Validity and Accuracy of Risk Assessment in Criminal Justice: An Examination of the Ohio Risk Assessment System

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Abstract

Ohio implemented a standardized risk assessment system in 2009 through the extensive research of the University of Cincinnati and the Ohio Department of Rehabilitation and Corrections (ODRC) in an effort to achieve greater efficiency and validity for a more unified corrections system. In the present study, quantitative research was conducted on a college population and convicted offenders from a local county Common Pleas Court using primary and secondary data analysis. Online surveys were administered to the college and data on the offenders was obtained through correspondence with the ODRC in order to obtain empirical evidence testing several underlying hypotheses comparing gender and race and regarding the validity and accuracy of the overall scores of both populations using the Community Supervision Tool (CST) of the Ohio Risk Assessment System (ORAS). Through analyses using Independent T-Tests in the SPSS program, results partially support the validity and accuracy of the ORAS and the hypotheses proposed with the exception of one regarding race. Due to the limited number of subjects accessible for this present study, future research is encouraged on this topic in order to provide better insight in regards to the entire state of Ohio in an effort to ultimately benefit the Ohio criminal justice system.

Keywords: Community Supervision Tool (CST), Ohio Risk Assessment System (ORAS), quantitative, SPSS, Independent t-tests

Introduction

Delinquency and crime has, unfortunately, remained a significant problem for the justice system and social services across the nation. Several factors have been examined through extensive research by numerous institutions and independent researchers over the years, showing correlations between family structure, religious affiliation and deviant behavior. Many researchers have made use of the social control theory and the National Longitudinal Study, and several of those studies found that single-parent homes and households consisting of no father figure had the highest risk for deviant behavior later in life (Antecol & Bedard, 2002; Francesconi, 2001).

Many people blame the issue of crime on peer pressure, while others blame it on mental health disorders or the way an individual was raised. In reality, there really is no concrete factor that plays into the reason of why people become criminals. In 2006, the Ohio Department of Rehabilitation and Corrections (ODRC) contracted with the University of Cincinnati, Center for Criminal Justice Research, in an effort to solve those problems. The Ohio Risk Assessment System was developed as "a risk and needs assessment system that improved consistency and facilitated communication across criminal justice agencies" (Latessa et al., 2009, pg. 1).

The interest of this study is to anonymously gather data concerning individuals from various demographics and to correlate that information with self-reported risk assessments. The purpose is to determine the validity and accuracy of the Ohio Risk Assessment System by comparing the risk scores of convicted offenders from a local county Common Pleas Court to the risk scores of respondents at a local college. An extensive literature review that delved into the current issue was performed, and the research was supported by the theories expressed in the social control theory. The researcher provided surveys to various individuals at the college and obtained a secondary data analysis of test scores of convicted offenders of the county Common Pleas Court that were assessed using the Ohio Risk Assessment System. The college respondents took the survey online using Qualtrics, which provided an output file which was compatible with the SPSS program. The information obtained from the county offenders was also uploaded into the SPSS program for further analysis. General demographic information was obtained through the use of the descriptives analysis on the SPSS program. A series of Independent T-Tests were performed on the data comparing means of both populations in regards to gender and race. Results can be viewed in further detail in the results section and in Appendix B.

As a community corrections professional, this researcher is aware that most offenders have more than one underlying risk factor. Some may be victims of abuse, while others may have substance abuse issues in their lives or poor education. Others may struggle with maintaining a job or with decision-making. Due to these various issues, the state of Ohio has developed a risk assessment system for the purpose of identifying risk in offenders to better be able to supervise them. The following literature review will go into greater detail about this risk assessment system and will discuss the current issues that the corrections system is facing today. There are seven hypotheses in this study regarding the mean ORAS score of offenders in comparison to College respondents, and also when factoring in gender and race. The developers of the ORAS instrument recommended that further testing of validity be done, which is exactly what this study will be doing.

Results partially support the validity and accuracy of the Ohio Risk Assessment System, but there are several concerns to address in the future beyond the scope of this study. Most of the hypotheses were supported, with the exception of one regarding race, which will be discussed further in a later part of this paper. The ORAS is fairly new to the Ohio criminal justice system

and has been subjected to many jurisdictions over the past several months in an effort to fully implement the system in the state of Ohio. Below are a discussion of the ORAS and an overview of the development and purpose of this instrument.

Review of Literature

Researchers in the past and present have been diligently working to find a way to understand risk and what factors actually cause criminal offending, whether it is social or natural characteristics. A lot of research has been done in the past in regards to what causes criminal offending, but now there seems to be a growing trend in the social research field for studies focusing on offender risk and recidivism. In the state of Ohio, the current risk assessment tool used by the justice system is the Ohio Risk Assessment System (ORAS), which was created by researchers at the University of Cincinnati in conjunction with the Ohio Department of Rehabilitation and Corrections from 2006 to 2009 and was fully implemented in most probation departments in the state of Ohio by October of 2011. The ORAS tool was created in an effort to better assess the risk of offenders in the state of Ohio. The assessment system is designed to protect public safety and guide the corrections system on how to supervise offenders at any risk level (Latessa et al., 2009).

In the public's eye, any offender of any sort is considered to be a threat. In reality, there are many factors to consider in making someone an actual threat to society. An offender may have a substantial substance abuse history, but may have never been violent in their past and may be well educated otherwise. This is where the risk assessment tools are important. In order to determine just how much of a risk a person is to society, community corrections professionals must perform assessments (Latessa, 2003-2004; Latessa & Lowenkamp, 2005b). Community corrections professionals are extensively trained on how to perform assessments and must be certified through the Ohio Department of Rehabilitation and Correction in order to assess offenders. The complexity of these assessment tools should ensure that the results will be accurate and reliable.

Latessa outlined the four principles of effective classification as: the risk principle, the needs principle, the responsivity principle, and the professional discretion principle (as cited in Andrews, Bonta, & Hoge, 1990). Contemporary risk assessment tools are designed to measure the risks and needs of offenders, as well as static and dynamic factors that affect the offender's ability to be successfully rehabilitated and reintegrated into society (Latessa 2003-2004; Latessa & Lowenkamp, 2005a). Latessa and the rest of the research group identified three major goals in the development of the ORAS tool, including "1) separated Ohio offenders into risk groups based on their likelihood to recidivate, 2) identified dynamic risk factors that can be used to prioritize programmatic needs, and 3) identify potential barriers to treatment (Latessa et al., 2009, pg. ii; Latessa et al., 2010). Using the ORAS tool, professionals are able to determine what level of risk an offender should be categorized as based on their overall score at the end of the assessment. Risk levels vary from low to high, with several levels in between. These scores can be used in order to determine how an offender should be supervised and what treatment programs they should be subjected to (Latessa et al., 2009). Below is the chart that is used to categorize offenders according to their total ORAS score using the Community Supervision Tool (ORAS-CST).

Risk Categories for MALES			Risk Categories for FEMALES		
Scores	Rating	Percent of Failures	Scores	Rating	Percent of Failures
0-14	Low	9%	0-14	Low	7%
15-23	Moderate	34%	15-21	Moderate	23%
24-33	High	58%	22-28	High	40%
34+	Very High	70%	29+	Very High	50%

(Latessa et al., 2009, pg. 50)

To clarify, a male offender that scores from 0 through 14 will be considered a low risk offender, from 15 to 23 will be considered moderate risk, from 24 to 33 will be a high risk and from 34 or higher (49) will be a very high risk. For females, an offender that scores from 0 through 14 will be considered a low risk offender, from 15 to 21 will be considered moderate risk, from 22 to 28 will be a high risk and from 29 or higher (49) will be a very high risk. The chart above provides the percent of likelihood that an offender will fail or recidivate while on supervision with respect to each risk level. According to the ORAS tool, offenders in the low risk category should have little to no programming, while moderate and high risk offenders should be placed into the intensive supervision programs. The CST of the ORAS consists of a total of 35 individual questions within 7 sections and has potential scores ranging from 0 to 49 (Latessa et al., 2009).

The scores are also used by community corrections centers, jails and prisons. Some offenders may go through a series of up to three or four assessments over a period of time depending on the decisions made in court. There are a total of five assessment instruments within the Ohio Risk Assessment System, including The Pretrial Assessment Tool, The Community Supervision Tool, the Community Supervision Screening Tool, The Prison Intake Tool, and the Reentry Tool (Latessa et al., 2009). These tools provided pure gold evidence through quantitative research that is used to identify dynamic risk factors and potential barriers to treatment (Andrews, Bonta, & Hoge, 1990; Bonta, 2002). In Latessa's final report published in 2009, he defined dynamic risk factors, or criminogenic needs, as "factors that when changed, have been shown to result in a reduction in recidivism" (Latessa et al., 2009, pg. 2). Several of these risk factors are examined throughout the CST in the Ohio Risk Assessment System.

An offender may be assessed by a probation officer or an intake officer at a community-based correctional facility (CBCF), jail or prison (Holsinger, Lurigio, & Latessa, 2001). The static factors will remain unchanged no matter how many times the assessment is done, but the dynamic factors allow the supervising authority to determine the success of the treatment and programming the offender has been subjected to over the term of their supervision (Latessa 2003-2004).

Officer discretion can be used throughout the assessment process, but overall there is a set of guidelines to follow when performing the tests. The guidelines are spelled out for the assessment administrator in order to improve the reliability of the decisions made in regards to offender treatment and to set a precedent for all offenders across the system (Latessa, 2003-2004). Researchers in the past, namely those directly involved in the development of the ORAS tool, admit that professional discretion is important because of the limitations of assessment instruments (Holsinger, Lurigio, & Latessa, 2001; Latessa et al., 2009; Latessa et al., 2010). It is important that offenders be placed into an appropriate treatment program according to their level of risk in order to avoid unnecessary and unforeseen complications in the future.

Research has shown that placing a low risk offender into an intensive program actually achieves negative results and causes that offender to recidivate when they were not as likely to if they would have been treated according to the risk level. Most prisons currently use similar

assessments when they are placing offenders in cellblocks. It would be unnecessary for a low-risk offender to be placed into a maximum security cell block, just as it would be unnecessary to place a low-risk offender into an intensive supervision program. When low-risk offenders are subjected to intensive treatment programs, they are more likely to be exposed to offenders of higher risk categories, which could disrupt prosocial networks that aid in the prevention of recidivism (Andrews, Bonta, & Hoge, 1990; Latessa, 2003-2004; Lowenkamp & Latessa, 2004b; Lowenkamp & Latessa, 2005b). Misplacing offenders in inappropriate programming can lead to further problems in the future and is essentially a waste of resources due to the increased risk that has now been manifested (Lowenkamp & Latessa, 2003; Lowenkamp & Latessa, 2004a).

Bonta (2002) also discusses the issue of validity in regards to the ORAS. He stated that the assessment tools should be able to predict criminal activity and should be directly relevant to criminal behavior. He emphasized the importance of assessing several dynamic factors in order to identify the best treatment and supervision program for the offender. In order for the assessment instruments to be effective, Bonta (2002) encouraged that they should be based on relevant theories of human behavior, such as sociological-criminological explanations of crime, psychopathological models, or social learning perspectives (Bonta, 2002).

In the past, there have been several pre-existing risk assessment tools developed. Most of these tools were not valid predictors for certain populations and were not as diverse as the ORAS (Latessa et al., 2010). Some of these tools also failed to quantitatively distinguish between risk levels which made it difficult to predict the likelihood of recidivism and the need for treatment (Latessa & Lowenkamp, 2005a).

On the contrary, there has also been some very successful and valid assessment tools produced throughout the United States. The most common is the Level of Service Inventory-Revised (LSI-R), which is based directly off of the social learning theory. This instrument has 54 items, in comparison to the 35 items on the CST of the ORAS, and 10 sections, in comparison to the seven sections on the CST of the ORAS. The LSI-R has many of the same questions as the CST, but goes into more depth on some of the categories. According to Latessa (2003-2004), the LSI-R has been determined to be one of the most valid instruments in predicting recidivism for offenders. Another well-known assessment tool is the Statistical Information on Recidivism (SIR), which is very similar to the CST as well, but has five categories of risk rather than four. According to Latessa (2003-2004), the SIR was revalidated by Bonta, Harman, Hann, and Cormier in 1996 (Latessa, 2003-2004).

This researcher would agree with Latessa and Lowenkamp (2005a) that assessment should be thought of as an ongoing process. The state of Ohio identified the need for an instrument that followed offenders throughout the entire criminal justice system and was relevant at all points in the process, which prompted the development of the ORAS. A research team from the University of Cincinnati studied a population of 1,839 Ohio offenders through surveys and interviews and developed a database of over 200 potential risk factors, which were eventually narrowed down to the 35 items that are now focused on in the CST and other tools of the ORAS (Latessa et al., 2009; Latessa et al., 2010). Offenders are categorized based on their overall score in regards to risk, but can also be assessed in each of the seven individual categories in order for their supervising officer to prioritize treatment accordingly (Latessa et al., 2010).

The importance of this standardized instrument for the entire state of Ohio is very high. The Ohio Department of Rehabilitation and Corrections, along with the University of Cincinnati, spent several years researching, studying and validating this assessment system, and it is believed to be valid and accurate in assessing risk levels (Latessa et al., 2009; Latessa et al.,

2010). However, in 2010, Latessa published an article addressing the limitations of the study in regards to the relevancy of the assessment system to all jurisdictions in the state of Ohio, but argued that based on the number and diversity of participants that the results are still encouraging (Latessa et al., 2010). For the purpose of this study, the following theory section will discuss the relevance of the validity theory to the topic at hand.

Theory

As stated above, the purpose of this study is to test the validity and accuracy of the Ohio Risk Assessment System. Sireci indicated that since the early 1950s, the American Psychological Association has provided standards for testing validity (as cited in APA, 1954). Continuous research has been done over the years in order to maintain those standards. Several studies and articles were reviewed on this topic, ranging from the early 1950s to the most recent in 2007 by Stephen G. Sireci, who stated "To prove our worth in the world, we as researchers must present evidence that the information provided by the tests that we study and help create is useful and scientifically sound" (Sireci, 2007, pg. 477). With the purpose of this study in mind, it is important to remember the difficulty in proving the validity of the test and the ability to determine if the test is measuring what it is designed for. According to Sireci (1998a, 2007), Messick (1989b), Kane (1992, 2006), and several others, conclusions were made that it is essentially impossible to prove the validity of a test and the relevancy of its measurements (Sireci, 2007).

Since the 1950s, there have been a total of five versions of the standards created by the American Psychological Association. Sireci (2007) listed four major points to summarize the validity theory, including:

- "Validity is not a property of a test. Rather, it refers to the use of a test for a particular purpose.
- To evaluate the utility and appropriateness of a test for a particular purpose requires multiple sources of evidence.
- If the use of a test is to be defensible for a particular purpose, sufficient evidence must be put forward to defend the use of the test for that purpose.
- Evaluating test validity is not a static, one-time event; it is a continuous process;" (as cited in Cronbach, 1971; Kane, 1992; Messick, 1989a, 1989b; Shepard, 1993; AERA et al., 1999) (Sireci, 2007, pg. 477).

There have been some suggested modifications to the validity theory over the years, including when Ebel (1961) suggested using the term *meaningfulness* instead of validity, and when Kane (1992) proposed a new approach to the validation methodology, and when Lissitz and Samuelsen (2007) suggested a change in the terminology again with an emphasis on educational validity approaches (Ebel, 1961; Kane, 1992; Lissitz & Samuelsen, 2007; Sireci, 2007). The AERA takes several of these inquiries into account and several changes have been made over the years, which have led up to the current definition of validity as "the degree to which evidence and theory support the interpretations of test scores entailed by proposed uses of tests" (AERA et al., 1999, p. 9).

The current standards have five sources of validity evidence that are used in the process of validating a tool, including: "(a) test content, (b) response processes, (c) internal structure, (d) relations to other variables, and (e) consequences of testing (AERA et al., 1999, p. 11). The

purpose of having the five steps is to allow for the evaluation of all aspects of a test up to and including any attached theory, construct and test (Sireci, 2007).

There are advantages and disadvantages of the validity theory. One major advantage is that the theory ensures that tests will be accurate and with purpose, rather than being spontaneous and useless. The theory, however, can be confusing to the average layperson and can be an extensive process. Lissitz and Samuelsen (2007) and Sireci (1998a, 2007) argued that the validation process has been impeded due to the focus on construct validity, rather than test purpose (Lissitz & Samuelsen, 2007; Sireci, 2007). Sireci (2007) stated that the validation investigation should "involve both subjective analysis of test content and empirical analysis of test score and item response data" (Sireci, 2007, pg. 481). This researcher would agree with Sireci (2007) in questioning how a test can be validated if the committee does not know the purpose of the test.

In order to validate a tool or test, there must be a clear understanding of the purpose of the test scores in the theory behind the purpose. To elaborate further, Sireci indicated that the Standards described, "A sound validity argument integrates various strands of evidence into a coherent account of the degree to which existing evidence and theory support the intended interpretation of test scores for specific uses. . . . Ultimately, the validity of an intended interpretation . . . relies on all the available evidence relevant to the technical quality of a testing system. This includes evidence of careful test construction; adequate score reliability; appropriate test administration and scoring; accurate score scaling, equating, and standard setting; and careful attention to fairness for all examinees" (AERA et al., 1999, p. 17; Sireci, 2007, pg. 479).

Sireci agrees, and this researcher concurs, that evaluation of testing consequences is necessary. Messick (1989b) and Sireci (2007) discussed how unintended negative consequences may indicate problems within a testing system. This issue could be a major concern with regards to the Ohio Risk Assessment System due to the seriousness of the consequences that could arise, such as loss of freedom or inappropriate treatment programming and supervision. Due to the risk of unintended negative consequences, this research is aimed at determining the validity of the ORAS in order to optimistically avoid future conflicts should issues arise in the duration of this project.

Method

The following research is quantitative, but the primary method used is deduction. Deduction occurs when hypotheses are derived from extant literature. Quantitative analysis involves the analysis of data using numerical values in order to draw certain conclusions (Babbie, 2011). Two different kinds of data are presented in this study. Primary data was collected by the researcher via an online survey through Qualtrics. The primary data were composed of college respondents. A secondary data source, county convicted offender information, was provided by the research bureau of the Ohio Department of Rehabilitation and Corrections. There is no reason to believe that the secondary data provided by the state would have been any different had the researcher collected it himself.

A series of requests and permissions were required in order to perform the current research. The researcher began requesting for permissions and consents to release information with the county Common Pleas Court. A Consent to Release Information form was signed by the presiding judge. Approval from the college Institutional Review Board (IRB) committee was obtained.

Sample

The question arose of whether or not the county selected is a good representative of the state of Ohio in regards to demographic breakdown. The 2011 estimated population of the 40,860.69 mi.² land area of the state of Ohio was 11,544,951 people, consisting of 51.2% female, 81% white, 12.4% black and 3.2% Hispanic. The 2011 estimated population of the 411.46 mi.² land area of the county was 39,035 people, consisting of 50.7% female, 87.8% white, 2.1% black and 8.8% Hispanic. The county has a slightly older population, with a lower percentage of minorities, a lower percentage with post high school education, and a lower median household income in comparison to the entire state of Ohio.

In comparison to the college student population, nearly 22.4% of the total population is county residents. There are a total of 932 undergraduates and 89 graduates enrolled, but a total of 1,090 received the online survey request, along with the 216 faculty members and 162 staff members. Of the total number of students enrolled, 781 were Ohio residents, which accounts for 76.5% of the overall student population. There were 230 non-Ohio residents and 10 international students. In regards to gender, there were 500 males and 621 females. In regards to race, there were 205 (20.1%) minorities and 816 (79.9%) non-minorities (white/Caucasian). There were a total of 61 Ohio counties represented at the college.

The sample was planned to consist of at least 200 individuals, including 100 respondents from a local college and 100 randomly selected offenders from the local county Common Pleas Court. The college was chosen as part of the representative population due to the diversity on campus and the amount of potential respondents to participate in the study. The offenders from a local county were selected due to the availability of the information and the diversity of the population as well. All offenders in this study were identified by the Ohio Department of Rehabilitation and Corrections. Upon closing down the online survey, there were a total of 316 responses out of a total of 1,468 possible respondents from a local college, including faculty, staff and students. Of those 1,468 possible respondents, a small percentage of those are actually duplicate e-mails due to graduate assistants being considered both staff and students. In addition to the 297 offenders from the database of offenders from the county, the grand total was 613 separate subjects.

Procedure

The dependent variable is the overall scores of the CST of the ORAS, which will be determined based on the overall results when comparing the mean ORAS score for convicted county offenders to the mean ORAS score of college respondents. The dependent variable was measured using self-reports completed by respondents and the information was analyzed using Independent T-tests. For the purpose of the present research, the following chart provides the operational definitions of the dependent variable being analyzed, and the respective values in the SPSS program for analysis.

ORAS Score	The ORAS Score can be defined as the overall cumulative score obtained at the conclusion of the Community Supervision Tool (CST) of the Ohio Risk Assessment System (ORAS), based on the answers to the 35 questions contained in the 7 sections of the instrument. Measuring the ORAS Score of the participants;

Risk Categories for MALES			Risk Categories for FEMALES		
Scores	Rating	Percent of Failures	Scores	Rating	Percent of Failures
0-14	Low	9%	0-14	Low	7%
15-23	Moderate	34%	15-21	Moderate	23%
24-33	High	58%	22-28	High	40%
34+	Very High	70%	29+	Very High	50%

For the purpose of the present research, the following chart provides the operational definitions of the five (5) conceptual/independent variables being analyzed, including gender, age, race/ethnicity, alcohol complications, and parenting structure, and the respective values in the Statistical Package for the Social Sciences (SPSS) program for analysis.

Gender	Gender can be defined as the sexual orientation of the respondent. There are two choices given in this study, including Male and Female. Measuring gender demographic of each participant; 1 = Male 2 = Female.
Age	Age can be defined as the number of years that the participant has been alive. This inquiry is to be filled in by the respondent with no choices available. Measuring the age demographic of the participants;
Race/Ethnicity	Race can be defined as the racial makeup or background of an individual, while Ethnicity can be defined as the individual's heritage and cultural background. The available choices for Race/Ethnicity include White, Black, Hispanic, Asian, Other, Unknown and Multiracial. Measuring the race/ethnicity demographic of the participants; 1 = White 2 = Black 3 = Hispanic 4 = Asian 5 = Other 6 = Unknown 7 = Multiracial
Alcohol Complications	Alcohol complications can be defined as whether or not alcohol has ever been a negative factor in their lives, such as causing the loss of life or employment, or complications with

	either. There are two choices given in the study, including Yes or No. Measuring the alcohol complications demographic of the participants; 1 = Yes 2 = No.
Parenting Structure	Parenting Structure can be defined as who the individual was primarily raised by until the age of 18 years old. There are fourteen choices given in this study, including Mother Only, Father Only, Both Biological Parents, Mother & Stepfather, Father & Stepmother, Grandparent(s), Aunt/Uncle, Sibling(s), Family Friend(s), Adopted, Foster Care, Homeless, Other and Some Combination, with an option to explain. Measuring the parenting structure demographic of the participants; 1 = Mother Only 2 = Father Only 3 = Both Biological Parents 4 = Mother & Stepfather 5 = Father & Stepmother 6 = Grandparent(s) 7 = Aunt/Uncle 8 = Sibling(s) 9 = Family Friend(s) 10 = Adopted 11 = Foster Care 12 = Homeless 13 = Other 14 = Some combination

The following seven (7) hypotheses were produced prior to completing this study and after careful analysis of extant literature:

H_1: The mean ORAS score of convicted offenders of the Common Pleas Court will differ from that of college respondents.

H_1: $\mu ORAS_{Offenders} \neq \mu ORAS_{College}$

H_2: The mean ORAS score of males will differ from that of females.

H_2: $\mu ORAS_{Males} \neq \mu ORAS_{Females}$

H_{2a}: For College Respondents, the mean ORAS score of males will differ from that of females.

H_{2a}: For College Respondents, $\mu ORAS_{Males} \neq \mu ORAS_{Females}$

H_{2b}: For Offenders, the mean ORAS score of males will differ from that of females.

H_{2b}: For Offenders, $\mu ORAS_{Males} \neq \mu ORAS_{Females}$

H_3: The mean ORAS score of minorities will differ from that of non-minorities respondents.

H_3: $\mu ORAS_{Minorities} \neq \mu ORAS_{Non\text{-}minorities}$

H_{3a}: For College Respondents, the mean ORAS score of minorities will differ from that of non-minorities respondents.

H_{3a}: For College Respondents, $\mu ORAS_{Minorities} \neq \mu ORAS_{Non\text{-}minorities}$

H_{3b}: For Offenders, the mean ORAS score of minorities will differ from that of non-minorities respondents.

H_{3b}: For Offenders, $\mu ORAS_{Minorities} \neq \mu ORAS_{Non\text{-}minorities}$

Because education level was not provided by the state and therefore could not be tested, replacement hypotheses were proposed in addition to the originally submitted hypotheses. The reason for selecting the new hypotheses was to provide insight into the potential race differences and ORAS scores. It is assumed that the average ORAS score will differ because of the disproportionate number of minorities represented in the offender population in comparison to the non-offender, college population.

The above listed independent variables and hypotheses were measured through self-reports of the college respondents on the surveys presented and from secondary data received from the state. The researcher conducted surveys on various individuals at the college as well as a secondary data analysis of a database containing test scores of convicted offenders of the local county Common Pleas Court that were assessed using the Community Supervision Tool of the Ohio Risk Assessment System. The respondents at the college took the survey online using Qualtrics, which provided an output file which was compatible with the SPSS program. The information obtained from the county offenders was also uploaded into the SPSS program for further analysis.

All variables were measured and data was gathered through a questionnaire that included factual questions regarding gender, age, race/ethnicity, parenting structure, as well as the entire Community Supervision Tool (CST) of the Ohio Risk Assessment System (ORAS). Similar data was obtained through correspondence with the research department for the Ohio Department of Rehabilitation and Corrections. A data set of 297 county offenders was obtained through this correspondence for the purpose of analysis in this study. The online questionnaire administered to the college population included demographic questions, which were used to measure quantitative variables.

In order for the researcher to administer the online survey, complete cooperation from all parties involved had to be gained beforehand. After proper permission and cooperation was met with the Ohio Department of Rehabilitation and Correction, the college, and The University of Cincinnati, the researcher presented the online survey to the college population on three separate occasions over a period of ten days to ensure the highest amount of responses possible. The

questionnaire was completed by respondents online using the Qualtrics survey program website in ten minutes or less; however, more time was allotted when needed.

Data were exported from the Qualtrics online survey website into an SPSS .sav file. A column titled IDNumb was added in order to uniquely identify each respondent from number 1 to number 316. The data was then scrubbed and all incompletes were deleted. The first deletion was from the "Finished" column, which identified whether or not the respondent completed the entire survey through the end. From this column, respondent numbers 1, 32, 69, 99, 119, 134, 166, 169, 176, 229, 252 and 256 were all deleted as they did not complete the survey through the end. Survey respondent numbers 42, 150, 181 and 219 were deleted because they failed to respond to question 1. Survey respondent numbers 2, 21, 29, 40, 63, 64, 68, 73, 82, 87, 88, 130, 137, 163, 173, 185, 206, 257, 264, 277, 278, 279, 280, 287 and 314 were deleted because they failed to respond to question 2. Survey respondent numbers 66, 162, 210, 248, 259, 275 and 311 were deleted because they failed to respond to question 3. All remaining respondents did respond to question 4, so no deletions were made for this column. Survey respondent number 312 was deleted because they failed to respond to question 5. All remaining respondents did respond to question 42 regarding whether or not they reside in the primary county, and so no deletions were made for this column. Survey respondent numbers 313, 315 and 316 were deleted because they failed to respond to question 43 regarding whether or not they are Ohio residents.

Question 7 was the beginning of the CST questions for the ORAS. Several more deletions were made at this point. Survey respondent number 70 was deleted for failure to respond to question 7. All remaining respondents succeeded in responding to questions 8, 9, 10 and 11, so no deletions were made for this column. Survey respondent number 138 was deleted for failure to respond to question 12. Survey respondent numbers 111 and 293 were deleted for failure to respond to question 13. All remaining respondents succeeded in responding to question 14, so no deletions were made from this column. Survey respondent numbers 123, 151 and 223 or deleted for failure to respond to question 15. All remaining respondents succeeded in responding to questions 16, 17, 18, 37, 38, 39, 40, 41, 19, 20, 21, 22, 23, 24 and 25, so no deletions are made from these columns. Survey respondent number 199 was deleted for failure to respond to question 26. Survey respondent number 304 was deleted for failure to respond to question 27. All remaining respondents succeeded in responding to question 28, so no deletions were made from this column. Survey respondent number 103 was deleted for failure to respond to question 29. Survey respondent number 116 was deleted for failure to respond to question 30. Survey respondent number 27 was deleted for failure to respond to question 31. All remaining respondents succeeded in responding to questions 32, 33, 34, 35 and 36, so no deletions were made from these final columns.

Upon review of the remaining 252 respondents, it was observed that respondent number 12 responded with 2.75 for their age and respondent number 230 responded with 10 for their age, so these two respondents were also deleted due to the improbability and inappropriateness of their responses to the age question. Following these deletions, a final save point was made, accounting for the 16th total saved point for the raw data. The high number of save points was necessary to provide for easy checkpoints if mistakes were made and needed to be corrected. A total of 250 respondents remained usable out of the total of 316 that were initially collected. A total of 47 variables/columns remained in the data set prior to the calculation of the ORAS scores.

To reduce the number of variables, a new variable titled "Duration" was added in order to calculate the amount of time it took each respondent to complete the survey by finding the

difference between the "start" and "end" variables. The "start" and "end" variables were then deleted from the data set upon completion of the calculations for the "duration" variable column. The "Finished" variable column was then deleted due to irrelevance to the final data analysis. Question 33 was reverse coded on purpose to ensure that respondents were appropriately answering questions. This question was recoded and then deleted/replaced with the proper scoring according to the ORAS instrument.

At this point, each of the 35 questions on the CST of the ORAS were recoded into the same variables with one equaling zero and two equaling one for most, but some also with three equaling two when necessary. A new variable titled "ORAS" was added to the data set, which calculated the sum of the responses to each of 35 individual questions to yield the overall ORAS CST score for each respondent. The 35 individual question columns were then all deleted, leaving only the ORAS score variable column to remain in place of them. At this point, a total of 10 variables remained for final analysis.

Due to the data set provided by the Ohio Department of Rehabilitation and Corrections containing variables other than the ones remaining in the college data set, each variable in both data sets was aligned so that the two data sets could be merged into one. This was accomplished using "Add Cases" in SPSS and saved as a new data set for final analysis. After combining the data sets, there were now a total of 547 total subjects for analysis.

Raw data indicated that 92% of the college respondents were white, while only 84% were white in the offender population. There was also an underrepresented population of Hispanics at the college and nearly three times as many African Americans in the offender population. Due to these issues, a new variable titled "minority" was created due to the low number of minorities in this study, which separated the "white" respondents as "non-minority" from all other race classes as "minority." In this variable, a response of "unknown" for race was assumed to be a minority. A final new variable titled "offender" was created in order to separate the two data sets into college respondents and convicted offenders from the state database.

The raw data was pre-analyzed in an effort to identify respondents that failed to answer all questions and any influential outliers. Those who failed to complete the entire survey were identified on the data view in SPSS when a "-" sign was found in any of the survey questions cells for each respondent, which resulted in them being deleted from the data set. There were a total of 66 college respondents deleted, but zero county offenders. The data set was saved numerous times throughout the process of deletions in an effort to refrain from starting over with the raw data if a mistake was made at any point. General demographic information was obtained through the use of the Descriptives analysis on the SPSS program. A series of Independent T-Tests were performed on the data comparing means of both populations in regards to gender and race. Through careful interpretation of descriptive tables and Independent T-Tests, conclusions were made based on the significance of the various factors involved, which lead to the formulation of final formulas based on significance using identified coefficients and accepting or rejecting the null and alternative hypotheses. Regression analyses were not possible for this study because there were not enough variables with enough variance. The variables in this study were mostly dichotomous.

Results

General demographic information and frequencies for the variables were obtained through the use of descriptives and frequencies functions in the SPSS program. The data was analyzed and tested in three formats. The first format included all subjects, while the other two

formats separated the college respondents into one and the offenders into another. The data sources were separated by operating the SPSS program and clicking the tab for Data, then Select Cases, and then If Offender = 1 or 2, respectively. After each t-test, it was imperative to go back to the above steps and select All Cases in order to do further analysis on all subjects again.

The mean duration for the online survey for the college population was 6.5041 minutes with a standard deviation of 12.39646. The overall total number of subjects in this study was 547, consisting of 297 offenders from the county Common Pleas Court and 250 from the college. Of the total, 317 (58%) were male and 230 (42%) were female. A total of 483 (88.3%) were categorized as non-minority, or white/Caucasian, while only 64 (11.7%) were categorized as minority, consisting of black/African American, Hispanic, Asian, other, unknown and multiracial respondents and subjects. To elaborate further, there were a total of 483 white, 28 black, six Hispanic, one Asian, five other, for multiracial and 20 unknown. The mean ORAS score for the white respondents was a 9.07, in comparison to a 12.64 for black/African Americans, 9.834 Hispanics, 5.00 for Asians, 7.80 for other, 11.00 for multiracial and 12.00 for unknown. The mean age of all respondents was 32.39.

Of the 297 offenders, 229 (77.1%) were male and 68 (22.9%) were female. A total of 251 (84.5%) were considered non-minority and 46 (15.5%) as minorities. To elaborate further, there were a total of 251 (84.5%) white subjects, 22 (7.4%) black/African American subjects, 4 (1.3%) other subjects and 20 (6.7%) unknown subjects. White offenders had a mean ORAS score of 11.91 with a standard deviation of 5.939, in comparison to black/African American offenders at 13.45 with a standard deviation of 7.170, other offenders at 7.75 with a standard deviation of 1.500 and unknown offenders at 12.00 with a standard deviation of 5.591. The mean age of the offenders was 34.98.

In regards to offense level for the convicted offenders at the time of their CST assessments for the ORAS, a total of 18 were assessed for non-felonies, 81 for felonies of the fifth degree (F5), 66 for felonies of the fourth degree (F4), 32 for felonies of third degree (F3), 14 for felonies of the second degree (F2), 4 for felonies of the first degree (F1) and one for murder. The mean ORAS score for offenders who had a non-felony offense was a 10.17 with a standard deviation of 5.649, in comparison to those on for felony offenses at 11.81 with a standard deviation of 5.810 (F5), 11.05 with a standard deviation of 6.151 (F4), 12.50 with a standard deviation of 6.201 (F3), 14.43 with a standard deviation of 6.284 (F2), 13.75 with a standard deviation of 8.057 (F1) and 9.0 with no standard deviation due to only one subject having been convicted of murder, specifically.

In regards to the supervision type for the convicted offenders at the time of their CST assessment for the ORAS, a total of 208 were reported to have been on community control, 29 on post-release control (PRC), 2 on parole, one on probation, 5 on compact parole, 8 on compact probation, 1 in intensive program prison, and 43 out on judicial release. The mean ORAS score for offenders on community control was 11.84 with a standard deviation of 6.058, in comparison to those on PRC with a 13.59 with a standard deviation of 6.577, parole with a 13.50 with a standard deviation of 6.364, probation with a 3.00 with no standard deviation due to only one subject being at this level, compact parole with a 14.60 with a standard deviation of 6.189, compact probation with a 12.38 with a standard deviation of 6.844, intensive program prison with a 28.00 with no standard deviation due to only one subject been at this level and judicial release with a 10.95 with a standard deviation of 4.331.

For the college sample, 88 (35.2%) were male and 162 (64.8%) were female. There were 232 (92.8%) non-minority respondents and only 18 (7.2%) minority respondents. To elaborate

further, there were 232 (92.8%) white respondents, 6 (2.4%) black/African Americans, 6 (2.4%) Hispanics, 1 (.4%) Asian, 1 (.4%) other and 4 (1.6%) multiracial respondents. The mean ORAS score for white college respondents was a 6.00 with a standard deviation of 4.356, a 9.67 with a standard deviation of 3.882 for black/African Americans, a 9.83 with a standard deviation of 3.869 for Hispanics, a 5.00 with no standard deviation due to their being only one Asian respondent, an 8.00 with no standard deviation due to only one respondent listing their race as other and an 11.00 with a standard deviation of 8.485 for those who listed more than one race and were categorized as multiracial. The mean age of the college respondents was 29.31.

In regards to who the college respondents were raised by until the age of 18, a total of 22 (8.8%) indicated that they were raised by their mother only, 1 (.4%) by their father only, 173 (69.2%) by both biological parents, 15 (6.0%) by their mother and a stepfather, 4 (1.6%) by their grandparents, 2 (.8%) by their aunt/uncle, 1 (.4%) was adopted and 32 (12.8%) had some combination of the above. The mean ORAS score of respondents raised by their mother only was a 6.73 with a standard deviation of 4.289, a 5.0 with no standard deviation for the one respondent raised by their father only, a 5.69 with a standard deviation of 3.871 for those raised by both biological parents, a 5.67 with a standard deviation of 4.546 for those raised by their mother and stepfather, an 8.75 with a standard deviation of 2.872 for those raised by their grandparents, a 3.00 with a standard deviation 1.414 for those raised by their aunt/uncle, a 3.00 with no standard deviation due to only one respondent being adopted and a 9.31 with a standard deviation of 6.488 for those raised by some combination of the above.

There were 63 (25.2%) respondents that indicated that personal alcohol consumption had a negative effect on their life. The mean ORAS score for those 63 respondents that had issues with alcohol in the past was a 7.38 with a standard deviation of 5.413, in comparison to the 187 (74.8%) that have not had negative effects due to alcohol, who had a mean ORAS score of 5.88 with a standard deviation of 4.072. The independent samples t-test for these variables produced a t-value of 2.314 and a P-value of .021, which is significant at the .05 level.

A total of 220 respondents indicated that they were considered permanent residents of the state of Ohio, which accounted for 88% of the college sample population. The mean ORAS score for those who reported to be permanent residents of the state of Ohio was a 5.95 with a standard deviation of 4.436. Non-residents of Ohio had a mean ORAS score of 8.57 with a standard deviation of 4.216. The independent samples t-test for these variables produced a -3.053 t- value and a .003 p-value, which is significant at the .01 level.

A total of 108 respondents indicated that they were considered permanent residents of the county which accounted for 43.2% of the college sample population. The mean ORAS score for county residents was a 5.94 with a standard deviation of 4.577. Non-residents of the county had a mean ORAS score of 6.50 with a standard deviation of 4.413. The independent samples t-test for these variables produced a -.970 t-value and a .333 p-value, which is not significant at the standard .05 level.

The hypotheses in this study were tested using Independent Samples t-tests. A total of seven separate tests were conducted for the purpose of testing the hypotheses in this study, which yielded the results in the following paragraphs. The reason for using two-tailed tests was because the hypotheses were dealing with variables that were anticipated to differ from one another. All seven of the t-tests indicated that the variances are equal in all instances, which deemed the t-test as a reliable analysis tool for the study. Verification of this reliability was tested and confirmed by Levene's Test for a Quality of Variances. In SPSS, the null hypothesis in Levene's test assumes that the variances of the two variables are equal. When the P value (significance) is less

than α, the researcher is required to reject the null hypothesis and assume that the variances are equal. Since the variances are equal in each test, the Equal variances assumed row in each Independent Samples Test chart was referred to for statistical information regarding test statistic value and significance in each of the two-tailed tests. In each of the seven hypotheses, it was stated that the means of each variable would differ from one another, which was verified by observing a positive or negative difference in the mean of each. If the two-tailed P value is zero, the one tailed P value will also be zero. In those situations, the null hypothesis would be rejected in favor of the alternative and conclusions could be made in regards to the differences in mean values of each variable (Carver & Nash, 2012).

ORAS CST Score					
	n	**M**	**SD**	**t**	**P**
All	547	9.36	6.061	12.439	.000***
Male	317	10.98	6.201	7.725	.000***
Female	230	7.13	5.089		
Minority	64	11.58	6.021	3.135	.002**
Non-Minority	483	9.07	6.012		
Offender	297	11.98	5.990		
Male	229	12.41	6.189	2.309	.022*
Female	68	10.51	5.033		
Minority	46	12.33	6.314	-.430	.667
Non-Minority	251	11.91	5.939		
College	250	6.26	4.484		
Male	88	7.27	4.471	2.664	.008**
Female	162	5.71	4.407		
Minority	18	9.67	4.839	-3.417	.001***
Non-Minority	232	6.00	4.356		

n, M (mean), SD (standard deviation)
*p<.05, **p<.01, ***p<.001

Reference should be directed to the chart above for further clarification and illustration of the results. The mean ORAS score for all subjects was a 9.36, while the mean ORAS score for offenders was higher at 11.98, but lower for college respondents at a 6.26. Results indicate that the ORAS instrument rates offenders higher than the college respondents, which comes to no surprise to the researcher. Results indicate a P value of .000, which is close to zero, which assumes a one tailed P value close to zero as well. The findings allow the researcher to reject the null hypothesis in favor of the following alternative hypothesis:

H_1: The mean ORAS score of convicted offenders of the county Common Pleas Court will differ from that of college respondents.

H_1: $\mu ORAS_{\text{Offenders}} \neq \mu ORAS_{\text{College Respondents}}$

H_1: $11.98_{\text{Offenders}} \neq 6.26_{\text{College Respondents}}$ (t=12.439, p<.001)

When comparing the mean ORAS scores for all subjects, males had a 10.98 and females had a 7.13. Results indicate that the ORAS instrument rates males higher than the females, which also comes to no surprise to the researcher. Results indicate a P value of .000, which is close to zero, which assumes a one tailed P value close to zero as well. The findings allow the researcher to reject the null hypothesis in favor of the following alternative hypothesis:

H_2: The mean ORAS score of males will differ from that of females.

H_2: $\mu ORAS_{Males} \neq \mu ORAS_{Females}$

H_2: $10.98_{Males} \neq 7.13_{Females}$ (t=7.725, p<.001)

When comparing the mean ORAS scores for only college subjects, males had a 7.27 and females had a 5.71. Results indicate that the ORAS instrument rates males higher than the females for college subjects, which again comes to no surprise to the researcher. Results indicate a P value of .008, which is close to zero, which assumes a one tailed P value close to zero as well. The findings allow the researcher to reject the null hypothesis in favor of the following alternative hypothesis:

H_{2a}: For College Respondents, the mean ORAS score of males will differ from that of females.

H_{2a}: For College Respondents, $\mu ORAS_{Males} \neq \mu ORAS_{Females}$

H_{2a}: For College Respondents, $7.27_{Males} \neq 5.71_{Females}$ ($t= 2.664$, $p<.01$)

When comparing the mean ORAS scores for only offender subjects, males had a 12.41 and females had a 10.51. Results indicate that the ORAS instrument rates males higher than the females for offender subjects, which again comes to no surprise to the researcher. Results indicate a P value of .022, which is close to zero, which assumes a one tailed P value close to zero as well. The findings allow the researcher to reject the null hypothesis in favor of the following alternative hypothesis:

H_{2b}: For Offenders, the mean ORAS score of males will differ from that of females.

H_{2b}: For Offenders, $\mu ORAS_{Males} \neq \mu ORAS_{Females}$

H_{2b}: For Offenders, $12.41_{Males} \neq 10.51_{Females}$ ($t= 2.309$, $p<.05$)

When comparing the mean ORAS scores for all subjects, minorities had an 11.58 and non-minorities had a 9.07. Results indicate that the ORAS instrument rates minorities higher than the non-minorities for all subjects. Results indicate a P value of .002, which is close to zero, which assumes a one tailed P value close to zero as well. The findings allow the researcher to reject the null hypothesis in favor of the following alternative hypothesis:

H_{3}: The mean ORAS score of minorities will differ from that of non-minorities respondents.

H_{3}: $\mu ORAS_{Minorities} \neq \mu ORAS_{Non\text{-}minorities}$

H_{3}: $11.58_{Minorities} \neq 9.07_{Non\text{-}minorities}$ ($t= -3.135$, $p<.01$)

When comparing the mean ORAS scores for only college subjects, minorities had a 9.67 and non-minorities had a 6.00. Results indicate that the ORAS instrument rates minorities higher than the non-minorities for only college subjects. Results indicate a P value of .001, which is close to zero, which assumes a one tailed P value close to zero as well. The findings allow the researcher to reject the null hypothesis in favor of the following alternative hypothesis:

H_{3a}: For College Respondents, the mean ORAS score of minorities will differ from that of non-minorities respondents.

H_{3a}: For College Respondents, $\mu ORAS_{Minorities} \neq \mu ORAS_{Non\text{-}minorities}$

H_{3a}: For College Respondents, $9.67_{Minorities} \neq 6.00_{Non\text{-}minorities}$ ($t= -3.417$, $p<.001$)

When comparing the mean ORAS scores for only offender subjects, minorities had a 12.33 and non-minorities had an 11.91. Results indicate that the ORAS instrument rates minorities higher than the non-minorities for only offender subjects, but not by much. Results indicate a P value of .667. The findings force the researcher to fail to reject the null hypothesis and reject the following alternative hypothesis:

H_{3b}: For Offenders, the mean ORAS score of minorities will differ from that of non-minorities respondents.

H_{3b}: For Offenders, $\mu ORAS_{Minorities} \neq \mu ORAS_{Non\text{-}minorities}$

H_{3b}: For Offenders, $12.33_{Minorities} \neq 11.91_{Non\text{-}minorities}$ ($t= -.430$, $p>.05$)

Discussion

The overall results of this study are very encouraging for future research and analysis to be done in regards to the Ohio Risk Assessment System, and more specifically the Community Supervision Tool. There were many difficulties throughout the duration of this research, mostly centered on the issue of obtaining the numerous permissions and consents in order to analyze this sensitive data. Cooperation was never an issue with any of the agencies involved in this research, and without their help, this would have taking much longer to complete. There are several limitations and suggestions related to the present study that will be discussed in further detail in the following paragraphs.

To begin with, the outliers were not deleted prior to analyzing and testing the data. It should be noted that one offender was in his 70s and one college respondent scored a 33 on the CST of the ORAS. The data was deemed appropriate and important to the research at hand. The outliers would not discredit this research study in any way.

This study is susceptible to non-response bias. Some potential respondents might have seen that the questions pertain to criminal activity, and, having a criminal background, chose not to take or complete the survey. Given the population of potential respondents, non-response follow up is not optional. However, the likelihood of any non-respondent having a felonious or misdemeanor criminal background that includes incarceration is exceptionally low due to the population of potential respondents.

This study is susceptible to social desirability bias. Some of the respondents may feel uncomfortable disclosing their true criminal background or demographic background and might have answered questions in a manner they felt was more socially acceptable. Some may have answered negatively or positively to impress others around them in either situation. This bias is also small due to the anonymous nature of the survey. No respondents were asked to disclose any personally identifiable or traceable information.

The Community Supervision Tool (CST) of the Ohio Risk Assessment System (ORAS) is subject to rater bias because the assessment is administered in an interview setting by a corrections professional to a subject who has been admitted into the criminal justice system. The rater can reasonably assume the respondent to be potentially misleading or evasive in their answers, and the rater's interpretation of inflection or body language in addition to the mere fact that the respondent is "in the system" may bias his or her interpretation of the respondent's answer.

The study is subject to method bias. The only manner of eliciting responses by the comparison group was a survey instrument. Respondents could not interact with the rater for clarity of questions. In addition, the scores for the offender population were obtained by individual interview, not by the same survey instrument. It should be noted, however, that the exact same questions were posed to the two groups, but the collection methodology varied, which could impact results.

As can be seen above, this research was very rich in valuable information for all of the agencies involved, including, but not limited to, the college (C) and the Ohio Department of Rehabilitation and Corrections (ODRC). There were a surprising number of responses received back on the online survey that was distributed to the college faculty, staff and students. Through correspondence with ODRC, a very detailed and time-saving database was received from their research Bureau for the purpose of analysis in this study. The online survey was active for 10 days before being deactivated and exported into SPSS for pre-analysis screening. The data set provided ODRC was merged with the college database after all necessary deletions and additions

were made to make it possible. There were a total of 250 usable responses from the college respondents and 297 subjects provided by the state, making a total of 547 subjects for the purpose of analysis.

The data were analyzed using several methods, including descriptives, frequencies, comparison of means and independent sample t-tests. Of the seven hypotheses proposed, all but one was supported. It was anticipated that the mean ORAS score for offenders would be higher than that of college respondents overall, as well as when comparing gender and race overall, for college respondents only and for offenders only. The only hypothesis that was rejected was H_{3b} due to the P value being greater than .05 in regards to significance.

Aside from the hypotheses being tested, several other forms of analyses were performed as well. It was found that the mean age of all respondents was 32, with the mean age of college respondents being approximately 5 years younger than that of the offenders. Overall, there was not a significant difference between the age of offenders and the age of college respondents. For the purpose of further research, it would be beneficial to separate the subjects into categories, such as ages "0-18" and "18-29" and so forth. This would allow for better analysis of age categories in relation to mean ORAS scores and would provide researchers and professionals with better information in regards to the effect of age on the mean ORAS score.

The duration of time that it took for college respondents to complete the online surveys was calculated and a mean of 6.5041 minutes was obtained. Further research may delve into the validity of the online survey in an effort to replace the current method used by criminal justice professionals and administering the CST of the ORAS. The online survey questions were developed by this researcher based on professional knowledge of the CST of the ORAS and the original questions from the assessment tool were reworded in order for the respondents to understand each individual inquiry. By validating this online survey, it would allow for more efficiency in the workplace due to a decreased amount of time that would need to be allotted for each individual offender. The offender could simply fill out the online survey at a kiosk in less than 10 minutes and submit it to their supervising officer for review. The assessment could then be reviewed at a follow-up office visit and could be overridden with professional discretion if deemed necessary. Another possible option would be to have actual one-on-one interviews with each individual subject in order to avoid rater bias.

Due to the demographics of the two separate databases used in this study, there were a disproportionately higher number of males to females in the offender data, but a disproportionately higher number of females than males in the college data. While observing the data in real time on the Qualtrics website, it was noted that a large majority of the survey respondents were females in the beginning, but males began responding later in the week. It is assumed that there are a disproportionate number of males to females in the offender data because of the current demographics of offenders in the criminal justice system in regards to gender. In the coming years, this gender gap may decrease due to the rising number of drug and non-violent offenses by women. Further research could be done with a larger database from both sources and broader areas in order to determine if the results from this study were a good representation for the entire state of Ohio and beyond.

It was anticipated that there would be a low number of minorities being represented in the college data due to the current demographics of the college. Records from the college indicate that 20.1% of their total population is minorities, in comparison to the 11.7% of minorities involved in this study. Minorities accounted for 15.5% of the offender sample and 7.2% of the college sample. Further research could be done with more of a direct focus on obtaining

responses from a similar percentage of minorities in relation to other data sets. This would allow for researchers and professionals to gain a better understanding of the effects of race and ethnicity on ORAS scores.

Through comparison of means, it was observed that white/Caucasian and Black/African-American offenders had comparably higher ORAS scores than those of the college respondents. The data set obtained from ODRC contained subjects categorized as white, black, other and unknown, while college subjects could categorize themselves as white, black, Hispanic, Asian and other. Future research could be conducted that would include identical options in both data sets in order to clarify any conclusions made based on the results found in this study.

Based on information obtained from the college registrar, it was determined that only 22.4% of the college population were county residents. A request was sent to ODRC for a random sample of subjects from the entire state of Ohio, rather than just this primary county, but that request was denied due to the information presented in the original research proposal to them. Further research could be done with a random sampling of data from the entire state of Ohio in order to have a better comparison of data sources with regards to the college, who educates students from approximately 61 of Ohio's 88 counties each year.

The data collected from the college respondents included individual answers to each of the 35 CST questions on the ORAS; however those 35 questions were summed up after proper recoding of variables and were all replaced by one single variable with just the total ORAS score for each respondent. There are endless opportunities with the data provided by the respondents on each of the 35 questions. Future research could involve the collection of full CST assessments with individual answers to each question from the offenders, rather than just the total ORAS score, which would allow for further identification of primary risk factors for criminal offending and recidivism. Possible doctoral work could be done on this topic in the future. This would allow for researchers and professionals to not only be able to see the risk factors associated with gender and race, but also numerous other variables.

Future research could benefit from a study involving the ORAS score is of offenders at each stage of the criminal justice system. This would include several assessments throughout the time of their subjection to the system, up to and including law enforcement, jails, prisons, treatment centers and community supervision. This will allow for researchers and professionals to determine the effects of their programming and their success rates with regards to the evolution of each offender's ORAS scores at each stage of the process. Since ORAS is fairly new to the Ohio criminal justice system, this would be very difficult at this time, but may be plausible within the next decade.

Results from this study found that the mean ORAS score for offenders who had a non-felony offense was a 10.17, in comparison to those on for felony offenses at 11.81 (F5), 11.05 (F4), 12.50 (F3), 14.43 (F2), 13.75 (F1) and 9.0 for the murderer. Future research could study the effects of the level of offenses on ORAS scores, and vice versa. It would be interesting to see the mean scores for the entire state of Ohio since the mean scores for the primary county were so random. It would be hypothesized that higher-level felony offenders would have higher ORAS scores, but the current study would not support that hypothesis completely.

Results from this present study found that the mean ORAS score for offenders on community control was 11.84, in comparison to those on PRC with a 13.59, parole with a 13.50, probation with a 3.00, compact parole with a 14.60, compact probation with a 12.38, intensive program prison with a 28.00 and judicial release with a 10.95. Once again, it would be interesting to see the mean scores for the entire state of Ohio due to the randomness of the scores

from the county. It would also be more beneficial to have a larger database of offenders on each form of supervision listed above.

Results from this present study found that the mean ORAS score of college respondents raised by their mother only was a 6.73, a 5.0 for father only, a 5.69 for both biological parents, a 5.67 for mother and stepfather, an 8.75 for grandparents, a 3.00 for aunt/uncle, a 3.00 for adopted and a 9.31 for some combination of the above. Further analysis of the effects of parenting structure on ORAS scores would be beneficial to researchers and professionals because it would provide insight for the juvenile justice system with regards to the negative effects of certain parenting structures. By doing so, it may assist in reducing future criminal activity in subjects by subjecting them to better home environments.

Results from this present study found that there were 63 (25.2%) respondents that indicated that personal alcohol consumption had a negative effect on their life. The mean ORAS score for those 63 respondents that had issues with alcohol in the past was a 7.38, in comparison to the 187 (74.8%) that have not had negative effects due to alcohol, which had a mean ORAS score of 5.88. It was significant at the .05 level. The significance of this comparison creates curiosity for future research. If future research also finds a strong significance between the two variables, it could sway the decisions made by judges today in regards to the special condition of community supervision that prohibits the offender from entering any bars or taverns and possessing or consuming any alcoholic beverages.

A final note for future research is a simple emphasis on the expansion of the database and territory covered. The present study found that 80% of the college sample population was from the state of Ohio with a mean ORAS score of 5.95. In comparison to nonresidents of the state of Ohio, it was nearly 3 points lower and was found to be significant at the .01 level. In regards to the county, the present study found that about 43.2% of the college sample population was from the county and had a mean ORAS score of 5.94. In comparison to nonresidents of the primary county, it was about a half point lower and found to be significant at the standard .05 level. With a larger database and more square mileage covered, it would be interesting to see the results and to compare them to the present study.

In conclusion, this researcher would agree that the Ohio Risk Assessment System (ORAS) possesses many benefits, but also some limitations. No tool will ever be flawless, and no assessment tool will always be correct in assessing someone. The developers of the ORAS acknowledge the limitations of their tool and welcomed future research to be done in testing the validity and reliability of the instrument. The developers also acknowledged the method bias by allowing professionals to use their discretion and overriding the classification of offenders if deemed necessary. The ORAS reduces duplication in the Ohio criminal justice system and enhances the sharing of information among agencies. It identifies potential barriers to treatment and risk factors associated with recidivism. The ORAS is an online application with an easy-to-use interface and is compatible with other systems as well (Latessa et al., 2009; Latessa et al., 2010). The tool was designed to prioritize caseloads based on offender risk and needs and allows supervising officers to be aware of potential risk factors in the offenders' lives (Ohio Department of Rehabilitation and Correction, 2010).

The results of this study would partially support the validity and accuracy of the Ohio Risk Assessment System. The findings indicate that all subjects involved in this study as a mean score would be classified as low risk offenders and would therefore be placed onto a very basic and simplistic form of supervision with little to no contact over the term of their supervision. The fact that both college respondents and convicted offenders would be categorized, on average, in

the same supervision level is disturbing. It could indicate that the college is poorly recruiting its faculty, staff and students, or could mean that the convicted offenders of the county, are, on average, a low risk offender population overall. A better understanding of the present research could be reached with a larger database, but that should not undermine the results found in this study.

There were surprising findings in regards to minority college respondents and offenders. Future research would be highly beneficial to professionals in the criminal justice system with regards to race and its effects on the ORAS score. In reviewing literature, it was observed that statistics were gathered regarding gender, but race was not reported on in very much detail to this researcher astonishment. The present study should set a precedent for future research to be done on this topic with hopes that it will someday benefit the Ohio criminal justice system.

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APPENDIX B: Detailed Statistical Results Relative to Proposed Hypotheses

INDEPENDENT SAMPLES T-TESTS:

$H_{1:}$

Group Statistics

	Offender	N	Mean	Std. Deviation	Std. Error Mean
ORAS	1	297	11.98	5.990	.348
	2	250	6.26	4.484	.284

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ORAS	Equal variances assumed	22.207	.000	12.439	545	.000	5.716	.460	4.814	6.619
	Equal variances not assumed			12.744	537.908	.000	5.716	.449	4.835	6.598

$H_{2:}$

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
ORAS	Male	317	10.98	6.201	.348
	Female	230	7.13	5.089	.336

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ORAS	Equal variances assumed	12.278	.000	7.725	545	.000	3.854	.499	2.874	4.834
	Equal variances not assumed			7.969	536.750	.000	3.854	.484	2.904	4.804

$H_{2a:}$

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
ORAS	Male	88	7.27	4.471	.477
	Female	162	5.71	4.407	.346

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ORAS	Equal variances assumed	1.090	.297	2.664	248	.008	1.563	.587	.407	2.718
	Equal variances not assumed			2.653	176.496	.009	1.563	.589	.400	2.726

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
ORAS	Male	229	12.41	6.189	.409
	Female	68	10.51	5.033	.610

H_{2b}:

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ORAS	Equal variances assumed	3.848	.051	2.309	295	.022	1.896	.821	.280	3.512
	Equal variances not assumed			2.580	132.817	.011	1.896	.735	.443	3.349

Group Statistics

	Minority	N	Mean	Std. Deviation	Std. Error Mean
ORAS	White	483	9.07	6.012	.274
	Minority	64	11.58	6.021	.753

H_{3}:

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ORAS	Equal variances assumed	.457	.500	-3.135	545	.002	-2.508	.800	-4.079	-.937
	Equal variances not assumed			-3.132	80.564	.002	-2.508	.801	-4.101	-.914

Group Statistics

	Minority	N	Mean	Std. Deviation	Std. Error Mean
ORAS	White	232	6.00	4.356	.286
	Minority	18	9.67	4.839	1.140

H_{3a}:

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ORAS	Equal variances assumed	.697	.405	-3.417	248	.001	-3.671	1.074	-5.787	-1.555
	Equal variances not assumed			-3.122	19.200	.006	-3.671	1.176	-6.130	-1.212

H_{3b}:

Group Statistics

	Minority	N	Mean	Std. Deviation	Std. Error Mean
ORAS	White	251	11.91	5.939	.375
	Minority	46	12.33	6.314	.931

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ORAS	Equal variances assumed	.027	.869	-.430	295	.667	-.414	.962	-2.307	1.479
	Equal variances not assumed			-.412	60.489	.682	-.414	1.004	-2.421	1.593