dispositions within a social services agency.

**Significance of the Study**

Throughout the history of counseling psychology, the identity of the field has developed through a series of tenants agreed upon during early conferences (Super, 1955). One of the unique identities attributed to counseling psychology is the commitment to vocational counseling, which includes the theoretical knowledge as well as the application of that knowledge through assessment and counseling (Swanson & Fouad, 2009). This philosophical tenant of professional identity can be found in the early vocational testing efforts following the Great Depression in the 1930s. Super (1955) described these efforts as a mix of public governmental and private employment agency initiatives designed to match the mass of unemployed American workers with appropriate jobs. Of the more notable
governmental efforts, The Minnesota Employment Stabilization Institute utilized psychological tests in their efforts to get adults back into the labor force (Super, 1955).

The work of counseling psychology continued after veterans returned from World War II, when counseling psychologists took on the task of helping veterans readjust to civilian life. As a part of this advocacy for veterans, counseling psychologists lobbied for veterans to receive educational benefits after returning home (Fouad, et al., 2005). Over time, the roles of counseling psychologists and methods of intervention they have employed have continued to be diverse, and have consistently made use of testing and psychological evaluation as interventions and as data for treatment planning.

**Purpose of Study**

The current study seeks to examine significant differences in PAI scale scores of a community, adult, female sample with low SES as compared to scores of a census-matched norm sample (PAI; Morey, 1991). The scales of interest include Anxiety (ANX), Anxiety-related Disorders (ARD), Depression (DEP), Nonsupport (NON), and Stress (STR) and were chosen based on clinical relevance to the assessment project and being often described in the literature as symptoms connected with the conditions of poverty.
In addition, within the current sample approximately half of the participants identified as “African American” and half identified as “White”. The PAI scale scores previously discussed will be compared between the two groups to explore differences between the groups based on this self identified demographic variable. The subject of racial comparisons in personality assessment is an important and complex issue that requires considerable attention. This comparison is intended to gather important information on the intersection between low SES and the potential mental health effects of racism and discrimination, which could be captured by a personality assessment. This issue must be discussed thoroughly, and will be revisited in subsequent chapters.

Temporary Assistance for Needy Families (TANF) Program

The data in this study was collected from a separate ongoing assessment project within the Department of Family and Children’s Services. This project provided assessments to be used by caseworkers involved with clients who were applicants and participants in the Temporary Assistance for Needy Families (TANF) program. These comprehensive psychological evaluations were designed to provide information for caseworkers and
applicants about the mental health and career interests for
individuals to construct a more well-informed treatment plan.

The U.S. Congress enacted the Temporary Assistance for
Needy Families (TANF) program during the Clinton Administration
as a part of the reform of traditional welfare policies. It
provides monthly cash supplements to families who meet
qualifications for poverty established at the federal level and
have at least one child under the age of 18. TANF is available
to one and two-parent homes, and need is established by a
combination of income, assets, and number of children. TANF
guidelines impose a four-year lifetime limit for each family
collecting benefits, which can be extended when circumstances
for hardship, including domestic violence or physical or mental
incapacity, are met. Work and work-related experience is the
major component of TANF. Adults with children over the age of 1
year are required to participate in a work activity. Examples of
work activities include putting in job applications,
volunteering to gain work-related experience, job searching, or
participating in job training. This must occur at least 30 hours
every week in order to maintain benefits. The goal of
participation in work-related experience is to help individuals
gain the experience to become self-sufficient and find a long-
term job.
In order to receive benefits, applicants must apply for and accept any other public benefits that may be available to them, such as worker’s compensation, supplemental security insurance, child support, and unemployment compensation. For some parents, this requires establishing paternity of a child and then going through the formalized process of filing to receive child support. Applicants must also be able to demonstrate that their child or children are “deprived” in at least one of three ways: 1. Continued absence of at least one parent from the home (i.e., single parent home); 2. Physical or mental incapacity of at least one parent or; 3. In a two-parent family in which both parents are able-bodied, deprivation can be demonstrated if one parent has a “recent connection to the workforce” (i.e., recent unemployment of at least one of the parents).

Assistance units countable are used to establish the amount of need demonstrated and therefore the amount of benefits that may be collected. Income must be below established federal criteria, and the family must have less than $1,000 in assets. The federal poverty line for an individual is $10,830 per year. Each additional dependent family member increases the poverty line by $3,740. For a family of three (one parent and two children), the family income must gross less than $784 a month.
All children of school age must be enrolled and attending school as a part of the agreement.

In the state of Georgia, statistics on the number of families receiving TANF are available through 2003, when the last comprehensive review was undertaken. As of June, 2003, 137,279 families were receiving assistance through TANF (103,858 children and 33,421 adults). This number of recipients reflects a 49% decrease from 1997. This decrease is quite striking, and requires further scrutiny to fully understand. Under federal law, states are required to have a specific “work participation rate” in their TANF programs. This is a specific ratio of the number of adult TANF recipients who are working or in work related activities to the number of families with adults who are receiving assistance through TANF. Georgia’s work participation rate has increased dramatically from 11% in 2003 to 65% in 2006. This is primarily due to a significant decline in TANF cases. However, there is extensive data to show that the number of families who need assistance is dramatically increasing, while the number of families who receive assistance is dramatically decreasing (Schott & Levinson, 2008).

In 2004 a series of policies were put into place that likely have had the effect of discouraging needy families from applying (Schott & Levinson, 2008). Data shows that most
families that leave Georgia’s TANF program are not working, in fact, less than one-third of the case closures between 2004 and 2006 were due to family no longer needing assistance (Georgia Department of Human Resources, 2006). Of the TANF applications denied in the first third of 2006, approximately one-third were denied because of the withdrawal of the application by the family, approximately one-third were denied because the families failed to cooperate with the eligibility process (which can involve several meetings and the development of an employment plan before any determination is made or benefits received). In 2006, only 7% of those applications were denied because of a family failing to meet standards for poverty (Schott, 2008). These results suggest quite strongly that while the statistical outcomes and work participation rate seem adequate, there may be many families in Georgia who are not receiving benefits that could help them, even though they qualify.

It is important to examine the possibility of eligible families being overlooked, given the historical and current evidence for the marginalization of individuals and families in poverty. Racially and ethnically, Georgia is a diverse state. As of 2005, Georgia has an estimated population of 9,072,576, which is a 10% increase since the 2000 census. Racially and ethnically, the state is 62.6% Caucasian, 28.7% African
American, 5.3% Hispanic/Latino, 2.1% Asian, 1.4% Multiracial, and .3% Native American. Of those individuals within Georgia receiving TANF, 77.3% of the recipients self identified as African American, 20.1% were identified as Caucasian, 2.1% identified as Hispanic/Latino, and .5% were identified as “other”.

These statistics are consistent with other findings that suggest minority individuals are at a significantly higher risk for being of low SES. It is important to note that legal immigrants to the United States made up 0.8% of those receiving public assistance through TANF. The average family size of TANF applicants in Georgia was 3 individuals (most often one mother and two children), the average cash benefit was $225 per month, while the maximum benefit for a family of three would be $280 per month. The cash benefit of $225 per month is not given freely; the client must be participating in at least 30 hours per week of work-related experience in order to maintain eligibility. These averages demonstrate that TANF gives cash benefit approximately equal to minimum wage.

The establishment of the University of Georgia – Georgia Department of Family and Children’s Services assessment project provided the opportunity to further explain and explore positive characteristics and experiences, as well as explain barriers to
sustained employment through a scientifically validated and culturally well-informed assessment. Evaluators were Ph.D. students from a large southeastern state university who had training in psychological assessment and were under the supervision of a licensed psychologist. Participants were clients who met all qualifications for TANF and were either in the application process or were receiving benefits. They had also been identified by the caseworkers as potentially having “barriers” to sustaining employment. The purpose of the assessments was to formulate more appropriate case plans based on the characteristics, needs, and abilities of the clients with the goal of gaining and sustaining long-term employment.

**Personality Assessment**

Personality assessment has a clearly delineated role in the history as well as the future of psychology, and counseling psychology in particular. Maurish (1994) identified that the appropriate use of personality assessment provides and ensures continuous quality improvement through more adequate treatment planning and outcome processes. Personality assessment can provide vital objective information to guide treatment decisions. The issue of the study of personality in psychology has existed in some form for the last 100 years. Scholars debate the beginning of psychological assessment in the United
States between Lightner Witmer’s clinic to study children’s academic prowess and difficulties in 1896 at the University of Pennsylvania, and the work of Cattell who coined the term “mental test” and advocated utilizing them in order to study individual differences (Anastasi, 1988). Personality testing developed concurrently with counseling psychology, and both experienced explosive growth around WWII. Both were able to grow dramatically through the vast expansion of the clinical services provided by the Veterans Administration during this time. It was during WWII that the clinical battery test approach was first utilized to present a comprehensive picture of an individual.

**Social Justice in Counseling Psychology**

Social justice has long been a value and central tenant of counseling psychology, equal to the emphasis on vocational psychology and assessment (Fouad, et al., 2005). In fact, counseling psychology often utilized vocational psychology as a vehicle to promote social equity because the access to employment and education were intimately tied to the distribution of resources (Fouad, et al., 2005). The identity of counseling psychologists to function as change agents has been seen throughout the history of the profession. Historically, the emphasis has been on empowering the individual to confront oppression. However, over time the concept of empowerment
evolved into the encouragement of counseling psychologists to work towards broad level social change. This was seen in the advocacy for veteran educational benefits after WWII, the encouragement of counseling psychologists to become involved in “movements that have to do with desegregation, voting rights, housing, and minimum wages” (Samler, 1964 p. 66). The focus of social justice efforts advanced with advocacy for equal pay for women in the 1970s; prison reform in the 1980s; and gay, lesbian, bisexual, and transgender (GLBT) rights in the 1990s, and the new millennium.

Counseling psychology’s growing commitment to social justice warrants ongoing reexamination of many areas of professional practice, including psychological assessment and testing. As psychological assessments became more complex, they began to be examined for equity with respect to women, and racial and ethnic minorities. In the early 1970’s Schlossberg and Pietrofesa (1973) examined the ways in which vocational inventories stereotyped occupations for women. Similarly, Williams (1971) pointed out the blatant misuse of cognitive testing instruments for African American students. Williams’ argument continues to this day with the work of Helms (2004), among others, who continue to identify the inequity of cognitive testing for determining access to educational resources, given
the differences in cultural experiences within the United States.

These differences exist not only in the realm of cognitive and educational testing, but also with respect to personality testing. This is particularly important because the use of personality testing has the ability to further marginalize or pathologize behavior based on individuals’ responses to the instrument. Psychological assessment and social justice have been and continue to be vital components of the identity of counseling psychology. Throughout history, counseling psychologists have utilized a variety of methods in diverse professional work environments to assist individuals in locating and developing personal and social resources and adaptive tendencies to assist the individual in utilizing the resources more effectively (Super, 1955). Over time, the roles of counseling psychologists and methods of intervention they have employed have continued to be diverse, and have consistently made use of testing and psychological evaluation as interventions and as data for treatment planning.

The history of psychology shows many instances in which personality assessments were used to further marginalize racial groups (Hall 2001). Since this study will be utilizing a racial
comparison as a part of the research, this issue must be discussed within the context of social justice.

The goals of social justice are complex. On one hand, efforts to advance and explore social justice constructs and values, even in rudimentary form, are important to advance. On the other hand operationally defining and valid measures are also important. For example, Suzuki and Ponterotto (2008) posit that ongoing updates to data with diverse population samples are important for the future of culturally valid norms. Psychologists committed to more rigorous validity and operational definition (Franklin-Jackson & Carter, 2007; Delgado Romero et al., 2005; Dana, 2002) advocate for more thorough measure of the constructs of race and ethnicity. Thus, researchers may be challenged to make unique contributions of data with underserved populations while attempting to optimally and validly describe their underlying demographic constructs. The APA’s Guidelines on Multicultural Education, Training, Research, Practice and Organizational Change for Psychologists (2002) specifically address the nature of this in their section on research. They note several examples in which psychologists have utilized a culture centered perspective as an integral part of their interpretation of the results of their study. They noted examples from Kwan (1999) and Reid (2001) when after attaining results that in previous research could have been used
to pathologize populations, instead took the perspective of examining the results within the cultural context of the individuals in the study. Therefore, as an essential component of this study, all results will be examined within the specific cultural contexts. Realizing that the measure of race is imperfect at best, and that there is great heterogeneity even within seemingly similar racial and SES groups, interpretations must be approached with caution.

**Personality Assessment Inventory**

In recent years the Personality Assessment Inventory (PAI; Morey, 1991) has been increasingly used in a variety of clinical settings. Support for the instrument over the field standard MMPI include shorter administration time; the assessment of additional clinical information, such as substance abuse, personality structure, that includes a potential for risk of violence; and suitability for psychotherapy. Despite an increase in use, research involving the PAI is lacking in several areas (Pietrowski, 2000). Studies to support its use have been conducted with male and female forensic populations, veteran populations, chronic pain populations, college students, among others. There is a general dearth of research regarding the use of the PAI with community populations with lower socio-economic status (SES).
Individuals from diverse backgrounds who have low SES have an increased risk for misdiagnosis and receive fewer services that are often of lower quality (Hudson, 2005). Counseling psychologists have concerned themselves in recent years with issues of social justice in treatment of lower-SES populations. Counseling psychologists are attempting to address systemic inequities experienced by those from marginalized and devalued groups in our society (D’Andrea & Heckman, 2008). Multicultural assessment literature has frequently described the issues and problems with using standardized instruments with diverse populations (Ponterotto, et al., 2001). In Guideline 5 of the American Psychological Association’s Multicultural Guidelines (2002), psychological researchers are urged to consider culturally sensitive assessment techniques, data-generating procedures, and standardized instruments whose validity, reliability, and measurement equivalence have been tested across culturally diverse sample groups, particularly the target research groups. Psychologists are encouraged to present reliability, validity, and cultural equivalence data for use of instruments across diverse populations. Instrument selection should draw from a variety of data sources available from test developers, seminal articles in the field, and other texts addressing the latest developments in research and practice. Suzuki and Ponterotto (2008) posit that ongoing updates to
reliability and validity data are critical in examining how a given instrument functions with respect to diverse population samples. Research that examines the use of popular instruments such as the PAI with these specific populations is needed to determine appropriateness and degree of clinical utility.

Theoretical Framework

The Personality Assessment Inventory (PAI; Morey, 1991) was constructed using rational test construction theory (Loevinger, 1957). Individual item constructs were derived from expert opinion based on current nosology compatible with the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition Text Revision (DSM IV-TR, 2000).

Recent discussion of culturally relevant psychological assessment has considered etic versus emic measures (Ponterotto et al., 2001). The terms etic and emic were first coined by Pike (1967), an anthropologist and linguist, in Language in relation to a unified theory of structure of human behavior. Though originally applied to structures of language, Goodenough used the terms under modified definitions to describe and explain human behavior (1971). Etic measures are those that seek to measure universal behaviors that transcend nations and cultures, such as biological processes. Emic measures are used within a non-generalizable sociocultural context or group, such
as measuring religiosity within a single religion. Given challenges associated with entirely removing cultural context from tests and assessments, most may instead be more accurately termed “pseudo-etic”, or somewhat universal.

Definition of Terms

Poverty - the condition of deprivation of basic human needs, financial resources, and assets

Socioeconomic status - an individual’s hierarchical status within a social structure

Psychological assessment - refers to a test or group of tests used to produce clinical data to answer a referral question

Personality assessment - the measurement of the characteristic, relatively stable, and predictable way an individual thinks, feels, and behaves, including attitudes, tendencies, and values

Social justice - values related to the distribution of relative advantages and disadvantages within a society; also incorporates efforts to address discrepancies within this distribution

Research Questions

RQ1a: Are there differences in the Anxiety (ANX) t-scores between the current sample and census-matched norm group?
RQ1b: Are there differences in the Anxiety related disorders (ARD) t-scores between the current sample and census-matched norm group?

RQ1c: Are there differences in the Depression (DEP) t-scores between the current sample and census-matched norm group?

RQ1d: Are there differences in the Stress (STR) t-scores between the current sample and census-matched norm group?

RQ1e: Are there differences in the Nonsupport (NON) t-scores between the current sample and census-matched norm group?

RQ2a: Are there differences in the Anxiety (ANX) t-scores between White and African American participants in the current sample?

RQ2b: Are there differences in the Anxiety related disorders (ARD) t-scores between White and African American participants in the current sample?

RQ2c: Are there differences in the Depression (DEP) t-scores between White and African American participants in the current sample?

RQ2d: Are there differences in the Stress (STR) t-scores between White and African American participants in the current sample?

RQ2e: Are there differences in the Nonsupport (NON) t-scores between White and African American participants in the current sample?
CHAPTER 2

Review of Literature

Conditions of Poverty

The impact of poverty on the mental health of an individual is complex and multifaceted. Increased levels of financial stress are added while social support is likely to be reduced. Women in particular with low socioeconomic status have been found to experience more frequent, more threatening, and more uncontrollable life events that others among the general population (Brown et al., 1975; Makosky, 1982). It is important to acknowledge both these acute events, but also the smaller but more persistent daily slights that poverty imposes. Women with lower SES are more likely to experience environmental stressors such as inadequate housing, violent or crowded neighborhoods, and financial budgets with little flexibility to absorb unexpected expenses. These environmental stressors present consistent and pervasive amounts of stress that may be more impactful than larger events (Brown et al., 1975).

Women of color face the additional stress of racism and discrimination, of particular significance since minority women are overrepresented in lower socioeconomic strata (U.S. Census
Bureau, 2003). The persisting experience of discrimination maintains inequalities, pushes women toward lives of weakened vocational and economic security, and exposes them to unmerited judgement.

Socioeconomic Status and Mental Health

The negative relationship between socioeconomic status and mental health has been consistently described across research in the social sciences (Hudson, 2005). A 1991 Epidemiological Catchment Area study found that, controlling for age and sex, the six-month prevalence rate for any DSM-IV disorder is 2.86 times higher in the lowest socioeconomic group than in the highest group. Researchers have defined mental illness using different criteria, including any diagnosis meeting DSM criteria, to state laws for meeting disability status on the basis of mental illness, to psychiatric hospitalization. A vast majority of the approaches include a minimum of meeting criteria for DSM diagnosis of psychiatric disorder (Robins & Regier, 1991).

Recent and historic research has consistently supported that as SES lowers, an individual’s risk of mental illness increases (Faris & Dunham, 1939; Hollingshead & Redlich, 1958; Srole et al., 1977). Important theoretical constructs regarding the causal direction between low SES and being at a higher risk
for mental illness remains unsettled (Dohrenwend et al., 1992; Fox, 1990). Dohrenwend et al. examined the role of social causation (hardship and stress) against social selection (e.g. a “downward drift” based on genetic predisposition) in Israelis of North African and European descent and reached few generalizable conclusions (1992). Hudson (1988) identified, through a meta-analysis, that the relationship between poverty and mental illness is consistent regardless of which parameters were used to describe socioeconomic status (income, education, employment) or the type of mental illness described (DSM diagnosis). This is an important link in describing the relationship between the stress associated with poverty and all levels of severity in mental illness. Hudson's (2005) findings also suggested that symptoms of mental illness were exacerbated by the level of poverty experienced.

The current experimental design will not address the oft-debated issues surrounding causality; whether the conditions of low SES predispose individuals to mental illness, or those dealing with mental illness are at greater risk of experiencing adverse socioeconomic conditions (Fox, 1990). Patterns of movement in social classes within a single-family generation have been examined in large-scale epidemiological studies to further glean insight into mechanisms behind these transitions.
For individuals with serious mental illness, there is a consistent pattern of moving downward in social class. This tendency, often labeled as downward drift, is an individual’s downward intragenerational social mobility after the onset of serious mental illness (Fox, 1990). Those with mental illness were found to be more downwardly mobile and less upwardly mobile in social class than a control group from the general population; higher classes become poorer and lower classes remain static or become poorer as compared to census matched control individuals (Fox, 1990). In Fox’s study, age was not found to mediate downward drift after psychiatric hospitalization.

History of Personality Assessment

The inception of psychological testing grew out of a number of experiences early in the life of psychology with the goal to measure differences between individuals (Anastasi, 1988). In some cases, as in the case of personality assessment, the difference in reactions between two individuals in the same situation, or the difference between reactions of one individual in different situations. The actual beginnings of testing can be debated (DuBois, 1966). While some acknowledge the civil service examinations of the Chinese empire as the dawn of testing, others turn to the Socratic method in Greece as the emphasis on
testing as a tool for teaching as the birth of testing. However, the beginning of the nineteenth century witnessed the beginning of psychological testing to determine individual differences, primarily for the identification of individuals with mental retardation (DuBois, 1966).

Psychological testing was first used to differentiate between the mentally retarded and the insane, and then make further determinations within those broad categories (Anastasi, 1988). Alfred Binet was essential in the development of assessments for children within the public educational system. In contrast, the first experimental psychologists regarded individual difference as a form of error, rather than a point of interest to be further explored. The first tests were largely designed to measure intelligence, and did so through an assessment of sensory awareness and discrimination exercises. The concept of personality assessment was much later to develop.

Early personality assessments could further be subdivided into performance or situational tests. These tests more specifically attempted to understand and predict an individual’s behavior in ambiguous situations with socially subtle cues. The purpose of the testing was often disguised to the individual and interpretation was often subjective. An example of such testing can be found the 1920s and 1930s with the work of Hartshorne and
May (1928, 1929, 1930). They developed and applied tests that related common daily life situations into the test and were concerned with the measurement of behaviors such as lying, cheating, stealing, cooperativeness, and persistence.

In *A survey of the science of psychology*, Kantor (1933) described personality as a “reactional biography” (p. 116) made up of traits, types, abnormalities, and correlates between personality and biological character. Kantor suggested that the psychological study of personality address three domains: personality analysis, discovery of traits, and measurement of traits.

Subsequent writings in the 1960’s and 70’s challenged the importance of (and the existence of) persisting, static, measurable personality traits and have highlighted the importance of context and state in observable behaviors. The personality analysis domain has remained of central importance in personality assessment, even during more recent trends of not only understanding the individual, but the individual in context over time (Anastasi, 1988).

The approaches and major procedures involved in personality inventory construction and development have largely defined the major categories of tests over time. The Woodworth Personal Data sheet was prototypical of the content-related validation
method. Authors developed the test as means of standardizing a psychiatric interview and adapting a procedure suitable for mass administration during World War I. The items were formulated from the common neurotic and preneurotic symptoms described in interviews with psychiatrists and in the psychiatric literature of the time. This method of content-related validation involved a relatively literal interpretation of questionnaire items (Anastasi, 1988). The Woodworth Personal Data sheet was originally designed as a screening tool to identify seriously disturbed men and discourage their participation in military service. The Personal Data Sheet asked about a number of commonly reported symptoms of psychopathology, which respondents were asked to endorse or deny. Shortly after the end of the war, it began to serve as a model for emotional adjustment inventories in general.

**Personality Assessment and African Americans**

The history of personality assessment with diverse populations, particularly African Americans, is rife with problems. Previous research has noted the tendency of researchers to misinterpret, misrepresent, or even pathologize responses non-White individuals (Hall, 2001; Rogler, 1999; D.W. Sue at al., 1998, Sue & Sue, 1999). This systemic bias towards pathologizing minorities, in particular African Americans, was
born of the structure of personality assessments which were built on the responses of White individuals whose responses were then considered “normal”. The misapplication of these White norms to diverse populations led to several studies that further misrepresented and pathologized minority groups. For example, in 1922 the Will Downey Temperament Test (McFadden and Dashiell, 1922) was used in a cross-cultural study that concluded that African Americans, Native Americans, Mexicans, Chinese and Japanese were inferior to Whites in the personality traits of kindness, integrity, and refinement (Butcher, 2002). Despite a number of improvements in recent decades, the psychological assessment of and mental health services for African Americans have been biased, incomplete, and deficient because similarities to White Americans have been emphasized while differences were largely ignored (Dana, 2002).

Many personality measures continue to be widely criticized as potentially biased in predicting psychopathology in racial minorities (Aponte & Johnson, 2000). In order to address the concerns of potentially pathologizing racial minorities, many personality assessments have chosen to increase the sample size of representative norm groups and utilized factor analysis to detect systemic biases that may be present within an individual measure (Butcher, 2002). Objective personality instruments such as the MMPI-2 have made improvements in norm sampling to address
well documented problems in previous versions (MMPI; Butcher & Williams, 1992). The restandardization sample provides a more current and representative sample than previous samples (Schinka & LaLone, 1997). The appropriateness of using the MMPI with minority populations has been often visited both in terms of racial and gender differences in scale elevations (Stukenberg, Brady, & Klinetob, 2000). Timbook & Graham (1994) found that African American women scored significantly higher on psychopathic deviance, and mania as compared to a matched group of Whites in the MMPI-2 normative group. More recent articles, such as Stukenberg, Brady, and Klinetob (2000) found that averaged profiles of the African Americans as compared to Whites to be homogenous when compared across gender and race based demographic variables. The authors attribute the absence of scale mean differences to the census match norm updates of the MMPI-2. Given the heterogeneity within African American populations, the measurement of racial identity has been recommended as a moderator to standard personality measure (such as the MMPI-2) scores since historically many group differences have been otherwise attributed to psychopathology (Dana, 2002).

Newer personality measures, such as the Personality Assessment Inventory (PAI; Morey, 1991) have shown promise as more appropriate measures of personality for racial minorities, particularly African Americans. While more research is still
needed on its cultural appropriateness, there is evidence that
the PAI may have avoided some of the common pitfalls of the
previous personality instruments such as the MMPI. The
development of the PAI used a more rigorous item selection
process to reduce item content bias and increased efforts to
utilize more representative norm samples in regard to ethnic and
racial identity (Morey, 2007). A study by Todd (2005) made
comparisons between African American and White college students
using multivariate analyses of variance (MANOVA) and exploratory
factor analysis to compare scores between the groups. The author
found that the magnitude of scale score differences was not
consistent with the conclusion of test bias. Therefore early
efforts in the examination of psychometric properties do not
suggest evidence of test bias by racial identity for this
population. Further research is needed to establish these
findings with other populations (such as low-SES females).

*Minnesota Multiphasic Personality Inventory*

Later approaches to personality inventory development
sought to go beyond such a literal interpretation and instead
treated items as diagnostic or symptomatic of a larger criterion
behavior. This method, empirical criterion-keying, was the
primary method used in constructing the Minnesota Multiphasic
Personality Inventory (MMPI; 1943). A primary advantage of empirical criterion-keying meant that the individual's perception of reality could be used as a viable source of clinical data.

The MMPI was one of the first tests to utilize separate clinical scales, originally including; Hypochondriasis, Depression, Hysteria, Psychopathic deviate, Masculinity-femininity, Paranoia, Psychasthenia, Hypomania, and Social introversion. Item response choices on the original basic form included “true”, “false”, and “cannot say”. The original 550 items were initially printed on individual cards and presented one at a time during test administration, but were later compiled into a group testing format that used a test booklet which contained items and a response sheet. The items comprising 8 of these 10 scales differentiated between clinical and normal control group samples from visitors to the University of Minnesota hospital and individuals from the surrounding Minneapolis metropolitan area (Hathaway & McKinley, 1943). Clinical scales were developed empirically by criterion-keying items (based on psychiatric diagnosis).

In addition to clinical scales, the MMPI was one of the first instruments to employ validity scales, which are not based in psychometric qualities of validity but serve as a check for
carelessness, misunderstanding, malingering, and test-taking attitude. Protocols with 30 or more combined blank or “cannot say” responses were considered signs of uncooperativeness or defensiveness, rendering the protocol invalid (Anastasi, 1988).

The MMPI has undergone several revisions and its most current form, the Minnesota Multiphasic Personality Inventory, 2nd Revision (MMPI-2; Butcher, Dahlstrom, Graham, et al., 1989). The original version is widely considered to be the most frequently used objective personality test in clinical practice and training (Lubin, Larzen, & Mattarrazo, 1984). This second major revision included updates to norm groups, which was a frequent critique of the original version. The 2,500 individuals comprising the MMPI-2 sampled groups were from 6 different regions of the United States and attempts were made to balance the sample’s gender and ethnicity composition to reflect census data.

Other Personality Inventories

Several other personality instruments have enjoyed considerable popularity in personality research. The California Personality Inventory (CPI), Personality Research Form (PRF), 16 PF Questionnaire, and NEO Personality Inventory, Revised (NEO-PI-R) were designed to provide a structure and understanding of
“normal” personality, rather than previously designed measures of personality that were based on measuring deviance.

The California Personality Inventory (CPI; Gough and Bradley, 1996) is a 434 item multi-scale self-report personality inventory that yields 18 scales. The scales of the CPI are referred to as folk concept scales; a reference to the authors’ assertion that the constructs are pseudo-etic, and can be measured (to varying degrees) across cultures. Half of the CPI’s items were taken from the original MMPI. The scales are grouped into four classes: measures of poise, ascendancy, self-assurance, and interpersonal adequacy; measures of socialization, responsibility, intrapersonal values, and character; measures of achievement potential and intellectual efficiency; and measures of intellectual modes and interest modes (Gough and Bradley, 1996). The CPI’s norm groups were non-clinical populations, which has contributed to its use in research and limited its usefulness to clinicians.

The NEO-PI-R is a standard questionnaire of personality based on the Five Factor Model (FFM). The FFM provides a description of the five major domains of personality (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience). The NEO-PI-R provides a measurement of these five major domains as well as the six traits or facets
that define each domain. The five domain scales and six traits form 30 facet scales that provide a detailed assessment of normal adult personality. The NEO-PI-R is based on factor analytic research. The profile generated from the instrument provides a clear and concise description that summarizes emotional, interpersonal, experiential, attitudinal, and motivational styles of the individual (Costa & McCrae, 1992).

The 16PF Questionnaire is a multiple choice personality questionnaire that measures sixteen primary traits (e.g., Dominance, Sociability, Self-Acceptance, Empathy, Responsibility) and five higher order traits, now known as the “Big Five”. The 16PF recently came out with its fifth edition that contains 185 multiple-choice items written at a fifth grade reading level. Approximately 76% of items were rewritten from earlier versions of the assessment. This instrument was designed by Cattell and utilized factor analysis in order to discover and measure the core traits of personality (Cattell, 1946). Reports are generated and provide descriptions of the second order traits, which offer more global descriptions and the sixteen factors that provide more precise trait information. Because this test has over 60 years of use, it has a number of empirical studies from which to draw. The goal of the assessment is to provide a rich and in-depth integrated picture of an
individual’s whole personality. The interpretation is based on Cattell’s theory of individual differences.

The Personality Research Form (PRF) is a 352-item measure of normal personality based on Murray’s Framework of personality. Murray’s framework of personality is based on twenty-eight social needs that an individual strives to meet in a number of ways. Within the instrument itself, twenty-two subscales (e.g., abasement, cognitive structure, dominance, aggression, etc.) generate an overall picture of personality. Norms are based on separate samples of male and female college students in North America. Norms for other groups, including clinical populations, are available but were not incorporated into original test construction. These norms notwithstanding, median internal consistency reliabilities are around .70. Test-retest reliability are between .80 and .96 for a two-week interval. The PRF is one of the most highly utilized and cited personality assessments in use today (Jackson, 1997).

Unlike the CPI, PRF, 15PF Questionnaire, and NEO PI-R, the authors of the PAI point out that the instrument was not constructed to provide a comprehensive assessment of the domains of normal personality, but instead is intended to be utilized as a clinical tool for assessment and treatment planning (Morey, 2007).
Another major category of personality assessment involves projective techniques. In such techniques, clients are given unstructured tasks to complete. The underlying assumption is that the individual will project his or her own characteristics into the response to the task. Projective techniques are disguised for their purposes, similarly to performance and situational tests. Examples of projective tests include free-association techniques, sentence completion, neutral stimulus interpretation, and other elements of dramatic play (Anastasi, 1988).

Projective techniques of personality assessment have carried documented psychodiagnostic bias to the detriment of those of lower-SES status (Trachtman, 1971). As construct validity has transitioned from a consideration to a requirement that is expected of all instruments projective measures have been consistently critiqued for lack of construct validity (Smith, 2005).

A major challenge in the development of personality tests is that the literature base is not comparable to aptitude and
intelligence testing. However, many attribute this to a lack of sufficient effort on the part of researchers (Anastasi, 1988). This is in part because of the desire to develop and scientifically validate instrumentation based on specific statistical principles, which has been difficult given the large variance in individual differences, especially in terms of personality. However, some developers of personality tests such as the MMPI and the PAI have developed large norm group samples that have served to establish the scientific validity of the overall test.

Role of Personality Assessment in Treatment Considerations

The primary goal of personality assessment in clinical settings is to optimize treatment effectiveness. In recent decades several psychologists have highlighted the need for personality assessment as essential in developing appropriate treatment plans (Million & Davis, 1996). Norcross and Goldfried (1992) furthered this idea by saying that the inclusion of careful personality assessment through objective means highlights recent integrative approaches and puts an empirically supported layer between the theory in which a clinician was trained and the understanding or framing of a particular type of psychopathology.
Personality assessment plays an important role in all stages of clinical treatment including diagnosis, treatment planning, treatment compliance, and therapeutic alliance (Ben-Porath, 1997). Assessment of personality provides an empirically validated means for identifying and quantifying clients’ needs, which in turn suggests appropriate intervention modalities, documenting in a reliable manner their initial level of functioning, and providing a baseline which can be followed over time (Griffith, 1998). Butcher (2002) made a strong argument for the use of personality assessment in the all stages of treatment. In particular, Butcher (2002) and Finn (1996) noted the importance of the initial shaping of the treatment planning, in tracking effectiveness of ongoing treatment, and in evaluating eventual treatment outcomes. This argument comes out of pragmatism and references both theory and case examples to highlight the importance. Personality assessments have the ability to simultaneously identify characterological issues and traits, life circumstances, and current symptomology in a way that interviews and clinical data cannot (Butcher, 2002). When a clinician is given all of this information within the initial stages of treatment, they are better able to make a plan that addresses the needs of the client based on the information gathered. Barriers to treatment, including characterological considerations and readiness for change, may be identified
through comprehensive personality assessment (Ben-Porath, 1997). As treatment progresses, personality assessments can be used to identify improvements and possibly to inform changes as a part of the process.

Rouse et al. (1997) conducted a meta-analysis that found that the MMPI-MMPI-2 were widely used by marriage and family therapists. The study found that typically researchers used repeated testing with the MMPI-2 to measure change in psychological functioning before and after the intervention. Thus further validating the argument that personality assessment can be used to plan and monitor the outcomes of interventions. Other studies examined within the Rouse et al. (1997) article established the use of personality assessment to determine readiness for change. The authors found over 100 studies that examined the ability of a personality assessment to provide information on client traits that have previously been established at predicting psychotherapeutic outcomes. Some articles have utilized personality assessment to predict client responsiveness to various psychotropic medications (Rouse et al., 1997).

It is interesting to note that although personality assessment as a means for treatment planning has been firmly established as being beneficial, third party payers and managed
care are often reluctant to reimburse for this cost, even in light of its many established benefits (Ben-Porath, 1997). The deference to clinical data and interviews over formalized assessment is interesting given recent trends towards empirically supported treatments that often favor standardization and manualization of treatment. Cost is seen as a major prohibitor of the use of personality assessments in treatment, which is of particular relevance to social services agencies where budgetary concerns are everpresent. Evidence for the importance of relying on personality assessment data in treatment planning is clearly established (Maurish, 1994). Objective personality assessment through empirically validated means provides significant accountability within the treatment planning and therapeutic process (Moreland, Fowler, and Honaker, 1994). Tillet (1996) described in his article the importance of assessment especially in light of increasingly common brief therapy, which often requires that interventions begin quickly within the process, therefore relying more heavily on initial assessments, including personality assessments. Collins and Thompson (1993) described the ways in which personality assessment data can be integrated with a traditional behavioral interview in client-treatment matching. In particular, the PAI has been identified as providing treatment-relevant information, as has the Million Clinical Multiaxial Inventory (MCMI; Morey
and Glutting, 1994; Morey, 1991; Million and Davis, 1996). This increase in popularity for briefer, symptom-oriented assessment, is considered by some (Pietrowski, 2000) to be part of a larger movement away from exhaustive measures of comprehensive personality. Some psychologists have gone so far as to say the benefits of personality assessment in therapy are so positive that to not utilize formalized personality assessments may in fact hinder the therapeutic process (Butcher, 1997).

Ben-Porath (1997) outlined several major advantages to the utilization of standardized personality assessment as a part of all therapeutic processes. In particular he noted that assessment data is more reliable than data collected through an interview given interviewer differences and biases they may be interpreting information quite differently. He reported that they are also more valid than traditional means of data gathering. Clinical interviews have demonstrated repeatedly to yield less valid information when compared with standardized measures (Dawes, Faust, & Meehl, 1989; Grove & Meehl, 1996). Ben-Porath also postulated that the use of standardized personality measurement in treatment lends itself to automated interpretation, reducing clinician error and improving efficiency (1997). Finally, he concluded that assessment gathered on the process and outcomes of therapy increase
accountability and can quantify progress in treatment. Given these advantages, as well as the ability of personality assessment to be used in all phases of treatment, the role of personality assessment in treatment considerations is firmly established as necessary and beneficial within the literature.

**Personality Assessment Inventory**

The Personality Assessment Inventory (PAI; Morey, 1991) is a multi-scale, self-report instrument designed for the objective assessment of psychopathology symptoms, personality traits, interpersonal problems, and treatment indicators. The full form contains 344 items that are answered on a 4-point Likert scale. According to Morey (2007), the decision about the number of items sought to maximize psychometric sophistication and to minimize client or patient fatigue and administration time. The 4-point scale seeks to avoid a dichotomous style of response, while eliminating a central choice. Items were written on a 4th grade reading level (Flesch-Kincaid grade level; Klare, 1984), which maximizes its utility with individuals with limited educational backgrounds and those with lower levels of cognitive functioning. The PAI was designed to be administered in 45 to 75 minutes (Morey, 2007).

The PAI was developed using rational test construction theory (Loevinger, 1957), and drawing from rational and
empirical methods of scale development. Loevinger (1957) describes the rational-theoretical approach to personality test construction as a method utilizing expert opinion to identify traits. Traits are then used to construct individual items. The method often utilizes empirical or mathematical rules (e.g. factor analysis), but in conjunction with or preceded by expert opinion. The first questionnaire used as a measure of personality (the Personal Data Sheet) was developed by Robert Woodworth using the rational-theoretical model in 1917, and some estimate that 90% of scales currently in use were based on the rational-theoretical method (Anastasi, 1986; Jackson, 1970, 1973).

Since it’s creation in 1991, the PAI has earned increasing acceptance and popularity. Fraunhoffer and others did not include the PAI in the top 30 most popular tests used by clinicians in assessments in the mid-1990’s (1995). Four years later Bocaccini and Brodsky found it to be ranked in the top 10 in legal cases involving emotional injury (1999) and ranked fourth among objective personality tests by internship training directors (Piotrowski & Belter, 1999). According to Lally (2003) the PAI was one of few instruments endorsed by experts (ABFB diplomates) across forensic and psycholegal applications including risk for violence, risk for sexual violence,
competency to stand trial, and malingering pathology. Rapid adoption and growing popularity across clinical applications have caused some to question how rigorously the instrument has been researched (Pietrowski, 2000).

Items load onto 22 non-overlapping full scales under four domains: validity (4 scales), clinical (11 scales), treatment consideration (5 scales), and interpersonal style (2 scales). Scales were designed to include constructs most relevant to a general assessment of a clinical disorder. Morey (1991) intended scales to address five major constructs; validity of an individual’s responses, clinical syndromes, interpersonal style, treatment complications, and characteristics of the individual’s environment.

Research exploring the use of the PAI with lower-SES populations is difficult to find. One of few using the PAI that has addressed racial and socioeconomic differences, Alterman and others (1995) compared individuals from a lower-SES, ethnically diverse sample to Morey’s (1991) clinical reference sample. Participants in Alterman et al.’s study held a lower valid response rate than those of previous studies (70 percent, compared to 80 to 85 percent). Notably, participants in the study were methadone maintenance patients and volunteered for participation while in heroin dependence treatment. Researchers
reported statistically significant differences from the general clinical population described in Morey’s clinical norm sample (1991), including lower scores on the ANX, DEP, ALC, and SUI, and higher scores on MAN, PAR, ANT, DRG, AGG, DOM, and WRM scales. No significant gender differences were reported in the study.

Research suggests that treatment scale scores of the PAI may be able to predict treatment dropout (Hopwood, Ambwani, & Morey, 2007; Hopwood, et al., 2008). In Hopwood et al.’s 2007 study, the PAI was used to operationalize predictors of treatment suitability as measured by the TPI (treatment amenability) scale. Results of the study suggested that the PAI effectively predicted premature psychotherapy termination in individuals that were motivated (as measured by the RXR scale) for treatment (Hopwood, Ambwani, & Morey, 2007).

The PAI has shown initial promise in use with African American populations. Preliminary research has examined racial differences between African American and White college students and factor structure of group scores in college populations and forensic populations (Todd, 2005; Lalley, 2003). Studies have concluded a lack of test bias, but more research is needed with non-clinical community samples to examine the utility of this instrument with African Americans in different settings. Results
must be interpreted cautiously and within cultural contexts so as to ethically and sensitively explore potential differences.
CHAPTER 3
Methods

Research Design

The quantitative ex post facto design will be used for this study since the objective is to determine whether there are differences between the sample and norm group of subjects as well as if there is a difference between White and African American participants. With the ex post facto design the level or categories for the independent variable will be already defined or classified. In the context of social and educational research, ex post facto research is used as a retrospective study, in which cause-and-effect relationships are assessed by using existing conditions or state of affairs (Cohen, Manion & Morrison, 2000). Ex post facto research looks back in time to determine any possible causes for the particular outcomes of interest. Additionally, the ex post facto design is appropriate when the events or treatments have already occurred and cannot be manipulated by the researcher (Cohen, Manion & Morrison). Because the data was collected during another study phase, the researcher does not have the ability to manipulate any of the data used in the analysis.
The quantitative research approach will be used for the proposed study rather than a qualitative design because with a qualitative design the researcher would not be able to compare groups of subjects with one another, since data is based on open-ended questions in qualitative studies (Creswell, 2009). The responses in qualitative studies have to be interpreted and coded to identify trends or themes in the responses of qualitative research designs. Moreover, qualitative research addresses different questions, such as the how and why questions of research (Yin, 2003). This is not the purpose of the proposed study. The purpose of the proposed study is to determine if there are differences between the sample and norm group of subjects in terms of their t-scores from the Personality Assessment Inventory (PAI) scales. Similarly, White and African American participants t-scores from the Personality Assessment Inventory (PAI) scales will be compared with one another to determine if there was a significant difference between the two groups.

Research Questions

The research questions were posed so that several different comparisons could be made. The comparisons that will be made in the proposed study will be based on information collected during the proposed study as well as the Normed values as indicated by the PAI manual (Morey, 2007). Scores of the Anxiety, Anxiety-
related Disorders, Depression, Stress, and Nonsupport scales of the current female sample will be compared to the norm female sample. Using the same five scales, scores of the African American group from the current sample will be compared to the White group from the current sample.

RQ1a: Are there differences in the Anxiety (ANX) t-scores between the current sample and census-matched norm group?

RQ1b: Are there differences in the Anxiety related disorders (ARD) t-scores between the current sample and census-matched norm group?

RQ1c: Are there differences in the Depression (DEP) t-scores between the current sample and census-matched norm group?

RQ1d: Are there differences in the Stress (STR) t-scores between the current sample and census-matched norm group?

RQ1e: Are there differences in the Nonsupport (NON) t-scores between the current sample and census-matched norm group?

RQ2a: Are there differences in the Anxiety (ANX) t-scores between White and African American participants in the current sample?

RQ2b: Are there differences in the Anxiety related disorders (ARD) t-scores between White and African American participants in the current sample?
RQ2c: Are there differences in the Depression (DEP) t-scores between White and African American participants in the current sample?

RQ2d: Are there differences in the Stress (STR) t-scores between White and African American participants in the current sample?

RQ2e: Are there differences in the Nonsupport (NON) t-scores between White and African American participants in the current sample?

Hypotheses

H$_{0a}$: There are no differences in the Anxiety (ANX) t-scores between the current sample and census-matched norm group.

H$_{1a}$: There are differences in the Anxiety (ANX) t-scores between the current sample and census-matched norm group.

H$_{0b}$: There are no differences in the Anxiety related disorders (ARD) t-scores between the current sample and census-matched norm group.

H$_{1b}$: There are differences in the Anxiety related disorders (ARD) t-scores between the current sample and census-matched norm group.

H$_{0c}$: There are no differences in the Depression (DEP) t-scores between the current sample and census-matched norm group.

H$_{1c}$: There are differences in the Depression (DEP) t-scores between the current sample and census-matched norm group.
$H_0^{1d}$: There are no differences in the Stress (STR) t-scores between the current sample and census-matched norm group.

$H_{A}^{1d}$: There are differences in the Stress (STR) t-scores between the current sample and census-matched norm group.

$H_0^{1e}$: There are no differences in the NonSupport (NON) t-scores between the current sample and census-matched norm group.

$H_{A}^{1e}$: There are differences in the NonSupport (NON) t-scores between the current sample and census-matched norm group.

$H_0^{2a}$: There are no differences in the Anxiety (ANX) t-scores between the current sample and census-matched norm group.

$H_{A}^{2a}$: There are differences in the Anxiety (ANX) t-scores between the current sample and census-matched norm group.

$H_0^{2b}$: There are no differences in the Anxiety related disorders (ARD) t-scores between the current sample and census-matched norm group.

$H_{A}^{2b}$: There are differences in the Anxiety related disorders (ARD) t-scores between the current sample and census-matched norm group.

$H_0^{2c}$: There are no differences in the Depression (DEP) t-scores between the current sample and census-matched norm group.

$H_{A}^{2c}$: There are differences in the Depression (DEP) t-scores between the current sample and census-matched norm group.

$H_0^{2d}$: There are no differences in the Stress (STR) t-scores between the current sample and census-matched norm group.
$H_{A2d}$: There are differences in the Stress (STR) $t$-scores between the current sample and census-matched norm group.

$H_{02e}$: There are no differences in the Non-support (NON) $t$-scores between the current sample and census-matched norm group.

$H_{A2e}$: There are differences in the Non-support (NON) $t$-scores between the current sample and census-matched norm group.

**Participants**

Protocols from participants ($n=105$) came from an existing database from social services agencies within a ten county region in a large southeastern state. Of the larger pool, 84 protocols met validity criteria described in the PAI manual (Morey, 2007). Validity scales were utilized to determine appropriately valid profiles. The validity scales were developed to provide an assessment of potential influences of certain response tendencies on PAI test performance. Two of the scales, Inconsistency (ICN) and Infrequency (INF) are useful in determining random responses as the source of profile distortion. ICN is measured with 10 pairs of items with related content. Cutoff for ICN is determined at roughly a raw score of 10 ($64T$). Infrequency is useful for indentifying random responding by identifying respondents who answer questions in an atypical way. The items in INF were selected on the basis of very low endorsement frequencies in both normal and clinical
respondents. The cutoff score is roughly equal to a raw score of 8 (71T) (Morey, 2007).

Negative Impression (NIM) reflects the degree to which the PAI profile is likely to be distorted in a negative or pathological direction. The NIM scale is likely to be elevated when a respondent is malingering or feigning. The cutoff, or identification as “fake bad”, is characterized by very high scores on NIM or a mean T score of 118. Positive Impression (PIM) reflects the degree to which the PAI profile is likely to be distorted in a positive direction. It would be expected to be elevated in the presence of defensiveness or denial, or when a respondent has poor insight. For PIM, a raw score of 23 (68T) corresponds to an elevation of two standard deviations above the mean, and therefore a cutoff.

Participants’ ages ranged from 18 to 44 years (M = 22 years, SD = 6.45 years). Participants identified their racial or ethnic background in the beginning of the clinical interview phase of evaluation and many also provided a written response in the personal information section on the PAI protocol. 52% (N = 55) of the sample identified as Black or African American, 47% (N = 48) identified as White or Caucasian, 1% (N = 2) as biracial or multiracial, and no participants failed to provide a response.
Sample Size

The minimum sample size required for the proposed study was calculated by using an a priori estimate. The a priori estimate was based on three factors which included the power of the study, the effect size and the level of significance. The power selected for the proposed study was .80, while a large effect size of \( d = .80 \) was selected. The level of significance for the proposed study was set equal to .05. Based on this information, the minimum sample size required for the proposed study was 52. This was calculated in G*Power using a power of .80, a large effect size, and a level of significance of .05 for a two-tailed independent samples t-test.

Institutional Approval

Prior to the conduct of this research, approval was obtained from the county directors of the participating counties. The University of Georgia Institutional Review Board also approved the protocol associated with this study. Members of the research team were involved in the original collection of data and low cost brief psychological evaluations of clients within this social services agency region. All research team members held a terminal Master’s Degree in Counseling or related fields and were in their second year, or later, of training in the Counseling Psychology doctoral program. All evaluators had previously completed a minimum of three administrations of the
PAI. Educational background, previous training, and association with the assessment project assured that all members of the research team were able to attend to inquiries and address clinical crises associated with the evaluations, report writing, and feedback with the clients and case workers.

Recruitment

Given the archival nature of data used in the current study, participants were not formally recruited, nor were they compensated in any way. The protocols were used from a database from a collaborative project between a large public university and a state social services agency. The PAI was used in concert with other instruments in a battery used to produce brief psychological reports for adult participants of a federal welfare to work program. At the time of evaluation participants completed an informed consent document citing the intents and purposes of the assessment, potential uses of data derived from the evaluations, and the limits to confidentiality.

Procedures

The data in this study was collected from a separate ongoing assessment project within the social services agency. This project provided assessments for caseworkers involved with clients who were applicants in the Temporary Assistance for Needy Families (TANF) program. These comprehensive
psychological evaluations were designed to provide information for caseworkers and applicants about the mental health and career interests for individuals so that a more well-informed treatment plan may be formulated to suit an individual client’s needs and interests.

**Instruments**

*Personality Assessment Inventory* (PAI; Morey, 1991). The PAI is a multi-scale self-report instrument designed for the objective assessment of psychopathology symptoms, personality traits, interpersonal problems, and treatment indicators in adults 18 years and older. The full form consists of 344 items. Items are scored on a 4-point Likert scale and contribute to 22 non-overlapping scales. Response choices include “totally false”, “slightly true”, “mainly true”, “very true”. Items were written at a 4th grade reading level (Flesch-Kincaid scale; Klare, 1984). When used as a clinical instrument the PAI purports to provide data relevant to clinical diagnosis, treatment planning, and screening for psychopathology. The authors point out that the instrument was not constructed to provide a comprehensive assessment of the domains of normal personality (Morey, 2007).

Authors of the instrument assert that the clinical syndromes assessed by the PAI were chosen based on their historical significance within the psychiatric nosology of the
mental health field and their modern diagnostic relevance in clinical practice (Morey, 2007).

Validity Scales. The Personality Assessment Inventory (PAI) includes four validity scales: Inconsistency (ICN), Infrequency (INF), Negative impression (NIM), and Positive impression (PIM). The ICN scale monitors 10 pairs of highly correlated items to indicate how consistently a client responds to similar items. The INF scale is made up of 8 neutral (unrelated to psychopathology) items that seek to identify response patterns that may be careless, random, or idiosyncratic. The NIM scale is comprised of 9 items that suggest the portrayal of an overly unfavorable picture or malingering. The PIM scale seeks to identify response patterns that present an overly positive portrayal or reluctance to endorse minor flaws. Significant elevations on these scales may impair the clinician’s ability to interpret other scales, thereby rendering the protocol invalid.

Clinical Scales. The instrument’s 11 clinical scales are comprised of Somatic complaints (SOM), Anxiety (ANX), Anxiety related disorders (ARD), Depression (DEP), Mania (MAN), Paranoia (PAR), Schizophrenia (SCZ), Borderline features (BOR), Antisocial features (ANT), Alcohol problems (ALC), and Drug problems (DRG). Apart from the ALC and DRG scales, the other clinical scales each contain three subscales.
The Anxiety (ANX) scale is made up of 24 items that focus on the phenomenology and objective signs of anxiety across response modalities. Each subscale contains 8 items. The Cognitive (ANX-C) subscale items assess for ruminative worry and concern about current issues that result in impaired concentration and attention. The Affective (ANX-A) subscale focuses on the experience of tension, difficulty with relaxation, and the presence of fatigue as a result of perceived stress. The Physiological (ANX-P) subscale focuses on physiological signs of tension and stress (e.g. sweaty palms, trembling hands, tachycardia, shortness of breath).

The 24-item Anxiety-related Disorders (ARD) scale focuses on symptoms and behaviors of anxiety disorders, particularly specific phobias, trauma-related stress, and obsessive-compulsive symptoms. Each subscale is equally made up of 8 items. The Obsessive-Compulsive (ARD-0) subscale examines intrusive thoughts and behaviors, rigidity, indecision, perfectionism, and affective constriction. The Phobias (ARD-P) subscale focuses on common phobic fears, such as social situations, public transportation, heights, enclosed spaces, and other specific objects. The Traumatic Stress (ARD-T) subscale focuses on the experience of traumatic events that cause ongoing distress and are perceived as having left the client changed or damaged in some fundamental way.
The Depression (DEP) scale has 24 items related to the phenomenology and symptom of depressive disorders. Subscales of the DEP scale each contain 8 items. The Cognitive (DEP-C) subscale focuses on thoughts of worthlessness, hopelessness, and personal failure, as well as indecisiveness and problems with concentration. The Affective (DEP-A) subscale measures feelings of sadness, loss of interest in normal activities, and anhedonia. The Physiological (DEP-P) subscale focuses on physical functioning and the areas of energy, activity, sleep, appetite, and changes in weight.

Treatment Scales. There are five treatment scales that include Aggression (AGG), Suicidal ideation (SUI), Stress (STR), Nonsupport (NON), and Treatment rejection (RXR).

The 8 items of the STR scale measure the relative impact of recent stressors on major life areas.

The Nonsupport (NON) scale is made up of 8 items that measure the lack of perceived social support and consider the level and quality of available support.

Scale scores are presented in the form of linear T scores that have a mean score of 50T and a standard deviation of 10T. T-score transformations are calibrated based on a national census-matched community sample of 1,000 adults stratified by age, race, and gender using United States census projections for the year 1995. Extensive data also were gathered for
representative samples of clinical individuals (N = 1,246) and college students (N = 1,051) (Morey, 1991; 2007).

Data from protocols were entered by three individual doctoral student-clinicians and scored using the PAI computerized scoring program sold by the instrument’s publisher (PAR Inc.).

Current Research

Research has long connected mental illness with poverty and low SES. Several articles have found mental illness related to specific disorders, symptoms, and diagnoses (Table 1). Consistent with previous research, comparisons for the current study will use the Anxiety, Anxiety-related Disorders, and Depression clinical scales of the PAI for the current female low-SES sample.
### Table 3.1

**Frequently cited research connecting SES and mental illness**

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>Finding</th>
<th>Times cited (EBSCO databases)</th>
<th>Diagnoses/ Symptom(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ansseau, et al.</td>
<td>2008</td>
<td>Higher incidence in low SES populations</td>
<td>8</td>
<td>Generalized anxiety disorder, Major depressive disorder</td>
</tr>
<tr>
<td>Boydell, van Os, MacKenzie, &amp; Murray</td>
<td>2004</td>
<td>Higher incidence in low SES populations</td>
<td>20</td>
<td>Psychosis</td>
</tr>
<tr>
<td>Dohrenwend et al.</td>
<td>1992</td>
<td>Higher incidence in low SES populations</td>
<td>85</td>
<td>Schizophrenia, Substance abuse, Depression, Antisocial personality</td>
</tr>
<tr>
<td>Hudson</td>
<td>2005</td>
<td>Higher incidence in low SES populations across diagnoses</td>
<td>55</td>
<td>Schizophrenia, Affective disorders, Depression, Adjustment disorders</td>
</tr>
<tr>
<td>Kessler et al.</td>
<td>1994</td>
<td>Higher incidence in low SES populations</td>
<td>7024</td>
<td>Affective disorder, Anxiety disorder, Substance abuse</td>
</tr>
<tr>
<td>Mowbray et al.</td>
<td>2004</td>
<td>Higher incidence in low SES populations, diagnoses unequally distributed by race</td>
<td>14</td>
<td>Depression, Schizoaffective, Schizophrenia</td>
</tr>
<tr>
<td>Miech, Caspi, Moffitt, Wright, &amp; Silva</td>
<td>1999</td>
<td>Higher incidence in low SES populations, different diagnoses may be differently related to SES</td>
<td>164</td>
<td>Anxiety, Depression, Antisocial personality disorder</td>
</tr>
<tr>
<td>Simmons et al.</td>
<td>2008</td>
<td>Higher incidence in low SES populations</td>
<td>4</td>
<td>Depression</td>
</tr>
<tr>
<td>Warheit, Holzer, &amp; Arey</td>
<td>1975</td>
<td>SES is a better predictor of mental illness diagnosis than race, refutes previous race comparative research</td>
<td>97</td>
<td>Phobia, Depression, Anxiety</td>
</tr>
</tbody>
</table>

### Statistical Analysis

For the purpose of this proposed study, the data will be imported into SPSS Version 16.0® for analysis. Descriptive statistics and independent samples t-tests will be conducted to assess the stated hypotheses. Descriptive statistics will include frequency distributions, which indicate the number and percentage of participants who belong to a particular group or category. Frequency distributions will be calculated for the categorical variables included in the study. Summary statistics,
including means, standard deviations, minimum and maximum values will be calculated to illustrate the distribution of the continuous variables included in the study. The summary statistics will examine the distribution of the variables in order to determine if the variables are normally distributed.

Independent samples t-tests will be conducted to address each of the hypotheses of the proposed study. The independent samples t-test will be used because two groups of subjects will be compared with one another. The two groups that will be compared with one another are those who are in the sample and those who are in the norm group. By using the independent samples t-test it will be determined if there was a significant difference between the current sample and census-matched norm groups when it comes to the scores received on the PAI scales. The average PAI scale scores for each group will be compared with one another to determine if there was a significant difference. The resulting test statistic is based on a t-statistic, which means that if the test statistic exceeds the critical value from the t-distribution then the null hypothesis will be rejected (Moore & McCabe, 2006). For the purpose of this proposed study, the level of significance will be .05, where any p-values lower than .05 will be considered to be significant.

To assess the hypothesis that there are differences in the Anxiety (ANX) t-scores between the sample and norm group, an
independent samples t-test will be conducted. The independent variable will be the sample and groups. The dependent variable will be the Anxiety (ANX) variable.

To assess the hypothesis that there are differences in the Anxiety related disorders (ARD) t-scores between the sample and norm group, an independent samples t-test will be conducted. The independent variable will be the sample and groups. The dependent variable will be the Anxiety related disorders (ARD) variable.

To assess the hypothesis that there are differences in the Depression (DEP) t-scores between the sample and norm group, an independent samples t-test will be conducted. The independent variable will be the sample and groups. The dependent variable will be the Depression (DEP) variable.

To assess the hypothesis that there are differences in the Stress (STR) t-scores between the sample and norm group, an independent samples t-test will be conducted. The independent variable will be the sample and groups. The dependent variable will be the Stress (STR) variable.

To assess the hypothesis that there are differences in the Nonsupport (NON) t-scores between the sample and norm group, an independent samples t-test will be conducted. The independent variable will be the sample and groups. The dependent variable will be the Nonsupport (NON) variable.
To assess the hypothesis that there are differences in the Anxiety (ANX) t-scores between the African American group and the White group in the current sample, an independent samples t-test will be conducted. The independent variable will be the groups. The dependent variable will be the Anxiety (ANX) variable.

To assess the hypothesis that there are differences in the Anxiety related disorders (ARD) t-scores between the African American group and the White group in the current sample, an independent samples t-test will be conducted. The independent variable will be the groups. The dependent variable will be the Anxiety related disorders (ARD) variable.

To assess the hypothesis that there are differences in the Depression (DEP) t-scores between the African American group and the White group in the current sample, an independent samples t-test will be conducted. The independent variable will be the groups. The dependent variable will be the Depression (DEP) variable.

To assess the hypothesis that there are differences in the Stress (STR) t-scores between the African American group and the White group in the current sample, an independent samples t-test will be conducted. The independent variable will be the groups. The dependent variable will be the Stress (STR) variable.
To assess the hypothesis that there are differences in the Nonsupport (NON) t-scores between the African American group and the White group in the current sample, an independent samples t-test will be conducted. The independent variable will be the groups. The dependent variable will be the Nonsupport (NON) variable.
CHAPTER 4

Findings

Introduction

The main objective of the current study was to examine significant differences in PAI scale scores of a two non-clinical adult female samples. To this end, two sets of research questions were formulated:

RQ1a: Are there differences in the Anxiety (ANX) t-scores between the current sample and census-matched norm group?

RQ1b: Are there differences in the Anxiety related disorders (ARD) t-scores between the current sample and census-matched norm group?

RQ1c: Are there differences in the Depression (DEP) t-scores between the current sample and census-matched norm group?

RQ1d: Are there differences in the Stress (STR) t-scores between the current sample and census-matched norm group?

RQ1e: Are there differences in the Nonsupport (NON) t-scores between the current sample and census-matched norm group?
RQ2a: Are there differences in the Anxiety (ANX) t-scores between White and African American participants in the current sample?

RQ2b: Are there differences in the Anxiety related disorders (ARD) t-scores between White and African American participants in the current sample?

RQ2c: Are there differences in the Depression (DEP) t-scores between White and African American participants in the current sample?

RQ2d: Are there differences in the Stress (STR) t-scores between White and African American participants in the current sample?

RQ2e: Are there differences in the Nonsupport (NON) t-scores between White and African American participants in the current sample?

To answer the two sets of research questions, t-test procedures were conducted. The results of the t-tests procedures are presented in the section after the descriptive.
Description of Sample and Study Variables

Description of the Sample

The frequency counts and percentages for race are presented in Table 1. There were slightly more African American respondents (52.4%) as compared to Whites (47.6%).

Table 4.1

Frequency Counts and Percentages for Demographic Variables (N = 84)

<table>
<thead>
<tr>
<th>Race</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>African American</td>
<td>44</td>
<td>52.4</td>
</tr>
<tr>
<td>White</td>
<td>40</td>
<td>47.6</td>
</tr>
</tbody>
</table>

Description of the Study Variables

The mean, standard deviation, and skew values of the continuous variables used in the study are presented in Table 2. The findings indicate that all the study variables were normally distributed. The skew values either fell within the acceptable range of -1 to +1 or were sufficiently near the acceptable range.
Table 4.2

Descriptive Statistics for Study Variables

<table>
<thead>
<tr>
<th>Scale</th>
<th>Census-matched Sample (Morey, 1991)</th>
<th>Current Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>ANX</td>
<td>520</td>
<td>50.75</td>
</tr>
<tr>
<td>ARD</td>
<td>520</td>
<td>50.97</td>
</tr>
<tr>
<td>DEP</td>
<td>520</td>
<td>50.19</td>
</tr>
<tr>
<td>STR</td>
<td>520</td>
<td>50.22</td>
</tr>
<tr>
<td>NON</td>
<td>520</td>
<td>48.71</td>
</tr>
</tbody>
</table>

T-Test Results between Sample and Norm Group

One-sample t-tests were conducted to determine if there are significant differences between the current sample and the census-matched norm group in terms of Anxiety (ANX), Anxiety related disorders (ARD), Depression (DEP), Stress (STR), and Nonsupport (NON) scores. The t-test results are presented in Table 3. It was observed that there were significant differences between the current sample and the census-matched norm group in terms of Anxiety (ANX), Anxiety related disorders (ARD), Depression (DEP), Stress (STR), and Nonsupport (NON) scores, since all the p-levels were less than 0.05.
Table 4.3

T-Test Results between Sample and Norm Group

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANX</td>
<td>4.24</td>
<td>83</td>
<td>.00</td>
<td>6.24</td>
<td>3.31</td>
<td>9.16</td>
</tr>
<tr>
<td>ARD</td>
<td>5.18</td>
<td>83</td>
<td>.00</td>
<td>8.24</td>
<td>5.08</td>
<td>11.41</td>
</tr>
<tr>
<td>DEP</td>
<td>5.89</td>
<td>83</td>
<td>.00</td>
<td>9.12</td>
<td>6.04</td>
<td>12.20</td>
</tr>
<tr>
<td>STR</td>
<td>13.58</td>
<td>83</td>
<td>.00</td>
<td>16.01</td>
<td>13.66</td>
<td>18.35</td>
</tr>
<tr>
<td>NON</td>
<td>4.78</td>
<td>83</td>
<td>.00</td>
<td>6.49</td>
<td>3.79</td>
<td>9.19</td>
</tr>
</tbody>
</table>

95% Confidence Interval of the Difference

T-Test Results for Race

Independent samples t-tests were conducted to determine if there are significant differences between the White and African American groups in terms of Anxiety (ANX), Anxiety related disorders (ARD), Depression (DEP), Stress (STR), and Nonsupport (NON) scores. Prior to the t-test, Levene’s test for equality of variances was conducted to determine the variance assumption. Levene’s test results are presented in Table 4 and the t-test results are presented in Table 5. It was observed that there were significant differences between White and African American groups only in terms of Stress (STR) scores, since its p-level
was less than 0.05. There were no significant difference between the two races in terms of Anxiety (ANX), Anxiety related disorders (ARD), Depression (DEP), and Nonsupport (NON) scores, since their p-levels were greater than 0.05.

Table 4.4
Levene’s Test Results for Race

<table>
<thead>
<tr>
<th>Scale</th>
<th>F</th>
<th>Sig.</th>
<th>Variance Assumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANX</td>
<td>4.97</td>
<td>.03</td>
<td>Unequal Variances Assumed</td>
</tr>
<tr>
<td>ARD</td>
<td>4.63</td>
<td>.03</td>
<td>Unequal Variances Assumed</td>
</tr>
<tr>
<td>DEP</td>
<td>.77</td>
<td>.38</td>
<td>Equal Variances Assumed</td>
</tr>
<tr>
<td>STR</td>
<td>2.82</td>
<td>.10</td>
<td>Equal Variances Assumed</td>
</tr>
<tr>
<td>NON</td>
<td>.00</td>
<td>.99</td>
<td>Equal Variances Assumed</td>
</tr>
</tbody>
</table>
Table 4.5

_T-Test Results for Race_

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANX</td>
<td>-1.41</td>
<td>72.41</td>
<td>.16</td>
<td>-4.18</td>
<td>-10.08</td>
<td>1.73</td>
</tr>
<tr>
<td>ARD</td>
<td>-.64</td>
<td>74.58</td>
<td>.52</td>
<td>-2.07</td>
<td>-8.51</td>
<td>4.37</td>
</tr>
<tr>
<td>DEP</td>
<td>-1.28</td>
<td>82</td>
<td>.21</td>
<td>-3.94</td>
<td>-10.09</td>
<td>2.20</td>
</tr>
<tr>
<td>STR</td>
<td>-2.61</td>
<td>82</td>
<td>.01</td>
<td>-5.96</td>
<td>-10.50</td>
<td>-1.42</td>
</tr>
<tr>
<td>NON</td>
<td>-.02</td>
<td>82</td>
<td>.99</td>
<td>-.04</td>
<td>-5.49</td>
<td>5.40</td>
</tr>
</tbody>
</table>

_Summary of Findings_

The findings indicate that there were significant differences between the current sample and the census-matched norm group in terms of Anxiety (ANX), Anxiety related disorders (ARD), Depression (DEP), Stress (STR), and Nonsupport (NON) scores. However, White and African American groups only had a significant difference in terms of Stress (STR) scores.
CHAPTER 5

Discussion

Research offers the best and most long lasting impact when it is taken from and then applied back to real world settings. The current study sought to utilize archival data from a large assessment project working with women in poverty and synthesize that data to contribute to the understanding of the mental health of those women in poverty as compared to the census-matched norm sample from which the instrument was developed. The primary goal of this research is to measure several important mental health indicators (as measured by PAI scale scores) of women in poverty, and to question to what degree instruments used for this type of clinical inquiry, in this case the Personality Assessment Inventory (PAI; Morey, 1991), are appropriate for use within this population. This type of research is essential within clinical and assessment practice because it allows for the expansion of norms beyond those identified by the developer of the instrument. SES and its impact are often neglected as an important factor deserving of unique intentional examination. Although the challenges of poverty are clearly documented, SES has not often acquired enough attention within personality inventory research. This
research sought to focus on this important demographic variable in order to glean further insight into the relationship between mental health and SES for the current population. In line with the greater goals of social justice, this study sought to contribute to the literature highlighting the needs and reporting the symptomology of an otherwise often marginalized population, with the eventual goal of advocacy and change in both individual client cases and with implications for broader systemic policies within the social services agency.

An important goal of this study is to be able to provide information which can then be incorporated into treatment planning in a way which is meaningful and will help women in this low SES population gain more access (and of higher quality) to well needed services. This research is seen as a first step to advocate for the allocation of resources for mental health services for this population, which has been documented as being significantly underserved.

The selected scales focus on several aspects of mental health functioning that were selected through several means of established relevance. The selection included information gathered from caseworkers and graduate student evaluators utilizing historical evidence to suggest which scales would be most relevant within this population. A review of the literature
then supported some of the initial ideas posited by the caseworkers and evaluators. Through ongoing recommendations by the social services agency and an examination of research in the area, the ideas were then distilled into a refined choice of PAI scales to be targeted for study and further evaluation. The scales selected represent the most common clinical symptomology reported by clients in the TANF population, according to caseworkers and graduate student evaluators and those that have been associated with individuals struggling with poverty. This type of research ideally represents the dynamic process that can take place between research and practice when both are used to inform and improve one another.

The results of the study indicate that, as predicted, there were significant differences between the current sample of community adult females with low-SES as compared to Morey’s (1991) community adult female norm sample on each of the five PAI scales of interest (RQ1a-RQ1e).

Anxiety (ANX)

Significantly higher scores on the ANX scale suggest that members of the low-SES group endorsed experiencing higher rates of cognitive, affective, and physiological symptoms of anxiety. This scale captures the phenomenological experience of anxiety, e.g., the physical symptoms such as racing heart beat, sweating, heavy breathing, the cognitive symptoms such as rumination and
racing thoughts and the affective component such as fear, worry, and exasperation. These symptoms generally contribute to global level of distress across major life areas, which can impact ability to cope. This higher average level of anxiety symptoms is of clinical interest to caseworkers and psychotherapists in the development of appropriate treatment planning. Individuals who score highly on this scale are likely to report some somatic symptoms as a part of their presentation. It may be important for clinicians to understand this implication and make referrals to psychiatrists for medication when appropriate. Clinicians and caseworkers may wish to carefully evaluate clients for symptoms associated with anxiety, and incorporate building coping skills and relaxation techniques into treatment plans.

Anxiety-related Disorders (ARD)

Differences on the ARD scale indicate that members of the low-SES group report experiencing higher rates of phobic, trauma-related, and obsessive-compulsive symptoms of anxiety. This is separate from the physiological, cognitive, and affective components of anxiety; instead it refers specifically to a more detailed diagnostic indicator of anxiety-related disorders. Research on the conditions of poverty has suggested that women living in more dangerous or volatile environments may face increased exposure to violence and traumatic events. Past research has shown that in adaptation to trauma and violence
exposure, individuals often respond with hypervigilance and increased awareness and suspicion of one’s surroundings (Makosky, 1982). In addition, obsessive thoughts and re-experiencing may occur after trauma. All of these factors could lead to higher endorsement of items on this scale by the members of the low-SES sample (Fox, 1990). Clinicians and caseworkers must be aware of these differences as it may offer insight and inform diagnoses in the treatment process. For example, hypervigilance for a survivor of violent crime who remains in a violent neighborhood, may both exist as a clinical symptom and an adaptive response to an environmental reality. Differences on the ARD scale may also help differentiate a clinical syndrome from a more global reaction to stress, which has been well documented within impoverished populations. This is essential for caseworkers to recognize when making referrals for appropriate treatments for their clients, because the potential cost of overlooking evidence of PTSD and OCD symptoms is to undermine case management objectives and to miss out on opportunities for appropriate referrals for other mental health services.

*Depression (DEP)*

Higher scores on the DEP scale are reflective of experiencing increased cognitive, affective, and physiological symptoms of depression. Though causal inferences have not been
determined, depressive symptoms are well documented to coincide with stressful life events like those associated with the conditions of poverty. For example, chronic uncertainty, which has implications for pessimistic explanatory style or limited prospects that is associated with certain kinds of hopelessness (Beck et al., 1979). The correlation between depressive symptoms and stressful life events was found to be present in initial depressive episodes and in subsequent episodes (Kessler, 1997). The finding is consistent with a study by Myers et al. (2002) who found SES to be an important predictor of the severity of a given depressive episode in a racially diverse female sample. They found that the severity of depression was often mitigated by stressful life events that could usually be attributed to low SES (i.e., problems in obtaining resources for education or employment and the corresponding impact on relationships).

Increases in depressive symptoms are often theoretically associated with locus of control and explanatory style (Beck, et al., 1979). Women of low SES, and particularly minority women, experience high levels of oppression interpersonally and institutionally, which may lead to the attribution or belief that many life circumstances are beyond the control of the individual. It is important for caseworkers to keep these factors in mind when interacting with clients and to emphasize the power that the individual can have over her situation. For
example, it may be important to stress that a client cannot determine the level of his or her benefits, but they can be responsible for turning in all requisite paperwork and keeping in contact with a social worker, such that their case has the best chance of meeting approval.

Nonsupport (NON)

Significantly higher scores on the NON scale suggest that member of the low-SES group perceived having less social support, and the support available less adequate and consistently available. This finding is consistent with existing research that has suggested that systemic realities of poverty often present simultaneous levels of increased stress and decreased social support (Makosky, 1982). The frequent moves and interpersonal stressors can make establishing consistent and long term supportive relationships more difficult. Unpredictable and inflexible work schedules can be an additional difficulty in establishing support networks. It is this scale in particular that offers the greatest opportunity for caseworkers, psychologists, and others to have the greatest impact, simply by acting as a consistent source of support.

Stress (STR)

Significant differences found on the STR scale indicate that the low-SES group endorsed more impactful recent stressors across major life areas. The most evident of stressors for
those in the low-SES group is financial stress. Financial stress has been described to be highly correlated with environmental stressors such as inadequate housing, frequent moves, unsafe neighborhoods, and chronic uncertainty about being able to afford the basic essentials, such as food, clothing, and utilities (Brown et al., 1975).

The observation of significant differences on these five scales between the two non-clinical female samples is quite consistent and with many of the often described themes of the conditions of poverty in existing research, such as financial uncertainty, hopelessness, helplessness, and lack of continuity across major life areas. These more general themes are thought to coincide with interpersonal, relational, and vocational stressors (e.g. the existence of some groups of stressors make it more likely that other types of stressors will also be present) (Hudson, 2005), which help explain a higher endorsement of symptoms in the five PAI scales of interest in the current study.

**Racial subgroup comparison**

The archival nature of the data collected and limited access to this particular community population presented challenges in operationalizing the construct of race. Counseling psychologists have noted several dangers of racially comparative research, particularly when one of the groups of
comparison is made up of White (i.e. Caucasian, of European-descent) Americans. This concern stems from the implication that the White group has been often considered the "normal" group, thereby relegating any other group to a "not normal", other, or lesser status, thus perpetuating racial inequities (Delgado-Romero, et al., 2005).

It is important to note that the purpose of considering differences between the two groups of the current sample is based on research that has suggested that even within the marginalized status of having low-SES, women of racial minority groups are further marginalized through racism and oppression (Hudson, 2005). Comparing the groups offers the potential to observe differences (as measured by the PAI scales) and confirm or refute the association described in previous research between mental health symptoms, SES, gender, and race (Fox, 1990; Hudson, 2005). Though defining this construct by self-identification of race into a nominal group is less than ideal, exploring these differences with the demographic information available is meritorious due to the potential for new insight into the PAI's use with a population that has been rarely considered (non-clinical, low-SES adult females).

Among the five comparisons between the African American and White subgroups of the low-SES sample (RQ2a-RQ2e), only scores on the Stress (STR) were found to be significantly different.
The absence of significant differences on the Nonsupport (NON) scale is of note because it is inconsistent with the differences in perceived social support between African American women and White women previously described in research (Myers et al., 2002).

Significantly higher scores on the STR scale in the African American subgroup of the current sample is conceptually consistent with previous research describing higher levels of stress associated with the effects of acute and chronic indicators of discrimination (Williams et al., 1997). However, the relative differences between racial groups in mental health symptoms (as measured by the ANX, ARD, and DEP scales of the PAI) that would have also been predicted by previous research were not observed in the current study. Some researchers have recommended measuring and considering racial identity as a precursor to understanding race-related stress (Franklin-Jackson & Carter, 2007).

**Implications**

Results of the current study concurs with much of existing literature that has connected poverty and mental illness symptoms (Hudson, 2005). Within existing literature on the PAI, few have formally acknowledged or measured SES.

The current study, though a preliminary step, contributes data to the PAI’s use with nonclinical adult females with low-
 Clinicians and researchers alike are ethically obligated to seek out existing relevant data when considering appropriate instrument selection (APA Multicultural Guidelines, 2002). In efforts toward social justice counseling psychologists have advocated for the inclusion of and focus on underrepresented groups in clinical research (Suzuki & Ponterotto, 2008). The current study contributes to available data on the use of the PAI with non-clinical adult women with low-SES, but makes compromises in other areas of interest for social justice such as the definition of racial and ethnic identity status of the subjects in the study. Negotiating these nuances in goals and ideals of social justice in counseling psychology is likely to be an ongoing significant challenge to researchers. In line with APA’s Multicultural Guidelines (2002) this study sought to interpret all results cautiously and with respect to the subjects’ individual cultural contexts. Utilizing culture-centered perspectives as an integral part of the interpretation of results was essential in the study’s adherence to the goals of social justice.

Alterman et al. (1995) reported the low-SES of their racially diverse methadone maintenance sample. The study reported significantly lower rates of valid protocol completion (70% valid; compared to 85-88% reported by Morey, 1991). In the
study Alterman et al. consider SES as an attribution for the lower valid completion rate. The current low-SES sample’s valid protocol completion rate was much closer to norm sample data (Morey, 1991) at 80%, despite having a lower average educational background (10.5 years) than previously reported samples (Morey, 2007).

Significance within Counseling Psychology

Previous literature has noted that individuals from diverse backgrounds who have low SES have an increased risk for misdiagnosis and receive fewer services that are often of lower quality (Hudson, 2005). Counseling psychologists are attempting to address systemic inequities experienced by those from marginalized and devalued groups in our society (D’Andrea & Heckman, 2008). The PAI presents several potential advantages over comparable personality inventories for use in diagnosis and treatment planning such as shorter administration time, lower required reading level, and additional content scales. Researchers have emphasized the importance of establishing data and research on the reliability, validity, and other properties of psychological instruments to be used with diverse populations (Suzuki & Ponterotto, 2008) and have advocated for the use of personality assessment in the development of appropriate treatment plans (Million & Davis, 1996).

Limitations
The present study has certain limitations that should to be taken into account when considering the study and its relative contributions.

1. Sample size

The overall sample size and sample size of each of the two subgroups were relatively small, which limited the number of analyses that could be completed. A larger sample would also allow for additional scale and subscale comparisons with less of a reduction in power.

2. Geographic region

The current sample was taken from a 10 county region in a large southeastern state. This could limit generalizability to other geographic locations. Morey’s female census-matched sample (1991) was taken from 10 regions across the United States, therefore geographic differences between the samples could explain some of the observed differences in the current study (RQ1a-RQ1e). Additionally, the current sample is not a consistent representation of the overall state TANF demographic composition. The current sample is an overrepresentation of White participants and an underrepresentation of African American participants, which may limit the generalizability to this greater TANF state population.

3. Self-report measures
The PAI, like most self-report measures of personality, may be subject to the effects of social desirability and acquiescence (Anastasi, 1988). Though no explicit compensation was offered or implied, these effects may also be influenced by the environmental factors of compliance within a social services agency program.

4. Measurement of race

In the current study racial identity was self-reported by participants by nominal category (i.e. fill in the blank). Though preferable to a “forced choice” method, this method does not represent an accurate measurement of racial identity based in a theory of racial identity development (e.g. The Cross Racial Identity Attitude Scale; Cross, 1995).

5. Differences in time

The first set of comparisons compared data from 2007 to Morey’s original norm sample data from 1991. We cannot be sure that some portion of the observed scale score differences are not due to differences in time.

Recommendations for Future Research

Unique to the current sample was the combination of low-SES status and non-clinical status; most similar research involving the PAI involves a clinical or forensic female population. More research is needed when considering the relative merits of the
Personality Assessment Inventory used with female low-SES populations. Considerably larger sample sizes would enable the use of factor analytic techniques that could provide more detailed information about the psychometric properties of the PAI with this population. Additionally, larger samples might further break down the clinical scales by subscale to examine relationships between more specific symptoms, such as the DEP-C (cognitive), DEP-A (affective), and DEP-B (behavioral) symptoms of depression. The higher detailed information about symptoms would be useful for treatment planning. Researchers might make a more formal measurement of race through racial identity instruments (such as the CRIS; Cross, 1995) in concurrence with using the PAI with female low-SES populations.

In the second set of comparisons between subgroups of the current sample, no significant differences were found on the ANX, ARD, DEP, and NON scales. Future studies might define clinical symptomatology more broadly, and therefore include more of the PAI’s clinical scales.

Conclusion

The current study compared five scale scores of an adult female community low-SES sample to the adult female census matched norm sample (Morey, 1991). A second set of comparisons examined differences between two subgroups of the current sample
(African American and White females). Although causal relationships cannot be established between the significant elevations found across ANX, ARD, DEP, NON, and STR scales of the PAI, the current study supports the body of research correlating a higher occurrence of related symptoms of psychopathology in adult female low-SES populations (Hudson, 2005).

As counseling psychologists continue efforts to address systemic inequities experienced by those from marginalized and devalued groups in our society (D’Andrea & Heckman, 2008) they must consider the importance of establishing data and research on the reliability, validity, and other properties of psychological instruments to be used with diverse populations. Armed with more available and relevant data to their population, clinicians are more likely and able to construct and implement appropriate diagnoses and treatment plans. Such increases in the quality of mental health services to diverse women of low-SES, are an important step in addressing previously well-documented service disparities (Fox, 1990) which is in line with the goals of social justice.

The PAI presents several potential advantages that are relevant to populations with low-SES or limited educational background. The current study contributes data to what is known
about use of the PAI with this population, and highlights the need for further study with this instrument and population. Findings of the current study are of interest for future research using the PAI with similar populations and for caseworkers and clinicians utilizing the PAI in diagnosis and treatment planning.
REFERENCES


Robins, L. N., Regier, D. N. (Eds.). (1991), *Psychiatric*


Appendix 1

PAI Scale T-scores of total Low-SES sample and Census-matched Sample (Morey, 1991)

*Census-matched sample (Morey, 1991)