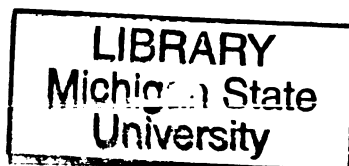




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**THE EXPLORATION OF A MIXED METHOD AND EMPIRICAL SHORT FORM
USING THE YOUTH LEVEL OF SERVICE/CASE MANAGEMENT INVENTORY
(YLS/CMI)**

By

Christina A. Campbell

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ABSTRACT

THE EXPLORATION OF A MIXED METHOD AND EMPIRICAL SHORT FORM USING THE YOUTH LEVEL OF SERVICE/CASE MANAGEMENT INVENTORY (YLS/CMI)

By

Christina A. Campbell

Prior to the implementation of juvenile risk assessment instruments, juvenile court intake referees relied on subjective approaches (i.e. professional judgments) to identify a juvenile's risk for recidivism and disposition. Such risk assessments posed many problems due to their length and inability to serve as a brief screener at the initial intake stage of the court process. This study explores the utility of a juvenile risk assessment, known as the Youth Level of Service/Case Management Inventory (YLS/CMI), as a short form screener for a juvenile court's intake division. Archival data of 601 first time juvenile offenders within a Midwestern county were examined to determine which items were maintained when mixed method and empirical methodological approaches were adopted. Results suggested the mixed method (15-item) and empirical (11-item) short forms serve as both a reliable and valid predictor of 2-year recidivism as compared to the original long YLS/CMI form (42-item). Implications are discussed regarding the utility for such short forms at the intake division.

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INTRODUCTION

Juvenile risk assessment instruments help guide court decision making by determining risk of committing future crime. They also provide decision makers (i.e. court referees, judges, and juvenile court officers) with information that may assist with examining and sorting cases; this allows courts to be consistent when assigning like juveniles to like outcomes (i.e. court dismissals, programming, and interventions) (Funk, 1999). Prior to the implementation of risk assessment instruments, decision makers relied on professional judgments when determining juvenile outcomes (Hoge, 2002). This posed many concerns given the level of subjectivity and unconscious biases (i.e. gender, race, and socioeconomic status) that influenced decision making (Schwalbe, Fraser, Day, Cooley, 2006). More generally, this issue has a long tradition within psychological assessment, dating back decades, where it has long been demonstrated that actuarial methods produce more valid predictions (Grove & Meehl, 1996).

Consequently, risk assessments have been offered as a means to standardize court disposition and intervention practices. Traditional risk assessments fulfill multiple purposes. Some of these purposes include the ability: 1) to predict future crime, 2) to provide intervention recommendations, and 3) to classify juveniles according to risk level and needs. However, risk assessments are not without their own set of faults. Often times these assessments are lengthy, due to their multiple purposes. For example, they may be too lengthy and cumbersome to allow juvenile court referees/officers who make initial intake decisions to efficiently distinguish between the youth who are risk for recidivism.

Although formal divisions use risk assessment instruments to make valid dispositional recommendations and assess specific intervention needs, intake divisions are solely interested in determining who is at-risk for re-offending (Schwalbe, Day, Arnold, 2004). In other words, the intake workers' decision is simpler to process than other steps within the court.

As a result, efficient risk assessments are needed at intake to fulfill the sole purpose of identifying offenders that should remain at intake or moved forward to more formal dispositional alternatives (Turner & Fain, 2006). Given the need to focus on youth who are at risk for future crime at the informal/intake stage of the court process, the most efficient instrument is needed to address this case management concern.

The few known short form risk assessments serve as a reliable and valid screener for intake divisions. Of these short forms, the North Carolina Assessment of Risk (NCAR) has been one of the more reliable and valid brief assessment published in an academic journal. This 9-item assessment yielded a reliability of .73 and significantly predicted recidivism across low (34.2%), moderate (44.7%), and high (53.6%) risk groups (Schwalbe et al., 2004). However, unique assessments such as these are most often generated by using predictive risk factors as specified by meta-analysis and are not derived from longer instruments of known validity. Ultimately, it may be important to find out the best strategy to modify long forms to short forms, rather than adopting different and unique assessments for each court division. This is important so that consistent information is gathered during each stage of the juvenile court

process, eliminating the fiscal cost of adopting multiple measures and enhancing an agreed conceptualization of criminogenic risk across divisions.

The aim of this exploratory study was to determine if a short form, using an original long form risk assessment, known as the YLS/CMI, could serve as a screener tool for predicting juvenile recidivism of youth at the point of intake. This study was also an attempt to compare two commonly used test construction strategies for developing a short form. Since there are few validated short forms for juvenile risk assessment to help determine level of risk and needs for the intake and no short form has been generated from an original long form risk assessment, this study answered the following general question: Can the Youth Level of Service/Case Management Inventory (YLS/CMI) be shortened without sacrificing reliability and predictive validity?

In order to further understand juvenile risk assessment instruments and the need for a short form that serve as a risk assessment screener, risk assessment instruments and procedures must further be examined. The following sections will cover: 1) the purpose for brief risk assessments; 2) the criteria for good risk assessments, 3) the approaches to short form construction, 4) the guiding principles of short form evaluation and 5) the specific research questions of this study.

Purpose for Brief Risk Assessments

According to Robertson, Grimes, & Rogers (2001), 1.8 million juveniles came in contact with the courts in 1996. Ten years later courts processed 2 million juvenile offender cases annually (Snyder & Sickmund, 2006); this

increase of processed cases has occurred even though crime rates have decreased in general. Although there are still some areas which offenses have risen (e.g. simple assaults and weapon offenses among juveniles 10-17), many have suggested that the decline in crime has been a consistent trend over the past decade (Snyder & Sickmund, 2006). This mismatch between the decline of juvenile offending and the number of cases may expose the over processing and unneeded attention given to potentially low risk and minor young offenders (Schwalbe et al., 2006). This can be expensive and detrimental to the well-being of the youth and the community.

A small percentage of juveniles are likely to return to the criminal justice system. Failure to provide youth with an appropriate intervention based on likelihood of re-offense and criminogenic need leads to major long term (Cohen, 1998; & Robertson et al., 2001). Given the need to focus on the small percentage that will likely return to the court, resources should intentionally assist those who have more intervention needs, despite the vast majority of juvenile offenders classified as low risk (Onifade, Davidson, Campbell, Turke, Malinowski, 2008).

Due to the long term cost of juvenile offending, the financial implications of assessing and treating at-risk youth has become a paramount concern. A cost benefit analysis of the juvenile justice system suggest that providing the appropriate intervention for high risk youth could save up to 2.3 million dollars per juvenile (Cohen, 1998). As a result, standardized processes should be adopted to better classify and manage youthful offenders based on risk for re-offense (Bechtel, Lowenkamp, & Latessa, 2007).

When caseloads are too large and/or juveniles who don't exhibit risk for re-offense are occupying and using court services, little attention is given to those juveniles who will likely return. Current long form risk assessment practices are not providing immediate attention to those who are most at-risk for reoffending (Schwalbe et al., 2004). Not only do these forms require a substantial amount resources, they also bring attention to various risk factors that do not have strong relationship with recidivism. This hinders intake juvenile court referees the ability to focus what matters, recidivism. When a juvenile comes in contact with the justice system, court officials should be able to quickly screen youth by focusing on likelihood of re-offense. Given the number of cases that are still being handled by juvenile courts, it may be a good idea to modify risk assessment practices in order to improve court planning and decision-making (Bechtel et al., 2007) at intake. If indeed, courts have mechanisms available to reduce caseloads by diverting or dismissing those who will not reoffend, courts can become more focused and accountable to those juveniles who exhibit more needs.

Problems with Current Risk Assessments and Benefits of Short Forms

Current risk assessments are too lengthy and pose many concerns when predictive purposes are the only objective (Schwalbe et al., 2004). Although some court divisions use risk assessments to assess specific interventions needs, others (i.e. intake divisions) use risk assessments to solely determine who is at-risk for re-offending. At the intake division, a juvenile court referee must decide which juveniles should be seen before a judge and which juveniles

should be dismissed; predicting recidivism is the only focus at this initial stage. Yet, these divisions currently administer relatively long risk assessment forms to help determine risk for recidivism. Given this, short forms which serve as screeners may be beneficial for this initial stage. Research has shown that not only do short versions improve case management and help preserve resources like time and fiscal costs; it also meets the Office of Juvenile Justice Delinquency Prevention (OJJDP) guidelines (Schwalbe et al., 2004).

Given short form risk assessment studies are few and suffer from methodological shortcomings, more studies are needed to explore the potential for short forms to have the same predictive capacity as lengthy risk assessment tools (Schwalbe et al., 2004). Common unpublished brief assessments created by the National Council on Crime and Delinquency (NCCD) were seen to predict juvenile recidivism in Nebraska, Maryland, Missouri, Virginia, across low, moderate, and high risk groups, yet, two short forms involved condensing risk categories and others showed no clear evidence of predictive ability across sub groups like gender (Schwalbe et al., 2004). These characteristics jointly suggest more research must be conducted within this area.

While the published brief assessment known as the North Carolina Assessment of Risk (NCAR) attempted to address methodological issues like maintaining predictive power across sub groups, like gender, this instrument still may not be classified as a brief assessment. This is because the 9 items serve more as domains versus individual items (Schwalbe et al., 2004). Moreover, given there are current original assessments (long forms) that have

approximately 30 items, one can argue that NCAR may not serve as a risk assessment screener for courts who currently use a long form risk assessment around 30 item range. It is also important to note that past risk assessments seem to be identified independent of an original long form posing the inability for courts to use a more consistent and systematic approach to understanding risk classification and factors which predict recidivism across all court divisions. In order for risk assessment procedures to be improved, risk assessment tools must be proven to be as equally accurate and reliable as long forms. This issue must be addressed because it is very common for the juvenile courts to adopt one risk assessment instrument system wide (Schwalbe et al., 2004). Scientifically, if there are more simple models which will do as good a job of predicting future behavior, the principle of parsimony is well served.

Short forms of assessments have been shown to save time, cost, and various resources. This is especially valuable for court divisions who assess juvenile offenders multiple times (i.e. different time points, pre/post, and/or follow-ups) and need a quick glimpse of general characteristics exhibited by the juvenile (McHorney & Ware, 1995). This ultimately improves the level of efficiency when providing recommendations, allowing courts to make more appropriate and accurate recommendations. Since short forms may have the same predictive capacity as lengthy risk assessment tools when developed appropriately (Schwalbe et al., 2004), it is important for shifts to be made so that risk assessments may be used as screeners to improve court processes at intake. Additionally, improvements may also serve to reduce the number of cases

currently being processed and or handled by the court. As courts strive to improve risk assessment procedures within the juvenile court system in general, it is important to shorten risk assessments as guided by assessment construction theory and principles using already established, predictive, and reliable, original long forms.

The theory of risk assessments, in general, has a long history of systematically accounting for factors which are associated with reducing criminogenic risk. These measurements should provide insight regarding the theory of reducing crime by only engaging in multidimensional dynamic factors that have the ability to improve/change over time (Bonta, 2002). Some of the theories used to help establish risk assessments involve sociological, ecological, and psychopathological models; these models jointly identify the juvenile individual risk as it relates to broader societal and environmental root causes of crime (Bonta, 2002). Upon the construction of such assessments, standards established by the National Council on Crime and Delinquency (NCCD) provide additional insight concerning criteria for good risk assessments.

Criteria for Good Risk Assessments

When examining risk assessments, the NCCD suggested that instruments should demonstrate all of the following:

- 1) Validity
- 2) Reliability
- 3) Fairness across all juvenile offenders
- 4) Utility (a system useful for court personnel)

Each characteristic is a valuable asset to ensuring the quality of assessing the risk and intervention needs of juveniles. This provides the foundation for understanding the characteristics of good assessments, as it relates to general guidelines. These criteria are discussed:

Validity. Effective classification is essential because it tackles the importance of addressing criminogenic needs of offenders (Flores, Travis & Latessa 2004). Criminogenic needs refer to those factors which lead to future criminal activity. If these needs are not addressed, then, theoretically, criminal activity is likely to continue. In order to address the needs of offenders and reduce risk, it is essential to dependably determine risk and understand how it is may be best impacted by a given intervention (Flores et al., 2004). The appropriate level of intervention will maximize program effectiveness. Within this line of thought, when classification is accurate, risks can be lowered and recidivism likelihood is decreased. Essentially, valid risk assessment may provide a template for intervention focus. It is this accuracy (i.e. predictive validity) that has been essential to addressing the current state of the juvenile justice system and juvenile offending.

Validation is a key requirement for any prediction measurement. Predictive validity provides a statistical understanding of the extent to which risk assessments improve clinical assessments, judge decision making, or other subjective approaches used to determine a juvenile's level of risk (Flores et al., 2004). Among the most common approach to determining predictive validity of risk assessment instruments is the Area Under the Curve (AUC) test. This test

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identifies the correct classification rate of predicting juveniles who are likely to offend against the base rate of recidivism within the sample (Schwalbe, 2007). This means that AUC score identifies how well above the chance (the flip of a coin) a juvenile will likely come back in contact with the justice system. A meta-analysis suggests that the standard/average AUC score across juvenile risk assessment measures is .6, which is interpreted as good/acceptable (Schwalbe, 2007). Such acceptable standards should also be achieved when examining the reliability of the measurement.

Reliability. Reliability, on the other hand, provides information concerning the consistency or reproducibility of a measure. Risk assessment measurements should be able to identify a given set of needs for juveniles across time, setting, and assessor. One way of assessing reliability is to assess consistency across instrument items (i.e. Cronbach's alpha). It is also possible to examine the degree of agreement across raters (inter-rater reliability) and time (test-retest reliability). In general, psychometric literature suggested that when the length of an instrument is reduced, the alpha coefficient will likely decrease (Nunnally & Bernstein, 1994). This study will assess this reliability (internal consistency) in addition to inter-rater reliability. Such reliabilities should be determined before addressing whether or not a measure is fair.

Fairness. Risk assessments should provide equity and limit biases related to demographic factors such as race, gender, or socio-economic status. This criterion serves to address many issues regarding the disproportionate number of minority youth who come in contact with the criminal justice system (Schwalbe et

al., 2006 & Onifade et al. 2008). It is this inequity that is also apparent across gender upon the evaluation of different crime types and or court divisions (Onifade et. al. 2008). Fair assessment procedures move courts to less subjective approaches and decision-making processes to more objective strategies. Due to the level of fairness that risk assessments promise the adoption of such instruments will become as more courts utilize its function and design. Like the other risk assessment criteria (i.e. validity and reliability) discussed, fairness must be established before the exploration of a short risk assessment. Once fairness is achieved, courts can focus on the utility of risk assessments.

Utility. Predictive validity, reliability, and fairness alone do not infer a good risk assessment measure. It is important that risk assessment measures have utility. This reflects the ability for risk assessment to be useful, simple, and easy to implement (National Council on Crime and Delinquency, 2001). It also reflects the instruments ability to improve case management (Hoge, Andrews, & Leschied, 1995) as it relates to specific decisions within the court (e.g. intake/informal divisions). Utility determines if a risk assessment instrument is efficient and easy to implement. Good utility for a decision at intake requires an abbreviated risk assessment form. While there are many benefits of improving the utility of risk assessment measurements through the development of abbreviated forms, to date, there has been little attention given to this area of work. Given there are few brief assessments, it is still unclear to the best approaches to shorten forms. Unlike former brief assessments, this study will

explore a short form risk assessment using an original valid and reliable long form and comparing common approaches to short form construction, mixed (empirical and conceptual combined) and empirical methods.

Approaches to Short Form Construction

Short forms have been developed and utilized for psychological, intellectual, and behavioral uses since the early 1900's. The Binet-Simon test of intelligence was among the earliest examples of how limited test items were used to measure and/or predict specific outcomes (i.e. intelligence). Still today, the interests of developing short forms has spanned over various disciplines, topics of interest, and purposes. While some researchers have developed short forms solely for the purposes of saving both time and money, others have been more interested in using such forms as a means to better suit the needs of specific groups, like children (Smith et al., 2000).

Regardless of the many uses and purposes of short forms, the ultimate goal is to maintain an instrument that does not compromise validity, reliability, fairness, or utility. This study explores two commonly developed approaches to short form development, mixed method (an approach which combines conceptual and empirical principles) and a strictly empirical method. Although the empirical methods focus on maximizing predictive validity, mixed method take into account the conceptual dimensions of original long form assessments.

Mixed Method – Key Conceptual Domains

Like original long forms, mixed method approaches seek to maintain the theoretical or conceptual integrity of the construct of interest while also attending to reliability and validity. Hence this method attends to both the domain representation of and psychometric properties. A mixed method juvenile risk assessment represents both the developmental and ecological factors which influence delinquency (Gorman-Smith, Tolan, & Henry, 1996). This Bronfenbrenner inspired theory involves items from multiple domains that represent criminogenic risk (Gorman-Smith et al., 1996).

Many researchers have found both individual and environmental risk factors that correlated with juvenile offending are represented in ecological models. These factors included prior offenses and disposition (i.e. age of first offense or offense history), family circumstances and parenting (i.e. adequate supervision), education and employment (i.e. truancy, skills, or vocational training), peer relationships (i.e. delinquent friends), substance abuse (i.e. chronic alcohol use), leisure and recreation (i.e. involvement in extra-curricular activities), personality and behavior (i.e. physically aggressive), and attitudes and orientation (i.e. perception of authority) (Andrews, Bonta, & Hoge, 1990, Dembo & Schmeidler, 2003, Gorman-Smith et al., 1996, Onifade et al. 2008, & Schumacher & Kurz, 2000). Although each risk factor may be slightly varied in definition across studies, they generally still represent the characteristics and elements which may lead to future offending. These factors become useful when trying to target prevention and intervention needs (Bechtel et al., 2007). The

better such concepts/factors related to juvenile recidivism are understood, the better the needs of juvenile offenders can be assessed. Failing this model, may leave out important domains critical for valid predictions (Ware & Shearborn, 1992). These factors are further described.

Prior Offenses and Disposition. Research has examined the relationship between criminal history and future offending. In a meta-analysis that identified risk factors to predict recidivism including age of first offense, number of prior arrests, prior commitments, juveniles with longer dispositions, and those who committed more violent crimes had a significantly high risk for recidivating than other juveniles at the $p < .001$ level (Cottle et al., 2001). When criminal history was examined in juvenile offenders on community based orders, juveniles with a prior history recidivated 25% more times than juveniles who had fewer offenses (1-5) (Denning & Home, 2008). These data strongly suggested that criminal history has a positive relationship with future offending and represents one of the many layers within understanding criminogenic risk. This same relationship can be found for family characteristics.

Family Circumstances and Parenting. Family factors, specifically parent maltreatment (i.e. abuse and/or neglect) led to future offending among juvenile offending populations (Denning & Homel, 2008). Other family factors that have been found to relate to juvenile offending include family problems, the juvenile's relationship with parents, and/or level of supervision (Cottle et al., 2001 & Andrews et al., 1990). The most significant family factors that related to juvenile recidivism were if the juvenile was a victim of abuse ($p < .001$), from a single

parent household ($p < .001$), and experienced family problems ($p < .001$), while parents exhibiting pathologies seem to be the only family factor examined that were unrelated to juvenile recidivism patterns (Cottle et al., 2001). Given that family patterns do affect a juvenile's school performance and academic outcomes, the relationship between education and offending behavior has also been studied.

Education and Employment. Both educational and employment factors have been positively correlated with future offending. Education and employment variables that have been commonly found to predict future offending have been defined by a juvenile's history of special education, problems with teachers and peers in school, disruptive behavior in classroom, and for those youth old enough to obtain work, the lack of motivation to obtain a job (Cottle et al., 2001; Hoge, Andrews, & Leschied, 1996, & Onifade et al., 2008). Other factors that have been examined within education but have not yet shown much evidence for predicting recidivism include, school attendance, school reports of achievements (i.e. grade point averages), and performance IQ scores (Cottle et al., 2001). In general, there seems to be a stronger relationship between behavioral factors related to school/education and employment, in terms of predicting recidivism, than academic factors (i.e. grades and tests scores). Like many other factors, using education as a predictor for juvenile outcomes leads to the conclusion "it depends". However, it is consistently clear that when juveniles have delinquent peers in or outside of school they are more likely to participate in delinquent activities.

Peer Relationships. Researchers have found a strong relationship between juvenile offenders and poor/delinquent peer networks. Two studies that used the YLS/CMI identified that the following peer characteristics led to higher recidivism rates: some delinquent acquaintances, some delinquent friends, no to few positive acquaintances, and no to few positive friends (Hoge et al., 1996 & Onifade et. al., 2008). Consistently, a meta-analysis of juvenile risk assessments also provided consistent evidence of the relationship of delinquent peers and future offending ($p < .001$) (Cottle et al, 2001). Given what is known about social learning, it is not surprising that juvenile offenders learn from peers (Winfree, Backstrom, & Mays, 1994). As result, if juveniles have positive peers, they will most likely participate in positive activities. This same conclusion concerning learned behavior and interests in certain activities can be found true when examining a juvenile's pattern of substance use.

Substance Abuse. Although a juvenile may experiment and or use substances, it does not necessarily suggest that he/she will recidivate. For instance, substance abuse ($n=1,111$, $p < .001$) may be more related to recidivism than substance use alone ($n=9,366$) ($p > .05$) (Cottle et al., 2001). It seems to be excessive/chronic use of substances and its interference with a juvenile life that shows the strongest relationship between those who recidivate. Although it is unclear what constitutes intensity, given that there is a zero tolerance for the use of illegal substances there will always be some biased positive relationship across offending and substance abuse. However, if youth are engaged and involved with positive resources and or activities they are less likely to be

involved with delinquent activities given the implications of social bonding (Hirschi, 1969).

Leisure and Recreation. Juveniles involved in positive activities provide positive social bonding experiences (Hirschi, 1969). Juveniles who participate in organized activities, have personal interests, and make good use of their time are less likely to come in contact with the juvenile justice system (Hoge et al., 1996). Positive social activities serve as a great component to reducing future juvenile offending. Youth who are involved tend to do better. It is the effective use of leisure time and the availability of quality programs and services that can make a difference in behavioral factors which increase delinquent behaviors.

Personality and Behavior. Personality and behavioral factors have varied in definition across studies used to examine criminal behavior. In general, this construct refers to a juvenile's overall temperament and conduct problems as it relates to verbal aggression, physical aggression, short attention span, inability to focus, tantrums, inadequate feelings of guilt, and conduct problems (Cottle et al., 2001 & Hoge et al., 1996). These factors represent various individual components which should be identified in a criminogenic risk model. Other individual components that should be considered are the juvenile's attitudes and orientation.

Attitudes and Orientation. Attitudes and orientation reflects a juvenile's perception of authority and or need to obtain and/or seek help. Repeat offenders who defied authority, had antisocial traits, negative view of authority, procriminal beliefs, and procriminal attitudes were consistently at risk for additional

delinquent petitions (Cottle et al., 2001 & Hoge et al., 1996, & Onifade *et al.*, 2008). It is this factor/domain among others that can help provide courts with the ability to better predict who is likely to return, or in other words, those juveniles in need of an intervention.

Research has shown that by focusing on these criminogenic risk factors, the likelihood of a juvenile returning to the justice system can be reduced. As result, formal prediction tools have been developed to determine juveniles who will likely return to the court and juveniles who need intervention as identified by the conceptual levels of delinquency. It is this model which identifies the various layers of delinquency and has been used to generate original/long version risk assessments. Like long forms, short forms should also be grounded in this ecological model. More specifically, once the criminogenic risk is conceptualized, empirical approaches used to identify the most predictive factors across all dimensions/domains are essential to the development of a strong mixed method short form (McHorney & Ware, 1995). To the contrary, strictly empirical short forms focus on the predictive capacity rather than domains.

Empirical Method

When empirical approaches to test construction are adopted predictive validity is the primary concern. As result, pure empirical models will not consider the conceptual domains covered in an original long form of an instrument. Rather, only the actual predictive validity of instrument elements; only the most predictive assessment items will be considered. This is because empirical approaches highly rely on the ability for a given measure to maintain its ability to

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31. The thirty-first part is a report from the Secretary of the Health on the state of the Health.

32. The thirty-second part is a report from the Secretary of the Labor on the state of the Labor.

33. The thirty-third part is a report from the Secretary of the Finance on the state of the Finance.

34. The thirty-fourth part is a report from the Secretary of the Justice on the state of the Justice.

35. The thirty-fifth part is a report from the Secretary of the State on the state of the State.

36. The thirty-sixth part is a report from the Secretary of the War on the state of the War.

37. The thirty-seventh part is a report from the Secretary of the Navy on the state of the Navy.

38. The thirty-eighth part is a report from the Secretary of the Interior on the state of the Interior.

39. The thirty-ninth part is a report from the Secretary of the Agriculture on the state of the Agriculture.

40. The fortieth part is a report from the Secretary of the Commerce on the state of the Commerce.

41. The forty-first part is a report from the Secretary of the Education on the state of the Education.

42. The forty-second part is a report from the Secretary of the Health on the state of the Health.

43. The forty-third part is a report from the Secretary of the Labor on the state of the Labor.

44. The forty-fourth part is a report from the Secretary of the Finance on the state of the Finance.

45. The forty-fifth part is a report from the Secretary of the Justice on the state of the Justice.

46. The forty-sixth part is a report from the Secretary of the State on the state of the State.

47. The forty-seventh part is a report from the Secretary of the War on the state of the War.

48. The forty-eighth part is a report from the Secretary of the Navy on the state of the Navy.

49. The forty-ninth part is a report from the Secretary of the Interior on the state of the Interior.

50. The fiftieth part is a report from the Secretary of the Agriculture on the state of the Agriculture.

51. The fifty-first part is a report from the Secretary of the Commerce on the state of the Commerce.

52. The fifty-second part is a report from the Secretary of the Education on the state of the Education.

53. The fifty-third part is a report from the Secretary of the Health on the state of the Health.

54. The fifty-fourth part is a report from the Secretary of the Labor on the state of the Labor.

55. The fifty-fifth part is a report from the Secretary of the Finance on the state of the Finance.

56. The fifty-sixth part is a report from the Secretary of the Justice on the state of the Justice.

57. The fifty-seventh part is a report from the Secretary of the State on the state of the State.

58. The fifty-eighth part is a report from the Secretary of the War on the state of the War.

59. The fifty-ninth part is a report from the Secretary of the Navy on the state of the Navy.

60. The sixtieth part is a report from the Secretary of the Interior on the state of the Interior.

61. The sixty-first part is a report from the Secretary of the Agriculture on the state of the Agriculture.

62. The sixty-second part is a report from the Secretary of the Commerce on the state of the Commerce.

63. The sixty-third part is a report from the Secretary of the Education on the state of the Education.

64. The sixty-fourth part is a report from the Secretary of the Health on the state of the Health.

65. The sixty-fifth part is a report from the Secretary of the Labor on the state of the Labor.

66. The sixty-sixth part is a report from the Secretary of the Finance on the state of the Finance.

67. The sixty-seventh part is a report from the Secretary of the Justice on the state of the Justice.

68. The sixty-eighth part is a report from the Secretary of the State on the state of the State.

69. The sixty-ninth part is a report from the Secretary of the War on the state of the War.

70. The seventieth part is a report from the Secretary of the Navy on the state of the Navy.

71. The seventy-first part is a report from the Secretary of the Interior on the state of the Interior.

72. The seventy-second part is a report from the Secretary of the Agriculture on the state of the Agriculture.

73. The seventy-third part is a report from the Secretary of the Commerce on the state of the Commerce.

74. The seventy-fourth part is a report from the Secretary of the Education on the state of the Education.

75. The seventy-fifth part is a report from the Secretary of the Health on the state of the Health.

76. The seventy-sixth part is a report from the Secretary of the Labor on the state of the Labor.

77. The seventy-seventh part is a report from the Secretary of the Finance on the state of the Finance.

78. The seventy-eighth part is a report from the Secretary of the Justice on the state of the Justice.

79. The seventy-ninth part is a report from the Secretary of the State on the state of the State.

80. The eightieth part is a report from the Secretary of the War on the state of the War.

81. The eighty-first part is a report from the Secretary of the Navy on the state of the Navy.

82. The eighty-second part is a report from the Secretary of the Interior on the state of the Interior.

83. The eighty-third part is a report from the Secretary of the Agriculture on the state of the Agriculture.

84. The eighty-fourth part is a report from the Secretary of the Commerce on the state of the Commerce.

85. The eighty-fifth part is a report from the Secretary of the Education on the state of the Education.

86. The eighty-sixth part is a report from the Secretary of the Health on the state of the Health.

87. The eighty-seventh part is a report from the Secretary of the Labor on the state of the Labor.

88. The eighty-eighth part is a report from the Secretary of the Finance on the state of the Finance.

89. The eighty-ninth part is a report from the Secretary of the Justice on the state of the Justice.

90. The ninetieth part is a report from the Secretary of the State on the state of the State.

91. The ninety-first part is a report from the Secretary of the War on the state of the War.

92. The ninety-second part is a report from the Secretary of the Navy on the state of the Navy.

93. The ninety-third part is a report from the Secretary of the Interior on the state of the Interior.

94. The ninety-fourth part is a report from the Secretary of the Agriculture on the state of the Agriculture.

95. The ninety-fifth part is a report from the Secretary of the Commerce on the state of the Commerce.

96. The ninety-sixth part is a report from the Secretary of the Education on the state of the Education.

97. The ninety-seventh part is a report from the Secretary of the Health on the state of the Health.

98. The ninety-eighth part is a report from the Secretary of the Labor on the state of the Labor.

99. The ninety-ninth part is a report from the Secretary of the Finance on the state of the Finance.

100. The hundredth part is a report from the Secretary of the Justice on the state of the Justice.

predicting a given outcome/phenomena, in this case, juvenile recidivism. The promising effects of empirical short forms serve to only focus on those items which will improve or maintain predictive validity of the parent/original form. This method has a long tradition within the field of instrument construction (Grove & Meehl, 1996).

Given the need to understand if the development of a screener form for juvenile offenders is possible, this study will examine both approaches, mixed method and empirical approaches and evaluate such approaches across short form principles.

Guiding Principles for Short Forms

The goal of short forms is to provide the same conclusion as long forms. To do this, there are two fundamental questions that should be asked: 1) what is the new reliability and validity of the short form? And 2) does validity hold up in comparison to the long form? (Smith et al., 2000). It is essential that both the reliability and validity of the short form is not compromised wherefore it no longer has the potential to measure or predict recidivism. Additionally, there are 9 methodological issues that should be closely attended to ensure the development of a "good" short form (Smith et al., 2000). While all short forms may not consider all 9 methodological issues or "sins", it is important to consider those sins which most closely relates to the context, purpose, and utilization of short form of interest. These 9 methodological shortcomings provide a template for directing short form development and will be discussed.

1. Develop a short form of an insufficiently validated measure.

One common methodological concern is the need to validate the original long form assessment prior to the development of a short form. In a former review of short form studies 5 of the 12 short forms examined failed to establish validity across the original long form (Smith et al., 2000). Validating the original long form assessment is essential when trying to provide evidence whether the short form is a sufficient mechanism that should be adopted. Ultimately, it is this first principle allows you to adequately justify the short form (Smith et al., 2000).

2. Fail to show that classification rates remain high with the short form.

Accuracy of classification is contingent on the purpose and use of the short form. When short forms are used as screener mechanisms, it is essential to have a screener that can equally determine false negative and false positives classification rates (Smith et al., 2000). One approach to determining accurate classification is through the use of the AUC test. It is this test that determines the correct classification rate of recidivism while accounting for the base rate within the sample. Once the accuracy of classification is determined, one might consider reviewing the content which was maintained on the abbreviated form.

3. Fail to show that the short form preserves the content coverage of each factor in the measure.

When developing short forms, one goal should be to maintain as much content as covered by the original long (Smith et al., 2000). This criterion is more consistent with the mixed method of instrument construction. As result, it is important to conduct a content analysis to evaluate the level of content that held

up on the short form as it relates to the content that is being maintained within each specific domain. Nunnally & Bernstein (1994) recommended that no 1 item has the ability to represent a dimension, domain, and/or construct. This issue is particular important where inter-rater item correlation is used to determined which items are maintained on the short form. This is because the more extensive a construct is the less inter-rater item correlation approaches decreases the ability to represent that given construct (Smith et al., 2000). As a result, when developing short-forms, especially during cases where inter-rater correlations are used to maintain items, it is important to determine the level of content that is deleted and consider how this may affect the overall understanding of each specific domain/factors being measured.

4. Fail to show that your short form offers meaningful time or resource savings for the loss in validity

Short forms should demonstrate that resources, like time, are being saved although level of validity may be reduced (Smith et al., 2000). This is among one of the most important goals and reasons for the need of developing short form instruments, especially among organization with limited resource, like the juvenile court system. Due to the possibility that validity may decrease, it is essential to understand if the reduction of validity is worth the resources saved. Additionally, it is important to note that cost benefit analysis is unique to current needs of the juvenile court, and therefore should be determined based on context. It is the current context and needs of the court that can ultimately determine if the costs

are acceptable. In addition to examining validity, scale reliability must also be determined.

5. Fail to show that short form measures each factor scale reliability.

There are various forms of reliability; some common forms of reliability examined in psychological and behavioral tests include internal consistency and inter-rater reliability. It is expected that when test items are reduced and/or there is a small sample size that the level of reliability will be threatened (Smith et al., 2000). Although reliability is likely to decrease, it is essential that short forms demonstrate having a Cronbach's alpha that is equal to or greater than .70 (Nunnally & Bernstein, 1994), especially when used for decision-making processes.

6. Fail to show empirically that your short form reproduces the factor structure of a multicultural instrument.

The factor structure of short forms should be examined and compared to the factor structure of the long form. While empirical forms rely specifically on items more related to total scores or a specific outcome, more conceptual approaches attempt to maintain the factor structure/domains identified on the long form regardless of the strength of relationship between total scores and/or the specific outcome of interests (Smith et al., 2000). Although it is assumed that empirical approaches will not likely maintain the factor structure/domains of the original form, conceptual models achieve the goal of insuring content as compared to original form is available although there may be little to no relationship to, in this case, juvenile recidivism. It is through comparing the

content of the empirical and conceptual short forms that allows you to examine the content that does not prove to uphold predictive power (Smith et al., 2000).

7. Fail to show that your short form has adequate overlapping variance with the full form, using independent administration.

It is important to identify the level of overlap short forms have with long forms. Examining the correlation and overlap of variance based on an independent sample provides the best estimate of overlap of short and long forms (Smith et al., 2000). Such independent administration provides a greater understanding of how similar the short form is as compared to the long form.

8. If your short form omits subfactors and preserves only overall factors, then fail to show that the short form preserves the content domains represented by the subfactors.

Subfactors/domains are used to help represent the overarching construct of interest; in this case, the YLS/CMI identifies 8 domains which measure criminogenic risk. This construct focuses specifically on those factors which relate to and highly predict juveniles who commit future criminal activity.

According to Smith et al. (2000), it is important to identify those domains which have been omitted from the short form structure. Smith et al. (2000) recommend reporting the factor dimensionality of both the short and long form and examine the similarities and differences across the factor structures. This helps provide a better understanding on how well the short form covers the overarching construct of interests.

9. Fail to show that each factor in the short form has validity on an independent sample.

Once short forms are developed, it is essential to further test short forms on an independent sample to insure that the measure is valid. Short forms are often generated and tested using the same samples as long forms (Smith et al., 2000). As a result, biases are introduced and the level of validity is sometimes over estimated. Due to the reduction of assessment content, it is important to demonstrate further tests to examine convergent validity (Smith et al., 2000). The goal here is to insure that the short form perform similar to the long form and reflects what is being hypothesized (Smith et al., 2000). When short forms are indeed good, independent administration will confirm that short forms can perform comparable to its long original form (Smith et al., 2000). Although this principle is not often examined due to the lack of resources like sample size, time, and test administrators, the quality of the short form can be better interpreted.

Given that the goal and purpose of each short form, not all methodological principles are achieved. For instance, the mixed method short form primary goal is to maintain the original factor structure by including all of the conceptual domains which identify the overarching construct of criminogenic risk as identified on the original long form. To the contrary, the empirical short form primary goal is to determine the items that will maximize level of validity and classification rate of the risk assessment measurement. This in turn may or may not maintain the original structure of the original form. Considering the

differences of the mixed method and empirical short forms, each form focuses methodological principles that are relevant to strategies of the form developed.

After considering the purpose and goal of a short form, these methodological principles provide criteria through which short forms can be evaluated. As result, these methodological principles will be used to examine the appropriateness of both the mixed method and empirical short forms developed in this study. Table 1 (Appendix B) identifies each principle and whether or not it will be achieved across both the mixed method and empirical short forms developed.

As shown in Table 1 (Appendix B), these principles provide a basis for understanding how an abbreviated form can be improved and evaluated. When creating short forms it is appropriate to explore multiple short forms and choose the form which best represents the intended need while minimizing the methodological issues that may interfere with the reliability and validity of the short form (Smith et al., 2000). His study strived to minimize such issues.

Current Study

Among one of the most reliable and valid risk assessments is the YLS/CMI. Historically, YLS/CMI had been adapted from an adult risk assessment instrument originally developed in Canada to determine risk factors and predict reoffending; its design was based the ecological model and meta-analytic studies which examined characteristics of re-offending adult populations (Flores, Travis & Latessa 2004). Following the construction of the adult assessment instrument known as the Level of Service Inventory-Revised (LSI-R), long term follow-ups

suggested that the measure had great utility and was successful at predicting recidivism (Flores et al., 2004). Based on the evidence of predictive validity among adult populations, the measure was adapted to juvenile populations. The modification of the LSI-R for juvenile offenders led to the construction of the 42 item YLS/ CMI (Flores et al., 2004). Since the development of the YLS/CMI, it has been proven to have promising effects and implications of juvenile offending populations as a long form, yet it is unknown if this form has similar promising effects as a short form.

In recent years, the YLS/CMI is most researched, utilized, accurate, risk assessment instrument adopted by juvenile courts (Schwalbe, 2007). Of other juvenile risk assessments, the YLS/CMI yielded the most consistent results across effect sizes (.57-.75), accurate classification (e.g. low, moderate, and high risk) and predictive validity (Schwalbe, 2007 & Cottle, 2001). This 42 item assessment seems to maintain a level of consistency over time. Given that both validity and level of consistency has been determined across vast samples and studies, this measure meets the basic criteria for being modified as a short form.

Additionally, the YLS/CMI has been among the most trusted risk assessment instruments (Schmidt, Hoge, & Gomes, 2005). It is one of the few measures that show evidence of high reliability and adequate validity for boys and girls over reliability long prediction interval. It is also one of the few risk assessment instruments that has become popular (Flores et al., 2004). This measure is said to provide the ability to classify juveniles by risk (low, moderate, high), help determine appropriate outcome for juvenile offenders. Such fairness

displayed across various juvenile populations provides additional evidence that a short form may be possible.

Given the YLS/CMI identifies eight domains which identify a youth's criminogenic risk factors/domains, the theoretical bases for understanding future delinquent behavior for juveniles are evident. The eight domains that are examined include the following: prior offenses/dispositions; family circumstances/parenting; education/employment; peer relation; substance abuse; leisure/recreation; personality/behavior; and attitudes/orientation. A juvenile receives a risk score across each of the 8 domain and is summed to represent overall risk level. This measure and scoring summary can be found in Appendix A. Given what is known about the original YLS/CMI and evidence that the its long form meets the criteria for a good risk assessment, this study examines two short forms that may serve as screeners within a juvenile court's intake division. This study achieved this by exploring the following research questions:

Research Questions

- 1) Which risk assessment items are maintained from the YLS/CMI when mixed method approaches to short forms construction are adopted?
- 2) Which risk assessment items are maintained from the YLS/CMI when empirical approaches to short form construction are adopted?
- 3) What is the reliability and predictive validity of the mixed method and empirical short form as compared to the original YLS/CMI long form?

Methods

Setting

This study took place within an intake division at a juvenile court in a Midwestern industrialized medium sized county. This division is responsible for first time juvenile offenders who have received a criminal petition due to a minor offense. It is at this division where juvenile court referees are required to determine if juveniles go forward in the court system, be dismissed, or be maintained under informal probation at intake. Minimal programming and intervention assignment is offered at this level of the court process. This is because this division is heavily populated with low risk juvenile offenders who exhibit low intervention needs. The goal for juvenile court referees at this stage is to base decision making on a juvenile's risk for recidivism.

Participants

Secondary archival data was used to examine juveniles (N=601) who came in contact with the intake/informal division from 2003-2006. The gender distribution was 66% male and 34% female. Participants ranged in age from 9-17 with a mean age of 14.44 (SD= 1.71). Ethnicity of participants was as follows: Caucasian (43%); African American/Black (39%); Latino/Mexican American (9%); other (9%). All juveniles were first time offenders and were followed over 2 years to examine patterns of recidivism.

Measures

YLS/CMI. This study used data collected using the original 42 item long form YLS/CMI risk assessment. Former studies have suggested that YSL/CMI is

a reliable measure across various groups over long periods of time (Schmidt, Hoge, & Robertson, 2002). Such studies reported alpha coefficients for internal consistency ranging from .51-.91 (Schmidt, Hoge, & Robertson), and had an overall reliability of .87 for this current study. This measure identified overall risk scores using four categories, very high, high, moderate, and low. These scores were used as a predictor of recidivism, which is defined by any court contact due to a delinquent petition. The 42 item measure included the following eight domains: Prior Offenses and Dispositions, Family Circumstances and Parenting, Education and Employment, Peer Relationships, Substance Abuse, Leisure and Recreation, Personality and Behavior, and Attitudes and Orientation. Each domain involved a series of questions which allows court referees to identify level of risk within that domain. A juvenile can be classified as low, moderate, high risk across each of the eight domains; based on the scores received across domains, an overall score is determined that represents overall risk for recidivism.

Independent Variable. The independent variable examined was over all risk level (i.e. low, moderate, and high risk levels) as determined by the YLS/CMI of juveniles who came in contact with the intake/informal division due to a criminal petition and/or charge.

Dependent Variable. The dependent variable was future delinquency, recidivism (yes/no). Recidivism was defined as juveniles who received a petition for any delinquent offense within a 2 year period.

Procedures

Secondary archival data collected by a local juvenile court were used to generate mixed method and empirical short forms and examine recidivism across a 2-year period. These data included 601 juveniles who were first time offenders and came in contact with the intake division. These juveniles were assessed by juvenile court referees using the 42 item YLS/CMI upon initial contact with the court. YLS/CMI interviews were tape recorded and scored according to the YLS/CMI scoring summary/checklist which determined if the juvenile was low, moderate, or high risk for recidivism. Juveniles were asked a series of questions in order to generate yes/no scores across all 42 YLS/CMI items. Each juvenile received an overall risk score ranging from 0-42; the more yes check marks a juvenile received, the more at-risk the juvenile was for recidivism. More details regarding this measure and interview guide can be found in Appendix A.

Inter-rater reliability checks were conducted across 10% YLS/CMI interviews (n=60). There was a 90% agreement rate across the juvenile referee's assignment of juvenile risk score (0-42) and risk level (i.e. low, moderate, high). Continuous training was provided for all juvenile court referees to improve both case management, accuracy of scoring, and efficiency of processes.

This study focused on two year follow-up archival data. After year two of each juvenile's initial contact with the court, recidivism data was collected using the county's management information system. The juvenile court system which is used to record juvenile petitions provided juvenile recidivism. The adult court module of the same management information system provided recidivism for

juveniles who had legally become adults (those who turned 17 year of age). Additionally, the court staff cross checked the local data with the Law Enforcement Information Network, a nation-wide data base. While the actual number of offenses was higher when the LEIN was checked, in no instance did the ultimate categorization of "recidivist" or "non-recidivist" change.

Short forms were established using both mixed method and empirical approaches. The mixed method approach involved identifying key conceptual domains, determined by the literature that predicted 2-year recidivism. These conceptual domains were consistent with the areas identified on the YLS/CMI. In order to select the best items within a given domain, a bivariate correlation was used to identify which 2 items best predicted recidivism. Once items were determined a reliability test was used to examine inter-item correlations and the AUC test determined the predictive validity of the mixed method short form.

Unlike the mixed method short form the empirical short form, solely used the AUC test to determine the fewest number of items needed to predict 2 year recidivism independent of the possibility that conceptual domains would be eliminated. The test of the AUC was examined across each of the original 42 items on the YLS/CMI. All items which significantly predicted recidivism using the AUC test was maintained for the empirical short form.

Once each short form was developed, these data were used to compare reliability and validity information to the original 42-item YLS/CMI long form. Additional crosstabulations were generated to examine proportion of low,

moderate, and high risk juveniles, sample percentages across risk level, and proportion of recidivism across all forms.

Results

Question 1: Which risk assessment items are maintained from the YLS/CMI when mixed method approaches to short forms construction are adopted?

Risk assessment meta-analyses and literature were reviewed to identify key factors that related to delinquency. Of these criminogenic risk factors, the eight general domains that hold up across multiple studies in predicting criminogenic needs are consistent with the domains identified by the YLS/CMI. These eight domains are as follows: Prior Offenses and Disposition, Family Circumstances and Parenting, Education and Employment, Peer Relationships, Substance Abuse, Leisure and Recreation, Personality and Behavior, and Attitudes and Orientation. The level of matching across the factors within the YLS/CMI and factors identified in the meta-analyses suggested that the YLS/CMI had strong face validity. The YLS/CMI seems to be a conceptually sound measure of delinquency risk. Due to the evidence that suggested that the YLS/CMI is inclusive of the multilevel factors which predict juvenile recidivism, the mixed method short form utilized each domain within the YLS/CMI using both conceptual and empirical techniques.

A bivariate correlation with the dichotomous variable recidivism was used to identify items which positively related to 2 year recidivism for each of the 8 YLS/CMI domains (see Table 2). Maintaining these domains was essential to meeting the criteria for key short form methodological principles as shown on

Table 1. As result, two items were chosen from all but 1 of the 8 YLS/CMI domains, Prior Offenses and Disposition (domain 1). For the Prior Offenses and Disposition domain, only one item (Failure to Comply) demonstrated any relevance to the sample. This is because this sample involved first time offenders at intake division and items within this domain are unique to offenders with a criminal history (i.e. Prior Probation). In attempting to maintain all eight subscales, this domain was represented by a single item in further analyses. In other words, since the sample was generally low risk (lacking offense history), this domain lacked variability, hindering its statistical power. However, the best 2 predictive items were considered for the remaining 7 YLS/CMI domains. The 2 items most highly correlated with recidivism were retained to form the mixed method short form. This process generated a 15 item mixed method short form.

In examining Table 2, the following is demonstrated. Failure to Comply was most predictive of 2 year recidivism within domain 1. For domain 2, Family Circumstances and Parenting, Inconsistent Parenting and Poor Relationship with Father were retained. For domain 3, Education and Employment, Disruptive Behavior in the Classroom and Problems with Teachers were the 2 items maintained. For domain 4, Peer Relationships, Some Delinquent Friends and Some Positive Acquaintances were retained. Although the no item was significantly predictive of future recidivism within domain 5, Substance Abuse, the two items most positively correlated with recidivism were retained, Occasional Drug Use and Chronic Drug Use. In domain 6, Leisure and Recreation, Limited Organized Activities and Could Make Better Use of Time significantly predicted

future recidivism. In domain 7, Personality and Behavior, Inflated Self-Esteem and Physically Aggressive significantly predicted recidivism. Lastly, although no one item was significant for domain 8, Attitudes and Orientation, the two items most correlated with recidivism were retained, Pro-criminal Attitudes and Defies Authority.

Question 2: Which risk assessment items are maintained from the YLS/CMJ when empirical approaches to short form construction are adopted?

The empirical short form identified items of the original which best predicted recidivism, regardless of their conceptual content. The empirical version was generated by correlating all 42 items from the original form with recidivism and examining each item's AUC statistic. Only those items which had significant AUC's were retained (11 items – see Table 3). Once these items were identified, an additional test of the AUC was computed for the total of the 11 items.

As shown in Table 3, 11 items from 4 of the 8 domains (Education and Employment, Peer Relationships, Leisure and Recreation, and Personality and Behavior) significantly predicted juvenile who recidivated within a two year period. The items which were maintained are as follows: Disruptive Behavior in the Classroom, Disruptive Behavior on School Grounds, Low Achievement, Problems with Peers in School, Problems with Teachers, Some Delinquent Acquaintances, Some Delinquent Friends, Limited Organized Activities, Could Make Better Use of Time, Physically Aggressive, and Short Attention Span.

Question 3: What is the reliability and predictive validity of the mixed method and empirical short form as compared to the original YLS/CMI long form?

Reliability was examined for each short form (empirical and mixed method). Internal consistency was compared to the reliability coefficient of the original long form. As seen in Table 4, the mixed method short form and the empirical short form both yielded a reliability coefficient of .74 as compared to the original YLS/CMI reliability coefficient of .87. This is to be expected given the reduction of items as compared to the original form. While lower, the internal consistency is still within the acceptable range.

Short forms were also compared for predictive validity. The AUC test was used to examine accuracy of classification rates for both the long and short forms (empirical and mixed model). The AUC statistic for each of the short forms was compared to the AUC statistic of the original long form. As shown on table 5, AUC test for the mixed model short form was .64 with a standard error of .02 ($p < .05$). For the empirical short form the AUC was .64 with a standard error of .02 ($p < .05$). Additionally, the results of the AUC test for original long form was .63 with a standard error of .02 ($p < .05$). In other words, there is no difference between the predictive validity of the three forms of the YLS.

Crosstabulations were computed to help determine cut scores for the mixed method short form. These cut scores designated low, moderate, and high risk based on the recidivism percentages and cut scores from the original YLS/CMI form. This means that the same proportion of youth who were classified

in low, moderate, and high risk on the original form matched the proportion of youth classified using the mixed method.

The newly generated cut scores across high, moderate, and low risk groups were used to determine recidivism rates across a two year period. These new recidivism rates for high, moderate, and low risk were examined to determine which form best predicted. Table 6 presents the results for the Mixed Method Short Form. Crosstabulations generated the following 2- year recidivism percentages for low (n=319), moderate (n=185) and high (n=53) risk groups: low risk= 25%, moderate risk= 40%, and high risk= 47% (Table 6).

Discussion

Question 1: Which risk assessment items are maintained from the YLS/CMI when mixed method approaches to short forms construction are adopted?

The mixed method short form maintained 2 items from each of the eight YLS/CMI domains (except subscale #1, Prior Offenses and Disposition) using bivariate analyses. Not all items maintained were significant predictors of recidivism. However, due to the goal of maintaining all domains across the YLS/CMI, marginally significant items were considered to meet the 2 item minimum across each domain. The domains that did not elicit any significant values as it relates to predicting juvenile recidivism were as follows: Prior Offenses and Dispositions (Failure to Comply), Substance Abuse (Occasional Drug Use and Chronic Drug Use), and Attitudes and Orientation (Physically Aggressive and Procriminal Attitude). The domains which elicited significant values were Family Circumstances and Parenting (Inconsistent Parenting and

Poor Relationship with Father), Education and Employment (Disruptive Behavior in the Classroom and Problems with Teachers), Peer Relationships (Some Delinquent Friends and Some Positive Acquaintances), Leisure and Recreation (Limited Organized Activity and Could Make Better Use of Time), and Personality and Behavior (Inflated Self-Esteem and Physically Aggressive).

These results suggested that in this sample criminal history, substance abuse, and attitudes and orientation are less effective in determining juveniles who are likely to recidivate within a two year period. Family, education, peer relationships, leisure and activities, and personality and behavior were better at predicting juvenile recidivism.

While inconsistent parenting may be the best predictor within the Family Circumstances domain, it is important to note that the Poor Relationship with Father may not be that useful given the sample; few juveniles had fathers in the home. Poor relationship with Father seems to be an irrelevant item given the sample characteristics, however given that most juvenile had mothers in the home; Poor Relationship with Mother did not significantly predict 2 year recidivism, poor relationship with parents may not be the most appropriate way to understand juvenile recidivism.

Additionally, education, peer relationships, and personality/behavior seem to initiate the strongest level of significance across 2 year recidivism. This consistently suggested education, peer relationship items, and personality and behavior items are essential to short form screeners. These items were also

more dynamic factors and were the same domains which were retained within the empirical short form.

Question 2: Which risk assessment items are maintained from the YLS/CMI when empirical approaches to short form construction are adopted?

Of the 42 items on the original YLS/CMI, only 11 items across 4 domains significantly predicted recidivism across a 2 year period of juveniles within an informal/intake division when using empirical approaches. The 4 domains which were maintained on the short form were Education/Employment, Peer Relationships, Leisure and Recreation, and Personality and Behavior. Similar to the mixed method short form, Disruptive Behavior in the Classroom and Could Make Better Use of Time were the best items which predicted recidivism. This finding was consistent with current literature; research has suggested that education needs and the lack of leisure and recreation are key predictors for future delinquent acts (Cottle, Lee, & Heilburn, 2001& Onifade et. al., 2008). Research also shows strong evidence that negative peer networks also lead to future crime (Cottle, Lee, & Heilburn, 2001& Onifade et. al., 2008). According to the social learning theory, juveniles learn from those who are in their environment. Juvenile with delinquent acquaintances and friends are more likely to participate in criminal/delinquent activity therefore increasing their likelihood of returning to the criminal justice system. These same juveniles often exhibit behavior problems in the classroom and which increase the chance of reoffending. Cottle et al., (2001) found that juveniles involved in perpetual offending showed evidence of physical aggression and acting out. Given the

strong association of education, peer relationship, and personality behavior factors with future crime these become key domains to involve in juvenile court screening mechanism. Results suggested that by focusing solely on these domains, those who are at-risk for reoffending can more quickly be identified. Maintaining only 11 items across 4 domains came at the cost of omitting four other domains.

Four domains were excluded from the empirical short form because of their lack of ability to significantly predict future crime. These domains include Offense History, Family Circumstances, Substance Abuse, and Attitudes and Orientation. All of these domains are often seen to be key predictors of future offending and have been used to screen juveniles to determine who goes formal in the court system. However, criminal history is not among a strong predictor of determining future crime (Cottle et al., 2001). Instead, it is a static factor that should be only used as descriptive information to inform juvenile court officers the level of services already received by the juvenile. However, it is common for courts to focus on crime type and criminal history, rather than other factors (e.g. peer relationships) seen to be more useful when predicting delinquent behaviors although there is no way to change a juvenile's criminal history (prior offenses and dispositions).

Similarly, courts focus on substance use although it is not a strong predictor of future crime. This focus is reflective to zero tolerance drug policies which exist among courts at both the adult and juvenile level. Often leading to being detained, with or without a treatment program or services (Watson,

2004). Not only does substance use does not significantly predict future crime for juvenile offenders but it is among one of the most difficult behaviors/risk to change. This is because effective intervention programs and strategies are not without their own set of faults (Watson, 2004) Providing in-consistent screening, follow-up, and or failure to appropriately assess substance abusing behavior are some of the obstacles that plague the level of service delivery around substance use (Watson, 2004). Since there seems to be little evidence that suggest courts know what to do and or how to handle this epidemic, much of intervention strategies should focus on the domains which haven the greatest ability to improve.

The domains that were not maintained for the empirical short form seemed to be most reflective of static variables. For instance, criminal history, attitudes and orientation, and family circumstances are among key domains which identify risk factors that may have little to no opportunity for change overtime. It seems evident that the empirical form maintains dynamic factors which significantly predict recidivism across a 2 year period. Literature which identifies best practice approaches in within the juvenile just system recommends that courts should only focus on those factors that have the best ability to change over time. By focusing on dynamic factors versus static factors, courts will have the greatest opportunity reducing criminogenic risks.

Overall, both mixed method and empirical short forms maintained the ecological model by maintaining multiple domains. Although the mixed method short form was more inclusive of the various domains which help explain

criminogenic risk, both short forms capture key ecological components. These factors include the family, education, peer relationships, and individual characteristics like behavior. These multilevel components further emphasize the need to address recidivism from a comprehensive approach (Gorman- Smith et al., 1996). Brofenbrenner (1979) suggest that it is the interaction of the youth's social systems which impact the development of that youth. In order to appropriately address delinquency, both individual and environmental mechanisms must be taken into account.

Question 3: What is the reliability and predictive validity of the mixed method and empirical short form as compared to the original YLS/CMI long form?

Research suggests that when determining the reliability of an assessment, the basic standard is .60 (cite). Knowing this, the original YLS/CMI original long form would be classified as excellent ($r=.87$). Nunnally & Bernstein (1994) suggest that the number of items is reflective and related to the level of reliability. As result, reducing the number of items on a test may reduce the level of reliability (Nunnally & Bernstein, 1994). It was assumed that both the empirical and mixed method short form would have a reduced reliability coefficient. After testing the reliability, the coefficient for the mixed method and empirical short form was the same (.74). This suggested that the understanding of the construct "criminogenic risk" was not drastically compromised, although reliability decreased, when test items were reduced. Nunnally & Bernstein (1994) would rate each short form acceptable/ good given internal consistency was above .60. While there was a slight decrease in reliability, the same attention was given to

each short form to determine level of predictive validity of short forms as it compares to the original form.

AUC test across low, moderate and high risk groups were used to predict recidivism (yes/no). The original AUC score for the original YLS was .63. After constructing the mixed method and empirical short form the AUC for both was .64. This suggested that although the mixed method and empirical form are shorter, they have the same predictive capacity as the long form (although not significantly different). Not only does each of the forms predict equally but they also predict just as well as the original YLS/CMI. Research suggests that the standard for AUC test across juvenile risk assessment instruments is .60 (Cottle, 2001). Given this the AUC scores generated from both the mixed method and empirical form meet such standards, these forms seem to be promising screeners for intake/informal juvenile justice divisions.

Discussion of Methodological Principles

1. Develop a short form of a sufficiently validated measure

Both short forms utilized the AUC statistic as a means to examine validity. This is commonly used to examine predictive power of juvenile offender risk assessments. Given the results from the AUC test both mixed method and empirical short forms predict future crime equally and meet the .60 standard of measures of juvenile recidivism.

2. Show that classification rates remain high with the short form

The AUC not only examines predictive power but it does this by examining the classification rate of each juvenile. It is used to determine the rate of true positive classification as it relates to the likelihood of future recidivism; this specifies how well above chance each short form can predict recidivism. The two groups examined (recidivist and non-recidivist) total scores were analyzed to examine if the classification rate of both the mixed method and empirical short form was comparable to the original long form; each of the short forms yielded high classification accuracy (.60+) as compared to the original form, which meets the standard and average of juvenile offender risk assessment instruments.

3. Show that short form preserves the content coverage of each factor in the measure

The empirical short form goal was to examine the fewest number of test items needed to predict recidivism, the mixed method short form was used to examine level of content coverage as compared to the long form. To insure that all areas of the original YLS/CMI were included in a short form, the mixed method form involved all of the YLS/CMI domains in addition to selecting equal number of items across each of the domains. The empirical and mixed method short form share some level of content coverage. However, conceptually there is some gain of content coverage with the mixed method short form.

4. Show that short form offers meaningful time or resource savings for the loss in validity

Both short forms cut down the intake/informal division interviewing process by half, yielding the savings of time which will consequent reduce cost. Additionally, given the juveniles have an increased opportunity to be dismissed from the court early in the process, the cost that are saved by eliminating such youth in the juvenile court process is drastic. More examination of fiscal cost must be further examined in the future. However, the two short forms were able to cut the long form administration time (1 hour) by more than half, given the interview and scoring time was reduced.

5. Show that short form measures each factor scale reliability

Once the overall reliability of the original long form was determined, additional tests of reliability identified level of reliability across both mixed method and empirical short form. Although it was expected that the level of reliability would decrease due to the decrease in test items, the new reliability scores of both short forms were deemed good. This methodological principle was met by both of the short forms.

6. Show empirically that short form reproduces the factor structure of a multicultural instrument

The developers of the original YLS/CMI pre-identified the factor structure for criminogenic risk/risk for recidivism. This structure suggested that there were

8 domains that explained this construct. Given the need to meet this principle, the mixed method short form retained the original factor structure of the YLS/CMI. This was not true of the empirical short form. Not all short forms may meet this principle; it depends on the goal of the short form. In this case, this principle was solely relevant to the mixed method short form.

7. Show that short form has adequate overlapping variance with the full form, using independent administration

Determining the overlapping variance of short forms with the original forms requires independent administration. This was not possible across either short form. Consequently, this was a limitation and is discussed in the limitation section.

8. Short form omits sub-factors and preserves only overall factors, then fail to show that the short form preserves the content domains represented by the sub-factors

Sub-factors were eliminated on the empirical short form, however these were identified. Factors omitted were: Prior Dispositions and Offenses, Family Circumstances and Parenting, Substance Abuse, and Attitudes and Orientation. Although these factors were eliminated from the empirical short form, they did not affect the reliability and validity of the empirical short form as compared to the mixed method short form.

9. Show that each factor in the short form has validity on an independent sample

It is essential that short forms are further tested in order to further examine the level of predictive validity across short form. Due to the inability to demonstrate that neither short form is valid across an independent sample, this was discussed in limitation section. Future direction is to further validate measure to meet this final methodological principle.

Limitations

This studied utilized the same sample to validate both long and short forms within a first time offender juvenile population. This is unique because criminal history is the least relevant domain in predicting recidivism although it is a conceptual area of interest among many theoretically based risk assessments. Research suggests that in order to fully establish how well a short form performs as it compares to its original long form, the short form should be administered on an independent sample. This provides a greater understanding of overlapping variances across both short and long forms (convergent validity) and further establishes independent true scores as produced by each form. Such independent administration help reduces any biases that may be reflected in level of validity.

Given the promising effects of short forms, future research should further examine the empirical short form on an independent sample. This will allow for further validation concerning the level of overlapping variance across the original long YLS/CMI form. It is expected that given the level of attention given to the construction of the original long form as it relates to reliability and validity, it is

hypothesized that since the original long YLS/CMI meets the standard of a quality juvenile risk assessment instrument, that the empirical short form will consistently provide the same predictive power, even after independent sampling.

Conclusion

Which short form is best? Given that both mixed method and empirical short forms both yield the same level of reliability and validity, it is important to consider the costs and benefits for each form. Among the greatest benefits of the mixed method form is that it reflects the multi-dimensional construct of criminogenic risk, which match services and programming provided by the court. This is important because it provides court officers with a more comprehensive understanding of the juveniles' needs and better match juveniles with programs who are maintained at the intake division for informal probation or temporary supervision. However, this same form comes at the cost of having more items and the inclusion of factors which do not significantly predict crime within a two year period.

On the other hand, the empirical short form excludes all non-significant items regardless of its positive relationship with recidivism. This provides for a form that is reduced to the fewest number of items, which means a shorter interview and more resources saved. Given that one of the goals for screeners to be reduced to the fewest numbers of test items, the empirical short form does this and provides information on dynamic factors with predict those who will commit future crime. However, this is done at the cost of excluding variables that

courts are interested such as substance abuse. Since there are costs and benefits for both short forms, selecting the appropriate measure should be identified as it relates to the needs and current concerns of juvenile courts. In general, given the empirical short form focuses on factors that are most easy to change (provide intervention for) and retained the fewest number of items it seems to be the better short form. Yet, both short forms have the ability to meet the needs of the court so regardless on decision, they both serve as promising screeners for an intake division.

The need for risk assessment short forms is essential for many purposes. First, short forms show promising effects to reduce case load by more than half, reducing court cost by a significant amount. Additionally, short forms have increased utility considering the reduction of time it takes to administer risk assessments, the ability to easily identify risk for recidivism, the level of error that may occur during administration and or scoring is reduced. Such forms provide great implications concerning level of accuracy in prediction. While long forms risk assessments provide essential information concerning case management and intervention information, short forms suggest that there are still 4 prime areas consistent across mixed method and empirical short forms (education and employment, peer relationships, leisure and recreation, and personality and behavior) which are significantly related to future crime. This is important because short forms will continue to provide some level of information concerning intervention recommendation even at the intake/informal level. This becomes beneficial for those who receive some level of services at

intake/informal stages. Given that there are many promising effects for short form screeners, these instruments may be useful in addressing the needs of intake/informal court divisions within the juvenile justice setting.

While some believe the adoption and implementation of short forms, like the YLS/CMI short form, has the potential to help minimize court biases, others suggest that such instruments have the potential to be bias across various groups (Onifade et al., 2008). This is because many bias factors like race, age, gender, socio-economic status, and various neighborhood characteristics (i.e. policing) are evident when examining juveniles who come in contact with the court and those who receive additional criminal petitions for recidivism. This is important to recognize, because further research should not only focus improving the utility of risk assessments but also understanding the extent to which biases such as these are minimized. Given the need for courts to adopt more fair and systematic ways to inform decision making, replication of studies that accounts for some of the major biases that occur are essential to move courts towards best practice. If indeed short forms, can be used to deter low risks individuals from going forward in the juvenile court process, it is essential to see what groups or types of juveniles may benefit from such screening processes the most. It is the identification of these short comings that will allow courts to improve its ability to be both just and fair.

APPENDIX A.

The Youth Level of Service/Case Management Inventory (YLS/CMI) Interview

Guide and Scoring Form

*This interview guide has been adopted from Hoge & Andrews

YLS/CMI RISK ASSESSMENT SCORING PROFILE & CASE MANAGEMENT INVENTORY FORM

	PRIOR OFFENSES/ DISPOSITIONS	EDUCATION	LEISURE & RECREATION	PEER RELATIONS	SUBSTANCE ABUSE	FAMILY & PARENTING	ATTITUDES & ORIENTATION	PERSONALITY & BEHAVIOR	(35- 41)	V e r y H i g h
High	(3-5)	(4-6)	(2-3)	(4)	(3-5)	(5-6)	(4-5)	(5-7)	(23- 34)	H i g h
Moderate	(1-2)	(1-3)	(1)	(2-3)	(1-2)	(3-4)	(1-3)	(1-4)	(9-22)	M o d e r a t e
Low	(0)	(0)	(0)	(0-1)	(0)	(0-2)	(0)	(0)	(0-8)	L o w
Strength									Total Risk Score	O v e r a l

1. Prior & Current Offenses/Dispositions: A. <input type="checkbox"/> Three or More Prior Convictions B. <input type="checkbox"/> Two or More Failures to Comply C. <input type="checkbox"/> Prior Probation D. <input type="checkbox"/> Prior Custody E. <input type="checkbox"/> Three or More Current Convictions Risk Level: <input type="checkbox"/> (0) = Low <input type="checkbox"/> (1-2) = Moderate <input type="checkbox"/> (3-5) = High		Strengths/Comments:
TOTAL:		

NOTE: This domain area covers the youth's entire childhood history, regardless of whether this is a 90 day or 365 day assessment.

- 1A. Have you ever come to the Court before for a delinquency charge or a crime? If yes, how many times? What happened each time? (e.g., charges dropped, diverted, placed on informal probation, placed on probation, etc.). What, if any, services did you or your family receive as a result of your Court involvement?

Have you ever been arrested before or in trouble with the police? How old were you when you were first arrested? Have you ever been in trouble in another county or state? How many times have you been convicted or found guilty of committing a crime? Can you list them for me?

1A. Three or More Prior Convictions:

FYI: If several offenses occurred at once, count only as 1 offense.

- ☒ Check this item if the youth has 3 or more prior **adjudications** (convictions).
- ☐ Do **not** count the current offense(s).
- ☐ Do **not** count offenses that were kept informal, or diverted by Intake Division.
- ☐ Do **not** count minor traffic offenses or civil ordinance violations.
- ☐ Do **not** count violations of probation or status offenses.

- 1B. After being found guilty or placed on probation, have you ever been charged or show-caused for violating probation or a court order? Tell me about it. How many times were you charged with violating probation or a court order? Did you ever run away from a court-ordered placement, like a group home, foster home, or residential facility?

1B. **Two or More Failures to Comply:**

- ☒ Check this item if the youth has been charged, on 2 or more occasions, with violation of probation, violation of court order, or show-caused for noncompliance with court-ordered programming.
- ☒ Check this item if the youth ran away or escaped from a court-ordered placement on 2 or more occasions.
- ☒ Check this item if the youth had charges filed, on 2 or more occasions, during the time he/she was on probation.
- ☒ Check this item if the youth had only one violation in 2 or more of the categories listed above.

- 1C. Have you been on probation before? Tell me about the times you have been on probation.

1C. **Prior Probation:**

- ☒ Check this item if the youth has ever been on **formal** probation, prior to his/her current adjudication.
- ☒ Check this item if the youth's prior **formal** probation cases have been closed.
- ☐ Do **not** count ***Truancy Probation***.

- 1D. Has the Court ever placed you out of your home during the time you were on prior probation? Were you ever placed in the County Jail or the Ingham County Youth Center during the time you were on probation? Please tell me about it.

1D. Prior Custody:

- ☒ Check this item for any out of home placement that was the result of any delinquency adjudication (e.g., Ingham County Youth Center, Foster Care, or Residential Placement).
- ☐ Do not count *In-Home Detention*.
- ☐ Do not count pre-trial arrest or detoxification.
- ☐ Do not count juvenile placement made for the youth's welfare (e.g., Foster Care due to neglect/abuse, Child Protective Services Placement, Protective Custody, etc.).
- ☐ Do not count pre-trial confinement or detention as custody.
- ☐ Do not count detention for status offenses.

1E. Tell me about your current charges (crimes, convictions). Have you been convicted (adjudicated) of any of these charges? Can you recall how many charges you pleaded guilty to?

1E. Three or More Current Convictions:

FYI: Count only the number of offenses that the youth pleaded guilty to.

FYI: Count the number of offenses, for which the youth is currently under formal probation.

FYI: Count a group of offenses as one if they were part of the same incident and occurred at the same time.

- ☒ Check this item if the youth received 3 or more convictions for the current disposition. **Note: this only refers to adjudications (convictions), not charges.**
- ☐ Do not check pending, dropped, or diverted charges.

2. Education: A. <input type="checkbox"/> Low Achievement B. <input type="checkbox"/> Problems with Teachers C. <input type="checkbox"/> Problems with Peers D. <input type="checkbox"/> Disruptive Classroom Behavior E. <input type="checkbox"/> Disruptive Behavior on School Property F. <input type="checkbox"/> Truancy Risk Level: <input type="checkbox"/> (0) = Low <input type="checkbox"/> (1-3) = Moderate <input type="checkbox"/> (4-6) = High		Strengths/Comments:
TOTAL:		

2A. What school are you attending right now (grade, etc.)? What grades are you getting now? What grades did you get on your last report card (improving or deteriorating)? Are you in any special education classes? Have you ever been evaluated by a school psychologist (if yes, please explain)?

2A. Low Achievement:

- ☒ Check this item if the youth is currently failing subjects or if grades have significantly fallen compared to previous grading periods.
- ☐ Do not check this item if the youth is performing at his/her expected ability level, but is getting low grades.

2B. Describe your relationship with teachers. How do you get along with them? How are you treated by your teachers?

2B. Problems with Teachers:

☒ Check this item if there are significant and continuing problems or conflicts between the youth and his/her teacher(s).

☒ Check this item if the youth hates his/her teacher(s), or is hostile towards them.

2C. Describe your relationship with peers/classmates. How are you treated by your peers/classmates?

2C. Problems with Peers:

☒ Check this item if the youth is disliked, isolated, withdrawn, or there is other evidence of poor relations with peers in the school setting.

☐ Do not check this item if the youth has one isolated negative incident with peer(s).

2D. Have you ever been in serious trouble (e.g., detention, suspended, expelled, etc.) while in class? When? Can you tell me what happened?

2D. Disruptive Classroom Behavior:





☒ Check this item if the youth is displaying acting out, attention seeking, defiant, or other disruptive behaviors within the classroom, and teachers/staff consider him/her to be a problem during class.

☒ Check this item only if the youth has been involved in two or more disruptive classroom incidents within the assessment period.

2E. Have you ever been in serious trouble (e.g., detention, suspended, expelled, etc.) outside of class, but while still in school or on school property? Have you ever been in serious trouble for your behavior on a school bus? When? Can you tell me what happened?



2E. Disruptive Behavior on School Property:

FYI: "School Property" applies to outside the classroom (e.g., in the hallways, on campus, at school bus stop, during walk home, etc.)

-  Check this item if the youth is aggressive/violent, engaging in misconduct while on school property.
-  Check this item if the youth engages in theft, vandalism, or drug/alcohol use on school property.
-  Check this item if there is disruptive behavior while the youth is on the school bus or at the school bus stop.
-  Check this item if disruptive behavior occurs just before or after school, while youth is en route to or from school.

2F. Have you ever skipped class or school without a legitimate excuse? Did you get caught? Have you ever been in Truancy Court? When?

2F. Truancy:

-  Check this item if the youth is missing school days or skipping classes without a legitimate excuse.
-  Check this item if the youth has been involved with Truancy Court during the assessment period.

3. Leisure & Recreation: A. <input type="checkbox"/> Lack of Organized Activities B. <input type="checkbox"/> Could Make Better Use of Time C. <input type="checkbox"/> No Personal Interests Risk Level: <input type="checkbox"/> (0) = Low <input type="checkbox"/> (1) = Moderate <input type="checkbox"/> (2-3) = High		Strengths/Comments:
TOTAL:		

3A. Are you a member of any sports teams, organizations, bands, clubs, volunteering, etc., after school or on the weekends? Are you involved in any church group activities, youth group, etc?

3A. Lack of Organized Activities:

- ☒ Check this item if there is no evidence that the youth participates in sports, clubs, or other types of organized positive activities.
- ☒ Check this item if he/she only attends self-help groups that are mandatory and the youth does not find it enjoyable or helpful.
- ☐ Do not check this item if he/she attends self-help groups willingly and receives social rewards and help from this.


3B. What else do you like to do with your free time?

3B. Could Make Better Use of Time:




- ☒ Check this item if the youth spends excessive time in passive/unconstructive activities (i.e., watching TV, DVD's, playing video games, listening to the radio, partying, hanging around).

- 4A/B. Who are your friends? What are their names (first names only if youth is uncomfortable /defensive)? What do they do to occupy their time? Do you have any acquaintances and/or friends that get good grades, are in clubs, organizations, band, sports, student government, etc?

4A. Lack of Positive Acquaintances:



- FYI: An *acquaintance* is defined as a casual and largely superficial peer contact
- FYI: A positive acquaintance has not been involved in criminal activity for one year or longer.
- FYI: A positive acquaintance is involved in pro-social activities and makes positive and constructive use of free time.
-  Check this item if the youth has no positive peer acquaintances.

4B. Lack of Positive Friends:

-  FYI: A friend is defined as an individual with whom the youth has a close emotional attachment, whose opinions are valued, who provides support to the youth when he/she needs help, etc.
-  Check this item if the youth has no/few close friends who are positive role models.
-  Do not check this item if the youth spends time with positive role models, respects their opinion, and does not engage in antisocial behavior when with them.

- 4C/D. Do you have any acquaintances and/or friends who get in trouble with the law? Have any been arrested? Do you know of any gangs in your school or neighborhood? Are any of your acquaintances and/or friends involved in a gang? Are you associated with, or a member of, a gang? How many of your acquaintances and/or friends use drugs/alcohol?

4C. Some Delinquent Acquaintances:

- FYI: An *acquaintance* is defined as a casual and largely superficial peer contact
-  Check this item if some of the youth's peers/friends are known offenders, gang members, or exhibit antisocial attitudes/behaviors.
-  Check this item if the youth has ongoing contact or past associations with individuals who have criminal records or engage in criminal activity, but are not

close friends (e.g., fellow students, co-workers, people in the neighborhood, teammates, etc.).

4D. Some Delinquent Friends:

FYI: If this item is checked, then item 4C must also be checked.

FYI: A friend is defined as an individual with whom the youth has a close emotional attachment, whose opinions are valued, who provides support to the youth when he/she needs help, etc.

☒ Check this item if some of the youth's friends are known offenders, gang members, or exhibit antisocial attitudes/behaviors.

☒ Check this item if the youth displays friendship with individuals who have criminal records or engage in criminal activity.

5. Substance Abuse:		Strengths/Comments:
A.	<input type="checkbox"/> Occasional Drug Use	
B.	<input type="checkbox"/> Chronic Drug Use	
C.	<input type="checkbox"/> Chronic Alcohol Use	
D.	<input type="checkbox"/> Substance Abuse Interferes with Life	
E.	<input type="checkbox"/> Substance Use Linked to Offense(s)	
Risk Level:		
<input type="checkbox"/>	(0) = Low	
<input type="checkbox"/>	(1-2) = Moderate	
<input type="checkbox"/>	(3-5) = High	
TOTAL:		

5A/B. Many kids your age have at least tried marijuana. Have any of your friends tried it? Have you tried it yet? How old were you when you tried it? How many times have you used marijuana in the past 90 days? In the past year (e.g., 1x month, weekly, several times a week)? Where do you use and with whom (at parties, with friends, alone, etc.)?


What other drugs have you used (e.g., cocaine, crack, heroin, ecstasy, skittles, crystal – meth, etc.)? When did you begin and how much do you typically use? When was the last time you used?


Have you ever used pills or prescription drugs that were not prescribed to you? When was the last time you used these?


If I dropped you right now, would it come back dirty? For what drugs?

5A. Occasional Drug Use:

FYI: Occasional drug use is defined as 1 use or more within the assessment period but short of 2X per week.

 Check this item if the youth is an occasional substance user.


 Check this item even if the youth's drug use is not perceived to be a problem currently (i.e., the youth is a controlled and infrequent drug user).

 Do not check this item if the youth has stopped his/her substance use for longer than the assessment period.

5B. Chronic Drug Use:

FYI: If this item is checked, then 5A must also be checked.

FYI: Consider checking this item if the youth openly expresses worries about relapse or returning to drug usage.

 Check this item if the youth has been using illegal drugs 2x per week or more and/or has a drug-related problem in at least one major life area (e.g., drug-related arrests, school/employment problems, contacts with medical facilities for drug problems, withdrawal symptoms, personality changes, family- social problems, etc.).

Most kids your age have at least tried alcohol. Have you tried it yet? How old were you when you first tried it?

5C/F.

How often do you drink? Do you ever get drunk when you drink? Do you drink just to get drunk?

How many times did you drink over the past 90 days? Over the past year?

5C. Chronic Alcohol Use:

- ☒ If this item is checked, then item 5F (Experimental Item) must also be checked.
- ☒ Check this item if the youth has been drinking 2x per week or more, and has alcohol-related problems in more than 1 major life area (e.g., passing-out, alcohol related arrests, school/employment problems, or recent diagnosis of alcohol dependency).
- ☒ Consider checking this item for a youth who is worried about his/her drinking or relapse.

- 5D. Do you think your drinking or drug usage could be affecting your schoolwork, family life, or friendships? Have you been involved in any accidents that involved drinking or drug usage?

5D. Substance Abuse Interferes with Life:

- ☒ Check this item if drug/alcohol use affects the youth's physical-social functioning and/or is associated with antisocial activity (e.g., problems with schoolwork, job, parental relationships, loss of friends, accidents, etc.).

- 5E. Do you think your drinking or drug usage is causing your problems with the Court (law)? Was your charge (offense/ truancy) related to alcohol or drug use in any way? Were you drunk/high at the time you committed your offense/truancy?

5E. Substance Use Linked to Offense(s):

FYI: It is abuse of illegal drugs leading to law violations that is important.

- ☒ Check this item if the youth's criminal activity reflects his/her drug or alcohol use.

- ☒ Check this item if the youth's use of alcohol or drugs is contributing, has contributed, or might contribute (use your professional judgment) to violations or the law of the youth's probation. Include drug trafficking to support a drug habit, theft to support a drug habit, etc.

6. Family & Parenting: A. <input type="checkbox"/> Inadequate Supervision B. <input type="checkbox"/> Difficulty in Controlling Behavior C. <input type="checkbox"/> Inappropriate Discipline D. <input type="checkbox"/> Inconsistent Parenting E. <input type="checkbox"/> Poor Relations (Father-Youth) F. <input type="checkbox"/> Poor Relations (Mother-Youth) Risk Level: <input type="checkbox"/> (0-2) = Low <input type="checkbox"/> (3-4) = Moderate <input type="checkbox"/> (5-6) = High		Strengths/Comments:
TOTAL:		

6A. With whom are you living? How many brothers and sisters do you have (biological, step, foster)?

What does you mom do for work? What does your dad do for work? What kind of hours (schedule, shift) do they work?

Who watches (supervises) you? Who watches you when your mom/dad is at work? Are there any times when you are not supervised or when your parents don't know where you're at? Tell me about those times. How often do these times occur?

6A. Inadequate Supervision:

- ☒ Check this item if the parent(s)/guardians(s) leave the youth unattended, and are not aware of his/her activities.

- ☒ Check this item if the parent(s)/guardians(s) leave the youth unsupervised without knowing how to contact him/her.
- ☒ Check this item if there are any additional situations of inadequate supervision per your best judgment.
- ☒ Check this item if the youth is living independently (without supervision).

6B. Do you have daily or weekly chores to do in your home? Do you have rules that are supposed to follow? Can you give me some examples of your family rules? Do you respect /follow the household rules? (If no) How do your parents react when you don't mind them?

6B. Difficulty in Controlling Behavior:

- ☒ Check this item if the parent(s)/guardians(s) have problems controlling/managing the youth's behavior (e.g., youth disobeys rules, instructions, leaves without permission, runs away, etc.).
- ☒ Check this item if the youth states or boasts about not following any rules or parents not having any control over them.
- ☒ Check this item if the youth has little or no respect for parental rules or authority.
- ☒ Check this item if parents are unwilling or unable to enforce the household rules.

6C. What are the consequences (punishments) for doing something wrong in your family?
Do you receive punishment for misbehaving? How often and what kind of punishment is it?

6C. Inappropriate Discipline:

- ☒ Check this item if there is excessive corporal punishment, frequent use of yelling and threats, overly harsh or strict rules, or other poor disciplinary practices.
- ☒ Check this item if the parent is overly permissive, with little or no effort at providing direction, guidance, or discipline.
- ☒ Check this item if parent(s) unable/incapable of disciplining inappropriate behavior.

- 6D.** Do your parent(s) apply the rules fairly in your family? Do your parent(s) follow through with consequences? Are they consistent in applying consequences or can you get out of your punishment? Is one parent more fair or consistent than the other? Can you split (manipulate, divide) your parents to get your way or to get out of your punishment?

Do your parents get along? If no, do you think that it affects the way they discipline you?

6D. Inconsistent Parenting:

- ☒ Check this item if the parent(s)/guardians(s) are inconsistent in applying the rules and use of punishment/rewards.
- ☒ Check this item if the youth frequently manipulates one parent against the other.
- ☒ Check this item if the parent(s)/guardian(s) cannot develop clear household rules
- ☒ Check this item if there is no conventional household routine or structure.
- ☒ Consider checking this item if one or more parents/guardians espouse antisocial attitudes, beliefs or practices when around the youth.

- 6E.** How do you get along with your father? What are some of the positive things you can say about your relationship with him? What are some of the problem areas? If I asked your father about your relationship with him, what do you think he would say?

6E. Poor Relations: Father-Youth:

FYI: The youth does not need to be living with the father for this item to be checked.

FYI: If there is a father/stepfather situation, base your answer on the most important relationship over the assessment period.

FYI: Rate this item with reference to the parental father figure with whom the youth primarily resides.

- ☒ Check this item if the father is absent, including absence due to military, out of state residence, incarceration, etc.
- ☒ Check this item if the youth and the father have a poor relationship (i.e., hostile, alienated, uncaring, etc.).
- ☒ Check this item if the youth rarely chooses to see/communicate with father, argues when they are together, relationship ranges from dislike to hatred, or the youth does not care what the father thinks, feels, or expects.
- ☒ Check this item if there is significant conflict, dissatisfaction, disappointment, or indifference in the youth's relationship with the father.

6F. How do you get along with your mother? What are some of the positive things you can say about your relationship with her? What are some of the problem areas? If I asked your mother about your relationship with her, what do you think her would say?

6F. Poor Relations: Mother-Youth:

FYI: The youth does not need to be living with the mother for this item to be checked.

FYI: If there is a mother/stepmother situation, base your answer on the most important relationship over the assessment period.

FYI: Rate this item with reference to the parental mother figure with whom the youth primarily resides.

- ☒ Check this item if the mother is absent, including absence due to military, out of state residence, incarceration, etc.
- ☒ Check this item if the youth and the mother have a poor relationship (i.e., hostile, alienated, uncaring, etc.).
- ☒ Check this item if the youth rarely chooses to see/communicate with mother, argues when they are together, relationship ranges from dislike to hatred, or the youth does not care what the mother thinks, feels, or expects.
- ☒ Check this item if there is significant conflict, dissatisfaction, disappointment, or indifference in the youth's relationship with the mother.

7. Attitudes & Orientation: A. <input type="checkbox"/> Not Seeking Help B. <input type="checkbox"/> Actively Rejecting Help C. <input type="checkbox"/> Defies Authority D. <input type="checkbox"/> Antisocial/Pro-criminal Attitudes E. <input type="checkbox"/> Callous, Little Concern for Others Risk Level: <input type="checkbox"/> (0) = Low <input type="checkbox"/> (1-3) = Moderate <input type="checkbox"/> (4-5) = High		Strengths/Comments:
TOTAL:		

7A/B. How do you feel about your current offense /charge / truancy, etc.? Do you think you could be helped from counseling, therapy, anger management, educational classes, etc.? Do you see the need for help in other areas of your life?

(If the youth is already receiving treatment/help, continue with this question) If you are already receiving help (therapy, counseling, etc.), do you see it as being of helpful to you or your family? Who set you up with getting this help? Do you feel forced into it? Would you still be attending this help if authority (parents, court, etc.) were not making you go?

7A. Not Seeking Help:

- ☐ Check this item if the youth is not seeking help, or is reluctant to seek the necessary interventions.
- ☐ Check this item if the youth lacks insight as to the need for help and/or does not recognize the value of help.

7B. Actively Rejecting Help:

- ☐ Check this item if the youth actively rejects or refuses to participate in the interventions of professionals or agencies.
- ☐ Check this item if the youth defiantly rejects help or passive aggressively rejects help.
- ☐ Check this item if the youth displays very poor attendance for appointments designed to help him/her.

7C. What do you think of the police? How do you feel you were treated by the police on your charge?

What do you think of the Court system? How do you feel you have been treated by the Court so far? How have you been treated at your hearing(s)?

How do you feel about people in authority telling you what to do (parents, family, teachers, police, court, etc.)? Do you think you should have to listen to (mind) them?

7C. Defies Authority:

- ☒ Youth is hostile to the juvenile justice system **AND** refuses to follow directions from parents, teachers, or other authority figures * **(the youth must have both, in order to count this item)** *

7D/E. Why do you think people commit crimes (skip school)? Why do you think you committed your crime (skipped school)? Looking back on what you did, how do you feel about it?

Do you have any family /extended family members (including parents, siblings) who have been in trouble with the law? Have any family members been to jail or prison? For what? How do you feel about them given their criminal behavior?

Do you think it is okay to have friends who commit crimes? How do you feel about friends who commit crimes? What would you do if you knew your friend was committing crimes?

Why do you think we have laws? Do you think the laws are fair? Are there any laws that you think are unfair that should be eliminated? Do you think that any of the laws are unfair and should not apply to you?

Were there any victim(s) of your crime? How do you feel about the victim(s)? Note: You may have to give insight into apparent victimless crimes, e.g., how stealing CD's from Meijer increases costs which affects customers and how customers are viewed by security, etc.

7D. Antisocial/Pro-criminal Attitudes:

- ☒ Check this item if the youth's attitudes are supportive of a criminal or anti-social lifestyle.

- ☒ Check this item if the youth's attitudes, values, beliefs, and rationalizations about the crime and victim show that he/she does not think social rules and laws apply to him/her.
- ☒ Check this item if the youth feels crime is useful, and he/she is better served by crime.
- ☒ Check this item if the youth denies responsibility for his/her actions and their consequences, and fails to empathize with the welfare of others who were victimized.
- ☒ Check this item if the youth accepts criminal others, values antisocial activities, and expresses hostility toward the juvenile justice system.
- ☒ Check this item if the youth expresses some guilt or remorse for the victim(s), but there is a mixed expression of self-concern (e.g., *I was in the wrong place at the wrong time; I wish I hadn't been caught; I'm only guilty because I got caught, etc.*)
- ☒ Check this item if the youth has a mixed attitude toward criminal behavior, but still is willing to bend/break the laws when convenient, or when it serves them.
- ☒ Check this item if the youth has general disregard for non-criminal alternatives.
- ☒ Check this item if the youth has weak ties to home, school, or work; and is negative, hostile, and rejecting of non-criminal others.

7E. Callous, Little Concern for Others:

- ☒ Check this item if the youth shows little concern for the feelings or welfare of others.
- ☒ Check this box if the youth engages in self-serving behavior to the neglect of others' welfare.
- ☒ Check this box if youth engages in antisocial, exploitive, predatory behavior.

<p>8. Personality & Behavior:</p> <p>A. <input type="checkbox"/> Short Attention Span</p> <p>B. <input type="checkbox"/> Poor Frustration Tolerance</p> <p>C. <input type="checkbox"/> Verbally Aggressive/Verbally Intimidating</p> <p>D. <input type="checkbox"/> Explosive Episodes</p> <p>E. <input type="checkbox"/> Physically Aggressive</p> <p>F. <input type="checkbox"/> Inadequate Guilt Feelings</p> <p>G. <input type="checkbox"/> Inflated Self-Esteem</p> <p>Risk Level:</p>	<p>Strengths/Comments:</p>
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<input type="checkbox"/> (0) = Low	
<input type="checkbox"/> (1-4) = Moderate	
<input type="checkbox"/> (5-7) = High	
TOTAL:	

8A. Do you have trouble concentrating or paying attention? Do other people think that you have trouble concentrating or paying attention? Have you ever been told by others (e.g., teacher, counselor, psychologist, etc.) that you have a problem staying focused? Have you ever been evaluated for ADD/ADHD?

8A. Short Attention Span:

FYI: This refers to Attention Deficit Disorder (ADD) related symptoms only, including: short-attention span, distractibility, and impulsivity.

- ☒ Check this item if the youth has significant and consistent difficulty paying attention and/or concentrating on tasks.
- ☒ Check this item if the youth has difficulty completing tasks or following sequential directions.
- ☒ Check this item if the youth is hyperactive for his/her age or developmental level.

8B. What kinds of things frustrate you? Do you lose your patience easily? Describe what happens when you get frustrated? Do other people think that you get frustrated easily?

8B. Poor Frustration Tolerance:

- ☒ Check this item if the youth deals poorly with frustration, loses patience easily, overreacts to minor setbacks or frustrations.
- ☒ Check this item if the youth acts out distractively or violently when experiencing frustration or failure.
- ☒ Check this item if the youth has significant trouble delaying or postponing gratification.
- ☒ Check this item if the youth gives up easily when tasks becomes more difficult.

8C. What kinds of things make you angry? Do you yell, scream, or curse at other people when you get frustrated or angry? Can you describe what happens? Does this help you get your way?

8C. Verbally Aggressive:

- ☒ Check this item if the youth is often verbally abusive in dealing with others.
- ☒ Check this item if the youth often uses language in a hostile, threatening, or intimidating manner.
- ☒ Check this item if the youth uses verbal aggression to manipulate others.

8D/E. What kinds of things make you so angry that you physically lose control? How angry do you get? What do you do when you get that angry? Do you break things, throw or punch things, destroy property? Do you get into physical fights with other people? Can you describe what happens (how bad do these fights get)?

8D. Explosive Episodes (Objects/Property):

- ☒ Check this item if the youth loses control physically of his/her temper when frustrated or angry.
- ☒ Check this item only if the youth's tantrums are limited to destruction of property or objects.

8E. Physically Aggressive (People):

- ☒ Check this item if the youth initiates physical aggression against others, starts fights, or has engaged in violent actions.
- ☒ Check this item if the youth believes physical aggression is an appropriate way of expressing oneself and dealing with others.
- ☐ Do not check this item if the youth has had one minor, isolated aggressive incident with peer(s).

8F. How do you feel after you have lost control, exploded, or acted out angrily? How do you think others feel after you have lost control? What do you think you could do to make amends for what you have done?

8F. Inadequate Guilt Feelings:

FYI: This item refers to the youth's feelings about his/ her actions and should not be confused with item 7E.

☒ Check this item if the youth feels no remorse for causing harm or threatening the welfare of others.

☒ Check this item if the youth does not accept responsibility for his/her actions, or offers excuses.

☒ Youth displays little anxiety and/or guilt in manipulating and/or exploiting others

8G. How do those that know you well describe you as a person? What do you like about yourself (what are you good at)? Are there some things about yourself that you don't like? Do you sometimes think you are better or more talented than others? How do you know this?

8G. Inflated Self-Esteem:

☒ Check this item if the youth thinks/demonstrates a need to express superiority over others, brags constantly, and has feelings of self-worth that seem to exceed his/her accomplishments.

YLS/CMI Interview Guide Scoring Summary

1. Prior & Current Offenses/Dispositions:		Strengths/Comments:
A. <input type="checkbox"/> Three or More Prior Convictions		
B. <input type="checkbox"/> Two or More Failures to Comply		
C. <input type="checkbox"/> Prior Probation		
D. <input type="checkbox"/> Prior Custody		
E. <input type="checkbox"/> Three or More Current Convictions		
Risk Level:		
<input type="checkbox"/> (0) = Low		
<input type="checkbox"/> (1-2) = Moderate		
<input type="checkbox"/> (3-5) = High	TOTAL:	
2. Education:		
A. <input type="checkbox"/> Low Achievement		
B. <input type="checkbox"/> Problems with Teachers		
C. <input type="checkbox"/> Problems with Peers		
D. <input type="checkbox"/> Disruptive Classroom Behavior		
E. <input type="checkbox"/> Disruptive Behavior on School Property		
F. <input type="checkbox"/> Truancy		
Risk Level:		
<input type="checkbox"/> (0) = Low		
<input type="checkbox"/> (1-3) = Moderate		
<input type="checkbox"/> (4-6) = High	TOTAL:	
3. Leisure & Recreation:		Strengths/Comments:
A. <input type="checkbox"/> Lack of Organized Activities		
B. <input type="checkbox"/> Could Make Better Use of Time		
C. <input type="checkbox"/> No Personal Interests		
Risk Level:		

<input type="checkbox"/> (0) = Low		
<input type="checkbox"/> (1) = Moderate		
<input type="checkbox"/> (2-3) = High	TOTAL:	
4. Peer Relations:	Strengths/Comments:	
A. <input type="checkbox"/> Lack of Positive Peer Acquaintances		
B. <input type="checkbox"/> Lack of Positive Friends		
C. <input type="checkbox"/> Some Delinquent Peer Acquaintances		
D. <input type="checkbox"/> Some Delinquent Friends		
Risk Level:		
<input type="checkbox"/> (0-1) = Low		
<input type="checkbox"/> (2-3) = Moderate		
5. Substance Abuse:	Strengths/Comments:	
A. <input type="checkbox"/> Occasional Drug Use		
B. <input type="checkbox"/> Chronic Drug Use		
C. <input type="checkbox"/> Chronic Alcohol Use		
D. <input type="checkbox"/> Substance Abuse Interferes with Life		
E. <input type="checkbox"/> Substance Use Linked to Offense(s)		
Risk Level:		
<input type="checkbox"/> (0) = Low		
<input type="checkbox"/> (1-2) = Moderate		
<input type="checkbox"/> (3-5) = High	TOTAL:	

6. Family & Parenting:		Strengths/Comments:			
A. <input type="checkbox"/> Inadequate Supervision					
B. <input type="checkbox"/> Difficulty in Controlling Behavior					
C. <input type="checkbox"/> Inappropriate Discipline					
D. <input type="checkbox"/> Inconsistent Parenting					
E. <input type="checkbox"/> Poor Relations (Father-Youth)					
F. <input type="checkbox"/> Poor Relations (Mother-Youth)					
Risk Level:					
<input type="checkbox"/> (0-2) = Low					
<input type="checkbox"/> (3-4) = Moderate					
<input type="checkbox"/> (5-6) = High	TOTAL:				
7. Attitudes & Orientation:		Strengths/Comments:			
A. <input type="checkbox"/> Not Seeking Help					
B. <input type="checkbox"/> Actively Rejecting Help					
C. <input type="checkbox"/> Defies Authority					
D. <input type="checkbox"/> Antisocial/Pro-criminal Attitudes					
E. <input type="checkbox"/> Callous, Little Concern for Others					
Risk Level:					
<input type="checkbox"/> (0) = Low					
<input type="checkbox"/> (1-3) = Moderate					
<input type="checkbox"/> (4-5) = High	TOTAL:				
8. Personality & Behavior:				Strengths/Comments:	
A. <input type="checkbox"/> Short Attention Span					
B. <input type="checkbox"/> Poor Frustration Tolerance					
C. <input type="checkbox"/> Verbally Aggressive/Verbally Intimidating					
D. <input type="checkbox"/> Explosive Episodes					
E. <input type="checkbox"/> Physically Aggressive					
F. <input type="checkbox"/> Inadequate Guilt Feelings					
G. <input type="checkbox"/> Inflated Self-Esteem					

Risk Level:		
<input type="checkbox"/> (0) = Low		
<input type="checkbox"/> (1-4) = Moderate		
<input type="checkbox"/> (5-7) = High	TOTAL:	

APPENDIX B.

Check List of Guiding Principles of Short Form Development

Table 1

Short Form Guiding Methodological Principles across Mixed Method and Empirical Short Form

Methodological Principles	Mixed Method	Empirical
1. Develop a short form of an sufficiently validated measure	Yes	Yes
2. Show that classification rates remain high with the short form	Yes	Yes
3. Show that short form preserves the content coverage of each factor in the measure	Yes	No
4. Show that short form offers meaningful time or resource savings for the loss in validity	Yes	Yes
5. Show that short form measures each factor scale reliability	Yes	No
6. Show empirically that short form reproduces the factor structure of a multicultural instrument	Yes	No
7. Show that short form has adequate overlapping variance with the full form, using independent administration	No	No
8. Short form omits sub-factors and preserves only overall factors, then fail to show that the short form preserves the content domains represented by the sub-factors	No	Yes
9. Show that each factor in the short form has validity on an independent sample	No	No

Note. Check List of Guiding Principles Adopted from Smith, McCarthy, & Anderson (2000) "On Sins of Short-Form Development" across Mixed Method and Empirical Short Forms

APPENDIX C.

Result Tables of Mixed Method Short Form, Empirical Short Form, and Original

YLS/CMI Long Form

Table 2

Mixed Method Short Form as Determined by Bivariate Correlations across Two-Year Recidivism

Domain	Items	r	p value
Prior Offenses and Disposition	Failure to Comply	.07	p>.05
Family Circumstances and Parenting	Inconsistent Parenting	.09	p<.05*
Family Circumstances and Parenting	Poor Relationship with Father	.10	p<.05*
Education and Employment	Disruptive Behavior in Classroom	.17	p<.05*
Education and Employment	Problems with Teachers	.14	p<.05*
Peer Relationships	Some Delinquent Friends	.15	p<.05*
Peer Relationships	Some Positive Acquaintances	.10	p<.05*
Substance Abuse	Occasional Drug Use	.06	p>.05
Substance Abuse	Chronic Drug Use	.05	p>.05
Leisure and Recreation	Limited Organized Activities	.10	p<.05*
Leisure and Recreation	Could Make Better Use of Time	.15	p<.05*
Personality and Behavior	Inflated Self-Esteem	.13	p<.05*
Personality and Behavior	Physically Aggressive	.13	p<.05*
Attitudes and Orientation	Procriminal Attitudes	.05	p>.05
Attitudes and Orientation	Defies Authority	.07	p>.05

Note. r=correlation coefficient; p<.05*= significant two tailed test

Table 3

Empirical Short Form Table of Item Significance by AUC Scores across Two-Year Recidivism

Items	AUC Score	p value	Confidence Interval
Disruptive Behavior in the Classroom	.59	p<.05*	.54-.64
Disruptive Behavior on School Grounds	.55	p<.05*	.50-.60
Low Achievement	.56	p<.05*	.51-.61
Problems with Peers in School	.55	p<.05*	.50-.60
Problems with Teachers	.56	p<.05*	.51-.62
Some Delinquent Acquaintances	.55	p<.05*	.50-.60
Some Delinquent Friends	.57	p<.05*	.50-.60
Limited Organized Activities	.55	p<.05*	.53-.63
Could Make Better Use of Time	.58	p<.05*	.50-.61
Physically Aggressive	.56	p<.05*	.50-.61
Short Attention Span	.55	p<.05*	.50-.61

Note. None of the remaining 31 items of the YLS/CMI produced significant AUC statistics; AUC score= Area Under the Curve Statistic/Receiver Operating Characteristic, which identifies probability of true positives/correct classification of juveniles who recidivated; p<.05*= identifies significant two tailed AUC test; Confidence Interval=specifies range of AUC statistic

Table 4

**Comparative Reliability Outcomes of the Mixed Method, Empirical, and Original
YLS/CMI Forms**

Form Type	Number of Items	Reliability
Mixed Method	15	.74
Empirical	11	.74
Original	42	.87

Note. Reliability=inter-item reliability coefficient

Table 5

**Comparative AUC Outcomes of Mixed Method, Empirical and Original
YLS/CMI**

Form Type	AUC Score	Confidence Interval
Mixed Method	.64	.60-.69
Empirical	.64	.59-.69
Original	.63	.58-.68

Note. AUC Score= Area Under the Curve Statistic/Receiver Operating Characteristic, which identifies probability of true positives/correct classification rate of juveniles who recidivated; Confidence Interval=specifies range of AUC statistic

Table 6

Crosstabulations of Recidivism Rates of Mixed Method Short Form

	Score Range	Sample Size	Sample Percentage	2- yr Recidivism Rate
Low	0-3	319	57%	25%
Moderate	4-7	185	33%	40%
High	8-15	53	10%	47%

Table 7

Crosstabulations of Recidivism Rates of Empirical Short Form

	Score Range	Sample	Sample	2- yr
		Size	Percentage	Recidivism
				Rate
Low	0-4	341	61%	24%
Moderate	5-7	148	26%	41%
High	8-11	68	13%	51%

Table 8

Crosstabulations of Recidivism Rates of Original YLS/ CMI Form

	Score Range	Sample Size	Sample Percentage	2- yr Recidivism Rate
Low	0-8	355	64%	26%
Moderate	9-22	183	33%	43%
High	23-42	20	3%	40%

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