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Adolescent Predictors of Early Adult Adjustment

A Dissertation Presented for
the Doctorate of Philosophy of Art Degree
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Porche' Teisha. Wynn
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Abstract

Adjustment, particularly in adulthood, is a vague concept discussed among researchers. Most often researchers only consider lack of involvement in problem behavior as criteria for positive adjustment. Furthermore, it is unclear what factors influence the likelihood of adjustment and the influence of race on these factors is unknown. The current study proposed a composite of male adult adjustment that considers what the Wellness Model terms the "wholeness" of an individual. In addition, adolescent predictors of adult adjustment and the influence of race on factors influencing adjustment were examined in a longitudinal sample of 481 males. Results revealed 4 profiles of adjustment: 1 profile that included individuals who were overall adjusted, 2 profiles that included individuals who were moderately adjusted, and 1 profile of individuals who were maladjusted. The majority of the sample was identified as adjusted in that they were financially responsible, did not have psychological problems, engaged in little to no acts of delinquency, and acknowledged at least adequate social support. Note, however, that these individuals did engage in some substance use. The smallest profile of individuals was those who were maladjusted in that they engaged in excessive delinquency, used both drugs and drank alcohol heavily, and lacked a positive support system. However these individuals were also absent of psychological problems and were financially responsible. Findings also uncovered predictors of adjustment, such that high levels of depression, physical punishment, and poor relationships with peers were associated with only moderate levels of adjustment regardless of race. Furthermore, racial differences in predictors of adjustment were found. Anxiety and parent/child communication were associated with only moderate adjustment for African American but not Caucasian males. In contrast, mother's arrest and peer delinquency were associated with only moderate adjustment

for Caucasian American but not African American males. Recommendations for prevention and intervention strategies are discussed.

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Chapter One: Introduction

Background

Adjustment across the life span is influenced by a variety of positive, negative, internal and external factors such as environment, age, mental health status, family, and peer affiliation (Loeber, Farrington, Stouthamer-Loeber, & VanKammen, 1998). Maturing through adolescent experiences toward adulthood is a very critical time of adjustment for all persons (Hines, Merdinger, & Wyatt, 2005). While a majority of literature focuses on the negative aspects of adjustment, individual's experiences are rarely all negative or positive. In fact a combination of negative and positive aspects represents what the Wellness Model (Witmer & Sweeney, 1992) terms the "wholeness" of a person. In addition to the influence of positive and negative factors on adjustment, researchers such as Miller (1996) and Upchurch (1996) suggested adjustment is influenced by gender and race. Thus, since individual adjustment occurs over time, one way to understand adjustment is to examine the influence of multiple factors longitudinally (Grossmann, Grossmann, & Waters, 2005).

In fact, researchers (Bynum & Thompson, 1999; Dumont & Provost, 1999; Elliot et a., 1996; Kashani, Rosenberg, Beck, Reid, & Battle, 1987; Kronick & Hargis, 1998; Lee, Lahey, Owens, & Hinshaw, 2008; Park, Lee, Bolland, Vazsonyi, & Sun, 2008; Thom & Johnston, 1936; Widmer & Weiss, 2000) found several factors occurring over the life course influence general adjustment. Moreover, most researchers discovered that adjustment during each developmental time period influences other periods of adjustment. For example, childhood adjustment influences adjustment in adolescence (Erikson, 1982); adolescent adjustment influences

adjustment in adulthood (Erikson, 1982); both childhood and adolescent adjustment factors strongly influence how an individual functions in early and middle adulthood (Erikson, 1982); and ultimately adjustment in early and middle adulthood influences adjustment in later adulthood (Erikson, 1982). As an example of this process, previous research showed that factors occurring in childhood generally influence the likelihood of one adjusting in later stages of development. For example, both Bynum and Thompson (1999) and Kronick and Hargis (1998) found dominant factors in childhood such as poor adjustment to educational performance and opportunities had a major influence on adulthood opportunities to pursue higher education and quality work skills and employment opportunities (Bynum & Thompson, 1999; Kronick & Hargis, 1998). High levels of depression, peer delinquency, poor caretaker child communication, low academic achievement, and low organizational involvement have been found to increase one's risk of becoming maladjusted in early adulthood (Wynn, Fite, & Pardini, under review). Additionally poor adolescent adjustment in reference to mental health issues leads to mental health issues in later stages of development (Dumont & Provost, 1999; Kashani et al., 1987; Lee et al., 2008; Thom & Johnston, 1936; Widmer & Weiss, 2000). Finally research (Elliot et al., 1996; Park et al., 2008) found that living in disadvantaged neighborhoods promoted antisocial behaviors that assisted with survival and the likelihood that one will continue living in these neighborhoods.

Collectively, these research efforts show that behaviors that are prominent in periods as early as childhood determine how one will adjust in later life. More specifically these studies suggest both childhood and adolescent adjustment set the foundation for adjustment throughout life. These efforts also seem to imply that practicing behaviors that contribute to more positive adjustment in early life will be effective in leading to the likelihood that one will positively adjust in later life.

Statement of Problem

Despite the implication that childhood and adolescent adjustment set the stage for adjustment in all other periods of development, most research (Dumont & Provost, 1999; Hanson, Henggler, Haefele, & Rodick, 1984; Hawkins, Catalano, & Miller, 1992; Jackson, 2003; Kashani et al., 1987; Lee et al., 2008; Loeber, Pardini, Stouthamer-Loeber, & Raine, 2007; Masten, Burt, Roisman, Obradovic, & Tellegen, 2004; Nettles & Pleck, 1993; Stouthamer-Loeber, Loeber, Wei, Farrington, & Wikstrom, 2002; Thom & Johnston, 1936; Widmer & Weiss, 2000; Wynn et al., under review; Zalot, Jones, Forehand, & Brody, 2007) tend to only examine the influence of childhood development on adolescent adjustment while overlooking the factors that contribute to adjustment in adulthood and including the influence of contextual factors such as race and gender on those factors. Thus an exploration of specific factors that influence adult adjustment has been largely omitted even though ultimately becoming an adjusted adult is important to continued life stability. In addition, the research efforts cited do not collectively agree on which specific factors influence adjustment. For example, the literature is mixed on whether family, peers, environment, or the individual or a combination of the four influences the likelihood of adjustment. Additionally, most experts tend to label an adjusted individual as one who does not become involved in behaviors that violate societal norms (e.g., Dumont & Provost, 1999; Elliot et al., 1996; Kashani et al., 1987; Lee et al., 2008; Loeber et al., 1998; Park et al., 2008; Thom & Johnston, 1936; Widmer & Weiss, 2000). However a fuller picture of adjustment outcomes would include a balance (positive and negative) of life factors such as maintaining nonclinical levels of mental health, obtaining quality work and education status, and being involved in a reliable positive social support system (Myers, Sweeney, & Witmer, 2000).

Therefore there are several gaps represented in the literature on adjustment. Primarily, there is no existing research that examines factors in late adolescence that determines early adult adjustment. There is also a lack of an agreed upon set of characteristics that define an adjusted individual. Moreover, minimal research (Wynn et al., under review) has investigated the effect of race on factors that affect adulthood development and no research has specifically investigated how gender influences factors affecting adjustment. Thus longitudinally exploring the influence of specific individual, contextual and environmental factors in late adolescence on early adulthood adjustment should fill these gaps in literature. This exploration will extend the literature on adjustment by pinpointing the role of adolescent factors across multiple domains (e.g., peer, environment, family, and individual) on early adult adjustment and by examining racial differences as recent and the majority of research has only pinpointed factors in childhood that influence adolescent adjustment and does not explore the influence of race or gender on adjustment. Furthermore, filling these gaps would also extend developmental research efforts that already consider factors that influence earlier developmental periods and inform intervention strategies that promote positive adult adjustment across populations.

Purpose of Study

Much of the research addressing adjustment seems to focus on curing mental illnesses or decreasing one's risk of becoming involved in delinquency or criminal acts (Witmer & Sweeney, 1992). Realistically, the deterrence of crime and decrease in mental health problems are not the only issues that lead to an individual being adjusted or positively socialized in society or their immediate environment. Therefore, based on limitations in the existing literature, more specifically a lack of understanding of what adolescent factors influence adult adjustment, what characteristics are possessed by an adjusted individual, a lack of examination of racial

differences in factors that influence adjustment, and no contrast between what factors are specific to each gender, the purpose of the current study is to investigate individual, contextual and environmental characteristics targeted in adolescence that influence positive adjustment in adulthood across race and for males. Additionally the current study purports to outline a composite of adjustment that considers both positive and negative aspects of functioning which has been largely omitted from the literature.

Significance of Study

Based on the goals and purposes of the current study, the manner in which adjustment will be examined is a significant contribution to the literature on adjustment research in several ways. Primarily, this study explores factors across multiple domains that are influential on the adjustment of adult males over time, which has not been explored in the current literature. Additionally, understanding adjustment based on an examination that takes into account positive and negative aspects of functioning extends the current literature that tends to label one as adjusted if they refrain from negative human behaviors and interactions but does not take into account other aspects of life such a positive behaviors. Finally, the current study is a significant contribution due to its examination of race and gender and the influence of both on overall adjustment.

Research Questions and Hypotheses

The following research questions will be explored:

1. What factors in adulthood can be considered when labeling one as adjusted?
2. What factors in late adolescence influence domains of positive adjustment in early male adulthood?

3. Do factors in late adolescence that influence adjustment in early adulthood vary by race?

Based on previous research on adjustment, the following hypotheses have been developed:

1. Based on recent literature that describes the influence of external and contextual factors on adjustment, I hypothesis that a combination of external and contextual factors, such as family, peer, neighborhood, and individual factors, in adolescence will influence adjustment in adulthood.
2. Factors in adolescence that influence adjustment in early adulthood will vary as a function of race. See Model 1. Because previous literature supports mixed opinions on the influence of race on adjustment and behavior, I hypothesize that predictor variables will affect African American and Caucasian adjustment differently.

Definitions

The following section will explain key terms used throughout the current study.

Adjustment. Adjustment relates to how an individuals function within their environment. Thus as a norm, certain characteristics that adjusted individuals are expected to display, have been defined and used as criterion to label individuals within society. Literature has defined adjustment in terms of childhood, adolescence, and adulthood periods (Pardini, Loeber, & Stouthamer-Loeber, 2005; Wynn et al., under review). In the current study the outcome variable, adjustment, will be defined in early adulthood (ages 26-28) and based on several domain specific measures including: financial responsibility, nonclinical levels of psychopathology, responsible drinking, no delinquent/antisocial behavior involvement, and positive social support.

Developmental Ecological Systems Theory. The Developmental Ecological Systems Theory (Bronfenbrenner, 1979) purports that multiple factors in one's environment, especially

occurring in childhood, explain development overtime. The current study employs the Developmental Ecological Systems Theory to explain the relation between adolescent behaviors and experiences and adult adjustment. According to Developmental Ecological System Theory, contextual factors during early life experiences and over time influence development in later developmental periods (Loeber, Farrington, Stouthamer-Loeber, & White, 2008). The Developmental Ecological Systems Theory has been employed in several studies to longitudinally explain behaviors. These studies will be reviewed in Chapter 2.

Longitudinal. Longitudinal research explores how one develops over time from childhood to adulthood and what factors, modified through personal characteristics, influence this development (Loeber et al., 2008).

Race. Race represents a demographic variable used to explain one's genetic skin tone composition (Loeber et al., 2008). Race for the current study has been divided into two groups: African American and Caucasian.

Risk Factors. Risk factors refer to the occurrences, environments, and situations that may influence and predict a high likelihood of one not adjusting in general society (Loeber et al., 2008).

Organization of Study

Chapter one provided a brief account of this study and highlighted the importance of this line of research to the current body of literature that focuses on adjustment. In chapter two, a review of literature explores relevant literature pertinent to defining adjustment, the influence of adolescent risk factors on adult adjustment, factors unique to male adjustment, the influence of race on adjustment, and the Developmental Ecological Systems Theory (Bronfenbrenner, 1979). Chapter three includes the study's research design and data analysis strategies. Chapter four

presents findings of the current study. Chapter five discusses study findings. Finally, chapter six includes conclusions that include study limitations, implications for intervention and potential prevention strategies, and recommendations.

Chapter Two: Literature Review

Chapter Introduction

The purpose of the current chapter is to offer readers an overview of the literature describing the longitudinal process of adjustment. More specifically, this chapter reviews the operationalization of adjustment across childhood, adolescence, and adulthood; the role adolescent risk factors play in influencing adjustment characteristics; factors that place males at risk for adjustment issues; the relation between race and adolescent factors influencing adjustment characteristics, and literature that examines how the Developmental Ecological Systems Theory can be applied to research that attempts to explain the longitudinal process of adjustment and the variety of factors affecting adjustment.

Adjustment

Adjustment is defined as the social, psychological, and biological developmental accomplishments persons are expected to reach at certain stages of life (Schulenberg, Bryant, & O'Malley, 2004). More specifically, norms within society suggest there are characteristics an adjusted individual is expected to display in their environment during childhood, adolescence, and adulthood despite any apparent barriers or risk factors present (Bynum & Thompson, 1999). For example, in the fourth edition of *Juvenile Delinquency* that explored the sociology of child and adolescent behavior, Bynum and Thompson (1999) suggested individuals were adjusted in childhood if they met the expectation of being obedient, maintaining mental and physical health, being physically active, increasing motivation and involvement in school and social settings as they matured, and not displaying a variety of behavior problems. On the other hand, these researchers described adolescence as a period where specific roles are not yet established but the adolescent shows evidence that they are thinking about the social roles they will be expected to

play (Bynum and Thompson, 1999). Adolescents, in Bynum and Thompson's opinion, should be held increasingly accountable for their actions and responsibilities in many areas. In addition, adolescents were considered adjusted if they continued maintaining the social and psychological expectations of childhood. As so many research efforts have neglected to do, this effort does not explore what characteristics an adjusted adult possess. One effort that links adult adjustment to all other research on adjustment, Schulenberg et al. (2004), defined adjustment in adulthood as a time period where life roles, goals and expectations become clear and adjusted individuals are persons who independently function socially, psychologically, and biologically to meet personal needs. A description of how all of these developmental time periods (childhood, adolescent, and adulthood) relate to adjustment is discussed more in depth below.

The criteria for being an adjusted child are few. For example, childhood is considered to be a time period when children are considered helpless and fully dependent on parents to fulfill their needs (Bynum & Thompson, 1999). Furthermore, children are expected to obey parents but when they do commit offensive acts they are spared from legal ramifications (Bynum & Thompson, 1999). Additionally, across culture, gender, and race, childhood is a period in which formal education is a social expectation (Bynum & Thompson, 1999). Meeting these basic criteria characterizes one as adjusted in childhood. Early efforts of defining adjustment suggested it is mandatory that adjusted kids live in neighborhoods that are good or excellent, compatible with two parents in the household, and the family is free from disease and criminal convictions and present with a normal developmental history (Thom & Johnston, 1936). As society progresses, this definition of an adjusted child becomes more unrealistic. Norms within society suggest that a majority of homes are currently single parent headed, the majority of families live low to middle class life styles, there is a broader definition of "disease" and there is a revised

definition of what normal development actually entails (Bynum & Thompson, 1999) presenting the needs for more recent accounts of an adjusted child. For example, in contrast to Thom and Johnston, more recent research conceptualized childhood adjustment in terms of mental health status of the actual child. In a longitudinal study based on 11-14 year old males and females, Lee et al. (2008) defined a child as adjusted if they were not at risk for or currently experiencing ADHD, ODD/CD, internalizing symptoms, distorted social preferences, lacking social skills, and poor academic achievement. Additionally, Masten et al. (2004) stated an adjusted child excels in academic endeavors, maintains stable social or peer relationships, and exhibits good conduct. As these attempts to define childhood adjustment show, there are no agreed upon criteria of an adjusted child but a variety of opinions of what adjustment should entail.

Aging into adolescence, youth are no longer considered as helpless as children but they are neither afforded the rights, responsibilities, privileges, and status of adults (Bynum and Thompson, 1999). During this time period Bynum and Thompson suggest the main goal for adolescents is defining identity characteristics and independently adopting values and beliefs about life. Adolescents are also considered adjusted if they meet the expectations of excelling in school, being involved in organizations, not displaying excessive behavior problems, and positively catering to gender roles (Masten et al., 2004; Thom & Johnston, 1936). For example, Thom and Johnston (1936) made early attempts to define an adjusted adolescent based on a sample of high school aged boys and girls, from suburban and impoverished communities. In these researchers' opinion youth were adjusted at this developmental period if they were fairly established in parent-child relationships, had formed personal attitudes about life, were independent in day to day functions such as grooming and being responsible for personal safety and behaviors, had learned to value approval from peers more important than approval from

parents, had initiated discussions with parents about sex and the opposite sex, were active in a variety of school activities and organizations, and had started discussing a plan for attending college or business school after highschool. In addition to Thom and Johnston's criteria, more recent research defined an adjusted adolescent. For example, Spear (2004) suggested adjusted adolescents (no age range specified) have begun thinking about experimenting with sex, drugs and alcohol, and other risky behaviors. The adjusted individual, in Spear's (2004) opinion, was able to distinguish between "good and bad choices" when thinking about experiences with sex, drugs and alcohol, and other risky behaviors. Spear also suggested there is a change in the way adjusted adolescents socially interact with family and peers, which is in a more mature manner than when they were helpless children. Masten et al. (2004) used a longitudinally based sample of 205 participants (ages 17-23) whose families participated in a study that explored factors contributing to competence and resilience, and labeled adolescents as adjusted if they were competent in the following areas: academic achievement, social relationships, developing romantic relationships, conduct, and age appropriate work status. Additionally, although it is an American societal norm for adolescents to live at home with parents, it is also the norm to begin establishing autonomy from parents while yet reframing from independent life steps such as getting married or procreating (Mayer & Jencks, 1989). Finally, daring to go against all other definitions of adjustment, Clausen (1991) defined an adjusted adolescent (no specific age range) as one who functions appropriately with highly labile emotions and experiments with personal identities and other experiences. Clausen defined this time period as a time of exploration and does not consider one as maladjusted if they have not accomplished all areas of what other researchers consider adjustment.

Yet other researchers require much less criteria to label adolescents adjusted. For example, Bourdin and Henggeler (1987) defined a well adjusted adolescent, age 12-17, as one who has not been involved in delinquency as identified by parents and teachers or as proven by a lack of an arrest record or convictions within the criminal justice system. This definition of adjustment is problematic in that it fails to take into account any other areas of life that adolescents are expected to function. Two research groups, also require fewer criteria for adolescent adjustment. For instance, Dumont and Provost (1999) and Herman-Stahl and Petersen (1996) only require adolescents, ages 14-16, to experience low levels of depression and daily hassles to be considered adjusted and labeled adolescents as not adjusted if they experienced any other combination of the two experiences. Also noteworthy is Kashani et al.'s (1987) definition of an adjusted adolescent as one who simply lacks clinical levels of psychopathology. As can be interpreted from previous research on adjusted adolescents, more than childhood, adolescence seems to be a developmental period in which more, such as higher cognitive ability and day to day leadership, is expected from adolescents (Clausen, 1991; Masten et al., 2004; Spear, 2004). Although there are a variety of researchers who explore adolescent adjustment, as in childhood, there are few characteristics that all nine researchers, cited here, agree upon as criteria that sets adjusted adolescents apart from maladjusted adolescents.

Few studies have examined adult adjustment. Moreover, of those projects that do explore adult adjustment, none has taken into account the total person as suggested by the Wellness Model (Witmer & Sweeney, 1992) and the Developmental Ecological Systems Theory (Bronfrenbrenner, 1979). Researchers do agree that in early adulthood, norms and expectations are socially, psychologically, and biologically different from childhood and adolescence and that this time period represents an era of drastic change in responsibility (Spear, 2004). Moreover,

researchers and scholars of developmental psychology suggested there are neurological changes that occur in early adulthood, which assist individuals in making better choices and equipping them with better responsibility and decision making skills (Lerner & Alberts, 2004). Typically, in early adulthood, roles and adjustment criteria are more clearly defined. For example at age 26 adults are expected to have a job or attend a professional or educational arena that will prepare them for the job market, live independently of a caregiver, not indulge in risky behaviors, be positively involved in interpersonal relationships, enjoy stable mental health, and independently care for self and family, if they have one, financially (Arnett, 2000; Hayford & Furstenberg, 2008; Schulenberg et al., 2004). In addition to these clearly defined characteristics of adulthood, at age 26 individuals are expected to get married and start a family (Arnett, 2000; Masten et al., 2004). Finally, the use of some substances and alcohol are socially acceptable forms of socialization or destressors in individual day to day living such as smoking cigarettes and drinking within normal limits (Arnett, 2000; Hayford & Furstenberg, 2008). On the other hand, the use of substances such as cocaine, opiates, or methamphetamines, to name a few, is considered out of the norm and in fact illegal even at the adult stage (Arnett, 2000; Hayford & Furstenberg, 2008).

Through an exploration of how adult roles have changed over time and how the age at which one is expected to "act as" an adult has increased, Arnett (2001) proposed a theory of emerging adulthood. According to this theory, an adjusted adult (ages 18-25) in today's society is one who realizes that the transition to adulthood represents a time of change and exploration of life roles, skills, and exploration. Arnett proposed adults are adjusted if they conform to the norms set forth for adults such as getting married, leaving their parent's home, working and/or possibly attending a higher education program, starting a family, solidifying identity roles, and

using substances such as alcohol and cigarettes appropriately. Similarly, Hayford and Furstenberg (2008) used the Monitoring the Future Data to analyze if risky behaviors during adolescence (such as crime, substance use, and violent death from motor vehicle accidents) spillover into adulthood behaviors. These researchers found that those who successfully transitioned into adulthood were able to successfully finish high school, enter the work force, become financially independent, move out of parent's home, and start a family, despite risky behaviors in adolescence.

Exploring the literature, Masten et al. defined adjusted adults based on a sample of 23-36 year old participants in a longitudinal study on competence and resilience. According to these researchers, adults were adjusted if they were competent and resilient in the areas of academic achievement or work, social responsibility, romantic involvement, parenting quality, and crime. Similarly, Clausen defined adjusted adults as those who complete their education, leave their parent's home to live independently, gain initial employment, and think about marriage. These research efforts are unique in that they set the stage for highlighting positive actions of an individual in several areas. On the other hand, these efforts fail to acknowledge that characteristics of individuals are not all positive, as many research efforts tend to imply.

Research also explored the influence of negative life aspects on adjustment. For example, previous research (Pardini et al., 2005; Wynn et al., under review) defined adult males (n=484), who were part of the Pittsburgh Youth Study, as positively adjusted if by age 19-20 they were working or in school, free of daily cigarette use, marijuana use, weekly heavy drinking, incarceration, not committing to minor delinquent acts, and lacked significant internalizing and antisocial personality problems. As Masten et al. and Clausen failed to consider, this adjustment composite placed particular focus on negative factors that influence

maladjustment. The composite, on the other hand, did not represent a strength based, holistic model that includes both positive and negative facets of an individual's life, which is suggested by the Wellness Model as beneficial to understanding individuals based on personal and unique characteristics.

Presenting a different description of an adjusted adult, Schulenberg et al. defined well being in early adulthood as excelling in: education, work, financial autonomy, romantic involvement, peer involvement, substance abuse avoidance, and citizenship. For example, one was considered succeeding in the education arena if by the age of 26 he/she had graduated from a four year college or was expecting to graduate from a two year college. In reference to succeeding at work, participants could not have experienced any unemployment at age 26, should have been working 10 or more months at full time and established high job confidence. Additionally participants were succeeding in financial autonomy if they were able to independently or with a spouse provide all resources to self and family. Participants scored positive for succeeding in romantic involvement if at age 26 they were married/engaged and had no divorce history. Participants had successful peer relationships if they went out two or more times per week for fun and recreation with friends. If participants did not use any substances including cigarettes, binge drinking, marijuana, or any other illicit drugs in the past twelve months they were successful in the substance use domain. Finally for this particular study, participants were labeled positive for adjustment if by age 26 they scored positive on three indicators of citizenship which included social conscience, charity, and awareness of social and political events. In order to be considered adjusted, participants had to meet all criteria in each domain. While this research effort does encompass a somewhat well rounded view of individual day to day life, it fails to consider a lack of antisocial behaviors, which most childhood and

adolescent research has largely examined as influential on adjustment. Additionally it fails to consider psychopathology as a unique characteristic of individual development. This particular study also sets somewhat unrealistic standards for adjustment. For example, one is expected to work full time, have a positive relationship with his/her spouse and go out socially two or more times a week. Realistically and physically this expectation may not be met due to overwhelming day to day schedules. This should not be a combination of factors that determines if someone is successful or adjusted when viewed in the broader society.

When defining adjustment for adults it is clear that the criterion for classifying adjustment is not consistent across researchers. Of the seven research efforts that explore adjustment, there is agreement that a positive work status or experience constitutes one piece of adjustment. Thus developing an agreed upon composite of adjustment is important to the social stability of all adults within society.

Defining Adjustment Summary

While each research effort attempted to give an idea of what an adjusted individual "looks like", there is no current agreed upon criterion that describes factors that influence the likelihood one will meet criteria for adjustment. Furthermore, none of these efforts considered the "total person" or a combination of positive and negative aspects of day to day living. Fact is, although it is important to have an understanding of what issues affect adjustment across development, adjusted adults will ultimately contribute to society. This acknowledgement has been omitted throughout the literature. Therefore, the examination of an adjustment composite that describes both realistic expectations based on positive and negative characteristics of adjusted adults is needed. While adjustment can be thought of as positive and negative

characteristics of an individual, this outcome is mainly determined by a variety of factors such as individual, family, neighborhood, and peer factors.

Adolescent Risk Factors to Adjustment

Overcoming risk factors that are influenced by the individual family, neighborhood, and peer group can be a daunting task (Bronfenbrenner, 1979), but, as Schulenberg et al. suggested, not an impossible one. Fortunately one does not have to struggle with this task alone since this is the purpose of helping professionals and the mission of mental health agencies (Sue, 1977). Thus Schulenberg et al. suggested those who manage to "do well" or are resilient to risk factors before adulthood developmental periods will also do well in adulthood (Schulenberg et al., 2004). Likewise, Schulenberg et al. suggested those adolescents who are struggling before adulthood will more than likely continue to struggle. Similarly, Erikson (1963) suggested that successful adjustment in later life is mainly dependent on successfully resolving risk factors in earlier developmental stages. Additionally, research implies maladjustment occurs when one is not able to successfully resolve a number of risk factors that contribute to negative outcomes which makes the task of adjustment more difficult (Erikson, 1963).

Individual Adolescent Influence on Adult Adjustment

As Hanson et al. (1984) suggested, individual successes and failures in adolescence do in fact influence adjustment in later life. Hanson et al. found individual factors such as low academic achievement in adolescence may ultimately lead to delinquency and antisocial behavior in later life due to one' s inability to gain control over specific socially accepted areas of life such as academic excellence and future stability. This experience in adolescence, in the opinion of Hanson et al., can lead to risk in adulthood in the areas of quality work opportunities and higher education expectations. Likewise Masten et al. (2005) found low academic

competence in adolescence puts individuals at risk for negative internalizing issues in adulthood. Based on a longitudinal study of 205 participants in the Minneapolis area, these researchers found the majority of participants who did not excel in academic achievement exhibited several internal and externalizing issues in adulthood.

Also in reference to the individual influence on adjustment, Dumont and Provost found a direct link between internalizing issues in adolescence and risk for maladjustment in adulthood. More specifically, these researchers found adolescents who do not learn effective coping strategies, develop high self esteem, and participate in social activities in early development were at greater risk for negative outcomes later in development. Additionally, Wynn et al. (under review) used the youngest cohort (age 7-9; n=484 males) of the Pittsburgh Youth Study to discover which factors in early life influence one's likelihood to be adjusted in adulthood. These researchers found Caucasian male youth who are not involved in organizations, which assist in building support systems in childhood, struggle during the transition into adulthood. These researchers also found childhood intellectual ability has an influence on adult adjustment, for African American males. Other research efforts have focused on childhood and adolescent risk factors to negative outcomes such as mental issues, delinquency, and crime. For example, based on the developmental trajectory model applied to 131 adolescents who were receiving public mental health services, Davis, Banks, Fisher, and Grudzinskas (2004) explored a variety of factors that may put adolescents at risk for problem behaviors and other issues during the transition into adulthood. These researchers found individuals who develop mental health issues, such as serious emotional disturbances, during adolescence and young adulthood are at risk for being maladjusted in day to day living for the remainder of their lives. Particularly, these

researchers suggested these individuals will more than likely be homeless, unemployed, drop out of high school, and become involved in the criminal justice system.

As part of a report for the Office of Juvenile Justice and Delinquency Prevention, Synder, Espiritu, Huizinga, Loeber, and Petechuk (2003) reported delinquents between the ages of 7-12 who become involved in the criminal justice system are at greater risk of becoming chronic offenders throughout the rest of their life, than adolescents who become delinquents at later stages, thus pinpointing adolescent onset as a risk factor to chronic offending. In addition, research (Serbin & Karp, 2004) showed one's problematic social behavior and aggression can have a continuing effect on future social behavior and health issues. For example, Serbin and Karp (2004) suggested problematic social behavior and aggression in adolescence leads to problematic social behavior and aggression in adulthood that spills over into personal parenting practices and other social endeavors.

Together, these efforts suggested individual adolescent motivation, reactions, and behaviors are predictive of later life behaviors and outcomes. Although the individual is shaped by several characteristics, the ultimate influence of behaviors is individually and behaviorally based. Additionally individual motivation or propensity for certain behaviors are carried out into adulthood because it has become part of their identity development.

Adolescent Family and Peer Group Influences on Adult Adjustment

In addition to the individual influence on adjustment, one's family and peer dynamics can also put adolescents at risk for maladjustment in early adulthood. In reference to family, Serbin and Karp suggested individual's later life parenting styles are based on familial models of parenting. These researchers suggested maladaptive parenting issues passed down from generation to generation can negatively affect individual parenting styles and other behaviors in

adulthood (Serbin & Karp, 2004). In particular, Serbin and Karp stated a variety of intergenerational processes may place children and adolescents at risk for social, behavioral, and health related problem behavior based on learned models of dysfunctional behaviors from parents. Also supportive of this stance, Grossman et al. (2005) highlighted being involved in constant negative emotional, interactive, and intimate peer and family relationships in adolescence as building a bridge for negative adult romantic relationships. These authors also stated if relationship bonds within family and peer group units are not positively built during adolescence, adolescents will have trouble in adulthood understanding their role in relationships and staying interested in building relationships (Grossman et al., 2005). Also in agreement with the influence of parents on adolescent's adult adjustment, Summers, Forehand, Armistead, and Tannenbaum (1998) investigated 242 families who were divorced or intact and found parent's divorce history may have a major affect on adolescent's later life adjustment. This effort found adolescents who live with divorced parents tend to be negative or insecure in personal adult romantic relationships. This research also suggested buffers to negative relationships in adulthood include secure parent child relationships and communication.

In her study on resilience, Masten (2001) suggested effective parenting serves as a buffer to negative later life outcomes. Similarly Hanson et al. pinpointed positive social support systems (family or peer) in adolescence as contributing to the likelihood that one will socially adjust well in later life. Using a longitudinal sample of 163 families who had an adolescent son in the Memphis area, Hanson et al. statistically (multiple regression) explored what factors (demographic, family, individual) in adolescence influenced males' likelihood to be adjusted in later life. Hanson et al. found family characteristics such as lack of maternal positive emotional affection and support was predictive of risk for committing criminal acts in later life.

Furthermore, these researchers observed family dynamics, such as single or two parent households, have a major influence on adolescent's likelihood to adjust in adulthood. They also found that adolescents who grow up in families who consistently display excessive conflict styles are at risk for maladjustment than adolescents who are raised in families who display more cooperative communication styles. What's interesting is these researchers also found one's peer group consequently has a stronger influence on adolescents' psychosocial development than parents have due to the more social benefits of peer socialization such as feeling a sense of belonging, gaining emotional support, and learning behavioral norms. Thus if adolescents are involved with a deviant peer group, this puts that person at higher risk to begin and repeat criminal activity.

In sum, as the cited research efforts suggested both family and peer influences can serve as risk factors to later life adjustment. The family is the avenue through which children develop values and beliefs early on. In adolescence peers are more influential on this process. Negative communication and functioning within either group can ultimately lead to maladjusted behaviors in adulthood based on previously learned foundations of communication and social skills.

Adolescent Neighborhood and Other Environmental Influences on Adult Adjustment

Although there is less research that explores this area, closely tied to the familial and peer influence on adjustment, neighborhood environment has a general influence on later life development, behaviors, and adjustment (Fite, Wynn, & Pardini, 2009). Using a sample of 481 boys who were followed from childhood to adulthood, Fite, Wynn, and Pardini (2009) found that increased exposure to neighborhood issues leads to a greater probability one will likely become involved in violence related behaviors and are at higher risk of being diagnosed with mental health issues. These issues range from ADHD, conduct disorder, low SES, poor parent child

communication, interpersonal callousness, peer delinquency, physical punishment, low academic achievement, and continued neighborhood disadvantage (Fite, Wynn, & Pardini, 2009). When exploring the effect of neighborhood disadvantage on subtypes of aggression using a sample of 126 participants of the Coping Power intervention study, Fite, Wynn, Lochman, and Wells (2009) found neighborhood characteristics are most influential due to the fact that they pose as models for behaviors that assist residents in meeting personal needs and/or halt adjustment in social and familial settings. Fite, Wynn, Lochman, and Wells (2009) also found neighborhood disadvantage is associated with violence, substance use, and aggression which may spill over into early adulthood behaviors.

Exploring the literature that examines child development, Leventhal and Brooks-Gunn (2004) also discovered neighborhoods are a major context in which children and adolescents learn and develop behaviors that will influence future life behaviors. These researchers found living in lower class neighborhood environments has an influence on individual cognitive ability and school achievement and mental and physical health problems (Leventhal & Brooks-Gunn, 2004) which ultimately has an influence on if one is able to adjust in other life tasks. Analyzing the effect of neighborhood on African American adolescents, Zalot et al. (2007) found African American adolescents are more likely to be at risk for several disruptive issues including conduct disorder, aggression, negative parenting issues, and risky behaviors due to living in distressed neighborhoods that offer fewer resources and more risks. While these researchers suggested it is the apparent risk and lack of resources that one has to experience in some neighborhoods that contribute to issues with adjustment, in contrast, they also suggested one's perceived availability of resources and perceived lack of risk contributes to the positive adjustment of those youth who live in what society would term low SES neighborhoods.

Also in reference to neighborhood, Stouthamer-Loeber et al. (2002) used the Pittsburgh Youth Study to explore risk and protective factors on behaviors. Based on a logistical regression model and a sample of 1,009 males, these researchers attempted to explore the affect of risk and promotive factors in early life on later problem behaviors in later life. Results showed that those adolescents who live in inner city neighborhoods were more likely to commit to becoming persistent serious delinquents throughout the rest of life.

Research efforts show that neighborhood characteristics do have a major influence on adjustment. One's immediate environment in particular is where adolescents spend most of their time and learn throughout development until the time period to become independent and live on one's own becomes apparent. The next step in development, which includes making decisions about where they will live and how they will behave on a daily basis largely depends on adjustment during time periods building up to adulthood.

The Influence of Being Male on Adjustment

In addition to the influence of the individual, family, peers and neighborhood, gender has also been found to influence how one will adjust. Research has pinpointed differences in how males and female react and adjust to certain day to day experiences. For example, a females may complain of feelings of sadness and depression, on the other hand, males may feel these same emotions but complain of somatic symptoms or become involved in risk behaviors such as substance use, sexual defiance, or (Bynum & Thompson, 1999). Additionally, researchers, Bynum and Thompson, reported that of the 2,084,428 criminal offenses committed by persons under the age of 18, 74% of those offenders are male. The Uniform Crime Report revealed that males are arrested and institutionalized approximately three times more often than females. This research suggested these differences may be attributed to biological differences, socialized

gender roles, variations in parental restrictiveness, and cultural opportunities. Other research efforts have also pinpointed males are more at risk for maladjustment than females. For example, Loeber et al. (1998) found that male delinquency and aggressive behaviors continue and increase over several decades. They also found, males who begin criminal activity and are convicted in early development tend to be reconvicted during later or adulthood development. Additionally Loeber et al. revealed males who are diagnosed with clinical disorders in early life tend to display those same symptoms over time and at least for the next three years. Some researchers (Miller, 1996; Upchurch, 1996) place their main focus of research and policy implications on males and issues of male maladjustment as more important than female issues. For instance, Miller (1996) places the main focus on African American males who are disproportionally represented in the criminal justice system, compared to females and Caucasians. Miller qualitatively outlined how American politics and socialization emphasize structural norms within the criminal justice systems that seem to overemphasize the position of particularly African American males in this system. Miller stressed the importance of discovering what factors are contributing to this discrepancy in order to better meet the needs of this population more effectively in terms of prevention and intervention strategies. Upchurch (1996) similarly explained the difficulties males may face in society and implied that being male primarily puts most African Americans at risk even before birth. Upchurch suggested understanding risk factors and the plight of African American males will break the generational curse that has been passed down each generation.

As most of the few research efforts that do explore adjustment based on gender tend to focus mostly and negatively on males, research that explores ways in which to alter these behaviors for the majority of males should be considered. There are in fact differences in the way

males and females are socialized which may contribute to one's propensity to experiment more often thus they may become more involved negatively in society. As much as society offers gender expectations there should also be research offered to explore expectations to adjustment for this group.

Racial Differences in Exposure to Adolescent Risk Factors

Several research efforts (Akos & Galassi, 2004; Chronicle of Higher Education, 2007; Corby, Hodges, & Perry, 2007; Dubois, Bulk-Braxton, Swenson, Tevendale, & Hardesty, 2002; Fischer, 2007; Fredericks & Eccles, 2008; Hanson et al., 1984; Hattie, Myers, & Sweeney, 2004; Hawkins et al., 1992; Jackson, 2003; Kowaleski-Jones & Dunifon, 2006; Masten, 1999; Nettles & Pleck, 1993; Quintana, 2007; Spurgeon & Myers, 2003; Tomasello, 2004; Wynn et al., under review; Zalot et al., 2007) have implied that race may influence how one is emotionally and mentally affected throughout childhood and adolescent development. Because there is evidence to suggest racial identity exploration is of great importance to developing adolescent identity (Corby, Hodges, & Perry, 2007), this also implies race may as well affect one's development in adulthood based on racial identity issues in adolescence. In fact, racial groups do seem to differ in terms of their ability to adjust to developmental milestones and external life factors. Tomasello (2004) stated a child's culture is an important part of his/her ability to grow into a cognitively competent adult who has learned to benefit from specific cultural motivations and structures of day to day life events. Other research (Fredricks & Eccles, 2008) suggested African American youth from low income families face a different set of issues and motivation in development than Caucasian youth and those who live in higher income families. Interestingly, Frederick and Eccles (2008) found that Caucasian adolescent athletes were less adjusted and maintained lower grade point averages than African American adolescent athletes when taking

into account the benefits of being involved in extracurricular activities as a buffer to developmental risk factors in adolescence. In contrast, race has been found to influence the opposite relation in the link between academic achievement, organizational involvement, and positive adjustment at age 19-20 (Wynn et al., under review). More specifically, African American males were more likely to be adjusted if they were academic achievers, while Caucasian males were more likely to be adjusted if they were active in extracurricular organizations.

Also in reference to race, Corby et al. (2007) found that when submitting to gender roles, Caucasian youth felt less pressure to conform to macho or feminine roles than African American or Hispanic youth felt. When taking into account self esteem issues, Quintana (2007) found African American youth identify with higher levels of individualized self esteem than any other racial group such as Latino, Asian, or Caucasian identities. Other research efforts found African American and Hispanic students have difficulty transitioning to and adjusting in college due to the fact that they are more than likely first generation students and do not have experience relating to other cultures in such a proximal living environment that may not support their cultural needs (Fischer, 2007). In contrast, Akos and Galassi (2004) found Latino, not African American or Caucasian American adolescents had difficulty adjusting throughout educational transitions. Furthermore, Dubois et al. (2002) suggested African American adolescents may struggle with general adjustment issues within society simply because being Black has historically been devalued. Additionally, Kowaleski-Jones and Dunifon (2006) found there are even differences in how Black versus White adolescents adjust to family structure. For example, this research revealed that White adolescents were at more risk for adjustment issues when they did not live in a household with married parents. Opposite of most research, this effort found

neighborhood environment and stability, not family structure, played a larger part in the adjustment of Black youth.

Based on the conflicting evidence for racial differences in functioning and adjustment and while most research attempts to place its main focus on the prevention of negative behaviors and adjustment in minority populations, more research should be completed that explores the true effect of race on risk factors to adjustment. In agreement, Hattie et al. (2004) suggested more research should take into account within and between group differences for various cultures when investigating risk or promotive factors. Understanding the effects of race when examining adult adjustment will pinpoint African American's and Caucasian's American's ability to successfully adjust through each developmental stage based on factors unique to each group.

Theoretical Framework: Developmental Ecological Perspective

As research has shown, factors that influence adjustment vary based on family, neighborhood, race, and individual characteristics to name a few (Hanson et al.1984; Leventhal & Brooks-Gunn, 2004; Loeber et al., 1998). One theoretical perspective that takes into account the multiple facets that influence one's reactions, behaviors, and adjustment is Bronfenbrenner's Developmental Ecological Systems Theory. In this theoretical model Bronfenbrenner explained one's overall adjustment (i.e., physical, mental, and social well-being) to life events is based on the social situations (e.g., family, school, peer groups, and neighborhood) in which they live and interact. Thus longitudinally exploring how adolescent adjustment influences adulthood adjustment is vital in explaining behaviors and the Developmental Ecological Systems Theory is appropriate for this exploration.

Several research efforts have applied the Developmental Ecological Systems Theory to explain the influence of early life factors on later life adjustment. For example, Zalot et al. found this theory useful when explaining the bidirectional interaction or multiple contexts in which low income African American youth from single mother homes learn and develop. Jackson (2003) utilized the Developmental Ecological Systems Theory to explain the influence of multiple systems such as family, neighborhood, and other environments on child and adolescent cognitive abilities. Additionally Stouthamer-Loeber et al. applied this theory to explain how later life behavior issues are affected by early life child, family, neighborhood, and demographic characteristics. Loeber et al. (1998 and 2008) based assumptions about child, adolescent, and adult adjustment and development on the Developmental Ecological Systems Theory to explain research of the Pittsburgh Youth Study.

The Developmental Ecological Systems Theory (Bronfenbrenner, 1979) also posited that family factors are of primary persuasion on early childhood adjustment and behaviors. Other research efforts have found that peer and neighborhood factors are dominant determinants of behavior in adolescence (Loeber et al., 1998; Loeber et al., 2007; Loeber et al., 2008; Pardini et al, 2005). Examining the influence of a combination of factors (individual, familial, neighborhood, and peer) in adolescence on early adult adjustment may inform research about influential factors that are proximal to the time in which many decisions about one's future are thought through and made. The Developmental Ecological Systems Theory is useful for the current study in that it explains this process and can assist research in explaining how positive or negative adjustment is influenced.

Additionally, in order to assist parents in managing adolescent behaviors that may produce desired positive longitudinal outcomes, researchers should examine strategies supported

by a person-oriented approach such as Bronfenbrenner's Developmental Ecological Systems Theory. Similar to the Holistic Model of Development (Witmer & Sweeney, 1992), this theory provides a holistic view of individuals by providing vital information for giving a "snapshot" of possible behaviors that lead to and are sustained in adulthood. Furthermore, focusing on the totality of one's well-being provides more flexibility in mental health and behavioral interventions than simply focusing on altering negative facets of individual behavior such as antisocial behaviors and negative internalizing characteristics. The Developmental Ecological Systems Theory stated only focusing on these characteristics fails to consider the absolute development of an individual.

In sum, the current study will employ Bronfenbrenner's Developmental Ecological Systems Theory to explain how factors in late adolescence may predict behaviors in early adulthood. This theory is useful for the current study because it provides an exploration of how several factors do influence outcomes of adjustment.

Chapter Conclusion

This review of the literature argues the need for the current study in several ways. Four viewpoints have been presented. First, literature explored how adjustment has been conceptualized over time and presented the case for developing a composite of adjustment that is agreed upon across research. Of the seven research efforts that have explored adult adjustment, the only agreed upon characteristics of an adjusted adult is work status. A composite that is utilized across researchers will allow for a better understanding of characteristics of adjusted adults, the replication of findings, and comparability of results across research efforts. This composite adds to the current literature on adjustment due to its ability to provide research with specific guidelines when defining and analyzing behaviors.

This review of the literature also attempted to provide an understanding of early life factors that predict adult adjustment and explained the influence of several risk factors occurring in adolescence on individual adult adjustment. Previous research efforts report a combination of individual, familial, and environmental factors influence adjustment over time. Additionally previous research shows that these factors influence stages of development differently. Pinpointing specific factors that influence adjustment progresses the literature on adjustment by providing a better understanding of factors that play a role in influencing behaviors well into adulthood, which an understanding of factors that influence this developmental period has been largely omitted from the current literature on adjustment.

Additionally this chapter explained that race in fact influences factors that influence adjustment. Few efforts have attempted to explore how race influences overall adjustment but do explore how race influences specific areas of daily living. An exploration of racial differences in adjustment will assist in targeting prevention and intervention strategies that are based on different cultural needs. Literature that explores specific characteristics that put males at more risk for maladjustment than females has also been highlighted. Similar to racial differences, pinpointing gender differences will assist future research efforts in focusing on the needs of males versus females when analyzing behaviors and ultimate adjustment. Finally the usage of the Developmental Ecological Systems Theory set the foundation for attempting to understand how a variety of life factors influence adjustment. As early life factors, race, and gender have been presented as influential on the likelihood of influencing adjustment, the Developmental Ecological Systems Theory provides a foundation for understanding how a combination of these factors influence behaviors, needs, development, and adjustment across the life span to ultimate adulthood.

Chapter Three: Methods

Chapter Introduction

The purpose of chapter three is to explain the population, procedures, measures, and data analytic strategy employed to describe patterns of influence on adult adjustment. When reviewing this chapter, the reader should keep in mind following research questions:

1. What are the profiles of adjustment for adult males?
2. What factors during adolescence influence domains of positive adult male adjustment?
3. Do factors in adolescence that influence positive adjustment in adulthood vary by race?

Dataset, Participants and Procedures

The current study utilizes data collected for the Pittsburgh Youth Study (PYS; Loeber et al., 1998 & 2008), a study developed for the purpose of longitudinally collecting and analyzing data that explains individual prevalence, difference, desistance, and exposure to risk factors in childhood and adolescence that influence behaviors in adolescence and adulthood. Specifically, the aim of the project (PYS) was to examine delinquency, substance use, and mental health problems in an at risk, inner city community sample of boys from childhood to adulthood. Because the dataset longitudinally follows participants and assess the influence of multiple risk factors on behaviors across age groups, data from the PYS was chosen for the current study.

The sample used for the current study represents the youngest cohort of boys interviewed for PYS, who were initially recruited from Pittsburgh Public Schools in 1987-1988 as 1st graders. Participant inclusion was based on a multi-informant (i.e., parent and child) screening measure of antisocial behavior. Participants who scored within the upper 30% of antisocial behavior

(n=256), and an approximately equal number of participants randomly selected from the remainder of participants (n=247), were followed over an 18 year period. Of the 503 participants, 57% were African American (Loeber et al., 1998). There were a number of Asian, Hispanic, American Indian, and mixed racial heritage (n=19) in the youngest cohort that did not meet criteria for inclusion for the current study. These participants were excluded from analysis leaving a population of 481 African American and Caucasian American participants.

Participants and parents (may also be referred to as the primary caregiver or caretaker) participated in structured interviews in their homes. Separate and private interviews were conducted for each informant: parent and child. Prior to assessment, informed written consent was obtained from parents. Participants were consistently assessed from middle childhood to late adolescence (ages 7-19). Assessments were completed without gaps in order to increase the likelihood of investigating individual onset of behaviors. Outcome data was collected when participants were approximately 26 years of age. For more details, see Loeber et al. 1998 and 2008.

Measures

The following section provides an overview of measures used in the current study. All independent variables were assessed when participants were approximately 14-17 years of age; all dependent variables were assessed when participants were approximately 26-28 years of age. For more information on each of the measures below, please see Loeber et al.

Individual Risk Factors

Participant Race. Data on participant's race was derived from completed caretaker Demographic Questionnaires. Responses were coded into one of six categories: African-American (N = 280), Caucasian (N = 204), mixed racial heritage (N = 12), Asian (N = 5),

American Indian ($N = 1$), and Hispanic ($N = 1$). Because the number of participants included in Asian, American Indian, Hispanic, and mixed racial heritage groups were not sufficient for generalization, only participants who were identified as African-American or Caucasian were included in analyses.

Low Academic Achievement. Combined reports of caretaker's (CBCL: Child Behavior Checklist, Achenbach, 1978; Achenbach & Edelbrock, 1979 and 1983; Stouthamer-Loeber & Van Kammen, 1995), and participant's (YSR: Youth Self Report, Achenbach & Edelbrock, 1987) evaluations of participant's performance in math, reading, writing, and spelling were used to assess academic achievement. Performance was rated on a 4 point scale ranging from "failing" to "above average". Evaluations from each informant were combined and averaged to create an academic achievement score. Items were reverse scored before being summed so that higher scores represented lower levels of academic achievement. The internal consistency of low academic achievement was .60.

Low Organizational Involvement. This measure used information from the caretaker's portion of the CBCL (Achenbach, 1978; Achenbach & Edelbrock, 1979 and 1983; Stouthamer-Loeber & Van Kammen, 1995) and follow-up questions about the number of organizations, clubs, and teams each participant belonged to and how active he was in those organizations. The exact reported number of organizations each participant was involved in was used for analyses. Variables were reverse coded so that higher scores represented lower involvement.

Attitude Toward Delinquency. An 11 item Attitude Toward Delinquency Scale (Elliot, Huizinga, & Ageton, 1985) was completed by each participant. This measure captured each participant's tendency to accept or approve of delinquent and substance using acts committed by

their friends. All questions were answered on a 5 point scale. The internal consistency of attitude towards delinquency was .89

Depressed Mood. Depressed mood represents the sum of 13 items from the Recent Mood and Feelings Questionnaire (Angold et al., 1995; Costello & Arnold, 1998; Messer, Angold, Loeber, Costello, VanKammen, & Stouthamer-Loeber, 1995) administered to each participant. Criteria used for diagnosing major depression were based on the *Diagnostic and Statistical Manual for Mental Disorders* (DSM III-R: American Psychiatric Association, 1987) and were measured once a year. This construct was created by calculating the mean of all valid waves of data to create a composite of depression. The internal consistency of depressed mood was .86.

Anxiety. Seven caretaker (CBCL: Achenbach, 1978; Achenbach & Edelbrock, 1979 and 1983; Stouthamer-Loeber & Van Kammen, 1995) and 7 participant (YSR: Achenbach & Edelbrock, 1987) items were reported on participant's tendency to display anxious behaviors. Examples of items included to assess this composite were "clings to adults" and "nervous, high strung, or tense". Each participant scored positive for each anxious behavior if he answered "sometimes" or "often" for a particular behavior. Totals were calculated and scores were reported as sum scores. Higher scores represented increased levels of anxiety. The internal consistency of the anxiety scale was .51.

Interpersonal Callousness. This measure included 8 items completed by caretakers (CBCL: Achenbach, 1991a). Items were summed to create a composite of callousness. Items assessed participant's negative social actions such as: deceitfulness, manipulativeness, superficial charm, grandiosity, lack of remorse, and failure to accept responsibility for one's own actions. The internal consistency was .93.

Delinquency Seriousness. Delinquency seriousness is a 33-item self-report of antisocial behavior (Loeber et al., 1998). Parent reports augmented the self report of delinquency data. A previously validated delinquency seriousness classification system was used to create a delinquency severity score (Loeber et al., 1998), with each participant being placed into one of six levels of delinquency based upon the most serious level reached across the two informants and across assessments. The six levels included: 1) no delinquency; 2) minor delinquency committed at home such as stealing from parents; 3) minor delinquency committed outside the home such as shoplifting; 4) moderate delinquency such as carrying a weapon and pickpocketing; 5) serious delinquency such as breaking and entering and strong-armed robbery; and 6) multiple serious delinquent acts.

Familial Risk Factors

Poor Caretaker/Child Communication. The Revised Parent Adolescent Communication Form (RPACF: Loeber & Stouthamer-Loeber, 1986) was used to assess how often caretakers discussed issues with their son in an open and supportive manner. The 18 items from this scale assessed caretaker's communication style. Caretakers responded to each item using a 3 point scale (0 = "almost never", 1 = "sometimes", 2 = "always"). A frequency of communication was taken. Some items were reverse scored so that higher scores represented poorer caretaker child communication. The internal consistency of poor caretaker child communication was .91.

Biological Parent Police Contact. The number of times participant's biological mother and/or father were arrested or detained by the police was calculated. Mothers' scores ranged from 0-2 while fathers' scores ranged from 0-4 (Loeber et al., 1998).

Physical Punishment. A combination of caretaker and youth reports were used to examine physical punishment (CBCL: Achenbach, 1978; Achenbach & Edelbrock, 1979 and

1983; Stouthamer-Loeber & Van Kammen, 1995). An example question asked was: "If your son does something that he is not allowed to do or that you don't like, do you slap or spank him, or hit him with something?" Participants and caretakers responded using a 3 point likert scale (1= "almost never", 2 = "sometimes", 3 = "often"). Because only 6.2% of parents responded with "often", the discipline item was dichotomized by combining the "sometimes" and "often" categories.

SES. Each participant's family SES was composed using the Hollingshead (1975) Index of Social Status. The scale value for occupational prestige was multiplied by 5 and the scale value for educational level was multiplied by 3. These two numbers were then combined to create one SES score for the female caretaker and one SES score for the male caretaker. Family SES was equal to the highest score attained between the 2 caretakers or the score attained by a single caretaker.

Neighborhood Risk Factor

Neighborhood Disadvantage (Census). Neighborhood SES Disadvantage scores were derived from principal component factor analysis of 1990 U.S. Census tract data of 88 Pittsburgh neighborhoods. Each participant was assigned a neighborhood disadvantage factor score based on the neighborhood in which he lived at the initial screening (Wikstrom & Loeber, 2000). The Neighborhood SES Disadvantage factor included high loadings for several census variables measuring neighborhood poverty, such as median family income and unemployment rate, single or two parent households, families receiving public assistance, and percentage of African Americans living in each neighborhood.

Peer Risk Factors

Peer Delinquency. The Peer Delinquency Scale (PDS: Elliot et al., 1985) measured participant's tendency to affiliate with deviant peers. The PDS included 9 items assessing participant's peers' involvement in delinquent acts such as physical fighting, vandalism, and stealing. Based on a 4 point scale (0 = "none of them" to 4 = "all of them") each boy rated how many of his friends engaged in specific acts over the past six months. Items were summed and higher scores indicated increased levels of peer delinquency. The internal consistency of peer delinquency was .92.

Poor Relationship with Peers. Caretakers (CBCL: Achenbach, 1978; Achenbach & Edelbrock, 1979 and 1983; Stouthamer-Loeber & Van Kammen, 1995) and participants (YSR: Achenbach & Edelbrock, 1987) completed 8 items regarding peer relationships. Items assessed participant's tendency to get along with peers. Reports were summed in order to create this construct, with high values indicating poor peer relationships. The internal consistency of poor relationship with peers was .31.

Dependent Variables

Financial Responsibility. The financial responsibility domain was designed to assess participant's ability and desire to independently meet financial obligations. Items used to assess financial responsibility included: being up to date on child support payments (if he had children) and paying taxes earned on income, both from the Self Report of Delinquency Scale (SRD: Elliot et al., 1995). Participants responded to this scale using 0 for no and 1 for yes. Participants were required to score a 1 on each item in order to be considered adjusted on these items. Additionally, participants had to report earning their main source of income from a paying job or military benefits and living on their own, both included on the Demographics Scale (Loeber et

al., 1998). Participants also had to report “very true or often true” to paying debts on time. This item was included on the Adult Self Report Scale (ASR: Achenbach, 1997; Achenbach & Rescorla, 2003; Achenbach, Berstein, & Dumenci, 2005) that uses the following response set: (0=“not true”, 1= “somewhat or sometimes true”, 2= “very true or often true”). Also included were participant’s responses to questions regarding work and school (Education and Work Skills Scales: Loeber et al., 1998). Participants had to respond if he was either working full time, attending school full time, or attending school part time while also working part time to be considered adjusted. In addition, each participant had to respond that having a job was important to him (Work Skills Scale; Loeber et al., 1998). Participants responded to this question using a three point likert scale (0= “not true”, 1= “somewhat or sometimes true”, 2= “very true or often true”). All items were coded such that “yes”, “sometimes or somewhat true”, or “very or often true” were coded 1 for adjusted and “no” or “not true” were coded 0 for not adjusted. Items were then combined and summed with scores ranging from 0 to 7. High scores indicated participants were positively adjusted with regard to financial responsibility.

Psychopathology. The psychopathology domain assessed adult symptomology through use of the Adult Self Report (ASR: Achenbach, 1997; Achenbach & Rescorla, 2003; Achenbach, Berstein, & Dumenci, 2005). Items used to assess psychopathology included anxiety/depression, withdrawn behaviors, aggressive behaviors, depressive symptoms, anxiety issues, and antisocial personality problems. Participants were asked to rate if they struggled with these emotional and behavioral issues within the last year using a three point scale: 0= “not true”, 1=“somewhat/sometimes true”, 2= “very true”. For these scales, a T score of 60 or greater was considered the borderline clinical cutoff based on national norms. In order to be considered positively adjusted participants had to score below the borderline clinical cutoff on all of these

subscales (T score < 60) (Achenbach, 1997; Achenbach et al., 2005). All items were coded such that a T-score of less than 60 was assigned a scored of 1 for "adjusted" and a T-score above 60 was assigned a score of 0 for "not adjusted". Scores were summed for analyses and could range from 0-6, with high scores indicating positive adjustment.

Substance Use and Abuse. The substance use and abuse domain assessed participant's use of illegal drugs and abuse of alcohol. Items from the Drug Consumption Scale of the Self Report Data (Loeber et al., 1998) and the Diagnostic Interview Schedule (Loeber et al., 1998) were used to assess adult substance use and abuse in the past year. Participants were asked how many days in the past year had they used alcohol, marijuana, and other drugs not prescribed to them by a doctor (i.e. heroin, cocaine, crack, tranquilizers, pain killers, methamphetamine, barbiturates, PCP, inhalants, and other prescription drugs used illicitly). Participants met criteria for positive adjustment in regards to substance use if in the past year they did not use any illegal or non prescription substances. Additionally, participants had to be free of heavy drinking (i.e., consuming more than five alcoholic beverages in a two hour time period) or reported that they consumed less than 6 drinks on average when drinking either beer, wine, or liquor which may cause mental, physical, career, academic, or day to day impairment. All drug items were combined. If participants responded they used any drug they scored 0 for "not adjusted". Participants received a score of 1 for "adjusted" if they reported they had not used any drugs. Alcohol items were also combined such that if participants responded they used alcohol heavily they received a score of 0 for "not adjusted". If individuals responded they did not use alcohol heavily, they received a score of 1 for "adjusted". Drug and alcohol totals were summed for analyses and could range from 0-2. A score of 0 indicated participants used both drugs and

alcohol, a score of 1 indicated participants used either drugs or alcohol, and a score of 2 indicated participants did not use any substances.

*Antisocial Behaviors***.** The antisocial behaviors domain assessed participants' active involvement in the legal system over the past year. Self report data was used to assess antisocial behavior. Specifically the Self Report of Delinquency Questionnaire (SRD: Elliot et al., 1985) was used to measure participants' tendency to engage in criminal behavior such as carrying a weapon or destroying property. By completing the SRD, participants disclosed how many times in the past year they had engaged in 25 specific criminal acts that are coded based on definitions of crime in the FBI Uniform Crime Report. Participants met criteria for positive adjustment on the Antisocial Behavior Domain if they had not been incarcerated or engaged in criminal behavior at any time in the year preceding the interview. Scores were summed for analysis such that scores could range from 0-25 with low scores indicating less delinquent acts or positive adjustment.

Social Support. The social support domain was used to evaluate the degree to which participants maintained a positive social support system. Items used to assess social support included getting along with immediate family, friends, a spouse, colleagues, and the general public, all part of the Adult Self Report Scale (ASR: Achenbach, 1997; Achenbach et al., 2005). That is participants endorsed getting along with a variety of people at least "1=somewhat or sometimes true" to be considered adjusted. Other responses available were 0= "not true" and 2= "very true or often true". In addition, participants had to report not having trouble making or keeping friends and not having consistent negative relationships with his partner, also part of the Adult Self Report (Achenbach, 1997; Achenbach, 2005). Furthermore participants had to report no domestic violence on the Conflict Resolution Scale of the PYS (Loeber et al., 1998).

Participants responded using a 5 point likert scale (0= "never" to 5= "very frequently"). Additionally, another criteria participants had to meet in order to be labeled adjusted in the social support domain was scoring an average minimum score of 3 on the Social Provisions Scale of the PYS (SPQ: Loeber et al., 2008) which examined participants' thoughts on current social support systems and relationships. Responses available were 1= "strongly disagree", 2= "disagree", 3= "agree", 4= "strongly agree". Nine questions regarding family were combined with participants scoring 1 for adjusted if they earned nine points which represented a 1 for adjusted on each question regarding getting along with family members. Five questions regarding spouse or partner relations were combined with respondents scoring 5 for adjusted which represents a 1 on each question regarding positive relationships with a spouse or partner. Four items in regards to friends and others were combined with respondents scoring 4 for adjusted if they responded they positively got along with friends and others on each question. Finally 20 questions based on the SPQ were combined with respondents scoring 20 if they positively responded to all questions on the SPQ. If respondents scored the maximum number possible for each area they were given a 1 for adjusted on each of the areas of social support. These four scores (family, friends, others, and SPQ) were then summed for analyses and scores could range from 0-4 with high scores indicating positive social support or positive adjustment.

In sum, high values of the financial, substance use, psychopathology, and social support domains and low values on the delinquency domain indicated positive adult adjustment.

Analytic Strategy

Data analyses followed a three step process. The first step involved identifying profiles of adjustment. The second step included regressing profiles of adjustment on adolescent risk factors. The third step involved examining race as a moderator of relations. Profile analyses

were conducted within a structural equation modeling framework using Mplus statistical software (Muthen & Muthen, 2009). Maximum likelihood robust estimation (MLR) was used as the default estimator for mixture models and it adjusts for non-normality (Muthen & Muthen, 2009). Note that as expected with longitudinal data, there are some cases of missing data. Accordingly, full information maximum likelihood robust estimation was used. Full information maximum likelihood estimation takes into account all data available and does not exclude cases with missing data. This strategy had been found to be less biased and more efficient than other strategies used to handle missing data (Arbuckle, 1995).

First profiles of adjustment were empirically determined based on sum scores of the five domains of adjustment: antisocial behaviors, substance use, social support, psychopathology, and financial responsibility. Models that included varying numbers of profiles were compared in order to determine which classification of adjustment best fitted the data. The Bayesian Information Criterion (BIC) was used to compare models. Based on recommendations by Nylund, Asparouhov, and Muthen (2007), the BIC criterion is the best criterion to apply for model classification and comparisons. Smaller BIC values suggest a better fitting model. Entropy values were also consulted in order to determine whether the models adequately grouped individuals on adjustment profiles. An entropy value of 1 indicates individuals are perfectly classified into a specific profile (Nylund et al., 2007). Once the appropriate number of profiles was determined, adolescent risk factors were added to the models in order to explore predictors of profiles.

As a final step, race was examined as a moderator of these risk paths. Note that the profiles of adjustment classification groups were extracted from Mplus and imported into an SPSS file in order to determine racial invariance in relations between adolescent risk factors and

adult profiles of adjustment. The data was extracted and imported in order to aid in interpretation of the models, as models within the latent profile structure could not be interpreted using MPLUS software due to the complexity of the model. Thus, multinomial regression that included interactions between the risk factors and race were estimated using SPSS statistical software. All variables were standardized prior to examining racial invariance in order to aid in the interpretation of results. Significant interactions were probed at high (African American) and low (Caucasian American) values of race in order to understand the nature of relations according to standard procedure (Aiken & West, 1991).

Finally, note that only results with a p-value of less than .05 are discussed. That is, no marginally statistically significant trends are reviewed due to the large number of analyses and relatively large sample size used in analyses. All tables can be found in the Appendix section of this document.

Chapter Four: Results

Descriptive Statistics

Correlations, means, and standard deviations of independent variables are included in Table 1. Race was correlated with ten of the independent variables. More specifically African American males were more likely to experience lower levels of academic achievement, organization involvement, poor caretaker child communication, and SES and higher levels of interpersonal callousness, delinquency seriousness, physical punishment, neighborhood disadvantage, peer delinquency, and mother's arrest than Caucasian males.

Descriptive statistics (i.e., means, standard deviations, and ranges of scores) of observed dependent variable domains (financial, substance use, psychopathology, social support, and antisocial behavior) that were used to create the adjustment profiles can be found in Table 2. The average individual scored a .63 out of 25 on the antisocial domain suggesting the average participant did not commit antisocial acts. Additionally the average individual scored 5.63 out of 7 on the financial domain, indicating that the majority of individuals were financially responsible. In reference to the substance use domain, the mean score was 1.13 out of 2 indicating that the average individual used either illegal drugs or drank heavily. In regards to the psychopathology domain, the mean score was 5.26 out of 6, indicating that the average male did not suffer from more than 1 diagnosable mental health disorder. Finally on the social support domain, the average individual scored 2.48 out of 4 indicating the acknowledgement of a "fair" social support system. Findings regarding the adjustment profile models (based on five domains) are presented next.

Adjustment Profiles

In order to determine profiles of adult adjustment, I conducted latent profile analysis. As mentioned in the data analytic strategy section, BIC values were consulted in order to determine the number of profiles that best fit the data. Low BIC values indicate a better fit to the data. As seen in Table 3, a model that specified four profiles of adjustment provided the best fitting model. Note that when predicting five classes of adjustment the model experienced convergence difficulties, suggesting that the model was not interpretable. Accordingly a model with four identified profiles of adjustment was retained. This model also produced an acceptable entropy value. Mean values for each group are reported in Table 4.

The largest group of individuals identified (Profile 4: N=279) were not involved in antisocial acts, were financially responsible, used one substance at the most, acknowledged they had a moderate social support system, and did not present with clinical issues in reference to psychopathology. Accordingly, it appears that the vast majority of individuals are adjusted with the exception of some substance use, characterizing this profile as adjusted.

Compared to the majority of individuals in profile 4 (adjusted individuals), participants in profile 3 (N=137) scored similar in terms of antisocial tendencies, drugs and alcohol use, and levels of psychopathology. However, individuals in profile 3 were somewhat less financially responsible and acknowledged less social support than individuals in profile 4. Thus profile 3 represents individuals who are moderately adjusted.

The next largest group of individuals, profile 1 (N=47) was quite similar to profile 4, with the exception of psychopathology. That is, individuals characterized by profile 1 were likely to suffer from a multitude of psychological disorders at a clinical level and used at least one substance; however they were financially responsible, had moderate social support and engaged

in minimal delinquency. This profile of individuals was also considered to be moderately adjusted.

The smallest group of individuals (profile 2: N=18) differed from other profiles most notably in that these individuals committed considerately more antisocial acts, used both illegal drugs and drank heavily, and had a poor social support system. On the other hand, while this group was less financially responsible than other groups, they were still moderately financially responsible. Also interestingly, however, these individuals did not present with diagnosable levels of psychopathology. Hence, this group was not adjusted on the majority of domains, labeling this group as maladjusted.

In sum, 4 profiles of adjustment were found, with groups varying on adjustment across the 5 domains. One profile was identified as overall adjusted (profile 4), two profiles were identified as moderately adjusted (profiles 1 and 3), and one profile was identified as maladjusted.

Adolescent Predictors of Adult Adjustment

Profiles of adjustment were then regressed on adolescent risk factors (See Table 5). Note that the referent profile for subsequent analyses is profile 4, the profile that describes the majority of individuals, and represents those who were overall adjusted. When analyzing adolescent predictors of the adult adjustment profiles, results revealed that in comparison to the majority of individuals, the 2nd largest group (profile 3: moderately adjusted, with only minimal social support and only moderately financially responsible) was influenced by several predictors (depression, physical punishment, and peer relationships). Specifically, for every unit of increase in depression, the odds of classification in profile 3 compared to the majority profile (4) increased by .23. This finding signifies that high levels of depressed symptoms in adolescence

put individuals at risk for experiencing poor social support and only moderate financial responsibility in adulthood. Additionally, for every unit of increase in physical punishment, the odds of classification in profile 3 compared to the majority profile (4) increased by .98, indicating that experiencing high levels of physical punishment in adolescence is a risk factor for experiencing poor social support and moderate financial responsibility in adulthood. In reference to poor peer relationships, for every unit of increase in poor peer relationships, the odds of membership in profile 3 when compared to profile 4 increased by .63, indicating that high levels of poor peer relationship problems in adolescence is a risk factor to experiencing poor social support and moderate financial responsibility in adulthood. The remaining influence of adolescent risk factors depended on race.

Racial differences in the relations between adolescent predictors and profiles of adult adjustment were then examined using moderation analyses within a multinomial regression framework. Indeed findings suggested racial differences in relations between risk factors and profiles of adult adjustment (See Table 6). Results indicated that the ability of poor parent-adolescent communication to differentiate between profile 1 and 4 depended on race. Upon probing the nature of this interaction, results indicated that poor parent-adolescent communication was a significant predictor for African American males (β= -1.58, p= .00) but not Caucasian American males (β= -.04, p= .91). More specifically, low levels of poor communication increased the likelihood of being classified into profile 1 when compared to profile 4, for African American males but not Caucasian American males. Findings suggest that good parent-adolescent communication increases the odds of experiencing psychopathology in adulthood for African American but not Caucasian American males. Additionally, a significant interaction between race and number of organizations was found when distinguishing between

profile 1 and 4. However, upon probing the nature of this interaction, results indicated that the direction of effects was opposite for African American (β=-.67; p=.07) versus Caucasian American males (β=.36; p=.26) but the slope of these relations were not statistically different from zero for either racial group. That is, this finding was not significant for either racial group.

Racial differences in the influence of anxiety, peer delinquency, and mother's arrest on the likelihood of being in profile 3 when compared to profile 4 were found. Upon probing the nature of this interaction, results revealed that increased levels of anxiety was a significant predictor for African American males (β= 1.15, p= .00) but not Caucasian American males (β= -.04, p=.94). More specifically, high levels of anxiety were a risk factor of being classified into profile 3 when compared to profile 4 for African American males but not Caucasian American males. With regard to peer delinquency, this factor was a significant predictor for Caucasian American males (β=.83, p=.04) but not African American males (β=-.42, p= .18). Specifically, high levels of peer delinquency were a risk factor for being classified into profile 3 when compared to profile 4 for Caucasian American males but not African American males. Additionally, results found maternal arrest was a significant predictor for Caucasian American males (β=.74, p= .03) but not African American males (β= -.33, p=.23). In particular, offspring whose mothers had been arrested were more likely to be classified in profile 3 when compared to profile 4 for Caucasian American males but not African American males. In sum, findings suggest that adolescent anxiety is a risk factor for being less financially stable and experiencing low levels of social support for African American males, but not Caucasian males. Furthermore, findings suggest that high levels of peer delinquency and experiencing maternal arrest in adolescence is a risk factor for being less financially stable and experiencing low levels of social support for Caucasian American males, but not African American males.

No racial differences regarding the influence of adolescent predictors in the odds of being classified in profile 2 compared to profile 4 were found.

Chapter Five: Discussion

The current study sought to answer 3 questions: 1.) what are the profiles of adjustment for adult males? 2.) what risk factors during adolescence influence domains of adult adjustment? and 3.) does the impact of adolescent risk factors on adult adjustment vary by race? Findings indicated 4 distinct profiles of adult adjustment that are characterized by 5 domains of adjustment: antisocial behavior, financial responsibility, mental health, social support system, and substance use. The majority of males were overall positively adjusted as defined as being financially responsible, absent of psychological problems, engaging in little to no acts of delinquency, and at least adequate social support. Note that these individuals also engaged in some substance use. Results also indicated that adolescent predictors such as high levels of depression, high levels of physical punishment, and poor peer relationships, were associated with adult profiles of adjustment. Note that race was not a significant unique predictor of adjustment. However, findings indicated that the influence of caretaker adolescent communication, anxiety, peer delinquency, and mother's arrest on profiles of adult adjustment depended on an individual's race (African American versus Caucasian American). Findings are further discussed in detail below.

Adjustment Profiles

Current results yielded four profiles of adjustment. The profile that encompassed the majority of individuals (profile 4) appeared to represent overall adjusted individuals. That is, the majority of males in the current sample were overall adjusted in that they did not commit antisocial acts, they were financially responsible, they did not present with diagnosable levels of psychopathology, and benefited from a positive social support system. However, these overall adjusted individuals also reported occasions in which they drank heavily or used illicit

substances. Thus, it appears that some substance use at age 26 is somewhat normative (Arnett, 2000; Hayford & Furstenberg, 2008), and does not appear to interfere with other domains of functioning for the vast majority of individuals.

In contrast, results classified a minority of participants (approximately 4%) in the maladjusted profile (profile 2). Individuals classified within this profile reported engaging in on average 6 delinquent acts, using both illegal drugs and drink alcohol heavily, and lacking a positive social support system. On the other hand these individuals were moderately financially responsible and did not present with clinical mental health issues. In other words they were able to maintain a job or school status, live independently, pay debts, and did not receive assistance for any diagnosable mental health issues. However, these individuals, were frequently involved in criminal activity, substance use, and did not benefit from positive relations with friends and family.

Profile 3, on the other hand, consisted of individuals who were moderately adjusted or adjusted on most domains except financial responsibility and social support. In other words, although this group was only moderately financially responsible and lacked positive social support from friends and family, they were similar to the majority group in that they used either drugs or alcohol, did not commit delinquent acts and reported overall positive mental health. Similarly participants classified in profile 1 were moderately adjusted or adjusted on all domains and looked very similar to the overall adjusted group except on levels of psychopathology. Overall, in spite of experiencing mental health issues and the use of illegal drugs or heavy alcohol use, these individuals were able to maintain financial responsibility, a positive social support system and did not engage in delinquent behavior.

In all, while these profiles revealed different variations of adjustment, individuals in each profile indicated the use of at least one substance but also reported they were at least moderately financially responsible. This implies the use of substances or alcohol may be a normative part of day to day living/socializing and does not necessarily interfere with one's ability to successfully fulfill financial goals and expectations in early adulthood. Current results are similar to previous research that found that adult substance use is not uncommon and does not typically interfere with individuals meeting day to day expectations or managing major life roles (Arnett, 2000; Bynum & Thompson, 1999; Hayford & Furstenberg, 2008).

Adolescent Predictors of Adult Adjustment

As hypothesized, adolescent predictors of adult profiles of adjustment were identified. More specifically, individual, family, and peer, but not neighborhood, influences of adult profiles of adjustment were found. First, depressive symptoms in adolescence were a risk factor for experiencing a poor social support system and only moderate financial responsibility in adulthood regardless of race. Similar to findings of the current study, Puig-Anthich et al. (1993) found depressed adolescents reported experiencing poor quality relationships with parents and siblings in later life relations due to their inability to solidify relationships in adolescence. The lack of interest in involving oneself in daily activities may also affect individuals' potential for future financial responsibility. For example, when one consistently lacks interest in involvement in day to day activities, which the *Diagnostic and Statistical Manual for Mental Disorders* (DSM-IV: American Psychiatric Association, 2000) classifies as a characteristic of individuals experiencing depressive symptoms, they are less likely to desire or seek a job or attend school or seek independent living, which ultimately affects their ability to become only moderately financially responsible in the future.

Results also revealed that experiencing physical punishment increased one's likelihood of experiencing a poor social support system and only moderate financial responsibility in adulthood, regardless of race. Adolescents who experience high levels of physical punishment may not begin developing autonomy during this time of role confusion which may hinder developing skills in managing financial responsibilities or living independently or the ability to care for others. Adolescence is also a time where adolescents attempt make decisions about their future, distance themselves from parents, and migrate towards friendships as more important than family relationships. Thus physical punishment may also hinder adolescents' ability to trust and appropriately bond with parents (Dixon, Graber, & Brooks-Gunn, 2008). The inability to build appropriate relationships with parents in adolescence may spill over into one's abilities when attempting to build relationships with others and into adulthood (Brody et al., 2001; Erikson, 1963; Haapasalo & Trembley, 1994). Experts recommend that physical punishment should be decreased and punishments that assist with the building of autonomy should be increased in adolescence (e.g. Loeber et al., 2008).

Finally, poor peer relationships in adolescence increased the likelihood of experiencing poor social support systems and less financial responsibility in adulthood. It may be that when one is unable to solidify or benefit from a sense of belonging to a peer group in adolescence, they do not learn the social skills necessary to maintain positive systems of support in adulthood. In fact, Miller et al. (2009) found when adolescents are not able to get along with peers they in turn do not benefit from the experience of belonging to any type of group. Furthermore, Demuth (2004) found when individuals do not get along with a peer group and are not held accountable by parents or peers for actions or successes it is less likely they will view tasks involved in maintaining financial responsibility as necessary or urgent.

Racial differences in family relations were also found. With regard to profile 1 parent-adolescent communication was a significant predictor for African American males but not Caucasian males. That is, experiencing better parent-adolescent communication in adolescence put African American males at risk for experiencing psychopathology in adulthood. This relation is contrary to expectation, as one would expect that positive communication with parents contributes to fewer mental health issues (Summers et al., 1998). Research has shown that African American families tend to shy away from the stigma and use of the mental health system (Constantine, 2002). Moreover, mental health issues are not typically addressed in African American families (Constantine, 2002; Fraga, Atkinson, & Wampold, 2004). Thus, it may be that African American males who experience positive communication with their parents are more likely to experience psychopathology in adulthood in spite of the contradiction of communicating well, due to not being able to discuss the issues that they are experiencing. In contrast, results may not be significant for Caucasian American males due to the fact that a majority of those who seek mental health services are Caucasian and issues of psychopathology are typically discussed within Caucasian households (Constantine, Warren, Miville, 2006). Note, however, future research that supports and confirms this finding is needed before conclusions should be drawn, as previous research has shown the reverse relationship between parent adolescent communication and levels of psychopathology (Creemens et al., 2008; Wallenius & Punamaki, 2008).

Results also revealed high levels of anxiety was a risk factor for experiencing low levels of social support and only moderate financial responsibility. Muris, Loxton, Nuemann, Plessis, King, and Ollendick (2005) suggested the difference between developing anxiety issues for African Americans versus Caucasian Americans is the way in which parents discipline children.

Muris et al. posited that, African American families tend to discipline with more control, strictness, and physical punishment. This discipline style in turn models anxiety, hinders the development of autonomy, and undermines social support within the family in later life (Muris et al., 2005). Increased anxiety (i.e., worrying too much or clinging to adults) in adolescence thus delays the development of autonomy which hinders the ability to reach one's full potential in terms of life skill responsibilities such as independent living, work and school skills or meeting financial responsibilities. Increased anxiety also halts adolescents' ability to develop age appropriate friendships (Muris et al., 2005) which may lead to less social support with friends and a partner or spouse in adulthood. On the other hand, Muris et al. suggested Caucasian families discipline through less strict and controlling methods which does not model anxious behaviors or directly hinder one's social support system within this group.

High levels of peer delinquency in adolescence was a risk factor for experiencing poor social support and only moderate financial responsibility in adulthood for Caucasian American males but not African American males. Peer delinquency has been associated with individual trouble conforming to prosocial activities and furthermore does not lead to positive or quality relationships that are sustained in later life (Brody et al., 2001). In addition delinquent peers are not dependable (Felson, 1998). Likewise, delinquent peers may not model positive financial responsibility (Felson, 1998). The effects of peer delinquency may be evident for Caucasian males, but not African American males because African American males may not be as influenced by peers, as previous research has found that peer delinquency has a stronger influence on Caucasian males than African American males (Barnes, Welte, Hoffman, & Dintcheff, 2005). Research that explores this issue further is needed in order to replicate findings before conclusions can be drawn.

Maternal arrest was a risk factor for poor social support and only moderate financial responsibility for Caucasian but not African American males. The influence of maternal arrest on adult adjustment for Caucasian but not African American males may be due to the fact that the majority of Caucasian families do not identify with extended family units like African American families (Constantine et al., 2006). If a mother is not available to carry out day to day family needs, Caucasian males may feel less trusting and less bonded with individuals, effecting future social relationships. Additionally, mother's arrest behavior may force adolescents to "pick up the slack" by seeking lower paying jobs and placing less emphasis on education and future financial independence (French & Conrad, 2001; Edwards & Humes,1996; Upchurch, 1996). On the other hand, Constantine et al. (2006) suggest that African American families benefit from extended kinship ties, which may buffer the affect of maternal arrest.

Finally, no risk factors in adolescence were found to differentiate between the adjusted individuals (Profile 4) and those who were maladjusted or antisocial in nature (Profile 2). There is some evidence and theory suggesting that antisocial behavior is strongly genetically and biologically linked (e.g., Kazdin, 1987), which may limit the ability of individual and environmental factors to differentiate this profile from other profiles. More specifically, there is evidence to suggest that offspring of antisocial individuals are at increased risk for antisocial and psychopathic characteristics (Kazdin, 1987). Likewise, there is evidence to suggest that antisocial individuals differ physiologically (e.g., have lower resting heart rate; Armstrong, Keller, Franklin, & Macmillian, 2009) and have more neurocognitive deficits (e.g., lower IQ and abnormal brain scans; Spear, 2004) than normal individuals. On the whole, antisocial individuals tend to not fit in socially or interpersonally (Kazdin, Esveldt-Dawson, French, & Unis, 1987; Park et al., 2008; Hawkins, 2003), however, these individuals do not necessarily experience other

psychopathological issues and are able to be financially responsible (French & Conrad, 2001). Nonetheless future work replicating this finding is needed before conclusions should be drawn.

Chapter Six: Conclusions

Limitations of Design

There are several limitations associated with the current study that need to be noted. First, because the sample only analyzed data for African American and Caucasian males, results should not be generalized to other racial group or females. The current design is also limited due to the specific geographic region in which data was collected, which may not necessarily be representative of the attitudes and cultural norms of other regions (Loeber et al., 2008). Another limitation of the current study design is the manner in which data was collected. Most outcome data is based on self report of measures in which participants may respond in a socially desirable manner (Loeber et al., 2008). On the other hand, one may argue self report data is often the most useful data in that others such as parents are not able to observe the individual in all contexts and situations of day to day living, thus even responding in a socially desirable manner may yield better results than would a person who does not have access to individuals on a consistent basis (Loeber et al., 1998). Additionally, in a review of literature that questions the use of self report data, Piquero, MacIntosh, and Hickman (2002) found self report data does have acceptable levels of reliability and validity (Piquero, MacIntosh, & Hickman, 2002). Finally, all facets of adjustment may not be included when assessing the specific and unique adjustment composite developed for the current study design. There are also mixed opinions on what factors influence adjustment. Likewise, adolescent risk factors included in the current study are not exhaustive. Future research defining adjustment in varying ways and including additional risk factors (e.g. parental substance use and abuse, parental financial responsibility, relationship role models, and the influence of teachers or religious leaders to name a few) should be conducted before firm conclusions regarding relations should be drawn.

Implications for Intervention and Prevention Strategies and Recommendations

Despite these limitations, the current study does suggest important intervention and prevention recommendations. For example, intervention efforts should target adolescents who present with issues of depression in order to provide social support foundations in adolescence, which may lead to the likelihood of adolescents using social support resources in adulthood. Additionally, prevention efforts should target educating parents on the importance of monitoring adolescent peer selections and providing social skills training for adolescence in order to improve peer relationships. Parenting education should also warn parents about the effects spanking and other forms of extreme physical punishment may have on adolescents' future ability to secure positive relationships and attachments that involve trust and stability and the development of autonomy. The use of physical punishment versus non physical punishment has been an ongoing topic of debate in recent literature. Thus information to parents should be informative of all positive manners that have been found to produce desired behavioral outcomes. For example, Larzelere and Kuhn (2005) suggest teaching nonphysical punishment as a parental core skill as a positive way to alter behaviors. Further, empirical evidence (Eyberg, 2005) suggests behavioral parent training using mindfulness and non physical punishment yields more beneficial results than physical punishment, which yields further aggression and behavior issues of children. Additionally, Dumas (2005) suggests techniques such as facilitative listening, distancing, and motivated action plans as more beneficial than physical punishment.

Intervention and prevention strategies should also target race specific interventions. For example, strategies that educate African American families on recognizing anxiety and gaining appropriate support for coping with and resolving issues are warranted. Additionally informing African American families on the benefits of discussing mental health issues and recognizing

that suffering through a mental health issue does not stigmatize one as "not normal" within society. Education should work to guide parents on how discussing these issues in a nonjudgmental manner with African American adolescent sons can lead to a better acknowledgement of social support in adulthood. Programs targeted at preventing depression in adolescents have been targeted towards preventing the behavior in general but failed to acknowledge racial differences in behaviors and prevention needs (i.e., The Resilience Project for Children and Parents, Penn Resiliency Program, Prevention of Depression Project, and Problem Solving for Life). Thus specifically targeting the needs of African American males is a new phenomenon in the field of adjustment and mental health that may better assist African American adolescents suffering with depression and the effects of adolescent depression in late life.

Race specific strategies should also work to inform Caucasian mothers on the strength of peer relationships for Caucasian males who do not benefit from strong family ties and guide parents on how to strengthen the familial bond. Prevention and intervention education efforts for Caucasian families should also be geared towards the importance of extended family and social support systems. Having extended family ties may help to protect individuals when one central individual (e.g., mothers) is not readily available (e.g., incarcerated). Many previous efforts suggest prevention programs in this area should be geared mainly towards African American families who represent the highest population of those retained in jail and prison (i.e., Women's Prison Association, American Correctional Association, Aid to Inmate Mothers, Child Welfare League of America, National Council on Crime and Delinquency). Thus exploring this intervention technique for Caucasian families is a new suggestion for literature addressing adjustment, criminal justice, and adolescence and should be analyzed.

Future Directions

Because the current study was able to suggest profiles of adjusted individuals, pinpoint factors that may influence adjustment, and highlight the influence of race on factors influencing adjustment, future directions are warranted. Primarily it is interesting to find that the majority of adjusted persons are involved in risky behaviors such as alcohol and substance use. Based on this finding, future research should specifically explore adolescent factors that contribute to the likelihood of substance use in adulthood by analyzing the influence of adolescent factors on only the substance use domain. This analysis may provide a better understanding of behaviors or environmental influences to target in adolescence in order to prevent risky substance use behaviors in later life. It is also groundbreaking and interesting that no predictors predicted differences between the maladjusted and adjusted profiles. Future research should replicate this finding in order to better understand this occurrence. Furthermore future research should explore the likelihood or rationale for racial findings in which one race is not influences by factors that research reports influences all persons similarly such as parental communication, parental arrest, and peer delinquency. Despite the usefulness and necessity of future research needed, in general, findings and results of the current study expand the literature on adjustment by providing a foundation for describing adjusted adults according to a holistic perspective, identifying risk factors to adjustment based on a time period that transitions into adult decision making and that can influence the rest of one's future opportunities, and highlighting the influence of race on factors affecting adjustment.

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Appendix

Table 1. *Correlations, Means, and Standard Deviations of Independent Variables*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. PrAch	-															
2. LOrgIn	.24*	-														
3. AttDel	.13*	.13*	-													
4. Depres	.08	.08	.09	-												
5. Anxty	.02	.00	.04	.38*	-											
6. Calous	.43*	.09	.18*	.09	.28*	-										
7. DelSer	.30*	.16*	.30*	.23*	.26*	.43*	-									
8. Comm.	.31*	.20*	.20*	.15*	.20*	.41*	.29*	-								
9. Punish	.17*	.01	.03	.03	.08*	.18	.10*	.19*	-							
10. SES	-.28*	-.28*	.03	.03	.03	-.07	-.06	-.12*	-.06	-						
11. NeghDis	.13*	.12*	.10*	.02	.02	.07	.07	.10*	.15*	-.27*	-					
12. PrDel	.20*	.09	.25*	.18*	.21*	.24*	.54*	.16*	.06	-.01	.05	-				
13. Rw/Pr	.35*	.21*	.10	-.01	.03	.44*	.20*	.24*	.14*	-.13*	.01	.10*	-			

14. MArrest	.02	.00	.05	.01	.06	.08	.15*	.07	-.03	-.04	-.00	.04	.08	-		
15. DArrest	.11*	-.03	-.01	.01	.05	-.00	-.00	-.00	-.04	-.11	-.06	.02	-.06	.04	-	
16. Race	.17*	.10*	.08	-.02	.02	.13*	.16*	.12*	.16*	-.17*	.58*	.13*	.01	.12*	-.07	-
Mean	2.33	2.32	6.01	2.16	2.14	11.86	1.55	33.37	2.23	38.99	.81	4.36	1.92	.07	.33	1.57
Standard Deviation	.73	.88	5.22	3.48	1.68	10.44	1.75	14.76	.53	11.67	1.53	5.99	1.09	.26	.77	.49

* correlation is significant at the < .05 level.

Variable Abbreviations: PrAch= Poor Academic Achievement, LOrgIn= Low Organization Involvement, AttDel= Attitude Toward Delinquency, Depres= Depression, Anxty= Anxiety, Calous= Interpersonal Callousness, DelSer= Delinquency Seriousness, Comm= Caretaker/Child Communication, Punish= Physical Punishment, NeghDis =Neighborhood Disadvantage; PrDel= Peer Delinquency, Rw/Pr= Relationship with Peers, MArrest= Mom Arrest, DArrest= Dad Arrest

Table 2. *Means, Standard Deviations, and Ranges of Adjustment Domains*

	Mean	Standard Deviation	Range
1. Antisocial Domain	.63	1.40	0-25
2. Financial Domain	5.63	1.14	0-7
3. Substance Use Domain	1.13	.77	0-2
4. Psychopathology Domain	5.26	1.48	0-6
5. Social Support Domain	2.48	1.17	0-4

Table 3. *BIC and Entropy Values for Classes 1-5*

	BIC	Entropy Value
1 Class	6302.142	N/A
2 Classes	6002.972	.95
3 Classes	5689.798	.92
4 Classes	5571.676	.91
5 Classes	No convergence	No convergence

Table 4. *Means for Each Domain Per Profile of Adjustment*

	Profile 1	Profile 2	Profile 3	Profile 4
N	47	18	137	279
Financial Domain	5.73	4.56	4.89	6.11
Social Support Domain	2.89	1.67	1.64	2.93
Substance Use Domain	.92	.11	1.11	1.26
Psychopathology Domain	1.49	5.20	5.76	5.75
Antisocial Domain	.51	5.98	.57	.28

Table 5. *βs and Odds Ratios for Predictors of Each Profile*

	Profile 1		**Profile 2**		**Profile 3**	
	B	Odds Ratio	B	Odds Ratio	β	Odds Ratio
1. Academic Ach	.30	1.35	-.13	.88	-.61	.54
2. Organization Inv	.05	1.05	.04	1.04	-.21	.81
3. Attitude Del	.04	1.04	.07	1.07	.02	1.02
4. Depression	.04	1.04	.21	1.24	.23*	1.25
5. Anxiety	-.24	.79	.07	1.07	.16	1.17
6. Interpersonal Cal	-.00	.99	-.04	.96	.03	1.03
7. Delinquency Ser	.10	1.10	.13	1.14	.27	1.30
8. Communicate	-.02	.98	- .05	.95	.01	1.01
9. Physical Pun	-.21	.81	.94	2.56	.99*	2.68
10. SES	.00	1.00	-.03	.97	-.03	.97
11. Neighbor Dis	.27	1.31	-.02	.99	-.05	.95
12. Pr Delinquency	.03	1.03	.04	1.04	.00	1.01
13. Relate w/Peers	-.04	.96	.36	1.44	.63*	1.88
14. Mom Arrest	.08	1.09	-.22	.80	-.01	1.04
15. Dad Arrest	-.07	.93	.02	1.03	.04	.99
16. Race	-.21	.81	1.62	5.06	1.56	4.77

* relation is significant at the < .05 level.

Table 6. βs *and Odds Ratios for Race Interactions for Each Profile*

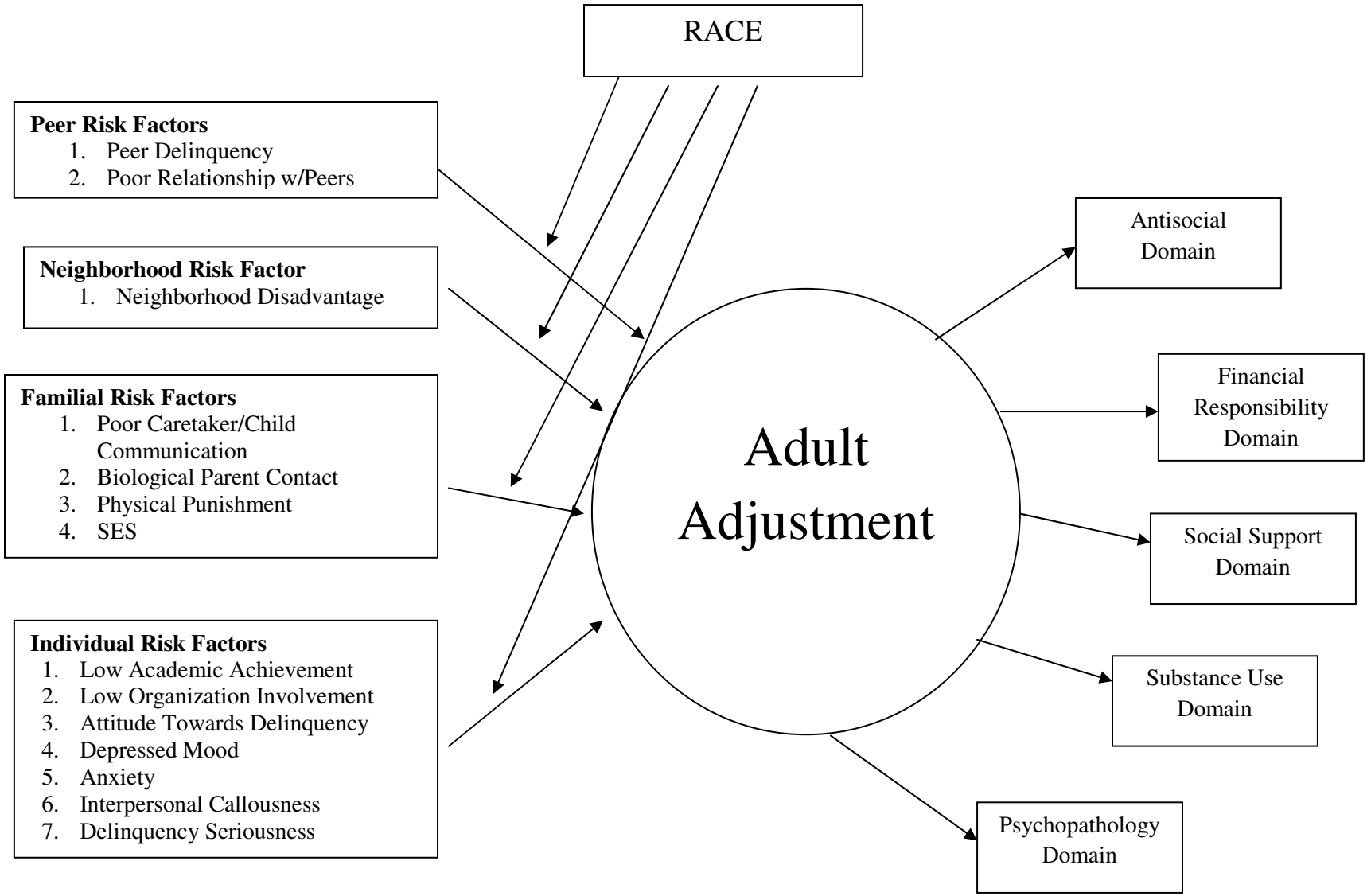
	Profile 1		Profile 2		Profile 3	
	B	Odds Ratio	B	Odds Ratio	B	Odds Ratio
1. Race X PrAch	.25	1.28	-.94	.39	.59	1.81
2. Race X LOrgIn	-.51	.60	-.56	.57	.11	1.11
3. Race X AttDel	.39	1.48	-.49	.61	.25	1.28
4. Race X Depress	-.74	.48	-.65	.53	-.56	.57
5. Race X Anxty	.46	1.59	.58	1.79	.59*	1.81
6. Race X Calous	.24	1.28	-.17	.84	-.23	.80
7. Race X DelSer	.23	1.25	1.57	4.83	-.01	.99
8. Race X Comm	-.77*	.46	.74	2.09	-.09	.92
9. Race X Punish	5.40	NA	4.98	NA	-.14	.87
10. Race X SES	-.40	.67	.12	1.13	.27	1.31
11. Race X NeghDis	.08	1.08	-1.80	.17	.57	1.79
12. Race X PrDel	-.19	.83	-.19	.82	-.63*	.54
13. Race X Rw/Pr	.21	1.23	.47	1.56	.10	1.10
14. Race X MArrest	.19	1.21	-2.07	.13	-.54*	.58
15. Race X DArrest	-1.96	.14	.44	1.05	-.87	.42

* relation is significant at the < .05 level.

Variable Abbreviations: PrAch= Poor Academic Achievement, LOrgIn= Low Organization Involvement, AttDel= Attitude Toward Delinquency, Depres= Depression, Anxty= Anxiety, Calous= Interpersonal Callousness, DelSer= Delinquency Seriousness, Comm= Caretaker/Child Communication, Punish= Physical Punishment, NeghDis =Neighborhood Disadvantage; PrDel= Peer Delinquency, Rw/Pr= Relationship with Peers, MArrest= Mom Arrest, DArrest= Dad Arrest

Figure Caption

Model 1. *Heuristic of Estimated Model*


RACE
Peer Risk Factors
1. Peer Delinquency
2. Poor Relationship w/Peers
Neighborhood Risk Factor
1. Neighborhood Disadvantage
Familial Risk Factors
1. Poor Caretaker/Child Communication
2. Biological Parent Contact
3. Physical Punishment
4. SES
Individual Risk Factors
1. Low Academic Achievement
2. Low Organization Involvement
3. Attitude Towards Delinquency
4. Depressed Mood
5. Anxiety
6. Interpersonal Callousness
7. Delinquency Seriousness
Adult Adjustment
Antisocial Domain
Financial Responsibility Domain
Social Support Domain
Substance Use Domain
Psychopathology Domain

Vita

Porche' Wynn was born in Gary, Indiana. She attended the University on TN, Knoxville where she received her Bachelor's and Master's of Art in Criminal Justice. Porche' is a McNair Fellow and received several high honors at the University of TN, Knoxville and abroad for her academic excellence and community involvement. Porche' was previously a graduate assistant in the UT Child Behavior Lab at the University of TN, Knoxville. She is receiving a Doctor of Philosophy in Counselor Education with a specialty in Statistics.