

RISK AND RESILIENCY IN ADOLESCENT OFFENDERS: ANALYSIS OF THE BASC-2-SRP-A, BASC-2-PRS-A, AND URICA REGARDING RECIDIVISM AND GENDER

by

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**ABSTRACT**

Recidivism among adolescent offenders is a significant problem as the number of youths recommitted to penal institutions continues to grow each year. Research has identified several risk-factors that contribute to antisocial behavior, but there is significantly less research on risk-factors for re-offending among juvenile delinquents or protective factors that help prevent recidivism among adolescent offenders. Additionally, research has shown that effective treatment of female juvenile delinquents requires specialized conceptualization and treatment. The current study investigated the risk-factors for continued adolescent offending, the protective factors which prevent further delinquent behavior, and gender differences utilizing the BASC-2-SRP, BASC-2-PRS, and URICA. The Behavior Assessment System for Children, 2<sup>nd</sup> Edition assess for the presence of both risk-factors and protective factors among youth, while the URICA is helpful in assessing for readiness to change.

Results found that several scales and composite scores of the BASC-2-PRS are predictive of recidivism. Several of the predictive variables included risk-factors such as aggression, conduct problems, hyperactivity, and externalizing behaviors. Additionally, several protective factors were shown to predict lower recidivism, such as adaptability, social skills, and leadership.

Interestingly, neither of the risk-factors or the protective factors could predict recidivism alone. This suggests that no single category exclusively predicts adolescent offending, but there is a dynamic interaction between risk and resiliency. Regarding gender, results indicate that the BASC-2-SRP appears to be more sensitive than the BASC-2-PRS when identifying gender differences. Consistent with prior research, females endorsed a high number of symptoms indicative of hopelessness, low self-esteem, low self-reliance, interpersonal conflict, and a sense of inadequacy on the BASC-2-SRP. Inconsistent with prior research, however, results indicated that males reported higher levels of anxiety and depression than females on the BASC-2-SRP. This trend is historically not common within male adolescent offending populations. No significant correlations were found regarding recidivism, gender, rate of recidivism, or type of offense upon recidivism on the URICA. Clinical implications and future directions are discussed.

**INDEX WORDS:** Recidivism, Resiliency, Risk-factors, Protective factors, Adolescent Offender, Juvenile Delinquent, Gender Differences, BASC-2-SRP, BASC-2-PRS, URICA

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## DEDICATION

This work is dedicated to many individuals:

First, to my husband, Anthony, whose love, support, time, and patience have made this dissertation and completion of this program possible. He has provided the perfect combination of challenge and support throughout this difficult process, while also ensuring I enjoy life and laugh and live in the meantime. He has provided a balance to my life that would not exist without him, and words cannot express the amount of love and gratitude I hold for him.

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## CHAPTER 1

### PURPOSE OF THE STUDY

#### *Introduction*

Recidivism among adolescent offenders is a significant problem as the number of youths recommitted to penal institutions continues to grow each year (Nissenbaum, 2006). In 1960, approximately 1,100 delinquency cases were processed daily. In 2004, juvenile courts handled approximately 4,500 delinquency cases per day (National Center for Juvenile Justice, 2007). Due to probation violations and the commission of new crimes, involvement with the Juvenile Justice System can function like a revolving door for many adolescent offenders. Recidivism among adolescent offenders has adverse consequences, not only for the youth, but for the family and the community as well. It has been estimated that the financial costs to care for a habitual offender from adolescence through adulthood is approximately 1.5 to 1.8 million dollars (Nissenbaum, 2006). However, the individual, societal and familial costs cannot simply be measured in dollars. The emotional and psychological costs of everyone involved are considerably troublesome.

Researchers have acknowledged the importance of early detection of troubled adolescents and have identified several risk factors for delinquent behavior. The factors which have been found to be common among antisocial teens include low economic status (Offord, Adler, & Boyle, 1986 and Wilson & Hernstein, 1985), academic failure (Hartup, 1982 and Hawkins & Catalino, 1995), low self-esteem (Schur, 1973), and peer rejection (Phillips, Burns, Wagner, Kramer, & Robbins, 2002). Antisocial parents have been shown to predict antisocial behavior in children (Lipsey & Derzon, 1998; Frick, Lakey, Loeber, Stouthamer-Loeber, Christ, & Hanson,

1992; and Phillips, et al., 2002), and parental factors, such as parental behaviors and beliefs, also play a role (Patterson, Reid, & Dishion, 1992; Tolean & Loeber, 1993; and Rose, Glaser, Calhoun, & Bates, 2004). Clearly many variables have been linked to the development of deviant behavior, which makes comprehensive assessments vital in the area of juvenile delinquency.

A less frequently researched area is that of resiliency in adolescent offenders. For those who work with juvenile delinquents, it is important to not only identify risk factors, but protective factors as well. Protective factors often facilitate resilience in youth and can be incorporated into treatment to decrease the possibility of recidivism. Researchers have identified some protective factors in adolescents including positive school environment, high self-regulation (Gardner, Dishion, & Connell, 2008), positive relationships within the school context (Sussman, & Rohrback's 2010), religiosity (Wallace & Forman, 1998), positive parent-child relationships (Carlson, & Stroufe 1993), and high self-efficacy, self-worth, and self-confidence (Cicchetti, Rogosch, & Holt, 1993; Werner, 1990).

Prevention is the ultimate goal to identifying both the risk factors for delinquent behavior, as well as the protective factors found in non-offenders and non-repeat adolescent offenders. Risk factors help predict further offending, while protective factors can be utilized to empower adolescents to make healthier life choices and deter delinquent behavior. The specific question of this research is, why do some adolescent offenders recidivate and others do not? Accurate identification of the risk and protective factors could lead to more effective treatment for juvenile delinquents.

### *Statement of the Problem*

As stated earlier, recidivism among adolescent offenders is a significant problem as the number of youths recommitted to penal institutions continues to grow each year (Nissenbaum, 2006). In an ideal world, accurate prediction of antisocial behavior in adolescents could help prevent delinquent behavior from ever occurring. However, for the numerous adolescents already in the juvenile justice system, such detection is too late. Instead of looking to stop antisocial behavior before it occurs, researchers must also look at juveniles who have already committed delinquent acts.

The current study suggests the need for further research into identifying the risk-factors for continued adolescent offending, as well as the protective factors which prevent further delinquent behavior. The field of counseling psychology is dedicated to understanding both risk and resilience, and values programs that facilitate positive changes on an individual and community level (Brown & Lent, 2010). Although effective treatment of adolescent offenders depends in part on accurate identification of the problem, possessing knowledge about the strengths of adolescents can also improve services that are geared to meet the unique needs of adolescent offenders. Identification of protective factors can be cultivated to foster present and future resiliency.

Additionally, as parental factors tend to contribute as either a risk or protective factor, it is imperative to incorporate feedback from the primary caregivers when assessing for appropriate interventions and treatment goals. Furthermore, working with adolescent offenders in a non-residential setting increases the frequency of parent-child interactions, thus heightening the potential effects parents have on adolescents' behavior. Assessment tools, such as the Behavior

Assessment System for Children, 2<sup>nd</sup> Edition (BASC-2; Reynolds & Kamphaus, 20004) assess for the presence of both risk-factors and protective factors among youth. Additionally, it utilizes both adolescent and parent report, which provides psychologists, mental health clinicians, and other professionals a more holistic perspective when working with adolescent offenders. Because many adolescent offenders are court-referred to attend therapy, the University of Rhode Island Change Assessment Questionnaire (URICA; McConaughy, Prochaska, & Velicer, 1983) is helpful in assessing their readiness to change. The outcome of this study may further aid these professionals in developing efficacious treatment plans for teens in the juvenile justice system.

### *Research Questions*

#### Research Question 1:

Is there a significant relationship on any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS scores, or URICA scores between adolescent offenders who do recidivate and those who do not recidivate?

Null Hypothesis 1: There will be no significant relationships on any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores between adolescent offenders who recidivate and those who do not recidivate.

#### Research Question 2:

Do any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores, predict recidivism?

Null Hypothesis 2: None of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores will predict recidivism.

Research Question 3:

Do any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS scores, or URICA scores differ between the severity of crimes committed after intake?

Null Hypothesis 3: None of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS scores, or URICA scores will not differ between the severity of crimes committed.

Research Question 4:

Do any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores predict gender of adolescent offenders who recidivate?

Null Hypothesis 4: None of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores will predict gender of offenders who recidivate.

Research Question 5:

Do the Adaptive Skills scores on the BASC-2-PRS-A and the Personal Adjustment scores on the BASC-2-SRP-A predict lower recidivism?

Null Hypothesis 5: The Adaptive Skills scores on the BASC-2-PRS-A and the Personal Adjustment scores on the BASC-2-SRP-A will not predict recidivism.

Research Question 6:

Do any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores predict the adolescent's rate of recidivism?

Null Hypothesis 6: None of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores predict the adolescent's rate of recidivism.

Research Question 7:

Does an adolescent's severity offense prior to intake predict the severity of offense at recidivism?

Null Hypothesis 7: The adolescents' severity of offense committed prior to intake will not predict the adolescent's severity of offense regarding recidivism.

### *Operational Terms and Definitions*

**Adjudication**- The process for determining if allegations brought forth in the juvenile court petition is true. (Georgia Department of Juvenile Justice, 2003).

**Adolescent Offender**- An adolescent, under the age of 18 years of age charged with a crime and involved in the Department of Juvenile Justice.

-The term adolescent offender is used interchangeably throughout this study with *Juvenile Delinquent, Juvenile Offender, and/or Delinquent Adolescent.*

**Delinquent Behavior**- An act committed by a juvenile for whom an adult could be prosecuted in a criminal court. Delinquent acts include crimes against persons, crimes against property, drug offenses, and crimes against public order, when committed by juveniles.

- *Drug Offenses*- drug law violation including unlawful sale, purchase, distribution, manufacture, cultivation, transportation, possession, or use of a controlled or prohibited substance or drug or drug paraphernalia, or an attempt to commit these



- acts. Sniffing and/or huffing of unapproved products (i.e. glue, paint, gasoline, and other inhalants) is also included. (U.S. Department of Justice, 2005).
- *Person Offenses*- The most serious offense for which youth can be referred to juvenile court, which includes acts or attempts to commit homicide, forcible, robbery, aggravated or simple assault, battery, kidnapping, cruelty to animals, or other offenses against a person (U.S. Department of Justice, 2005).
  - *Property Offenses*- crimes against property include all non-violent thefts (i.e. burglary, larceny, motor vehicle, and shoplifting); arson, destruction of property, stolen property offenses, trespassing, extortion, and all other fraud offenses (U.S. Department of Justice, 2005).
  - *Public Order Offenses*- offenses against public order include weapon offenses, nonviolent sex offenses, liquor law violations which are not status offenses, disorderly conduct, loitering, prowling, obstruction of justice, and other offenses against public order such as hitchhiking, false alarms, illegal immigration, and serious traffic offenses (U.S. Department of Justice, 2005).

**Protective Factors**- Factors or variables that decrease the likelihood of engaging in delinquent behaviors or substance use, and often promote successful adolescent development (Hartman, Turner, Daigle, Exum, & Cullen, 2009).

**Recidivism**- Re-arrest and reconviction for any additional crime or offense after completion of the initial intake session (when the BASC-2-SPR-A, BASC-2-PRS-A, and URICA were completed).

**Risk Factors-** Factors or variables that increase the likelihood of delinquent behavior, or factors that have been shown to make a child or adolescent more susceptible to deviant behavior (Patterson, Reid, & Dishion, 1992).

**Status Offense-** An offense that is illegal only for persons underage, but not for adults. Status offenses include the following:

- *Curfew Violation-* violation of an ordinance forbidding persons below a certain age from being in public places.
- *Incorrigible/Ungovernable-* being beyond the control of parents, guardians, or custodians.
- *Running away-* leaving the custody and of home of parents or guardians without permission and failing to return within a reasonable length of time.
- *Truancy-* violation of a compulsory school attendance law.
- *Underage drinking-* possession, use, or consumption of alcohol by a minor.

## CHAPTER 2

### REVIEW OF RELATED RESEARCH

#### *History of Risk Factors for Juvenile Delinquents and Recidivism*

As early detection typically renders the best outcomes for intervention, researchers have prioritized identifying risk factors for juvenile delinquency. The number of scholarly articles and books published on this topic are abundant and quite exhaustive; however, three categories seem to emerge within the literature: community/school risk factors, parental/social risk factors, and individual risk factors. No single category has been shown to exclusively predict adolescent offending, thus it is important to briefly review each category and consider the dynamic interaction that exists between them.

Research has shown that community variables, including school, neighborhood, and environmental factors can contribute to juvenile delinquency. For example, low socioeconomic status has been continually linked to adolescent offending (Hawkins & Catalino, 1995; and Patterson, Reid, & Dishion, 1992). Little and Steinberg (2006) found that poor neighborhood conditions and low neighborhood job opportunities influence adolescent drug dealing, while Grunwald and colleagues (2010) found that neighborhood disadvantage significantly predicted drug offense recidivism among adolescent offenders. Residential instability (Jacob, 2006) and high crime neighborhoods have also been linked to delinquency and recidivism. Regarding the school systems, underfunded schools often experience over-crowding, imbalanced student-to-teacher ratios, and inadequate educational opportunities (Calhoun, Glaser, & Bartolomucci,

2001). Additionally, many schools still aggregate students with behavioral problems together, thus creating more potential for deviancy training among children and teens (Dishion, McCord, & Poulin, 1999), another risk factor for juvenile delinquency.

Certain parental and social factors have been identified in at-risk youth as well. For example, Raine (1993) argues that parent criminality is the single best predictor of whether a child will exhibit criminal behavior. Although that statement is disputed in the literature, parental incarceration has been identified as a significant risk factor for childhood and adolescent criminality and mental illness (Gabel & Shindlecker, 1992; Greene et al., 2000; Johnston, 1995; Myers et al., 1999; and Phillips et al., 2002). Additionally, a mother's incarceration appears to be more disruptive to children than a father's incarceration, because mothers are typically the primary caregivers for their children before incarceration (Poehlmann, 2005; and Seymour, 1998). Other parental factors, such as poor parenting skills (Mulder, Brand, Bullens, & Hjalmer van Marle, 2011), parental neglect (Piquero, Brame, & Moffitt, 2005), physical maltreatment (Hawkins et al., 2000), and certain parental beliefs (Rose, Glaser, Calhoun, & Bates, 2004) have also been identified as risk factors.

Social variables may also contribute to adolescent offending. Although friendships can have beneficial effects on a child's social development, adolescence is also a time in which friendships can undermine or disrupt healthy development (Hartup, 1996). Membership in a deviant peer group has been shown to be a significant predictor of antisocial behavior in adolescents (Dodge, Dishion, & Lansford, 2006; Dishion, McCord, & Poulin, 1999; Poulin, Dishion, & Burraston, 2001). Membership in a deviant peer group has also been linked to higher levels of student aggression (Barth, Dunlap, Dane, Lochman, & Wells, 2004; and Warren,

Schopperlrey, Moberg, & McDonald, 2005) lower quality peer relations, and decreased academic focus (Barth, et al. 2004).

Individual risk-factors can be sub-divided into two groups: static and dynamic risk factors. Static factors, such as age, cannot be changed, while dynamic factors are malleable to intervention (Mulder, et al., 2011). One static risk-factor for juvenile delinquency is male gender, as males are significantly more delinquent than females (Vermeiren, de Clippele, Schwab-Stone, Ruchkin, & Deboutte, 2002) Non-white status is another static risk-factor as non-White minorities are disproportionately represented in the arrest statistics (Siegel, Welsh, & Senna, 2006). One national survey found that young black and Hispanic male drivers were more likely to be stopped by police even though they were no more likely to be in the possession of illegal contraband than white drivers (Engel & Calnon, 2004). Racial profiling is one such example of the sometimes disastrous interaction between community and individual factors that contribute to juvenile delinquency. Neurological deficits, lower levels of intelligence, young age at first conviction, and early age of onset of problem behavior have also been found to place youth at risk for subsequent delinquency (Loeber, Farrington, Stouthamer-Loeber, & Raskin White, 2008; Lynam, Moffitt, & Stouthamer-Loeber (1993).

Dynamic risk-factors for adolescent offending and recidivism include substance use (Simões, Matos, & Batista-Foguet, 2008), low self-esteem, academic failure, and peer rejection (Horne, Glaser, & Calhoun, 1999; and Hawkins & Catalino, 1995). Dishion and colleagues (1984) found that deficits in social skills, such as poor anger management skills and poor interpersonal skills, are also common among adolescent offenders. Regarding females, Calhoun (2001) found that anxiety, social stress, and depression may be of particular concern for female adolescent offenders.

Clearly several variables contribute to the delinquency of adolescents. It is important to note that delinquency is not caused by any one variable alone, but by the complex interactions of these variables across all domains and developmental levels. Additionally, most of the research on juvenile delinquency has been based on male offenders and simply generalized to female offenders. Calhoun, Bartolomuci, & McLean (1999) caution against this, as they have found that while some experiences are similar among male and female juvenile delinquents, research indicates that the experiences of female offenders is unique and requires specialized conceptualization. Further research on the risk factors and experiences of female offenders is warranted.

### *Resiliency Against Recidivism*

A less frequently researched area is that of resiliency in adolescent offenders. While some children who are exposed to numerous risk factors for delinquency will become offenders, others with the same or similar exposure will not. As such, it is important to not only identify risk factors, but protective factors as well. Protective factors often facilitate resilience in youth and can be incorporated into treatment to decrease the possibility of recidivism.

In a study investigating resiliency in adolescents, Gardner, Dishion, and Connell (2008) conducted a longitudinal study using adolescent, parent, and teacher reports of self-regulation and peer deviance. The concept of self-regulation includes dimensions of goal setting, task persistence, and planning, as well as regulation of emotions, behaviors and attention. Adolescents and their parents completed the Early Adolescent Temperament Questionnaire-Revised (EATQ-R; Ellis & Rothbart, 2002) while the teachers completed items from Humphrey's (1982) rating scales adapted to measure self-regulation. Deviant peer affiliation and

antisocial behavior were also assessed from self-report measures adapted for this study and completed by the adolescent, parent, and teachers. The initial assessment was conducted while the children were in the 6<sup>th</sup> grade, and the analysis reviewed focused on 802 of the 999 initial participants during their 11<sup>th</sup> grade year. A hierarchical regression analysis was used to determine the influence of self-regulation on later development of antisocial personality problems. Results showed that after controlling for demographic variables, high self-regulation served as a protective factor in the context of environmental risk factors, while low self-regulation, under similar environmental situations, conveyed higher risk for later antisocial behavior. Additional research has confirmed that an individual's personality and temperament have an effect on resiliency. For example, individuals who score high on measures of self-worth, self-efficacy, and self-confidence are more likely to abstain from juvenile delinquency (Cicchetti, Rogosch, & Holt, 1993; Werner, 1990).

Another investigative article utilized a mixed methods approach to identifying protective factors in juvenile offenders. Simões and colleagues (Simões, Matos, & Batista-Foguet, 2008) conducted a quantitative study using structural equation modeling with 300 juvenile offenders to develop an explanatory model of delinquency. Additionally a qualitative study was conducted with 24 juvenile offenders in order to assess the youth's perceptions of risk and protective factors. The quantitative study found that "positive relations in school context" was the most salient protective factor, and the qualitative study confirmed these results. These findings are supported by Black, Grenard, Sussman, & Rohrback's (2010) results that demonstrated attachment to school was a salient protective factor for deterring delinquency in youths. In addition to school relationships, Egeland, Carlson, & Stroufe (1993) found that a positive and

supportive relationship with at least one parent, even with high family discord, significantly improves resiliency.

Wallace and Forman (1998) studied religiosity as a protective factor among U.S. 12<sup>th</sup> graders. Their results found that the religious adolescents were less likely than their peers to use illegal substances, drink and drive, get into fights or carry a weapon. Additionally they also engaged in more healthy behaviors such as getting proper nutrition, exercise, and rest. Smith (2003) reviewed studies that have included religious measures and found that participants who score high on religiosity and/or frequent religious practices tend to be inversely related to substance use and delinquency.

As with risk factors, however, there appears to be some potential gender differences for protective factors as well. Hartman, Turner, Daigle, Exum, & Cullen (2009) explored the gender differences in protective factors against delinquency and substance abuse. They sampled 711 individuals from the National Longitudinal Survey of Youth, Child-Mother data set, to investigate potential protective factors which foster resiliency. Using resiliency, youths identified as 'high risk' yet have no prior involvement in serious criminal behavior, as the dependent variable, and risk and protection as independent variables. Their analysis revealed that measures of resiliency at the bivariate level indicated that male and female resilient individuals had significantly higher levels of protective factors. Additionally, the data indicated that males and females relied on different types of protective factors. More specifically, the protective factors of religiosity and positive school environment had significantly more resiliency for females than males (in the 'resilient' group), and a positive school environment was positive and significant for females regarding resistance from drug use. However, none of these differences were significant across all gender groups. The authors concluded that although some variability did



appear with regards to gender, it appears that the general accumulation of protective factors have a much larger impact than any one type.

### *Research with the BASC*

The Behavior Assessment System for Children (BASC; Reynolds & Kamphaus 1992, 2004) has been identified as an effective multimodal tool used to evaluate the behaviors and emotions of children and young adults. Both the BASC and the revised version, the BASC-2, have been utilized extensively in research with children and adolescents. Although the majority of research conducted with the BASC and BASC-2 has been regarding children and adolescents with learning disabilities or developmental delays, a substantial amount has been studied with the offender population and children with emotional behavioral problems. For the interest of this current study, this review will focus solely on the studies with the offender population or children and adolescents with Axis I diagnoses.

One such study utilized the BASC to derive cluster groupings of male juvenile offenders (Scarborough, Glaser, Calhoun, & Petrocelli, 2004). The purpose of the study was to identify what types of personality typologies emerge from this population, whether or not the typologies can be cross-validated with the Millon Adolescent Clinical Inventory (MACI; Millon, 1993), and identify the outcome of cross-validating the clusters with the youth's offense history. 103 male adolescents detained at a short-term regional detention center completed the BASC-SRP-A (Self-Report of Personality-Adolescent) and the MACI during a one-week period. The offense history of each participant was recorded and ranged from status crimes to crimes against persons. One-Way ANOVA's using the BASC-SRP-A and MACI scales as dependent variables were conducted, followed by further statistical testing to assess for significance. Five clusters were

derived: (1) Normal, (2) Well-Adapted, (3) Moderate Behavior Problems, (4) Low Self-Reliance, and (5) High Internalizers. Results showed that the youths in clusters 5 and 3 showed the highest elevations on both the MACI and the BASC scales. However, the MACI showed “at risk” scores for many of the youths in cluster 1 (Well-Adapted), whereas the BASC did not. Additionally, only one (cluster 5) had more than one BASC scale score in the at-risk or clinical range. The authors concluded that the MACI appears to be more sensitive, potentially too sensitive, to symptoms of problematic behavior than the BASC-2-SRP-A in this population. The authors recommended utilizing the BASC-2-SRP-A on an adjudicated population instead of detained youth to see if similar results would appear.

Another investigative study utilized the BASC to identify any differences between male and female offenders (Calhoun, 2001). The 88 youth (44 female, 44 male) in the study were on probation with the juvenile justice system and were living in the community. The age range of the participants was 13 to 17 and all youths were receiving counseling as result from referrals from probation officers or judges. Results showed significant findings for 6 of the 14 subscales, four clinical subscales, and two adaptive (protective) scales. Findings demonstrated that females reported significantly higher levels of social stress, anxiety, and depression (on the corresponding scales of the BASC-SRP-A) than did males. Additionally, females reported significantly poorer relationships with their parents and significantly poorer self-esteem than did the males. These findings are consistent with previous research which suggests that female juvenile offenders have different emotional, behavioral, and psychological needs than male offenders; and results from studies using solely male participants cannot be simply generalized to the female offender population.

Lapointe and colleagues (Lapointe, Garcia, Taubert, & Sleet, 2010) utilized the BASC-2 to assess frequent use of psychiatric hospitalization for low-income, inner-city, non-white ethnic youth. Archival data from a large community mental health center was used for this study and the authors selected participants who had been diagnosed with an Axis I clinical disorder, identified as African American or Hispanic/Latino, were between the ages of 8 and 18, had both BASC-2-SRP (Self-Report of Personality) and BASC-2-PRS (Parent Rating System) completed, and received public funding for mental health services. Results indicated that youths with frequent hospital admissions were generally adolescents ( $p=.01$ ), African American ( $p=.03$ ), and in surrogate care ( $p=.04$ ). Additionally, according to the BASC-2-PRS, they were found to be more aggressive, more hyperactive, had more severe conduct problems, and had more difficulty adapting to change than did the other youths in the study. However, on the Self-Report of Personality (SRP), no significant differences were found between groups (frequent hospital users and not). Clearly there were low levels of agreement between youth's self-reports and caregivers' assessments. Discrepancies such as these are not uncommon, as research has demonstrated that youth and parents frequently disagree on the presence or severity of youth's problems (Achenbach, McConaughy, & Howell, 1987; Reynolds & Kamphaus, 2004).

Additional investigations have utilized the BASC-2 to assess for ADHD symptoms in children and youth. Although a youth is not bound for delinquency from having an ADHD diagnosis, it has been found that over half of all adolescents who are diagnosed with ADHD also exhibit oppositional or delinquent behavior (Barkley, DuPaul, & McMurray, 1990). One such study examined the behaviors that discriminate ADHD in children versus adolescents (Harrison, Vannest, & Reynolds, 2011). According to the BASC-2-TRS (Teacher Rating Scale) and the PRS (Parent Rating Scale), teachers rated "atypicality" as the strongest discriminator of children

with ADHD, parents rated “hyperactivity” as the strongest discriminator of children, but “attention problems” as the strongest discriminator for adolescents with ADHD. Similarly, another study (McGlamery, Ball, Henly, & Besozzi, 2007) indicated that attention difficulties identified in children, according to the BASC-2-TRS, were more likely to be identified as exhibiting behavioral difficulties associated with executive dysfunction.

As the BASC was only recently updated in 2004, much of the previous research on adolescent offenders is comprised using BASC data and not the newly revised version, BASC-2. Additionally, there is a void of research conducted with the BASC-2 addressing recidivism, predictability of recidivism, or the severity of crimes committed. The current study was developed in attempt to fill those voids, as well as provide further beneficial information regarding adolescent risk and protective factors.

#### *Research with the URICA*

Based on the Transtheoretical Model of Change, the URICA helps identify which distinct stage of change a person is in as they move from problem to resolution (Prochaska, DiClemente, & Norcross, 1992). The URICA is the most widely used and psychometrically investigated ‘stage of change’ questionnaires, and has been used across a variety of populations and settings (Tierney & McCabe, 2004). Although most of the research on the URICA has been conducted with adults, some studies have used adolescent participants. One such study investigated the ability of the URICA to predict dropout in a culturally diverse group of adolescents admitted to inpatient substance-abuse treatment (Callaghan, Hathaway, Cunningham, Vettse, Wyatt, & Taylor, 2005). 130 adolescents (n= 52 males, n= 78 females), ranging in age from 13 to 18 and identifying primarily as Canadian Aboriginal ethnicity (82%), completed the URICA within 48

hours of admission. The primary problematic drug of choice ranged from cannabis, to cocaine, to alcohol. Results from a hierarchical logistic regression confirmed the hypothesis that those participants in the Precontemplation stage were significantly more likely to drop out of treatment. Another study using an adolescent population found that the URICA can be used to measure stages of change in youth with emotional, behavioral, and/or psychiatric problems (Greenstein, Franklin, & McGuffin, 1999), as the means, standard deviations, and scale alphas closely resemble results from studies using the URICA with adults.

These results were supported by a study conducted with incarcerated drug-using women (El-Bassel, Schilling, Ivanoff, Chen, Hanson, & Bidassie, 1998). Results from the administered URICA placed participants in one of the 5 stages of change: precontemplation, contemplation, preparation, action, and maintenance. Most of the women were classified in the precontemplation stages, and less than a quarter in the preparation and stages. The results indicated that female inmates who have unsuccessfully tried to change previously were more likely to have high levels of psychological symptoms, such as depression, sensitivity, and hostility. McMurrin, Theodosi, & Sellen (2006) found that the adapted URICA's Committed Action scale to be the only URICA scale to show significant positive change post-treatment.

A noticeable absence in the URICA research are studies investigating recidivism of offenses, other than strictly substance use relapse or treatment drop-out, with adolescent offender populations in the community. The present study is an attempt to fill this void by determining if the URICA is a useful tool for predicting recidivism or differentiating types of offenses committed upon recidivating.

## CHAPTER 3

### METHOD

#### *Participants*

The current study was conducted using a sample of diverse adolescent offenders referred for counseling by the Juvenile Court System of several Northeast Georgia counties. The juvenile court will typically refer a youth for counseling if it is assumed they could benefit from a plethora of services offered, such as life-skills training, career development, and anger management, or if there is the possibility that he or she has mental health issues that are in need of services. More specifically, the court will refer if the juvenile is truant from school, needs increased and consistent support and supervision, and/or has repeatedly been delinquent. Participants are adjudicated delinquent youths who were either residing within the community or in a group home residential treatment center at the time of referral.

In the referring counties, juvenile arrests accounted for approximately 28% of all arrests in the state of Georgia in 2011; 67% were male and 33% were female. For adolescent offenders in these counties, the juvenile's race was reported as follows: 50.7% Black, 40% White, 7% Hispanic, and 7% Other (Georgia Department of Juvenile Justice, 2012). Although these gender and race statistics are similar for other adolescent offenders throughout the state of Georgia, they are not representative of the national average. In 2008, White youth made up 78% of the U.S. population under juvenile court jurisdiction; Black youth represented 17%, Asian Youth 5%, and American Indian 1% (NCJJ, 2011).

Of the original population sample considered for this study (N=138), 24 had to be eliminated due to random missing data points on either one or all of BASC-2-SRP, BASC-2-PRS, or URICA instruments. Regarding the participants in this study (N=114), 61.5% were male (N=70) and 38.5% were female (N=44). The self-identified racial breakdown (N=113) consisted of 76.1% African American, (N=91); 19.34% White, (N=18); 1.14% Hispanic (N=1); 1.14% Multiracial/Mixed, (N=1); 1.14% Asian American/Pacific Islander (N=1); and 1.14% Caucasian/Egyptian (N=1). The racial breakdown of youth in this study is a reflection of the unbalanced ratio of African American adolescents in the overall adjudicated delinquent population for the state of Georgia. Therefore, it was determined that the imbalance in racial composition of the sample is due to this trend rather than sampling bias. The mean age of participants was 14.83 (N=113) with a mean grade level of 9.0 (N=109).

The data to be used in the study will be gathered from the screening instruments for participation in either the Juvenile Counseling and Assessment Program (JCAP), a program designed to provide counseling and assessment services for juvenile offenders, or the G.I.R.L.S. Project, a psychoeducational group specifically for female juvenile offenders. The screening instruments, the Behavioral Assessment System for Children-Self Report of Personality-Adolescent, Second Edition (BASC-2-SRP-A) Reynolds & Kamphaus, 20004), the Behavioral Assessment System for Children-Parent Rating Scale, Second Edition (BASC-2-PRS) (Reynolds & Kamphaus, 20004), and the University of Rhode Island Change Assessment (URICA; McConaughy, Prochaska, & Velicer, 1983) were administered as part of the standard intake process. Additionally, demographic information is also obtained at the initial intake.

During the initial intake, the parents and participants are informed of what to expect from either the JCAP or G.I.R.L.S. projects and services. Before any data is collected, the parents and

juveniles are informed of how the data will be utilized and stored, and a signed, informed consent form was obtained from the parents, and a signed, informed assent form was obtained from each juvenile. The assessments are administered individually and reading assistance is provided to those who need or request the services.

Once the assessments are completed, the questionnaires are scored and entered into a database that includes all testing results as well as demographic data and other pertinent information. Recidivism data is tracked and collected through the Georgia Department of Juvenile Justice and their Juvenile Tracking System. For the purposes of this study, the OJJDP (2011) classification system was used to classify the juvenile offense charges as public order offense, property offense, drug offense, or person offense. The severity of offenses begins with the least severe offense of property offense, continuing to the most severe offense, person offenses, respectively (OJJDP, 2011). This ranking of severity classification is used as the gold standard throughout research on adolescent offenders (Skitka, Piatt, Ketterson, & Searight, 1993).

### *Research Instruments*

The Behavioral Assessment System for Children-Second Edition (BASC-2; Reynolds & Kamphaus, 2004) is a multidimensional assessment tool used to measure the behaviors and emotions of children, adolescents, and young adults. As such, it is useful for the adolescent offender population because it not only identifies risk factors, but recognizes protective factors as well, labeled “Adaptive Scales” which are both helpful for intervention planning. For the current study, the SRP-A (Self-Report of Personality for Adolescents) and the PRS (Parents Rating Scale) were used. The instrument’s general norms are based on a large



national sample that is representative of the U.S. current population with respect to sex, socioeconomic status, race/ethnicity, geographic region, and special classification. The BASC-2 has been well researched and the psychometric properties have been found to be reliable and valid (Tan, 2007). An adolescent's social and emotional state is evaluated by T-scores and percentile ranks generated by the rater's responses. A T-score provides a quantitative measure of the adolescent's functioning compared to his/her peers. Domain scores of 70 and above are considered "clinically significant" and typically indicate that immediate intervention is warranted. On the Clinical Scales, T-scores that fall within the 60-69 range imply that an individual is "at risk" for encountering future difficulties in that particular area. Regarding protective factors, high scores on the Adaptive Scales indicate effective adaptive and relational skills. However, lower scores are indicative of need; "at risk" scores fall between 31-40; whereas "clinically significant" scores are those equal to or below 30.

The Self-Report of Personality for Adolescents (SRP-A) form is intended for ages 12-21 and includes the following composite scores: School Problems, Internalizing Problems, Inattention/Hyperactivity, Personal Adjustment and an overall composite score, Emotional Symptoms Index (ESI) which includes both clinical and adaptive scales. The SRP-A also has three validity scores: the F index (faking bad) to measure consistent negative responses, the L index (faking good) to measure consistent positive responses, and the V index, which incorporates nonsensical statements to check the validity of SRP scores. The internal consistency coefficients for the Internalizing Problems composite and the ESI are in the middle .90s, and the School Problems, Inattention/Hyperactivity, and Personal Adjustment composites fell within the middle to upper .80s. As such, the SRP composite scales can be used with confidence (Tan, 2007). The SRP-A contains a forced choice *True/False* response component as

well as a four-point scale of frequency ranging from *Never* to *Almost Always*. It typically takes about 20-30 minutes to complete and was created on a third grade reading level (Reynolds & Kamphaus, 2004).

Table 1.1

*Summary of the BASC-2-SRP-A:*

School Problems	Internalizing Problems	Inattention/ Hyperactivity	Emotional Symptoms Index	Personal Adjustment
Attitude to School  Attitude to Teachers	Atypicality  Locus of Control  Social Stress  Anxiety  Depression  Sense of Inadequacy  Somatization	Attention Problems  Hyperactivity	Social Stress  Anxiety  Depression  Sense of Inadequacy  Self-Esteem  Self-Reliance	Relations with Parents  Interpersonal Relations  Self-Esteem  Self-Reliance

The Parent Rating Scale (PRS) form of the BASC-2 is similar to the SRP-A but is intended for the parents or guardians of children or adolescents. Similar internal consistency estimates were found for the PRS, with the Adaptive Skills, Internalizing and Externalizing Problems all falling within the .90 range, and the Individual Scales falling between .83 to .86 at the adolescent level. As such, the PRS for the adolescent level can be used with confidence (Tan,

2007). Like the BASC-2-SRP-A, the adolescent's social and emotional state is evaluated by T-scores and percentile ranks generated by the rater's (parent's or guardian's) responses. Domain scores of 70 and above are considered "clinically significant" and typically indicate that immediate intervention is warranted. On the Clinical Scales, T-scores that fall within the 60-69 range imply that an individual is "at risk" for encountering future difficulties in that particular area. Again, regarding protective factors, high scores on the Adaptive Scales indicate effective relational and adaptive behaviors. However, lower scores are indicative of need; "at risk" scores fall between 31-40, whereas "clinically significant" scores are those equal to or below 30. The PRS-A is different from the adolescent self-report of personality (SRP-A) in that it does not include School Problems in the Composite Score, and replaces the Personal Adjustment Scale with an Adaptive Skills scale. Additionally, the Emotional Symptoms Index is converted into a Behavioral Symptoms Index.

Table 1.2

*Summary of the BASC-2-PRS-A:*

Externalizing Problems	Internalizing Problems	Behavioral Symptoms Index	Adaptive Skills
Hyperactivity	Anxiety	Hyperactivity	Adaptability
Aggression	Depression	Aggression	Social Skills
Conduct Problems	Somatization	Depression	Leadership
		Atypicality	Activities of Daily Living
		Withdrawal	Functional Communication
		Attention Problems	

For the purposes of this study, high scores on the Adjustment Composites (and the clinical scales it is comprised of) and the Adaptive Composites (and the clinical scales it is comprised of) will be regarded as protective factors for the adolescents.

The University of Rhode Island Change Assessment Questionnaire (URICA) (McConaughy, Prochaska, & Velicer, 1983) is a 32-item self-report measure that includes 4 subscales measuring the stages of change: Precontemplation, Contemplation, Action, and Maintenance. (There is also a shorter 24-item version). Responses are given on a 5-point Likert scale ranging from *Strong Disagreement (1)* to *Strong Agreement (5)*. The subscales can be combined arithmetically ( $C + A + M - PC$ ) to yield a second-order continuous Readiness to Change score which can be used to assess readiness to change at entrance to treatment. The URICA was initially used with outpatient adults and showed an internal consistency for each sale

to range from .88 to .89, demonstrating solid psychometric properties. More recently, it has been used with the offending population (Polaschek, Anstiss, & Wilson, 2010), as well as adolescent offenders (Hemphill and Howell, 2000), and similar internal consistency was found. As such, the URICA can be used with confidence with the juvenile delinquent population. The assessment takes approximately 5 to 10 minutes to complete.

Based on the Transtheoretical Model of Change, the URICA helps identify which distinct stage of change a person is in as they move from problem to resolution (Prochaska, DiClemente, & Norcross, 1992). People in the *Precontemplation* stage do not accept they have a problem and are not even considering change. Those in the *Contemplative* stage are aware of the problem, but have not made a commitment to act to change the problem. The *Preparation* stage is comprised of people who are committed to change and have already acted unsuccessfully in the previous year. Those in the *Action* stage are currently taking appropriate action to change the problem, and those in the *Maintenance stage* are working to prevent a relapse of the previous problem behavior. The results of the URICA help guide psychologists, counselors, and practitioners with treatment plans for effective intervention.

### *Design and Analysis*

As there have been no published studies on both parent and adolescent BASC-2 scores and URICA scores among adolescent offenders regarding recidivism, this study is considered exploratory in nature. As such, the statistical analyses used begin somewhat simple and increase in level of complexity dependent upon initial findings. To determine variable relationships, two-tailed Bivariate Correlations were performed depending upon the research question. Utilizing correlations as initial analyses is both common practice in social science research and a

recommended procedure for initial exploratory research (Pedhazur, 1997). Once a significant relationship was found, further analysis were determined based on the dependent and independent variables. For dichotomous dependent variables and two or more independent variables, a logistic regression and/or step-wise logistic regression was conducted. Logistic regression is used for prediction and also estimates the odds of probability of the dependent variable occurring based on the independent variables change (Draper, N.R., & Smith, H., 1998). When more than two dependent variables were present or when the dependent variables were not dichotomous, a predictive discriminative analysis (PDA) was conducted. A PDA determines if the ability of a construct (i.e. Composite Behavioral Symptoms Index Scores on the BASC-2-PRS) underlie the effects of the grouping variables (ex. public, property, drug, or person offenses) and predict group membership.

Being a longitudinal study, data points were assessed across three different time periods of 6 months, 1 year, and 2 years. For all adolescents in this study (N=114), their intake date (date of assessment) was equal to or greater than 2 years prior to recidivism data collection. This sample size is adequate for all analyses completed. Research has shown that the likelihood of recidivism generally occurs within 6 months of the youths' initial charge (Brosnan & Carr, 2000), thus establishing a guideline for data analysis at this point. Follow-up data were collected at both the 1 year and 2 year intervals to further investigate influence of the data and variables collected regarding recidivism among adolescent offenders. Analysis and results are broken down by hypotheses in the Results section.

### *Limitations of Study*

The current study is sample a population of male and female juvenile offenders in the juvenile justice system in the state of Georgia and may not be representative of juvenile offenders in other areas of the country. There was no control implemented for medical history, psychological history, offense history or chronicity of offending. Despite the efforts of the creators of the BASC-2-PRS, BASC-2-SRP, and the URICA to obtain a comprehensive sample of adolescents reflective of the population in the United States, the instruments normative samples are not reflective of individuals involved in the juvenile justice system. Therefore, the normative samples are not actually considered a non-delinquent comparison sample because it is unknown what proportion of the adolescents in the normative sample had delinquent histories. Additionally, the BASC-2-PRS and BASC-2-SRP obtained normative data were matched to target the U.S. population estimates taken from the Current Population Survey in 2001 (Reynolds & Kamphaus, 2004). This poses a problem due to the lack of current norms reflecting the changing numbers in ethnic backgrounds of adolescents in the United States.

### *Assumptions*

It is assumed that participants in this study represent a typical juvenile offender population currently being detained by the Department of Juvenile Justice. It is also assumed that all audited placement and offense histories for each juvenile offender are accurate and current in the Juvenile Tracking System.

## CHAPTER 4

### RESULTS

#### *Research Question 1:*

Is there a significant relationship on any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS scores, or URICA scores between adolescent offenders who do recidivate and those who do not recidivate?

As an exploratory measure, a two-tailed Bivariate Correlation (N=114) was initially performed to examine any significant differences regarding the dependent variable (recidivism and no recidivism) on the constructs of the BASC-2-SRP-A scales, BASC-2-PRS scales, and URICA scores. In order to decrease chances of error, a significance value was set at ( $p \leq .01$ ) (Huck, S.W., 2008). The correlation revealed no significant differences between any of the scores on the adolescent self-report of the BASC-2 or the scores on the URICA regarding recidivism (i.e. yes or no). However, several of the scores on the parent report BASC-2 (N=114) showed significance at the ( $p \leq .01$ ) level. These included the Hyperactivity score ( $r = .295, p \leq .005$ ), the Conduct Problems score ( $r = .252, p \leq .007$ ), the Composite Externalizing Problems score ( $r = .307, p \leq .001$ ), the Composite Behavioral Symptoms Index score ( $r = .262, p \leq .005$ ), Adaptability scores ( $r = -.271, p \leq .004$ ), Social Skills score ( $r = -.305, p \leq .001$ ), Leadership scores ( $r = -.251, p \leq .007$ ), and Composite Adaptability scores ( $r = -.296, p \leq .001$ ).

Null Hypothesis 1: There will be no significant relationships on any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores between adolescent offenders



who recidivate and those who do not recidivate. Although none of the scores on the BASC-2-SRP or the URICA showed significant correlations with recidivism grouping, several of the scores on the BASC-2-PRS showed significant correlations with recidivism grouping. These included the following scores: hyperactivity, aggression, conduct problems, composite externalizing problems, composite behavior symptom index, adaptability, social skills, leadership, activities of daily living and composite adaptive scores. Due to these significant correlations, Null hypothesis 1 can be rejected.

*Research Question 2:*

Do any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores, predict recidivism?

After meeting the stringent criteria for significance ( $p \leq .01$ ) in the previous correlation, the significant BASC-PRS variables, (hyperactivity, aggression, conduct problems, composite externalizing problems, composite behavior symptom index, adaptability, social skills, leadership, activities of daily living and composite adaptive scores) were used in a logistic regression to determine if they had a significant main effect on predicting recidivism (i.e. adolescent did recidivate). A logistic regression is an appropriate statistical analysis to use when there are several independent variable and a dichotomous dependent variable (Pedhauzer, 1997), as is the case here. Logistic regression also estimates the odds of probability of the dependent variable occurring based on the independent variables change.

Results (N=114) indicated an F (8, 114) value of 19.953, ( $p \leq .000$ ), which means that the model is statistically significant and the population size is appropriate (M= 39.11, SD= 40.20).  $R^2 = .603$  indicating that 60.3% of the variance of recidivism is accounted for by the

combined scores of hyperactivity, conduct problems, composite externalizing problems, composite behavior symptom index, adaptability, social skills, leadership, and composite adaptive scores on the BASC-2-PRS. The full coefficient table can be found below in Table 2.1. The coefficients for each predictor ( $b$ ) of the following scores were negative: comprehensive adaptability ( $b = -.007$ ), social skills ( $b = -.007$ ), and leadership ( $b = -.007$ ), indicating a negative relationship regarding recidivism. This suggests that the higher the scores are in these domains, the less likely the adolescent is to recidivate. However, all of the  $t$ -test associated with the  $b$  values were not significant, indicating that each predictor is not making a significant contribution to the model individually.

Table 2.1

**Coefficients of Logistic Regression<sup>a,b</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
Hyperactivity	.005	.011	.410	.446	.657	.757	.043	.027	.004	223.497
Conduct Problems	.011	.008	1.050	1.295	.198	.769	.125	.080	.006	174.034
Composite Externalizing Problems	.007	.016	-.673	-.464	.643	.765	-.045	-.029	.002	555.583
<sup>1</sup> Composite Behavioral Symptoms Index	.004	.008	.301	.472	.638	.758	.046	.029	.009	107.955
Adaptability	-.003	.009	-.161	-.328	.744	.673	-.032	-.020	.016	63.899
Social Skills	-.010	.008	-.576	-1.222	.224	.662	-.118	-.075	.017	58.854
Leadership	-.007	.010	-.406	-.722	.472	.688	-.070	-.044	.012	83.667
Composite Adaptive Skills	.015	.017	.808	.886	.378	.670	.086	.054	.005	220.498

a. Dependent Variable: yes recidivated

b. Linear Regression through the Origin

Null Hypothesis 2: None of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores will predict recidivism. Unfortunately, no significance was found regarding recidivism for any of the BASC-2-SRP scores or URICA scores. However, significant effects for recidivism grouping were found on the following scores of the BASC-2-PRS:

hyperactivity, conduct problems, composite externalizing problems, composite behavior symptom index, adaptability, social skills, leadership and composite adaptive scores.

Additionally, they predicted more than half (60.3%) of the variance of recidivism when combined together. Therefore, the Null hypothesis 2 can be rejected.

*Research Question 3:*

Do any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS scores, or URICA scores differ between the severity of crimes committed after intake?

As an exploratory measure, a two-tailed Bivariate Correlation was initially performed to examine any significant differences regarding the dependent variable (severity of crimes committed after intake) on the constructs of the BASC-2-SRP-A scales, BASC-2-PRS scales, and URICA scores. In order to decrease chances of error, a significance value was set at ( $p \leq .01$ ). The correlation (N=114) revealed no significant differences between any of the scores on the adolescent self-report of the BASC-2-SRP or the scores on the URICA regarding severity of recidivism (i.e. public, property, drug, and person offenses). However, several of the scores on the parent report BASC-2-PRS showed significance at the ( $p \leq .01$ ) level. These included the Hyperactivity score ( $r = .300, p \leq .001$ ), Aggression score ( $r = .288, p \leq .002$ ), the Conduct Problems score ( $r = .288, p \leq .000$ ), the Composite Externalizing Problems score ( $r = .545, p \leq .000$ ), the Composite Behavioral Symptoms Index score ( $p \leq .002; r = .290$ ), Adaptability scores ( $r = -.296, p \leq .001$ ), Activities of Daily Living ( $r = -.303, p \leq .001$ ), and Composite Adaptability scores ( $r = -.312, p \leq .001$ ).

Since they met criteria for significance ( $p \leq .01$ ) in the previous correlation, the above BASC-PRS variables (N=114) were used in a predictive discriminative analysis (PDA). A

predictive discriminative analysis (PDA; Hubert & Lowman, 1998) was conducted to determine if the ability of the construct (i.e. significantly correlated BASC-2-PRS scores) underlie the effects of the grouping variables (public, property, drug, or person offenses) and predict group membership. Although the log determinants are similar, Box's M is 198.124 with a significance of ( $p \leq .000$ ); therefore the null hypothesis that the groups do not differ cannot be retained. Additionally, the canonical correlations for public offenses (.492), property offenses (.295), drug offenses (.193), and person offenses (.145) were all less than chance (.500), suggesting that the model explains less than 50% of variable grouping influence. However, the canonical correlation for public offense accounted for approximately 50% of correct classification, although this is not approaching significance due to the full assumptions of the PDA not being met. The full canonical correlations can be found in Table 3.1 below. In conclusion, the scores of hyperactivity, aggression, conduct problems, composite externalizing problems, composite behavioral symptoms index, adaptability, activities of daily living, and composite adaptability on the BASC-2-PRS do not predict group membership across severity of offenses.

Table 3.1

**Canonical Discriminant Function Coefficients**

	Function			
	1	2	3	4
Hyperactivity	-.591	-.275	-1.310	.708
Aggression	.484	.354	.697	-.264
Conduct Problems	.968	-.470	.475	.912
Behavioral Symptoms Index	-.268	.663	.412	-1.304
Adaptability	-.376	-1.416	.610	-.395
Activities of Daily Living	-.499	-.313	.066	.832
Adaptive Skills	.351	1.843	.058	-.061

Null Hypothesis 3: None of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS scores, or URICA scores will not differ between the severity of crimes committed. None of the scores on the BASC-2-SRP or the URICA showed significant correlations to severity of offenses. However, the scores of hyperactivity, aggression, conduct problems, composite externalizing problems, composite behavioral symptoms index, adaptability, activities of daily living, and composite adaptability on the BASC-2-PRS did have significant correlations to severity of offenses. Unfortunately, a predictive discriminative analysis found that these variables do not predict group membership across severity of offenses. Therefore, Null hypothesis 3 is only partially rejected.

*Research Question 4:*

Do any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores predict gender of adolescent offenders who recidivate?

A two-tailed Bivariate Correlation was initially performed to examine any significant correlations regarding gender among adolescent offenders who did recidivate on the constructs of the BASC-2-SRP-A scales, BASC-2-PRS scales, and URICA scores. The correlation revealed no significant differences between any of the scores on the URICA regarding gender (i.e. male, female). However, several of the scores on the adolescent self-report BASC-2 and the parent report BASC-2 showed significance at the ( $p \leq .05$ ) level. The significance level was not set at the stringent ( $p = .01$ ) level due to the smaller population sample ( $N=62$ ) who met criteria for this analysis. A significant correlation was found on the following scores of the BASC-2-SRP: social stress ( $r = .294, p = .022$ ), anxiety ( $r = .458, p = .000$ ) depression ( $r = .299, p = .018$ ), sense of inadequacy ( $r = .271, p = .033$ ), somatization ( $r = .324, p = .011$ ), composite internalizing problems ( $r = .335, p = .008$ ), composite emotional symptoms index ( $r = .318, p = .013$ ), and interpersonal relations ( $r = -.263, p = .039$ ). On the BASC-2-PRS, significant correlations were found on the activities of daily living score ( $r = -.279, p = .028$ ) and functional communication ( $r = -.251, p = .049$ ).

Once significance was found in the correlation, the BASC-2-SRP and BASC-2-PRS variables were used in a logistic regression to determine if they had a significant main effect on gender. Of the adolescent offenders who recidivate ( $N=52$ ), 46.2% were female ( $N= 24$ ) and 53.8% were male ( $N= 28$ ). Results indicated an  $F(10, 114)$  value of 85.461, ( $p \leq .000$ ), which means that the model is statistically significant and the population size is appropriate ( $M=1.46$ ;

$SD=.503$ ).  $R^2=.929$  which indicates that approximately 93% of the variance of gender among adolescent offenders who recidivate is accounted for by the combined scores of social stress, anxiety, depression, sense of inadequacy, somatization, composite internalizing problems, composite emotional symptoms index, and interpersonal relations on the BASC-2-SRP and activities of daily living score and functional communication on the BASC-2-PRS. The full coefficient table can be found in Table 4.1 below. The coefficients for each predictor ( $b$ ) of the following scores were negative: comprehensive internalizing problems (SRP) ( $b= -.025$ ), comprehensive emotional symptoms index (SRP) ( $b= -.023$ ), interpersonal relations (SRP) ( $b= -.006$ ), and activities of daily living ( $b= -.001$ ), indicating a negative relationship regarding male gender (i.e.  $M=1.46$ ; male=1, female=2). This suggests that the higher the scores are in these domains, the less likely the adolescent is to be male. Additionally, the  $t$ -test associated with the  $b$  value of anxiety (SRP) was significant ( $b= .036$ ;  $p= .002$ ), indicating that anxiety scores (SRP) make a significant contribution to the model individually. Approaching significance were the  $b$  values of depression (SRP) ( $b= .021$ ;  $p= .078$ ) and functional communication (PRS) ( $b= .016$ ;  $p= .081$ ). As such, a step-wise logistic regression was completed on these three variables.



Table 4.1

Coefficients of Logistic Regression<sup>a,b</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
Social Stress	.003	.015	.114	.210	.835	.942	.030	.008	.005	206.407
Anxiety	.036	.011	1.306	3.221	.002	.954	.415	.121	.009	115.853
Depression	.021	.012	.798	1.800	.078	.945	.247	.068	.007	138.373
Sense of Inadequacy	.003	.011	.136	.313	.755	.944	.044	.012	.008	132.842
Somatization	.007	.011	.267	.637	.527	.944	.090	.024	.008	123.518
Composite Internalizing Problems	-.025	.026	-.982	-.972	.336	.944	-.136	-.037	.001	719.900
Composite Emotional Symptoms Index	-.023	.019	-.880	-1.201	.235	.945	-.167	-.045	.003	378.651
Interpersonal Relations	-.006	.005	-.216	-1.288	.204	.908	-.179	-.049	.050	19.915
Activities of Daily Living	-.001	.007	-.038	-.201	.841	.931	-.028	-.008	.039	25.402
Functional Communication	.016	.009	.460	1.782	.081	.942	.244	.067	.021	46.936

a. Dependent Variable: Client's Gender

b. Linear Regression through the Origin

Results for the step-wise logistic regression indicated a clinically significant value for each model ( $N=62$ ;  $p \leq .05$ ). Model A consists of only anxiety scores (SRP),  $F(1, 114) = 12.301$ ,  $p \leq .001$ ; Model B consists of anxiety scores (SRP) and depression scores (SRP),  $F(2, 114) = 6.805$ ,  $p \leq .002$ ; and Model C consists of anxiety scores (SRP), depression scores (SRP), and functional communication scores (PRS),  $F(3, 114) = 4.805$ ,  $p \leq .005$ .  $R^2 = .197$  for Model A indicating that approximately 20% of the variance of gender among adolescent offenders who recidivate is accounted for anxiety scores.  $R^2 = .217$  for Model B indicating that approximately 22% of the variance of gender among adolescent offenders who recidivate is accounted for anxiety scores and depression scores.  $R^2 = .231$  for Model C indicating that approximately 23% of the variance of gender among adolescent offenders who recidivate is accounted for anxiety scores (SRP), depression scores (SRP), and functional communication scores (PRS). The full coefficient table can be found in Table 4.2 below. Additionally, the  $t$ -test associated with the  $b$  value of Model A (anxiety alone) was significant ( $b = .021$ ;  $p = .001$ ), indicating that anxiety scores make a significant contribution to the model individually. Overall, high scores on anxiety, depression, and functional communication combined are predictive of male gender.

Table 4.2

**Coefficients of Step-Wise Logistic Regression<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	.412	.306		1.345	.185
	Anxiety	.021	.006	.444	3.507	.001
2	(Constant)	.439	.306		1.435	.158
	Anxiety	.030	.010	.636	2.983	.004
	Depression	-.009	.008	-.238	-1.117	.269
3	(Constant)	.077	.498		.155	.877
	Anxiety	.029	.010	.623	2.907	.006
	Depression	-.007	.009	-.178	-.799	.428
	Functional Communication	.006	.007	.127	.922	.361

a. Dependent Variable: Client's Gender

Null Hypothesis 4: None of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores will predict gender of offenders who recidivate. Results showed that none of the scores on the URICA showed significant correlations with gender grouping. However, the combined scores of social stress, anxiety, depression, sense of inadequacy, somatization, composite internalizing problems, composite emotional symptoms index, and interpersonal relations on the BASC-2-SRP and activities of daily living score and functional communication on the BASC-2-PRS showed significant correlations with gender, significant effects for gender grouping, and accounted for most (93%) of the variance of gender. Additionally, a step-wise

logistic regression correctly predicted gender based on anxiety scores (SRP) alone ( $b = .026$ ;  $p = .000$ ), and the combination of anxiety (SRP), depression (SRP), and functional communication scores (PRS) ( $b = .012$ ;  $p = .006$ ). As such, the Null hypothesis 2 can be rejected.

*Research Question 5:*

Do the Adaptive Skills scores on the BASC-2-PRS-A and the Personal Adjustment scores on the BASC-2-SRP-A predict lower recidivism?

A previous two-tailed bivariate correlation found significance for the following Adaptive skills scores and Personal Adjustment scores on the BASC-2-PRS: Adaptability scores ( $p \leq .004$ ;  $r = -.271$ ), Social Skills score ( $r = -.305$ ,  $p \leq .001$ ), Leadership scores ( $r = -.251$ ,  $p \leq .007$ ), and Composite Adaptability scores ( $r = -.286$ ,  $p \leq .002$ ). In order to test the ability of Adaptive Skills scores and Personal Adjustment scores to predict recidivism, a logistic regression was completed using only these previously identified variables.

Results indicated an  $F(4, 114)$  value of 26.119.461, ( $p \leq .000$ ), which means that the model is statistically significant and the population size is appropriate ( $M = 39.11$ ,  $SD = 40.20$ ).  $R^2 = .489$  which indicates that approximately 49% of the variance of gender among adolescent offenders who recidivate is accounted for by the combined scores of adaptability, social skills, leadership, and composite adaptability scores on the BASC-2-PRS. The full coefficient table can be found below in Table 5.1. The coefficients for each predictor ( $b$ ) of the following scores were negative: social skills ( $b = -.002$ ) and composite adaptive skills ( $b = -.023$ ), indicating a negative relationship regarding recidivism (i.e. yes or no). This suggests that the higher the scores are in these domains, the less likely the adolescent is to recidivate. Additionally, the  $t$ -test associated

with the  $b$  value of leadership was significant ( $b = .024$ ;  $p = .007$ ), indicating that leadership scores make a significant contribution to the model individually.

Table 5.1

**Coefficients of Logistic Regression<sup>a,b</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
Adaptability	.012	.009	.671	1.318	.190	.673	.125	.090	.018	55.417
Social Skills	-.002	.008	-.090	-.195	.846	.662	-.019	-.013	.022	45.005
1 Leadership	.024	.009	1.375	2.770	.007	.688	.256	.190	.019	52.575
Composite Adaptive Skills	-.023	.016	-1.268	1.475	.143	.670	-.140	-.101	.006	157.766

a. Dependent Variable: Did client recidivate

b. Linear Regression through the Origin

Null Hypothesis 5: The Adaptive Skills scores on the BASC-2-PRS-A and the Personal Adjustment scores on the BASC-2-SRP-A will not predict recidivism. Results indicate that the null hypothesis 5 is upheld.

*Research Question 6:*

Do any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores predict the adolescent's rate of recidivism?

A two-tailed bivariate correlation was conducted for those adolescents who recidivated at 6 months (183 days), 1 year (between 184 days and 365 days), and 2 years (greater than 365 days). At 6 months, 87 youths recidivated. For these youth, five scores on the BASC-2-PRS were significantly correlated to the type of offense committed. The scores were Conduct Problems ( $r = .364, p = .001$ ), Composite Emotional Symptoms Index ( $r = .308, p = .004$ ), Withdrawal ( $r = .293, p = .006$ ), Activities of Daily Living ( $r = -.276, p = .002$ ), and Composite Adaptive ( $r = -.317, p = .003$ ). As such, there are significant relationships regarding type of recidivism.

A predictive discriminate analysis was conducted to assess if these scores could predict accurate grouping regarding the types of recidivism (i.e. public, property, drug, or person offense). A significant mean difference was only observed for the predictor, Withdrawal score ( $M=54.65, SD=10.269$ ), on the DV. While the log determinants were quite similar, Box's M ( $64.347, p = .019$ ) indicated that the assumption of equality of covariance matrices was violated. The discriminate function revealed a significant association between groups and all predictors, accounting for 64.9% of between group variability. However, cross validated classification showed that overall 40.5% were correctly classified. For full results, see Table 6.1 below. In conclusion, the scores of Conduct Problems, Composite Emotional Symptoms Index, Withdrawal, Activities of Daily Living, and Composite Adaptive on the BASC-2-PRS do not predict the type of recidivism better than chance.

Table 6.1

**Classification Results<sup>a,c</sup>**

		Type of offenses	Predicted Group Membership				Total
			public order	Property	Drug	person	
Original	Count	public order	5	3	0	2	10
		Property	2	8	0	1	11
		Drug	1	0	3	0	4
		Person	2	2	0	8	12
		Ungrouped cases	24	5	7	14	50
	%	public order	50.0	30.0	.0	20.0	100.0
		Property	18.2	72.7	.0	9.1	100.0
		Drug	25.0	.0	75.0	.0	100.0
		Person	16.7	16.7	.0	66.7	100.0
		Ungrouped cases	48.0	10.0	14.0	28.0	100.0
Cross-validated <sup>b</sup>	Count	public order	2	4	1	3	10
		Property	6	3	0	2	11
		Drug	1	0	2	1	4
		Person	2	2	0	8	12
	%	public order	20.0	40.0	10.0	30.0	100.0
		Property	54.5	27.3	.0	18.2	100.0
		Drug	25.0	.0	50.0	25.0	100.0
		Person	16.7	16.7	.0	66.7	100.0

- a. 64.9% of original grouped cases correctly classified.
- b. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.
- c. 40.5% of cross-validated grouped cases correctly classified.

At 1 year, 15 adolescents recidivated. Significant correlations to the type of offense committed were again found only on the BASC-2-PRS. They were Aggression ( $r = .256, p = .016$ ), Conduct Problems ( $r = .364, p = .001$ ), Composite Emotional Symptoms Index ( $r = .271, p \leq .004$ ), Withdrawal ( $r = -.271, p \leq .004$ ), Leadership ( $p \leq .002; r = -.326$ ), Activities of Daily Living ( $r = -.76, p = .010$ ) and Composite Adaptive Skills ( $r = -.317, p = .003$ ). No significant correlations were met at 2 year follow-up (N=12).

Null Hypothesis 6: None of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores predict the adolescent's rate of recidivism. Results indicate that none of the scores predicted rate of recidivism, therefore Hypothesis 6 is upheld.

*Research Question 7:*

Does an adolescent's severity offense prior to intake predict the severity of offense at recidivism?

An exploratory, two-tailed, bivariate correlation revealed significant correlations between prior offense and severity of offense at recidivism (N= 114;  $r = .430, p = .000$ ). A predictive discriminative analysis (PDA) was conducted to determine if the severity of prior offense could predict the severity of recidivism (none, public, property, drug, or person offenses) and group membership. Although the log determinants are similar, Box's M is 11.200 with a significance of



( $p \leq .028$ ); therefore the null hypothesis that the groups do not differ cannot be retained.

Additionally, the canonical correlations for worst offense prior to intake was (.448), suggesting that the model explains approximately 45% of variable grouping influence (see Table 7.1 below).

The casewise statistics indicated that 48.2% of original grouped cases were correctly classified.

In conclusion, the severity of offense prior to intake did not predict group membership across severity of offenses regarding recidivism. Once severity of group was not predicted, a linear regression was conducted to assess if the severity of crime committed prior to intake could predict recidivism (i.e. yes/no). Results indicated an  $F(1, 114)$  value of 15.643, ( $p \leq .000$ ), which means that the model is statistically significant and the population size is appropriate ( $M=1.824, SD=1.206$ ).  $R^2 = .123$  which indicates that previous severity of crime alone only accounted for approximately 12% of recidivism (See Table 7.2 below).

Table 7.1

**Summary of Canonical Discriminant Functions**

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	.250 <sup>a</sup>	100.0	100.0	.448

Table 7.2

**Coefficients of Step-Wise Logistic Regression<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	.279	.080		3.480	.001
	Worst offense prior to JCAP	.145	.037	.350	3.955	.000

a. Dependent Variable: Did client recidivate

Although not an additional hypothesis, the relationship between the severity of offense committed before intake and the severity of recidivism was explored further. An overall 27.7 % decrease was found from severity of offense prior to intake (N=114; Mean= 1.8246) and 61% decrease in severity of recidivism (N=114; Mean=1.32).

Null Hypothesis 7: The adolescents' severity of offense committed prior to intake will not predict the adolescent's severity of offense regarding recidivism. Results did not predict group membership across severity of offenses regarding recidivism based on the severity of offense prior to intake, therefore Null hypothesis 7 is upheld.

## CHAPTER 5

### DISCUSSION

#### *Summary of the Study*

Recidivism among adolescent offenders is a significant problem as the number of youths recommitted to penal institutions continues to grow each year (Nissenbaum, 2006). Recidivism among adolescent offenders has adverse consequences, not only for the youth, but for the family and the community as well. In an effort to decrease these adverse effects, there has been a plethora of research attempting to identify risk factors for antisocial behavior in adolescents. Some of these risk-factors include low economic status (Offord, Adler, & Boyle, 1986), academic failure (Hawkins & Catalino, 1995), low self-esteem (Schur, 1973), peer rejection (Phillips, et al., 2002) and antisocial parents (Lipsey & Derzon, 1998).

A less frequently researched area is that of resiliency in adolescent offenders. For those who work with juvenile delinquents, it is important to not only identify risk factors, but protective factors as well. Protective factors often facilitate resilience in youth and can be incorporated into treatment to decrease the possibility of recidivism. Researchers have identified some protective factors in adolescents including positive school environment, high self-regulation (Gardner, et al., 2008), positive relationships within the school context (Sussman, & Rohrback's 2010), religiosity (Wallace & Forman, 1998), positive parent-child relationships (Carlson, & Stroufe 1993), and high self-efficacy, self-worth, and self-confidence (Cicchetti,

Rogosch, & Holt, 1993). While risk factors help predict further offending, protective factors can be utilized to empower adolescents to make healthier life choices and deter delinquent behavior.

The Behavior Assessment System for Children, 2<sup>nd</sup> Edition (BASC-2; Reynolds & Kamphaus, 2004) is one particular tool that assess for the presence of both risk-factors and protective factors among youth. Additionally, it utilizes both adolescent and parent report, which provides psychologists, mental health clinicians, and other professionals a more holistic perspective when working with adolescent offenders. Although the majority of research conducted with the BASC and BASC-2 has been regarding children and adolescents with learning disabilities or developmental delays, the research is beginning to extend out to study offender populations and children with emotional behavioral problems.

One study utilized the BASC and MACI to derive cluster groupings of male juvenile offenders (Scarborough, Glaser, Calhoun, & Petrocelli, 2004). Results showed that the youths in clusters “High Internalizers” and “Moderate Behavior Problems” showed the highest elevations on both the MACI and the BASC scales. However, the MACI showed “at risk” scores for many of the youths in cluster “Well-Adapted,” whereas the BASC did not. The authors concluded that the MACI appears to be more sensitive to symptoms of problematic behavior than the BASC in incarcerated males, and recommended utilizing the BASC on an adjudicated population instead to see if similar results would appear.

Another investigative study utilized the BASC to identify any differences between male and female offenders living in the community (Calhoun, 2001). Findings demonstrated that females reported significantly higher levels of social stress, anxiety, and depression (on the corresponding scales of the BASC-SRP-A) than did males. Additionally, females reported

significantly poorer relationships with their parents and significantly poorer self-esteem than did the males. These findings are consistent with previous research which suggests that female juvenile offenders have different emotional, behavioral, and psychological needs than male offenders; and results from studies using solely male participants cannot be simply generalized to the female offender population.

Lapointe and colleagues (Lapointe, Garcia, Taubert, & Sleet, 2010) utilized the BASC-2 to assess frequent use of psychiatric hospitalization for low-income, inner-city, non-white ethnic youth. Results indicated that youths with frequent hospital admissions were found to be more aggressive, more hyperactive, had more severe conduct problems, and had more difficulty adapting to change than did the other youths in the study according to the BASC-2-PRS. However, on the Self-Report of Personality (SRP), no significant differences were found between groups (frequent hospital users and not).

As many adolescent offenders are court-referred to attend therapy, the University of Rhode Island Change Assessment Questionnaire (URICA; McConaughy, et al., 1983) is helpful in assessing their readiness to change. Based on the Transtheoretical Model of Change, the URICA helps identify which distinct stage of change a person is in as they move from problem to resolution (Prochaska et al., 1992). The URICA is the most widely used and psychometrically investigated 'stage of change' questionnaires, and has been used across a variety of populations and settings (Tierney & McCabe, 2004). One study investigated the ability of the URICA to predict dropout in a culturally diverse group of adolescents admitted to inpatient substance-abuse treatment (et al., 2005). Results from a hierarchical logistic regression confirmed the hypothesis that those participants in the "Precontemplation Stage" were significantly more likely to drop out of treatment.

As the BASC was only recently updated in 2004, much of the previous research on adolescent offenders is comprised using BASC data and not the newly revised version, BASC-2. Additionally, there is a void of research conducted with the BASC-2 addressing recidivism, predictability of recidivism, or the severity of crimes committed. The current study was developed in attempt to fill those voids, as well as provide further beneficial information regarding adolescent risk and protective factors. Regarding the URICA, there is a noticeable absence of research studies investigating recidivism of offenses, other than strictly substance use relapse or treatment drop-out, with adolescent offender populations in the community. The present study was an attempt to fill this void by determining if the URICA is a useful tool for predicting recidivism or differentiating types of offenses committed upon recidivating.

The current study was conducted using a sample of diverse adolescent offenders referred for counseling by the Juvenile Court System of several Northeast Georgia counties. Participants are adjudicated delinquent youths who were either residing within the community or in a group home residential treatment center at the time of referral. The data used in this study were gathered from the screening instruments for participation in either the Juvenile Counseling and Assessment Program (JCAP) or the G.I.R.L.S. Project. The screening instruments, the Behavioral Assessment System for Children-Self Report of Personality-Adolescent, Second Edition (BASC-2-SRP-A) (Reynolds & Kamphaus, 20004), the Behavioral Assessment System for Children-Parent Rating Scale, Second Edition (BASC-2-PRS) (Reynolds & Kamphaus, 20004), and the University of Rhode Island Change Assessment (URICA; McConaughy, Prochaska, & Velicer, 1983) were administered as part of the standard intake process. Additionally, demographic information is also obtained at the initial intake.

Of the original population sample considered for this study (N=138), 24 had to be eliminated due to random missing data points on either one or all of BASC-2-SRP, BASC-2-PRS, or URICA instruments. Regarding the participants in this study (N=114), 61.5% were male (N=70) and 38.5% were female (N=44). The self-identified racial breakdown (N=113) consisted of 76.1% African American, (N=91); 19.34% White, (N=18); 1.14% Hispanic (N=1); 1.14% Multiracial/Mixed, (N=1); 1.14% Asian American/Pacific Islander (N=1); and 1.14% Caucasian/Egyptian (N=1). The racial breakdown of youth in this study is a reflection of the unbalanced ratio of African American adolescents in the overall adjudicated delinquent population for the state of Georgia. Therefore, it was determined that the imbalance in racial composition of the sample is due to this trend rather than sampling bias. The mean age of participants was 14.83 (N=113) with a mean grade level of 9.0 (N=109).

Regarding interpretation of the BASC-2-SRP (Figure 8.1 below) and the BASC-2-PRS (Figure 8.2 below), it is important to note that the Personal Adjustment Composites and the Adaptive Composites have a negative relationship to the other Clinical and Composite Scores. Domain scores of 70 and above are considered “clinically significant” and typically indicate that immediate intervention is warranted. On the Clinical Scales, T-scores that fall within the 60-69 range imply that an individual is “at risk” for encountering future difficulties in that particular area. On the Personal Adjustment Scales and the Adaptive Scales, however, lower scores are indicative of need; “at risk” scores fall between 31-40, whereas “clinically significant” scores are those equal to or below 30. Therefore, negative correlations in analyzing the BASC-2-PRS and BASC-2-SRP are likely to occur. For the purposes of this study, high scores on the Adjustment Composites (and the clinical scales it is comprised of) and the Adaptive Composites (and the clinical scales it is comprised of) will be regarded as protective factors for the adolescents.

Table 8.1 *Summary of the BASC-2-SRP-A:*

School Problems	Internalizing Problems	Inattention/ Hyperactivity	Emotional Symptoms Index	Personal Adjustment
Attitude to School  Attitude to Teachers	Atypicality  Locus of Control  Social Stress  Anxiety  Depression  Sense of Inadequacy  Somatization	Attention Problems  Hyperactivity	Social Stress  Anxiety  Depression  Sense of Inadequacy  Self-Esteem  Self-Reliance	Relations with Parents  Interpersonal Relations  Self-Esteem  Self-Reliance



Table 8.2 *Summary of the BASC-2-PRS-A:*

Externalizing Problems	Internalizing Problems	Behavioral Symptoms Index	Adaptive Skills
Hyperactivity Aggression Conduct Problems	Anxiety Depression Somatization	Hyperactivity Aggression Depression Atypicality Withdrawal Attention Problems	Adaptability Social Skills Leadership Activities of Daily Living Functional Communication

The research questions for the present study were:

Research Question 1:

Is there a significant relationship on any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS scores, or URICA scores between adolescent offenders who do recidivate and those who do not recidivate?

Research Question 2:

Do any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores, predict recidivism?

Research Question 3:

Do any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS scores, or URICA scores differ between the severities of crimes committed after intake?

Research Question 4:

Do any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores predict gender of adolescent offenders who recidivate?

Research Question 5:

Do the Adaptive Skills scores on the BASC-2-PRS-A and the Personal Adjustment scores on the BASC-2-SRP-A predict lower recidivism?

Research Question 6:

Do any of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores predict the adolescent's rate of recidivism?

Research Question 7:

Does an adolescent's severity offense prior to intake predict the severity of offense at recidivism?

To examine question 1, a two-tailed Bivariate Correlation (N=114) was performed to examine any significant differences regarding the dependent variable (recidivism and no recidivism) on the constructs of the BASC-2-SRP-A scales, BASC-2-PRS scales, and URICA

scores. In order to decrease chances of error, a significance value was set at ( $p \leq .01$ ) (Huck, S.W., 2008). The correlation revealed no significant differences between any of the scores on the adolescent self-report of the BASC-2 or the scores on the URICA regarding recidivism (i.e. yes or no). However, several of the scores on the parent report BASC-2-PRS showed significance. These included the clinical scales of Hyperactivity, Conduct Problems Adaptability, Social Skills, and Leadership; and the Composite scores of Externalizing Problems, Behavioral Symptoms Index, and Composite Adaptability scores. There was a negative relationship regarding Adaptability, Social Skills, Leadership, and Composite Adaptability skills. This indicates that as one score increases, the other decreases, although directionality cannot be assumed based solely on a correlation. As several of the scores on the BASC-2-PRS showed significant correlations with recidivism grouping, the null hypothesis was rejected.

To examine question 2, a logistic regression was used. After meeting the stringent criteria for significance ( $p \leq .01$ ) in the previous correlation, the significant BASC-PRS variables, (hyperactivity, aggression, conduct problems, composite externalizing problems, composite behavior symptom index, adaptability, social skills, leadership, activities of daily living and composite adaptive scores) were used in a logistic regression to determine if they had a significant main effect on predicting recidivism. A logistic regression is an appropriate statistical analysis to use when there are several independent variables and a dichotomous dependent variable. It also estimates the odds of probability of the dependent variable occurring based on the independent variables change (Pedhauzer, 1997).

Results indicated that the model was statistically significant and the population size was appropriate. Results also identified that 60.3% of the variance of recidivism is accounted for by the combined scores of hyperactivity, conduct problems, composite externalizing problems,

composite behavior symptom index, adaptability, social skills, leadership, and composite adaptive scores on the BASC-2-PRS. Additionally, the coefficients for the predictors of adaptability, social skills, and leadership were negative. This indicates that the higher the scores are in these domains, the less likely the adolescent is to recidivate. Further results indicated that each predictor was not making a significant contribution to the model individually; thus the predictive ability of the scores is accounted for collectively. Since the logistic regression predicted recidivism, Null hypothesis 2 can was rejected.

To examine question 3, a two-tailed Bivariate Correlation, was initially performed to examine any significant differences regarding the dependent variable (severity of crimes committed after intake) on the constructs of the BASC-2-SRP-A scales, BASC-2-PRS scales, and URICA scores. The correlation revealed no significant differences between any of the scores on the adolescent self-report of the BASC-2-SRP or the scores on the URICA regarding severity of recidivism (i.e. public, property, drug, and person offenses). However, several of the scores on the parent report BASC-2-PRS showed significance which included the Hyperactivity score, the Aggression score, the Conduct Problems score, the Adaptability score, the Activities of Daily Living the Composite Externalizing Problems score, the Composite Behavioral Symptoms Index score, and the Composite Adaptability score.

Since meeting criteria for significance in the previous correlation, the identified BASC-PRS variables were used in a predictive discriminative analysis (PDA). A predictive discriminative analysis (PDA; Hubert & Lowman, 1998) was conducted to determine if the ability of the construct underlies the effects of the grouping variables (public, property, drug, or person offenses) and predict group membership. The canonical correlations for public offenses, property offenses, drug offenses, and person offenses were all less than chance, indicating that

the model explains less than 50% of variable grouping influence. However, the canonical correlation for public offense accounted for approximately 50% of correct classification, although this is not approaching significance due to the full assumptions of the PDA not being met. In conclusion, the scores of hyperactivity, aggression, conduct problems, composite externalizing problems, composite behavioral symptoms index, adaptability, activities of daily living, and composite adaptability on the BASC-2-PRS do not predict group membership across severity of offenses; therefore Null Hypothesis 3 was upheld.

To examine question 4, a two-tailed Bivariate Correlation was again performed to examine any significant correlations regarding gender among adolescent offenders who did recidivate on the constructs of the BASC-2-SRP-A scales, BASC-2-PRS scales, and URICA scores. The correlation revealed no significant differences between any of the scores on the URICA regarding gender (i.e. male, female). However, several of the scores on the adolescent self-report BASC-2 and the parent report BASC-2 showed significance. Regarding the adolescent self-report BASC-2, significant correlations were found on the following scores: of social stress, anxiety, depression, sense of inadequacy, somatization, composite internalizing problems, composite emotional symptoms index, and interpersonal relations. On the parent-report BASC-2, significant correlations were found on the activities of daily living score and functional communication.

Once significance was found in the correlation, the identified BASC-2-SRP and BASC-2-PRS variables were used in a logistic regression to determine if they had a significant main effect on gender. Results indicated that approximately 93% of the variance of gender among adolescent offenders who recidivate is accounted for by the combined scores of social stress, anxiety, depression, sense of inadequacy, somatization, composite internalizing problems, composite

emotional symptoms index, and interpersonal relations on the BASC-2-SRP and activities of daily living score and functional communication on the BASC-2-PRS. Also the predictors of the following scores were negative: comprehensive internalizing problems (SRP), comprehensive emotional symptoms index (SRP), interpersonal relations (SRP), and activities of daily living, indicating a negative relationship regarding male gender. These results indicate that the higher the scores are in these domains, the less likely the adolescent is to be male. Additionally, the *t*-tests was significant for the anxiety score (SRP), indicating that anxiety scores (SRP) make a significant contribution to the model individually. Approaching significance were depression (SRP) and functional communication (PRS). As such, a step-wise logistic regression was then completed on these three variables. Results for the step-wise logistic regression indicated a clinically significant value for each model, indicating that the assumptions of the test were met and the population size was appropriate. Model A consisted of only anxiety scores (SRP); Model B consisted of anxiety scores (SRP) and depression scores (SRP); and Model C consisted of anxiety scores (SRP), depression scores (SRP), and functional communication scores (PRS). Results found that Model A accounted for approximately 20% of the variance of gender among adolescent offenders who recidivate. Model B accounted for approximately 22% of the variance of gender among adolescent offenders who recidivate, and Model C accounted for approximately 23% of the variance of gender among adolescent offenders who recidivate. Additionally, the *t*-test associated with the *b* value of Model A (anxiety alone) was significant, indicating that anxiety scores make a significant contribution to the model individually. Overall, high scores on anxiety, depression, and functional communication combined are predictive of male gender, thereby rejecting Null hypothesis 4.

To examine question 5, significant relationships from a previous correlational study were used in a logistic regression to assess if they have significant differences and can predict recidivism. Results indicated that approximately 49% of the variance of recidivism is accounted for by the combined scores of adaptability, social skills, leadership, and composite adaptability scores on the BASC-2-PRS. This variance is not better than chance, therefore they do not predict recidivism. The predictors for following scores were negative: social skills ( $b = -.002$ ) and composite adaptive skills ( $b = -.023$ ), indicating a negative relationship regarding recidivism (i.e. yes or no). Additionally, the  $t$ -test of leadership was significant, indicating that leadership scores make a significant contribution to the model individually, although not contributing significantly overall. In conclusion, the combined scores of adaptability, social skills, leadership, and composite adaptability scores on the BASC-2-PRS do not predict recidivism; thus Null Hypothesis 5 is upheld. These results suggest that the protective factors of the BASC-2, the Personal Adjustment and Adaptive Composites, do not predict or protect from recidivism alone. However, as the prior analyses have revealed several significant relationships and/or correlations with both the BASC-2-SRP and the BASC-2-PRS, results indicate that the protective factors play a crucial role in predicting recidivism when combined with other significant clinical scales.

To examine question 6, a two-tailed bivariate correlation was conducted for those adolescents who recidivated at 6 months, 1 year, and 2 years. At 6 months, 87 youths recidivated. For these youth, five scores on the BASC-2-PRS were significantly correlated to the type of offense committed. The scores were Conduct Problems, Composite Emotional Symptoms Index, Withdrawal, Activities of Daily Living, and Composite Adaptive. The relationships of the Activities of Daily Living score and the Composite Adaptive score were negative. This indicates a negative relationship to the type of offense committed.

A predictive discriminate analysis was conducted on the significant variables to assess if the scores could predict accurate grouping regarding the types of recidivism (i.e. public, property, drug, or person offense). A significant mean difference was only observed for the predictor, Withdrawal, on the DV. Results indicated that the assumption of equality of covariance matrices was violated, but the discriminate function revealed a significant association between groups and all predictors, accounting for 64.9% of between group variability. However, cross validated classification showed that overall only 40.5% were correctly classified. In conclusion, the scores of Conduct Problems, Composite Emotional Symptoms Index, Withdrawal, Activities of Daily Living, and Composite Adaptive on the BASC-2-PRS do not predict the type of recidivism better than chance. At 1 year, 15 adolescents recidivated. Significant correlations to the type of offense committed were again found only on the BASC-2-PRS. They were Aggression, Conduct Problems, Composite Emotional Symptoms Index, Withdrawal, Leadership, Activities of Daily Living, and Composite Adaptive Skills. No significant correlations were met at 2 year follow-up (N=12).

Null Hypothesis 6: Results indicate that none of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores predicts the adolescent's rate of recidivism. Null hypothesis 6 is upheld.

To examine question 7, a two-tailed, bivariate correlation revealed significant correlations between prior offense and severity of offense at recidivism. Results revealed significant a significant relationship between prior offense and severity of offense at recidivism. A predictive discriminative analysis (PDA) was conducted to determine if the severity of prior offense could predict the severity of recidivism (none, public, property, drug, or person offenses) and group membership. Results indicated that the worst offense prior to intake explains



approximately 45% of variable grouping influence. The casewise statistics indicated that 48.2% of original grouped cases were correctly classified. In conclusion, the severity of offense prior to intake did not significantly predict group membership across severity of offenses regarding recidivism. Once severity of group was not predicted, a linear regression was conducted to assess if the severity of crime committed prior to intake could predict recidivism (i.e. yes/no). Results indicated that the model is statistically significant and the population size is appropriate. Results also found that previous severity of crime alone only accounted for approximately 12% of recidivism. Therefore, Null hypothesis 7 was upheld.

Although not an additional hypothesis, the relationship between the severity of offense committed before intake and the severity of recidivism was explored further. An overall 27.7 % decrease was found from severity of offense prior to intake and a significant decrease regarding type of offense at recidivism.

### *Conclusions*

As stated earlier, recidivism among adolescent offenders is a significant problem as the number of youths recommitted to penal institutions continues to grow each year (Niessenbaum, 206). The current study attempted to identify the risk-factors for continued adolescent offending, as well as the protective factors which prevent further delinquent behavior. Prevention is the ultimate goal to identifying both the risk factors for delinquent behavior, as well as the protective factors found in non-offenders and non-repeat adolescent offenders. The field of counseling psychology is dedicated to understanding both risk and resilience, and values programs that facilitate positive changes on an individual and community level (Brown & Lent, 2010).

Although effective treatment of adolescent offenders depends in part on accurate identification of

the problem, possessing knowledge about the strengths of adolescents can also improve services that are geared to meet the unique needs of adolescent offenders. Identification of protective factors can be cultivated to foster present and future resiliency.

Additionally, as parental factors tend to contribute as either a risk or protective factor, it is imperative to incorporate feedback from the primary caregivers when assessing for appropriate interventions and treatment goals. Furthermore, working with adolescent offenders in a non-residential setting increases the frequency of parent-child interactions, thus heightening the potential effects parents have on adolescents' behavior. Therefore, research including parental input, particularly with standardized instruments such as the BASC-2-PRS, is essential.

Regarding question 1, based on previous research which utilized both the parent and adolescent BASC-2 on a similar population, it was not surprising to find the correlation revealed no significant relationships between any of the scores on the adolescent self-report of the BASC-2 regarding recidivism (i.e. yes or no). Lapointe and colleagues (Lapointe, et al., 2010) utilized the BASC-2 to assess frequent use of psychiatric hospitalization for low-income, inner-city, non-white ethnic youth. Results indicated that youths with frequent hospital admissions were found to be more aggressive, more hyperactive, had more severe conduct problems, and had more difficulty adapting to change than did the other youths in the study according to the BASC-2-PRS. However, similar to this study, the Self-Report of Personality BASC-2-SRP found no significant differences were found between groups (frequent hospital users and not). Discrepancies such as these are not uncommon, as research has demonstrated that youth and parents frequently disagree on the presence or severity of youth's problems (Achenbach, McConaughy, & Howell, 1987; Reynolds & Kamphaus, 2004).

It is important to note, however, that the majority of published research on the BASC-2-SRP is not conducted on minority groups or adolescent offending populations. Therefore, there is a void of literature on these populations using both the BASC-2-SRP and PRS; making comparisons to previous research very limited. The BASC-2-SRP has primarily been used to evaluate adolescents with learning disabilities, difficulty with school, ADHD diagnoses, and adolescents experiencing distress in community counseling facilities. One hypothesis for the lack of a significant relationship regarding recidivism is that most of the adolescents who are involved with the juvenile justice system have very similar profiles. It is likely that they have all encountered one or several of the risk-factors for antisocial behavior, such as low economic status (Offord, Adler, & Boyle, 1986 and Wilson & Hernstein, 1985), academic failure (Hartup, 1982 and Hawkins & Catalino, 1995), low self-esteem (Schur, 1973), peer rejection (Phillips, Burns, Wagner, Kramer, & Robbins, 2002), and antisocial parents (Lipsey & Derzon, 1998; Frick, Lakey, Loeber, Stouthamer-Loeber, Christ, & Hanson, 1992; and Phillips, et al., 2002). If one assumes that the majority of the adolescent offenders participating in this study have been exposed to similar risk-factors, it would make sense that their BASC-2-SRP profiles would look similar with regards to recidivism.

Regarding the lack of a significant relationship between scores on the URICA and recidivism is not consistent with prior research. The URICA is the most widely used and psychometrically investigated 'stage of change' questionnaires, and has been used across a variety of populations and settings to predict treatment drop-out (Tierney & McCabe, 2004). One study, in particular, investigated the ability of the URICA to predict dropout in a culturally diverse group of adolescents admitted to inpatient substance-abuse treatment (et al., 2005). Results from a hierarchical logistic regression confirmed the hypothesis that those participants in

the “Precontemplation Stage” were significantly more likely to drop out of treatment. Unlike prior research, the current study failed to find any significant relationships to scores on the URICA regarding recidivism, rate of recidivism, or type of recidivism. There are two possible hypotheses for these results. One; the URICA was not normed on an adolescent population, particularly not an adolescent offender population, and it may not be sensitive to the particular needs of adolescents. Additionally, there have been no studies to date regarding the URICA’s ability to predict re-offending. Instead, research has consistently utilized the URICA to predict treatment drop-out (Tierney & McCabe, 2004). Secondly, the absence of a significant relationship on the URICA across recidivism, rate of recidivism, or type of recidivism may be due to the fact that the adolescents all produced similar profiles. Like the assumptions regarding the BASC-2-SRP, the similar experiences of adolescent offenders may contribute to similar URICA profiles; particularly if they are not significantly distressed by being involved with the juvenile justice system or have low interest or investment in treatment.

However, several of the scores on the parent report BASC-2-PRS showed significance. These included the clinical scales of Hyperactivity, Conduct Problems, Adaptability, Social Skills, and Leadership; and the Composite scores of Externalizing Problems, Behavioral Symptoms Index, and Composite Adaptability scores. There was a negative significant relationship regarding the adaptability, social skills, leadership, and composite adaptability scores. These results suggest that parent reports are more sensitive than adolescent reports to significant relationships regarding recidivism.

To examine question 2, a logistic regression was used. After meeting the stringent criteria for significance ( $p \leq .01$ ) in the previous correlation, the significant BASC-PRS variables, (hyperactivity, aggression, conduct problems, composite externalizing problems,

composite behavior symptom index, adaptability, social skills, leadership, activities of daily living and composite adaptive scores) were used in a logistic regression to determine if they had a significant main effect on predicting recidivism. Results indicated that the model was statistically significant and the population size was appropriate. Results also identified that 60.3% of the variance of recidivism is accounted for by the combined scores of hyperactivity, conduct problems, composite externalizing problems, composite behavior symptom index, adaptability, social skills, leadership, and composite adaptive scores on the BASC-2-PRS. It can be concluded that adolescents who recidivate have high scores on the domains of hyperactivity, aggression, conduct problems, composite externalizing problems, composite behavior symptom index, adaptability, social skills, leadership, activities of daily living and composite adaptive skills. Overall, parents of these adolescents endorsed a high number of problems such as a tendency to be overactive, a tendency to engage in antisocial and rule-breaking behavior, difficulties with emotion regulation, and/or physically threatening others. Aggression, depression, attention problems, withdrawal, anti-social behaviors, and rule-breaking behavior were also generally endorsed.

The coefficients for the predictors of adaptability, social skills, and leadership were negative. On the BASC-2-PRS, the clinical scales of Adaptability, Social Skills, Leadership Skills, Activities of Daily Living, Functional Communication, and Composite Adaptive Skills are inversely related to the other scales on the BASC-2. Recalling that high scores on most of the BASC-2-PRS domains indicate problems in that area (i.e. Conduct Problems); a high score on Adaptability, Social Skills, Leadership Skills, Activities of Daily Living, Functional Communication, and Composite Adaptive Skills actually indicate positive and effective attributes. Results indicate that the higher the scores are in these domains, the less likely the

adolescent is to recidivate. Parents of the adolescents who did not recidivate endorsed higher scores on adaptive skills, social skills, and leadership skills. Supporting the research regarding protective factors (Cicchetti, et al., 1993; Werner, 1990; Gardner, Dishion, et al., 2008) adolescent offenders who had the skills necessary for interacting successfully with peers and adults, effective organizational skills, and skills associated with task completion were less likely to recidivate.

To examine question 3, a two-tailed Bivariate Correlation, was initially performed to examine any significant differences regarding the dependent variable (severity of crimes committed after intake) on the constructs of the BASC-2-SRP-A scales, BASC-2-PRS scales, and URICA scores. Severity of offenses were categorized as follows:

- *4 (Most Severe) = Person Offenses*- The most serious offense for which youth can be referred to juvenile court, which includes acts or attempts to commit homicide, forcible, robbery, aggravated or simple assault, battery, kidnapping, cruelty to animals, or other offenses against a person (U.S. Department of Justice, 2005).
- *3 (Second Most Severe) Drug Offenses*- drug law violation including unlawful sale, purchase, distribution, manufacture, cultivation, transportation, possession, or use of a controlled or prohibited substance or drug or drug paraphernalia, or an attempt to commit these acts. Sniffing and/or huffing of unapproved products (i.e. glue, paint, gasoline, and other inhalants) is also included. (U.S. Department of Justice, 2005).
- *2 (Third Most Severe) Property Offenses*- crimes against property include all non-violent thefts (i.e. burglary, larceny, motor vehicle, and shoplifting); arson,

destruction of property, stolen property offenses, trespassing, extortion, and all other fraud offenses (U.S. Department of Justice, 2005).

- *1 (Least Severe) Public Order Offenses*- offenses against public order include weapon offenses, nonviolent sex offenses, liquor law violations which are not status offenses, disorderly conduct, loitering, prowling, obstruction of justice, and other offenses against public order such as hitchhiking, false alarms, illegal immigration, and serious traffic offenses (U.S. Department of Justice, 2005).
- *0 (None)*- Adolescent did not recidivate.

The offenses were scored in ascending numerical order so that as the severity of the crime increases, so does the number associated with it. This remains consistent with most of the BASC-2 scales, in that a higher number is indicative of more severe problems. For example, a high score on Depression indicates the parent or adolescent endorsed severe distress or problems with depressive symptoms. As discussed earlier, the exception to this linear trajectory on the BASC-2-SRP is the Personal Adjustment Composites and the Adaptive Composites on the BASC-2-PRS, which both have negative correlations to severity of symptoms. The correlation revealed no significant differences between any of the scores on the adolescent self-report of the BASC-2-SRP or the scores on the URICA regarding severity of recidivism (i.e. public, property, drug, and person offenses). Again, several of the scores on the parent report BASC-2-PRS showed significance which included the Hyperactivity score, the Aggression score, the Conduct Problems score, the Adaptability score, the Activities of Daily Living the Composite Externalizing Problems score, the Composite Behavioral Symptoms Index score, and the Composite Adaptability score. There was a negative correlation on the Adaptability score, the Activities of Daily Living, and the Composite Adaptability score indicating a negative

relationship with these variables and severity of offending; when one decreases the other increases.

Since meeting criteria for significance in the previous correlation, the identified BASC-PRS variables were used in a predictive discriminative analysis (PDA). A predictive discriminative analysis (PDA; Hubert & Lowman, 1998) was conducted to determine if the ability of the construct underlies the effects of the grouping variables (public, property, drug, or person offenses) and predict group membership. The canonical correlations for public offenses, property offenses, drug offenses, and person offenses were all less than chance, indicating that the model explains less than 50% of variable grouping influence. However, the canonical correlation for public offense accounted for approximately 50% of correct classification, although this is not approaching significance due to the full assumptions of the PDA not being met. In conclusion, the scores of hyperactivity, aggression, conduct problems, composite externalizing problems, composite behavioral symptoms index, adaptability, activities of daily living, and composite adaptability on the BASC-2-PRS do not predict group membership across severity of offenses; therefore Null Hypothesis 3 was upheld. Although not significant, the results of this analysis are promising. The scores of hyperactivity, aggression, conduct problems, composite externalizing problems, composite behavioral symptoms index, adaptability, activities of daily living, and composite adaptability on the BASC-2-PRS correctly predicted almost 50% of the public offense category. A larger N size may have upheld the assumptions of the PDA, thus making this variable close to significance.

Regarding Question 4, a two-tailed Bivariate Correlation was initially performed to examine any significant correlations regarding gender among adolescent offenders who did recidivate on the constructs of the BASC-2-SRP-A scales, BASC-2-PRS scales, and URICA



scores. The correlation revealed no significant differences between any of the scores on the URICA regarding gender (i.e. male, female). This is not consistent with previous research that has found significant difference on the URICA regarding gender (Saarnio, & Knuuttila, 2007). However, unlike the correlations of the BASC-2-SRP regarding recidivism, several of the scores on both the adolescent self-report BASC-2 and the parent report BASC-2 showed significance at the ( $p \leq .05$ ) level. A significant correlation was found on the following scores of the BASC-2-SRP: social stress, anxiety, depression, sense of inadequacy, somatization, composite internalizing problems, composite emotional symptoms index, and interpersonal relations. Additionally, the BASC-2-SRP scores of Interpersonal Relations, Composite Internalizing Problems, and Composite Emotional Symptoms Index were negatively correlated regarding gender. On the BASC-2-PRS, significant correlations were found on the activities of daily living score and functional communication. The BASC-2-PRS activities of daily living score was negatively correlated to gender. These results suggest that adolescent reports are more sensitive to relationships regarding gender than parent reports.

Once significance was found in the correlation, the BASC-2-SRP and BASC-2-PRS variables were used in a logistic regression to determine if they had a significant main effect on gender. Of the adolescent offenders who recidivate ( $N=52$ ), 46.2% were female and 53.8% were male. Results indicated that the model is statistically significant and the population size was appropriate. The analysis indicates that approximately 93% of the variance of gender among adolescent offenders who recidivate is accounted for by the combined scores of social stress, anxiety, depression, sense of inadequacy, somatization, composite internalizing problems, composite emotional symptoms index, and interpersonal relations on the BASC-2-SRP and activities of daily living score and functional communication on the BASC-2-PRS. Due to the

majority of predictive variables coming from the SRP report, it can be hypothesized that adolescent reports are more sensitive to gender differences than are the parent reports. Additionally, based on the previous analyses, it is assumed that more robust differences must occur regarding BASC-2-SRP scores on the dependent variable, recidivism, versus the dependent variable, gender. This suggests that the differences on the BASC-2-SRP regarding gender, although significant, are less differentiated than those regarding recidivism (i.e. gender is more sensitive to detecting differences).

The coefficients for the following scores were negative: comprehensive internalizing problems (SRP), comprehensive emotional symptoms index (SRP), interpersonal relations (SRP), and activities of daily living (PRS), indicating a negative relationship regarding male gender. Results indicate that the higher the scores are in these domains, the less likely the adolescent is to be male. Specifically, the adolescents who endorsed a high number of symptoms indicative of hopelessness, low self-esteem, low self-reliance, and a sense of inadequacy were more likely to be female. Additionally, females were more likely to endorse a higher number of problems with social stress, problems with friends, and problems with feeling left than males. This finding is consistent with previous research investigating gender differences among adolescent offenders (Calhoun, 2001).

The t-tests associated with anxiety (SRP) was significant, indicating that anxiety scores (SRP) make a significant contribution to the model individually. Approaching significance were the values of depression (SRP) and functional communication (PRS). As such, a step-wise logistic regression was completed on these three variables. Results for the step-wise logistic regression indicated a clinically significant value for each model. Model A consists of only anxiety scores (SRP); Model B consists of anxiety scores (SRP) and depression scores (SRP);

and Model C consists of anxiety scores (SRP), depression scores (SRP), and functional communication scores (PRS). Results showed that variance of gender among adolescent offenders who recidivate is accounted for approximately 23% by the combined anxiety scores (SRP), depression scores (SRP), and functional communication scores (PRS). Additionally, Model A (anxiety alone) was significant, indicating that anxiety scores make a significant contribution to the model individually. Overall, high scores on anxiety, depression, and functional communication combined are predictive of male gender. These results were incongruent with previous research (Marsh & Dozios, 2003). Historically, females typically report more anxiety and depressive symptoms than males (APA, 2000). Another interesting result is that high scores of the protective factor, functional communication, is more likely to predict male gender. These findings suggest that although male adolescent offenders are reporting high levels of anxiety and depression, they also endorsed overall high numbers of effective communication skills. Since significant differences were found regarding gender, Null hypothesis 4 can be rejected.

Regarding question 5, significant relationships from a previous correlation study on the BASC-2-PRS were used in a logistic regression to assess if the protective factors have significant differences and can predict recidivism. Among adolescent offenders who do recidivate, results indicated that approximately 49% of the variance of recidivism is accounted for by the combined scores of adaptability, social skills, leadership, and composite adaptability scores on the BASC-2-PRS. This variance is not better than chance, therefore they do not predict recidivism. As would be expected the predictors for following scores were negative: social skills and composite adaptive skills, indicating a negative relationship regarding recidivism (i.e. yes or no). Additionally, the *t*-test of leadership was significant, indicating that leadership scores make a

significant contribution to the model individually, but not to the results as a whole. In conclusion, the combined scores of the protective factors: adaptability, social skills, leadership, and composite adaptability scores on the BASC-2-PRS do not predict recidivism; thus Null Hypothesis 5 was upheld. These results suggest that there is no significant difference between male and female adolescent offenders who recidivate. These results suggest that the protective factors of the BASC-2, the Personal Adjustment and Adaptive Composites, do not predict or protect from recidivism alone. However, as the prior analyses have revealed several significant relationships and/or correlations with both the BASC-2-SRP and the BASC-2-PRS, results indicate that the protective factors play a crucial role in predicting recidivism when combined with other significant clinical scales.

To examine question 6, a two-tailed bivariate correlation was conducted for those adolescents who recidivated at 6 months, 1 year, and 2 years. At 6 months, 87 youths recidivated. For these youth, five scores on the BASC-2-PRS were significantly correlated to the type of offense committed. The scores were Conduct Problems, Composite Emotional Symptoms Index, Withdrawal, Activities of Daily Living, and Composite Adaptive. The relationships of the Activities of Daily Living score and the Composite Adaptive score were negative. This indicates a negative relationship to the type of offense committed.

A predictive discriminate analysis was conducted on the significant variables to assess if the scores could predict accurate grouping regarding the types of recidivism (i.e. public, property, drug, or person offense). A significant mean difference was only observed for the predictor, Withdrawal, on the dependent variable, type of recidivism. Results indicated that the assumption of equality of covariance matrices was violated, but the discriminate function revealed a significant association between groups and all predictors, accounting for 64.9% of

between group variability. However, cross validated classification showed that overall only 40.5% were correctly classified. In conclusion, the scores of Conduct Problems, Composite Emotional Symptoms Index, Withdrawal, Activities of Daily Living, and Composite Adaptive on the BASC-2-PRS do not predict the type of recidivism better than chance. This may partly be due to the decreased population size, as only 87 adolescents had recidivated at 6 months. At 1 year, 15 adolescents recidivated. Significant correlations to the type of offense committed were again found only on the BASC-2-PRS. They were Aggression, Conduct Problems, Composite Emotional Symptoms Index, Withdrawal, Leadership, Activities of Daily Living, and Composite Adaptive Skills. These results are surprising as significant correlations were made with such a small sample size. No significant correlations were met at 2 year follow-up (N=12). Results indicate that none of the adaptive and clinical BASC-2-SRP-A scores, BASC-2-PRS, or URICA scores predicts the adolescent's rate of recidivism; therefore Null hypothesis 6 was upheld.

To examine question 7, a two-tailed, bivariate correlation revealed significant correlations between prior offense and severity of offense at recidivism. Results revealed significant a significant relationship between prior offense and severity of offense at recidivism. A predictive discriminative analysis (PDA) was conducted to determine if the severity of prior offense could predict the severity of recidivism (none, public, property, drug, or person offenses) and group membership. Results indicated that the worst offense prior to intake explains approximately 45% of variable grouping influence. The casewise statistics indicated that 48.2% of original grouped cases were correctly classified. In conclusion, the severity of offense prior to intake did not accurately predict group membership across severity of offenses regarding recidivism. Once severity of group was not predicted, a linear regression was conducted to assess if the severity of crime committed prior to intake could predict recidivism (i.e. yes/no). Results

indicated that the model is statistically significant and the population size is appropriate. Results also found that previous severity of crime alone only accounted for approximately 12% of recidivism. Therefore, Null hypothesis 7 was upheld. These results are incongruent with previous research that has found prior offenses to be the largest predictor of future offenses (Phillips, et al., 2002, & Patterson, et al., 1992).

In conclusion, several scales and composite scores of the BASC-2-PRS are predictive of recidivism. Several of the predictive variables included risk-factors such as aggression, conduct problems, hyperactivity, and externalizing behaviors. Additionally, several protective factors were shown to predict lower recidivism, such as adaptability, social skills, and leadership. Interestingly, neither of the risk-factors or the protective factors could predict recidivism alone. These results suggest that no single category exclusively predicts adolescent offending, but there is a dynamic interaction between risk and resiliency. Although they combined to predict recidivism, they failed to predict the type of offense at recidivism. As no scores from the BASC-2-SRP significantly correlated to recidivism, the BASC-2-PRS is likely a more accurate instrument regarding re-offending.

Regarding gender, the BASC-2-SRP appears to be more sensitive to identifying gender differences. Although two scales of the BASC-2-PRS contributed to the prediction of gender, most of the variables came from the BASC-2-SRP. Consistent with prior research (Calhoun, 2001), females endorsed a high number of symptoms indicative of hopelessness, low self-esteem, low self-reliance, and a sense of inadequacy. Additionally, females were more likely to endorse a higher number of problems with social stress, problems with friends, and problems with feeling left than males. Inconsistent with prior research, however, was the results indicating

males reported higher levels of anxiety and depression than females. This trend is historically not common within male adolescent offending populations.

As the URICA failed to meet significant correlations on any of the dependent variables, it can be concluded that this instrument is not an effective tool for predicting re-offending.

However, it is not recommended that use of the URICA be discontinued in adolescent offending populations as it likely proves to be a good tool for assessing readiness for treatment.

Additionally, the adolescents' worst prior offense neither predicted the type of offense at recidivism nor recidivating in general. This result is incongruent with past research (Phillips, et al., 2002, & Patterson, et al., 1992) and suggests that one's prior offense does not hold as much predictive weight as was once determined.

### *Implications*

The current study evaluated the BASC-2-SRP, BASC-2-PRS, and URICA in clinical use with a particular population. As such, it is a study which focuses on providing evidence to use these instruments in both clinical work and research. The results of this current study support the use of the BASC-2-SRP and the BASC-2-PRS for both clinical work and research. The BASC-2 not only provides a useful assessment of risk-factors, it also identifies protective factors that can be nurtured as well. The BASC-2-SRP will likely be beneficial to determine gender differences. Although this study identified higher levels of anxiety and depression among males, the negative social and emotional problems/scores females endorsed still significantly outweighed that of their male counterpart. This research indicates that females experience more internalizing problems and social stressors which require specialized conceptualization and treatment. In addition to aiding treatment, the BASC-2-SRP has the potential to contribute significantly to the

research on gender differences. As parental factors tend to contribute as either a risk or protective factor, it is imperative to incorporate feedback from the primary caregivers when assessing for appropriate interventions and treatment goals. The BASC-2-PRS is a helpful clinical tool as it gives the clinician information on the risk and protective factors a parent identifies in their child. Additionally, it proved beneficial when predicting recidivism. As such, this instrument is both a valuable clinical and research tool.

Regarding the URICA, no significant correlations were found regarding recidivism, gender, rate of recidivism, or type of offense upon recidivism. As such, the URICA is not a valuable research tool (along these domains) for adolescent offenders. However, it is not recommended that use of the URICA be discontinued in adolescent offending populations, as it likely offers the clinician some insight on the adolescents' readiness for change.

### *Recommendations for Future Research*

The sample size for the current study was adequate, but a larger sample size would provide more confidence in the results. Results of this study suggest that the Parent-Report BASC-2 is much more beneficial regarding an adolescent's potential to recidivate than the Adolescent Self-Report BASC-2. However, the BASC-2-SRP appears more sensitive to identifying crucial gender differences. Additional research on both the BASC-2-SRP and the BASC-2-PRS would be beneficial to further identify the risk and protective factors of the BASC-2 that contribute significantly to both treatment and re-offense prevention. Interestingly, very few of the school problems or learning disabilities appeared significant with regards to gender or recidivism on the BASC-2-SRP or the BASC-2-PRS. Further research would be helpful to



determine if the BASC-2 accurately captures difficulties with learning or school, or if these difficulties just appear to be less significant with regards to recidivism and gender in adolescent offending populations. Due to the over-representation of self-identified African Americans in this population, and in the juvenile justice population of Georgia in general, future research should include larger sample sizes of all self-reported races to determine if there is a significant interaction regarding self-identified race and recidivism.

Regarding the URICA, results from this study indicate that it does not have good research potential for adolescent offenders regarding recidivism. The research effects on predicting treatment drop-out obviously do not translate to re-offending. A more in-depth look at the URICA may help determine what questions or values are not pertinent to this population.

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