

Racial Disparities and Similarities in Risk Assessment among Adjudicated Juveniles



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Justice Policy Journal • Volume 16, Number 1 (Spring, 2019)

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Abstract

Risk assessment has become a practical tool to predict the likelihood of reoffending and to provide individualized intervention programs to needed juveniles. The main purpose of this study is intended to explore racial disparities or similarities in risk assessment among Caucasian and African American juveniles. This study is consisted of 1,325 Caucasian juveniles and 794 African American juveniles who have been adjudicated to Indiana juvenile correctional facilities during the period of January 1, 2012 to February, 2015. One of important findings from this study was that the effect of the juvenile's race on the overall risk assessment among adjudicated juveniles was not statistically significant. All seven domains from IYAS-RES assessment instrument were relatively influential predictors to the juvenile's overall risk assessment. In other words, the juvenile's overall risk assessment was primarily determined by the results of risk assessment in each of seven (7) domains of the IYAS-RES risk assessment instrument. Meanwhile, racial disparities in some of the assessment domains of the IYAS-RES risk assessment instrument were significant and notable.

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Introduction

According to Office of Juvenile Justice and Delinquency Prevention (2018), the juvenile arrest rate in ages 10-17 for all offenses reached its highest level in the last two decades in 1996, then declined 72% by 2017. For examples, the juvenile arrest rate for violent crimes declined for all racial groups between 2006 and 2012. The decline in the juvenile arrest rate reached 38% for white youth and 34% for black youth. However, delinquency caseloads for African American juveniles were significantly higher than Caucasian juveniles. According to the most recent juvenile court statistics in 2016, African American juveniles constituted around 16% of the juvenile population but were involved in 36% of the total delinquency caseloads in the United States (Hockenbery & Puzanchera, 2018). Even though the juvenile arrest rate has steadily declined, African American juveniles were four times more likely to be adjudicated to juvenile correctional facilities than Caucasian juveniles (Rovner, 2016). Undoubtedly, the disproportionate minority representation has been persistent for years throughout the juvenile justice system.

Regardless of the juvenile's race, juveniles have encountered numerous challenges to overcome a variety of risk factors to delinquency. The National Center for Juvenile Justice (Sickmund & Puzanchera, 2014) conducted an extensive study on characteristics of juveniles and victims of juvenile crimes in the United States. This national report from the National Center for Juvenile Justice found that an increasing number of juveniles were living under poverty in a single-parent family. Furthermore, juveniles who had contacted with the juvenile justice system were likely exposed to drug or alcohol use, school fighting, or gang activity. Consequently, such juveniles were likely dropped out from schools and involved in the juvenile justice system. Even though legal proceedings of adjudicated juveniles vary from state to state, law enforcement would likely place the juvenile under custody then bring the juvenile to the local juvenile detention center for the juvenile court's review and adjudication. The rehabilitation is the primary goal for the juveniles who have been adjudicated to residential placements in the juvenile justice system. Upon arrival at the juvenile detention center, the risk assessment has become an essential screening tool to determine the potential risks of reoffending and adequate accommodations in the juvenile facility.

Literature Review

The risk assessment is generally based on the framework of the "risk-need-responsivity" model which has been employed to classify the risk level among adjudicated juveniles (Andrews & Dowden, 2007; Brogan et al., 2015; Guebert &

Olver, 2014; Luong & Wormith, 2011; McGrath & Thompson, 2012; Peterson-Badali, Skilling, & Haqanee, 2015; Polaschek, 2012; Singh et al., 2014; Vincent, Guy, & Grisso, 2012; Vitopoulos & Peterson-Badali, 2012; Ward, Melser, & Yates, 2007; Willishauser, Jordan, & Jenkins, 2015). The “risk” principle refers that the level of services (e.g., academic accommodation) should match the risk level of the juvenile in order to eliminate risk factors to reoffending. The “need” principle centers on providing individualized treatment or programming to eliminate any identified criminogenic needs to reoffending. The “responsivity” principle emphasizes on the level of intervention that is paralleled with risk characteristics of the juvenile in order to motivate the juvenile to change his/her behavior.

The juvenile justice agencies have utilized the risk assessment results to complete the juvenile’s case plan upon arrival at the residential facility. The risk assessment has gradually become a standardized tool that helps juvenile justice practitioners to identify risk factors that would increase the likelihood of reoffending among adjudicated juveniles (Vincent, Guy, & Grisso, 2012). Across the nation, a variety of risk assessment instruments have been developed to assess juveniles’ risk level in juvenile justice agencies. The risk assessment for the adjudicated juvenile usually contains two components: risk assessment and need assessment. The risk assessment component serves as the mechanism to estimate the odds likelihood of the juvenile who may be at risk to reoffend. On the other hand, the need assessment component functions as the baseline measurement for individualized treatment or programming to reduce risk factors to reoffending. One of important functions of the risk assessment instruments is to identify risk factors associated with the juvenile that would increase the likelihood of involvement in delinquent or criminal behavior. Vincent and colleagues (2012) indicate that risk factors can be classified as static or dynamic. Static risk factors are generally referred to characteristics of the juvenile such as whether the juvenile’s family or friends are associated with a gang or drug use that cannot be altered through intervention in the juvenile facility. Dynamic risk factors are influential characteristics, such as pro-criminal sentiments or negative attitude toward the juvenile justice system that can change through intervention or programming to reduce the likelihood of reoffending.

Risk factors and criminogenic needs are usually interchangeable. Risk factors (or criminogenic needs) have been broadly defined as individual traits or environmental conditions, if present, that will increase the juvenile’s likelihood of engaging in delinquent or criminal behaviors (Basanta, Farina, & Arce, 2018; Clarke, Peterson-Badali, & Skilling, 2017; Farrington, 1997; Farrington, Gaffney, & Ttofi, 2017; Herrenkohl et al., 2000; Murray & Farrington, 2010; Peterson-Badali et al.,

2015; Shader, 2001; Vincent et al., 2012). Risk factors are generally categorized into five different domains: (1) individual, (2) peer, (3) family, (4) school, and (5) community. Risk factors in each of domains can directly influence the likelihood of juvenile delinquency or problem behaviors (Barnes et al., 2016; Pusch & Holtfreter, 2018). For example, family factors, such as parental supervision, could directly link to problem behaviors in early childhood and academic performance at the school level (Baglivio et al., 2018; Campbell et al., 2018; Wasserman et al., 2003). Risk factors could also extend to surrounding environments of the juvenile, which include peers (e.g., drug or alcohol use), school (e.g., truancy), and community (e.g., gang activities). Furthermore, researchers have consistently identified that drug or alcohol abuse is one of the most influential predictors to the juvenile's level of risk (Assink et al., 2015; Baglivio & Jackowski, 2013; Cox, Kochol, & Hedlund, 2018; Guebert & Olver, 2014; Hanson et al., 2015; Morgan et al., 2013; Newsome & Cullen, 2017; van der Knaap et al., 2012; Vincent et al., 2012; Wormith et al., 2012; Yesberg & Polaschek, 2015).

The risk level among adjudicated juveniles are generally categorized as low-risk, moderate-risk, and high-risk. The risk level is generally employed to predict the likelihood of reoffending. Higher scores received from the risk assessment instrument may indicate a higher risk of reoffending. Stated differently, the likelihood of reoffending among high-risk juveniles is considered significantly higher than juveniles who are classified as low-risk. Therefore, the post-release community supervision or related services for low-risk juveniles may be very limited or non-existent. On the other hand, there is a greater likelihood of reoffending among high-risk juveniles if there are insufficient interventions in the juvenile facility or if there is a lack of community supervision and related services to address the juvenile's criminogenic needs to reoffending after release from the facility.

Risk assessment has become a practical tool to predict the likelihood of reoffending and to provide individualized intervention to juveniles. For juvenile correctional administrators and practitioners, the juvenile's risk level could also serve as the benchmark for follow-up supervision or aftercare programs in the community after the juvenile has been released from the juvenile facility. In this study, we intend to examine the overall risk assessment among the juveniles who have been adjudicated to Indiana juvenile correctional facilities. This study will analyze the distinctive effect of risk factors on the juvenile's overall risk level in order to understand which risk factors are the most influential factors to assessing risk. Most importantly, racial disparities and similarities in risk assessment among adjudicated juveniles will be carefully examined in this study.

Methodology

Study Sample and Data Collection

Data collection for this study was sought and approved by Indiana Department of Correction (IDOC) through IDOC's internal review process after the researcher filed and completed the IDOC's "Non-Disclosure Agreement." This is a standardized procedure for a researcher to seek data for research or program evaluation from a state agency in the State of Indiana. After approval from IDOC's *Review Panel*, IDOC provided juvenile data that did not contain any personally identifiable information (e.g., names or social security numbers). Nonetheless, the researcher relied on the juvenile's *IDOC number* to systematically examine and analyze the juvenile's characteristics and risk assessment. It is important to mention there was no personally identifiable information that could be identified from this study's results.

The main purpose of this study is to explore racial disparities or similarities in risk assessment among Caucasian and African American juveniles. This study consisted of 1,325 Caucasian juveniles and 794 African American juveniles who have been adjudicated to Indiana juvenile correctional facilities from January 1, 2012 to February, 2015. It is important to note that there are 205 Hispanic juveniles, 7 Asian juveniles, and 4 American Indian juveniles who have been admitted to Indiana juvenile correctional facilities during the study period. In order to accurately examine racial disparities or similarities between Caucasian and African American juveniles, other races have been excluded from the present analyses.

Risk Assessment Processes

Juveniles must complete a series of tests and assessments at the in-take unit of the juvenile correctional facility to determine the juvenile's intellectual ability, academic achievement, vocational interest, learning style, and risk level. Academic assessments are important components of juvenile's intervention which are intended to adequately address the juvenile's needs, such as special education curriculum, when the juvenile has been admitted to the designated facility. Meanwhile, Division of Youth Services (DYS) of Indiana Department of Correction has employed the *Indiana Youth Assessment System (IYAS)* to determine the juvenile's risk level and adequate intervention in the juvenile correctional facility.

Risk Assessment Instrument

Indiana Department of Correction has adopted the *Indiana Youth Assessment System-Residential Tool (IYAS-RES)* to assess the juvenile's risk level during the in-take

process. The main purposes of the *Indiana Youth Assessment System* are primarily focused on identifying the juvenile's risk to reoffend and criminogenic needs. Thereafter, the identified risk level has been employed to develop the individualized case plan to address the juvenile's criminogenic needs in order to reduce recidivism after the juvenile has been released from the juvenile facility. The *IYAS-RES* comprises 33 survey questions across seven domains: (1) *juvenile justice history*, (2) *family and living arrangements*, (3) *peers and social support network*, (4) *education and employment*, (5) *pro-social skills*, (6) *substance abuse, mental health, and personality*, and (7) *values, beliefs, and attitudes*. It is important to mention that *IYAS-RES* is designed to assess the juvenile's risk level for those who will stay at the juvenile correctional facility for longer than 3 months.

In the domain of *juvenile justice history*, assessment items are focused on whether the juvenile has previously contacted with the juvenile justice system or received any formal probation violations. In the domain of *family and living arrangements*, assessment items are intended to determine the juvenile's perceptions on his/her family or parental support between the juvenile and his/her family. In the domain of *peers and social support network*, assessment items primarily examine peer influence associated with fighting, drug use, gang activity, or legal consequences due to the juvenile's association with friends. In the domain of *education and employment*, assessment items are intended to understand the juvenile's history of being expelled from school, truancy, or the relationship between the juvenile and school personnel or employer, and employment history. In the domain of *pro-social skills*, assessment items are primarily focused on the juvenile's pro-social decision-making, ability in identifying high-risk situations, or skills in managing his/her frustration. In the domain of *substance abuse, mental health, and personality*, assessment items explore the juvenile's drug and alcohol use, drug-related or alcohol-related problems, level of self-esteem, level of risk-taking behavior, or any experience of head injury. In the domain of *values, beliefs, and attitudes*, assessment items are intended to determine the juvenile's pro-criminal sentiment, attitudes toward community supervision, pro-drug values or beliefs, level of empathy toward others, or beliefs about gang activity.

The administration of the *IYAS-RES* instrument consists of a structured interview, file review, and a self-report questionnaire. The juvenile's risk assessment has been completed by trained and certified staffs at the intake unit under supervision of the Division of Youth Services, Indiana Department of Correction. In order to obtain complete and honest responses to all questions in each domain, *Indiana Youth Assessment System (IYAS)* has provided an interview guide to assist the evaluators in gathering information to accurately assess the juvenile's risk level. The

evaluators are encouraged to use follow-up questions, develop some clear examples, and avoid double-barreled questions. For example, if the juvenile cannot remember when s/he got in trouble with the law (one of questions in the domain of *juvenile justice history*), the evaluator could use several follow-up questions such as “*what happened?*” in an attempt to obtain accurate information from the juvenile.

Risk Assessment Measures

The *IYAS-RES* risk assessment employs a score of “0” or “1” to be assigned to each of assessment items in all seven domains. For example, one of the *IYAS-RES* assessment items is related to the juvenile’s previous contact with juvenile justice system in the domain of *Juvenile Justice History*. The purpose of this item is to determine whether the juvenile has engaged in delinquent behavior early in his/her life. This item is scored as “0” if the juvenile’s first contact with the juvenile justice system was at age 14 or older. If the juvenile had an official contact with the juvenile justice system prior to the age of 14, then this item is scored as “1.” In the domain of *Pro-Social Skills*, the assessment item (i.e., *identify triggers/high risk situations*) is scored as “0” if the juvenile indicated that s/he could identify high risk situations. Otherwise, the assessment item is scored as “1” if the juvenile indicated that s/he could not identify high risk situations. The same logic of risk rating system has applied to all assessment items in the *IYAS-RES* assessment instrument.

The total score in each domain is a summed score of the individual items, which has been employed to determine the risk level of each juvenile. Additionally, the risk level in each domain is classified as “low,” “moderate,” or “high” based on a defined range of the total risk score in each domain. The final score ranges from 0-33, which is based on the score of each of individual items in all seven domains. The juvenile is considered “low-risk” if the summed score of the *IYAS-RES* risk assessment is in the range of 0-11. The juvenile is considered “moderate-risk” if the summed score of the *IYAS-RES* risk assessment is in the range of 12-18. The juvenile is considered “high-risk” if the summed score of the *IYAS-RES* risk assessment is in the range of 19-33.

Data Analysis and Dependent Measure

Data analyses in this study are focused on examining the overall risk level among adjudicated juveniles who have been adjudicated to Indiana juvenile correctional facilities. Racial disparities or similarities in risk assessment throughout seven risk assessment domains of the *IYAS-RES* risk assessment will be carefully examined. In

this study, a univariate analysis would be conducted to understand the risk level across seven domains of the IYAS-RES risk assessment among Caucasian and African American juveniles. A bivariate correlation between the juvenile's race and each assessment domain would be used to examine racial disparities or similarities in risk assessment. Furthermore, the multiple regression analyses would be conducted to examine the effect of the juvenile's demographical characteristics (e.g., age) and the risk level in each assessment domain on the juvenile's overall risk level. Such multiple regression analyses would be also employed to examine the contributing factors to the juvenile's overall risk level among Caucasian juveniles and African American juveniles, respectively.

Results

Table 1 illustrates descriptive statistics of Caucasian and African American juvenile's demographical characteristics, risk level in each domain of the IYAS-RES instrument, and the overall risk level. Approximately 62.5 percent (n=1,325) of a total of 2,119 adjudicated juveniles were Caucasian and 37.5 percent (n=794) were African American. Regardless of race, a vast majority of adjudicated juveniles were male in the age range of 15-17 years old. This study found that adjudicated juveniles in Indiana juvenile correctional facilities were likely to be assessed as "moderate risk."

With respect to Caucasian juveniles, *Table 1* shows that approximately 49.7 percent (n=658) of 1,325 Caucasian juveniles were assessed as "high risk" regarding juvenile's previous contact with the juvenile justice system or legal adjudications (Domain #1). A vast majority of Caucasian juveniles (75.6%) were assessed as "low risk" regarding juvenile's perceptions on parental support or the effectiveness of communication between the youth and his/her family (Domain #2). Approximately 68.0 percent (n=901) of 1,325 Caucasian juveniles were assessed as "moderate risk" regarding peer influence on criminal or delinquent behaviors or drug use (Domain #3). There were 69.7 percent (n=924) of Caucasian juveniles were assessed as "low risk" regarding juvenile's experience of truancy, being expelled from school or employment (Domain #4). Approximately 54.0 percent (n=715) of Caucasian juveniles were assessed as "high risk" regarding juvenile's pro-social decision-making and ability in managing his/her frustration (Domain #5). This study also revealed that 73.1 percent (n=968) of Caucasian juveniles were assessed as "moderate risk" and 12.2 percent (n=161) of Caucasian juveniles were assessed as "high risk" regarding juvenile's drug and alcohol use, self-esteem, or risk-taking behavior (Domain #6). Also, 51.8 percent (n=687) of Caucasian juveniles were assessed as "moderate risk" and 10.2 percent (n=135) of Caucasian juveniles were assessed as "high risk" regarding juvenile's pro-criminal sentiment, attitude toward

community supervision or empathy toward others (Domain #7). In summary, 15.5 percent (n=206) of 1,325 Caucasian juveniles were assessed as “low risk,” 65.0 percent (n=861) were assessed as “moderate risk,” and 19.5 percent (n=258) were assessed as “high risk” based on the *IYAS-RES* risk assessment instrument.

Table 1 Descriptive statistics (frequency and percentage) of risk level among 1,325 Caucasian juveniles and 794 African American juveniles

Variable	Coding	Caucasian	African American
Gender of the Youth	0=female	230 (17.4%)	111 (14.0%)
	1=male	1095 (82.6%)	683 (86.0%)
Age of the Youth	1=12 years old	2 (0.2%)	1 (0.1%)
	2=13 years old	15 (1.1%)	10 (1.3%)
	3=14 years old	80 (6.0%)	41 (5.2%)
	4=15 years old	232 (17.5%)	143 (18.0%)
	5=16 years old	395 (29.8%)	245 (30.9%)
	6=17 years old	579 (43.7%)	343 (43.2%)
	7=18 years old	20 (1.5%)	11 (1.4%)
	8=19 years old	2 (0.2%)	0 (0.0%)
Juvenile Justice History (Domain #1)	1=low risk	342 (25.8%)	153 (19.3%)
	2=moderate risk	325 (24.5%)	178 (22.4%)
	3=high risk	658 (49.7%)	463 (58.3%)
Family and Living Arrangements (Domain #2)	1=low risk	1002 (75.6%)	611 (77.0%)
	2=moderate risk	188 (14.2%)	124 (15.6%)
	3=high risk	135 (10.2%)	59 (7.4%)
Peers and Social Support Network (Domain #3)	1=low risk	222 (16.8%)	113 (14.2%)
	2=moderate risk	901 (68.0%)	508 (64.0%)
	3=high risk	202 (15.2%)	173 (21.8%)
Education and Employment (Domain #4)	1=low risk	924 (69.7%)	603 (75.9%)
	2=moderate risk	355 (26.8%)	176 (22.2%)
	3=high risk	46 (3.5%)	15 (1.9%)
Pro-Social Skills (Domain #5)	1=low risk	28 (2.1%)	17 (2.1%)
	2=moderate risk	582 (43.9%)	339 (42.7%)
	3=high risk	715 (54.0%)	438 (55.2%)
Substance Abuse, Mental Health, and Personality (Domain #6)	1=low risk	196 (14.8%)	151 (19.0%)
	2=moderate risk	968 (73.1%)	543 (68.4%)
	3=high risk	161 (12.2%)	100 (12.6%)
Values, Beliefs, and Attitudes (Domain #7)	1=low risk	503 (38.0%)	280 (35.3%)
	2=moderate risk	687 (51.8%)	405 (51.0%)
	3=high risk	135 (10.2%)	109 (13.7%)
Overall Risk Level (A summed score of Domain #1-#7)	1=low risk	206 (15.5%)	111 (14.0%)
	2=moderate risk	861 (65.0%)	466 (58.7%)
	3=high risk	258 (19.5%)	217 (27.3%)

On the other hand, as *Table 1* indicates, this study also revealed that 58.3 percent (n=463) of 794 African American juveniles were assessed as “high risk” regarding juvenile’s previous contact with the juvenile justice system or legal adjudications (Domain #1). However, 77.0 percent (n=611) of African American juveniles were assessed as “low risk” regarding juvenile’s perceptions on parental support or the effectiveness of communication between the youth and his/her family (Domain #2). Approximately 64.0 percent (n=508) of 794 African American juveniles were assessed as “moderate risk” regarding peer influence on criminal or delinquent behaviors or drug use (Domain #3). Approximately 75.9 percent (n=603) of African American juveniles were assessed as “low risk” regarding juvenile’s experience of truancy, being expelled from school or employment (Domain #4). Results of this study showed that 55.2 percent (n=438) of African American juveniles were assessed as “high risk” regarding juvenile’s pro-social decision-making and ability in managing his/her frustration (Domain #5). Also, 68.4 percent (n=543) of African American juveniles were assessed as “moderate risk” and 12.6 percent (n=100) of African American juveniles were assessed as “high risk” regarding juvenile’s drug and alcohol use, self-esteem, or risk-taking behavior (Domain #6). There were 51.0 percent (n=405) of African American juveniles were assessed as “moderate risk” and 13.7 percent (n=109) of African American juveniles were assessed as “high risk” regarding juvenile’s pro-criminal sentiment, attitude toward community supervision, or empathy toward others (Domain #7). In summary, 14.0 percent (n=111) of the 794 African American juveniles were assessed as “low risk,” 58.7 percent (n=466) were assessed as “moderate risk,” and 27.3 percent (n=217) were assessed as “high risk” based on the *IYAS-RES* risk assessment instrument.

Table 2 Bivariate analysis (Chi-square) between juvenile’s race and risk level

Domain	Chi-Square	p (probability)
Juvenile Justice History (Domain #1)	17.052	.000
Family and Living Arrangements (Domain #2)	4.928	.085
Peers and Social Support Network (Domain #3)	15.217	.000
Education and Employment (Domain #4)	11.215	.004
Pro-Social Skills (Domain #5)	0.306	.858
Substance Abuse, Mental Health, and Personality (Domain #6)	7.009	.030
Values, Beliefs, and Attitudes (Domain #7)	6.447	.040
Overall Risk Level (Domain #1-#7 - Combined)	17.630	.000

Table 2 demonstrates a bivariate analysis (*Chi-Square*) between juvenile’s race and risk level in each domain of the *IYAS-RES* risk assessment instrument. This bivariate analysis has provided a measurement of correlation between juvenile’s race and

risk assessment in each domain of the *IYAS-RES* risk assessment instrument. As *Table 2* indicates, this study's results showed that racial disparities were statistically significant ($p < .05$) in most of the *IYAS-RES* risk assessment domains, such as, "Juvenile Justice History," "Peers and Social Support Network," "Education and Employment," "Substance Abuse, Mental Health, and Personality," and "Values, Beliefs, and Attitudes." For example, this study found that African American juveniles, rather than Caucasian juveniles, were likely to be assessed as "high risk" due to their previous contact with the juvenile justice system. There were 58.3 percent ($n=463$) of 794 African American juveniles, but only 49.7 percent ($n=658$) of 1,325 Caucasian juveniles were assessed as "high risk" due to their previous contact with the juvenile justice system prior to adjudication to Indiana Department of Correction.

Consequently, racial disparities in the overall risk assessment among adjudicated juveniles were statistically significant. For Caucasian juveniles, 15.5 percent (206) of the 1,325 Caucasian juveniles were assessed as "low risk," 65.0 percent ($n=861$) were assessed as "moderate risk," and 19.5 percent ($n=258$) were assessed as "high risk." On the other hand, 14.0 percent ($n=111$) of the 794 African American juveniles were assessed as "low risk," 58.7 percent ($n=466$) were assessed as "moderate risk," and 27.3 percent ($n=217$) were assessed as "high risk," while using a combined score of the *IYAS-RES* risk assessment instrument.

Table 3 OLS multiple regression analysis of risk assessment among adjudicated

Variable	Caucasian Juvenile	African American Juvenile	Total
Race of juvenile	n/a	n/a	.029
Gender of juvenile	.143***	.153***	.144***
Age of juvenile	-.009	-.013	-.009
Juvenile Justice History (Domain #1)	.105***	.134***	.116***
Family & Living Arrangement (Domain #2)	.153***	.157***	.153***
Peers & Social Support Network (Domain #3)	.122***	.134***	.127***
Education & Employment (Domain #4)	.136***	.132***	.133***
Pro-Social Skills (Domain #5)	.104***	.136***	.117***
Substance Abuse/Mental Health/Personality (Dom. #6)	.113***	.104***	.109***
Values, Beliefs, & Attitudes (Domain #7)	.113***	.122***	.118***
Constant	.227	.140	.140
R Square	.758	.775	.764
Adjusted R Square	.756	.772	.763

(1): "n/a" denotes that statistic was not applicable.

(2): Risk score for each domain was employed in the regression analysis.

(3): "***" denotes that regression coefficient was statistically significant at .001 level.

Table 3 illustrates ordinary least squares (OLS) regression analyses of the overall risk assessment in three different samples (Caucasian juveniles, African American juveniles, and all juveniles in the study). Results of the regression analyses indicated that, except for the juvenile's age, all seven *IYAS-RES* assessment domains were statistically and significantly correlated ($p < .001$) with the juvenile's overall risk assessment among Caucasian and African American juveniles. Nonetheless, this study found that the juvenile's race was not statistically associated with the juvenile's overall risk assessment (see the OLS multiple regression analysis in the *Total Sample*). Regardless of the juvenile's race, results of the regression analyses in three separated samples consistently showed that all seven *IYAS-RES* assessment domains were statistically and positively correlated with the overall risk assessment among adjudicated juveniles.

Results from separated analyses also showed that all seven domains of the *IYAS-RES* risk assessment instrument were influential predictors to the overall risk assessment among adjudicated juveniles. For example, the juveniles were likely to be assessed as "high risk" if they had previously contacted with the juvenile justice system, regardless of the juvenile's race. A further analysis also revealed that both Caucasian and African American juveniles were most likely to be assessed as "high risk" if they possessed pro-criminal sentiment, drug or alcohol abuse, negative peer influence, or previously contacted with juvenile justice system.

Discussion

One of important findings from this study was that all seven assessment domains from *IYAS-RES* assessment instrument were relatively influential predictors to the juvenile's overall risk assessment. In other words, the juvenile's overall risk assessment was primarily determined by the results of risk assessment in each of seven (7) domains of the *IYAS-RES* risk assessment instrument. This study also found that the race did not have an impact on the overall risk assessment among adjudicated juveniles. However, as bivariate analyses in *Table 2* indicates, racial disparities in some of the assessment domains of the *IYAS-RES* risk assessment instrument were significant and notable.

Meanwhile, a further examination of the OLS multiple regression analyses (i.e., *Beta* coefficients) among Caucasian juveniles and African American juveniles revealed a differentiated effect of the *IYAS-RES* risk assessment on the juvenile's overall risk assessment. For Caucasian juveniles, the effect of the *IYAS-RES* risk assessment instrument on the juvenile's overall risk level were (in order): (1) *Substance Abuse, Mental Health, and Personality* (Domain #6), (2) *Peers and Social Support Network* (Domain #3), (3) *Values, Beliefs, and Attitudes* (Domain #7), (4)

Juvenile Justice History (Domain #1), (5) *Family and Living Arrangements* (Domain #2), (6) *Pro-Social Skills* (Domain #5), and (7) *Education and Employment* (Domain #4). For African American juveniles, the effect of the *IYAS-RES* risk assessment instrument on the juvenile's overall risk level were (in order): (1) *Peers and Social Support Network* (Domain #3), (2) *Substance Abuse, Mental Health, and Personality* (Domain #6), (3) *Juvenile Justice History* (Domain #1), (4) *Values, Beliefs, and Attitudes* (Domain #7), (5) *Pro-Social Skills* (Domain #5), (6) *Family and Living Arrangements* (Domain #2), and (7) *Education and Employment* (Domain #4).

Nonetheless, results of this study clearly revealed that "*Substance Abuse, Mental Health, and Personality*" (Domain #6) and "*Peers and Social Support Network*" (Domain #3) exerted the most influential effect on the juvenile's overall risk assessment. The purposes of assessing the juvenile's substance abuse or mental health issues are intended to identify "*whether or not the juvenile has difficulty controlling his/her anger,*" "*the juvenile's most recent drug or alcohol use,*" "*the age at which the juvenile started using drug or alcohol,*" "*the juvenile's level of self-esteem,*" "*the level of risk-taking the juvenile is willing to engage,*" or "*whether or not the juvenile has experienced a major head injury.*" This study found that the juvenile's substance or alcohol abuse, the status of mental health, and risk-taking behavior significantly impacted the juvenile's overall risk assessment.

On the other hand, this study's results revealed that the risk assessment domain – "*Peers and Social Support Networks*" – was a significant and influential factor on the overall risk assessment among African American juveniles. This assessment domain (*Peers and Social Support Networks*) primarily focuses on the juvenile's friends and their behaviors, the juvenile's family and its association with gang activity, and the juvenile's relationship with the juvenile justice personnel. The purposes of assessing the juvenile's peers and social support networks are attempted to understand "*whether or not the juvenile's acquaintances use drugs,*" "*the juvenile's friends' pattern of fighting,*" "*whether or not the juvenile's family and/or friends are associated with a gang,*" "*whether or not the juvenile has been arrested with friends,*" or "*the juvenile's relationship with juvenile justice personnel.*" Undoubtedly, results of this study clearly showed that juveniles were most likely assessed as "high risk" if they had exposed themselves to such crime-prone environments, which were embedded with risk factors such as peer influence on drug and alcohol use or gang activity. Regardless of the juvenile's race, other risk factors in the *Indiana Youth Assessment System-Residential Tool (IYAS-RES)* had also exerted a significant impact on the juvenile's overall risk assessment such as the juvenile's family and living arrangements or pro-criminal sentiment.

This study also found that the juvenile's gender was statistically and significantly correlated ($p < .001$) with the juvenile's overall risk assessment, regardless of the juvenile's race. Specifically, this study's results indicated that male juveniles, rather than female juveniles, were likely to be assessed as high risk to reoffend. Regardless of the juvenile's race, this study also found that the juvenile's gender was statistically and significantly correlated ($p < .05$) with the domains of the *IYAS-RES* risk assessment instrument, except "*Education and Employment*" (Domain #4). For example, results of this study revealed that 14.5 percent ($n=159$) of the 1,095 Caucasian male juveniles, but only 0.9 percent ($n=2$) of the 230 Caucasian female juveniles, were assessed as "high risk" regarding juvenile's drug and alcohol use, self-esteem, or risk-taking behavior (Domain #6). There was a similar pattern among African American juveniles. There were 14.5 percent ($n=99$) of the 683 African American male juveniles, but only 0.9 percent ($n=1$) of the 111 African American female juveniles, were assessed "high risk" regarding juvenile's drug and alcohol use, self-esteem, or risk-taking behavior (Domain #6). Undoubtedly, the effect of the juvenile's gender on the overall risk assessment and each of *IYAS-RES* assessing domains will need to be further examined.

Conclusion

The Division of Youth Services of Indiana Department of Correction (IDOC) has utilized the *Indiana Youth Assessment System (IYAS)* to assess the risk of adjudicated juveniles during the intake process. Initially, the *IYAS* is used to determine the most appropriate facility for the juvenile to complete his/her programs in the facility. From there, the results of the *IYAS* assessment are used by the juvenile's treatment counselor to develop treatment goals and behavior interventions once the juvenile has been transferred to the designated juvenile correctional facility. The juvenile facility staff members in the correctional facility can utilize the assessment results to effectively address potential barriers to the juvenile's reentry to school, family, or community.

Across the United States, juvenile correctional administrators and educators have coped with an array of complex problems among adjudicated juveniles such as learning disabilities, substance abuse, or mental health problems. Specifically, learning disabilities and emotional disorders are the most prevalent disabilities among adjudicated juveniles. For example, a notable number of juveniles in Indiana juvenile correctional settings have been placed in special education programs. Undoubtedly, the use of validated risk assessment instruments has numerous practical values for juvenile correctional practitioners and administrators in terms of identifying the juvenile's criminogenic needs or risk of reoffending. Thereafter,

the juvenile correctional personnel could specify an individualized case plan for each juvenile in the facility in order to address such identified risk factors as identified from the risk assessment.

The primary focus of this study was to examine racial disparities or similarities in risk assessment among adjudicated juveniles. Undoubtedly, limitations to such risk assessments are understandable. The context of risk factors to juvenile delinquency or criminality is complex. In this study, the present researchers did not have enough information to examine the validity or reliability of risk assessment results. The validity and reliability of risk assessment shall be one of main focuses in future researches. Furthermore, the juvenile's risk level shall be applied into the equation to analyze the post-release recidivism among adjudicated juveniles.

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