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TOWARD THE CONCEPTUAL DEVELOPMENT AND EMPIRICAL MEASUREMENT OF GLOBAL RISK
INDICATORS IN THE LIVES OF COURT-INVOLVED YOUTH¹

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Summary. -- This paper reports on work related to the conceptual development and empirical use of global risk indicators that are meant to rapidly and reliably measure potential threats to the overall development and well-being of adolescents penetrating the juvenile justice system. The development of these indicators and initial data regarding their use with court-involved samples are presented. Analysis of data gathered from a sample containing 248 families of adolescents who participated in a family-based diversion program revealed a seven-factor structure that corresponded to theoretically derived dimensions of risk in domains associated with: prior offenses, family/parenting, education/work, peers, substance use, personality/behavior problems, and attitudes/orientation. Analysis of data gathered from a second sample containing 373 families of adolescents who came into contact with the intake/diversion department of a county juvenile court confirmed the original seven factors of the battery, and generated support for an eighth dimension composed of items that reflected leisure activities. The use of these global risk indicators are discussed as part of a practical and effective assessment battery for professionals working with court-involved youth and their families.

Each year, large numbers of youth involved in illegal activity have contact with juvenile courts across the nation. These youth and their families are handled by court personnel in a variety of ways, including their referral to services designed to prevent recidivistic activity. In addition, many other youth come into contact with the court for a variety of other reasons, including status offenses, incorrigible and unruly charges, etc. Court-based professionals are faced with the task of having to make appropriate referrals for these youth and families as well. One of the major challenges facing court staff is how to collect and utilize appropriate information concerning these youth and their families in the decision-making process regarding these referrals, especially in light of the relatively large numbers of cases seen in a typical juvenile court. This paper reports on the development and implementation of a set of global risk indicators that may be used by court personnel to guide the decision-making process related to referrals for these youth and families.

Risk Assessment

Despite a recent trend toward criminalizing juvenile offenders, historically the role of the juvenile justice system has been to focus on regenerative treatment for troubled youth (Lewis, 1999). In furthering that role, the Office of Juvenile Justice and Delinquency Prevention (OJJDP) has worked to help states, cities, and communities implement the Comprehensive Strategies for Serious, Violent and Chronic Juvenile Offenders (Comprehensive Strategies). This initiative has two principle components: (1) preventing youth from becoming delinquent by focusing prevention programs on at-risk youth, and (2) improving the juvenile justice system response to delinquent offenders through a system of graduated sanctions and a continuum of treatment alternatives that include immediate intervention, intermediate sanctions and community-based corrections sanctions (Howell, 1995). Whether juvenile court systems are

implementing prevention programs for at-risk youth that come to the court by way of status offenses, or are choosing appropriate treatment alternatives for youth who have already offended, OJJDP's Comprehensive Strategy emphasizes the use of assessment instruments for classifying juveniles into appropriate treatment groups.

Formal assessment processes provide greater validity, structure, and consistency to risk assessment and increase the efficiency of allocating limited resources by matching the most intensive and intrusive interventions to the youth with the greatest needs (Howell, 1995). The large numbers of youth and families with which court personnel must interact, however, as well as ever present time and fiscal pressures present a significant challenge to early acquisition of the information needed to make effective decisions regarding placement and/or treatment.

While several local and state jurisdictions have developed risk assessment measures, the domains of inquiry vary appreciably from instrument to instrument. Further, few of these measures seem to have undergone tests of reliability and validity. One notable exception is the work that surrounds the development of the Level of Service Inventory (LSI) and related measures. Andrews (1982) developed the LSI as a risk evaluation instrument used to predict recidivism in adult offender populations. The current version of the LSI, administered through a structured interview, consists of 54 issues of risk clustered into ten domains: criminal history, education/employment, finances, family/marital, accommodations, leisure/recreation, companions, alcohol/drug, emotional/personal, and attitude/orientation. Research on the LSI has shown it to have acceptable psychometric properties (Bonta & Motiuk, 1985, 1987, 1990, 1992; Loza & Simourd, 1994; Motiuk, Bonta, & Andrews, 1986). Additionally, the LSI has been shown to display convergent validity with measures of relevant criminogenic constructs (Andrews, 1982; Andrews, Kiessling, Mickus, & Robinson, 1986; Bonta & Motiuk, 1992).

Shields and Simourd (1991) developed a version of the LSI for use with young offenders known as the YO-LSI. Original alterations to the LSI instrument's domains reflected the differences between adult concerns (employment history, marital problems) and those more pertinent to adolescents (parental conflicts, school difficulties). The 76 risk-related matters tapped by the YO-LSI originally were grouped into seven domains: criminal history, substance abuse, education/employment, family, peer relations, accommodations (crime/neighborhood), and psychological issues.

Like the adult version, Shields and Simourd's (1991) research established the utility of the YO-LSI as an assessment of risk. A more recent version of the YO-LSI has added a leisure/recreation domain to the interview protocol. Additionally, some renaming of the other domains has occurred, such that the areas of inquiry now read as follows: prior and current offenses/dispositions; family circumstances/parenting; education/employment; peer relations; substance abuse; leisure/recreation; personality/behavior; and attitudes/orientation (Hoge & Andrews, 1997).

Despite the established utility of the LSI, there are potential drawbacks to juvenile court personnel using the YO-LSI, including (1) the time it takes to conduct the interview, (2) the extensive training required to prepare the interviewers, and (3) its more narrow focus on predicting re-offense. Multi-Health Systems Inc. (MHS), which markets the LSI, states that the LSI is a structured interview that takes 30-45 minutes to administer (Multi-Health Systems Inc, n.d.). With record reviews and other collateral data collection procedures, however, court workers report that in practice the use of the LSI may take as much as two to three hours to complete. In addition, the necessary LSI training provided by MHS affiliates requires anywhere from two to four days to complete with a certified trainer. Cost estimates for that training range

from \$350 to \$1000 per day, plus travel and material costs (S. Kreamer, personal communication, December 1, 2001). Further, there are certain demands of the user of the LSI to interpret or otherwise make a subjective judgment about the degree of risk present in a given youth's life circumstances. Finally, both the conceptual focus of the LSI (Andrews, 1982) and the focus of the majority of LSI-related studies has been on predicting recidivism among incarcerated offenders (Coulson, Ilacqua, Nutbrown, Giulekas, & Cudjoe, 1996; Shields & Simourd, 1991; Simourd & Malcolm, 1998). Hence, there has been little attention given to more global indicators of adolescent well-being.

The present effort was an attempt to provide a less complicated assessment of potential threats to the developmental needs of adolescents who come into contact with the juvenile justice system. As such, we set out to create a set of global risk indicators that would be as brief, inexpensive, and objective as possible. In this regard, our research team reviewed items from a number of existing paper-and-pencil instruments for possible inclusion in this global assessment of risk, including the Child Behavior Checklist (Achenbach, 1991), the Oregon Social Learning Center's Overt-Covert Aggression Questionnaire (Patterson, Crosby, & Vuchinich, 1992), and the Counter control scale from the Rochester Youth Development Study (Krohn, Stern, Thornberry, & Jang, 1992). Additionally, new items also were developed for this assessment effort.

Following an initial compilation of items, the first author met with the Intake/Diversion staff members of the juvenile court collaborating on this project in order to discuss additions, deletions, and other changes to this set of items before beginning the process of data collection. Various suggestions regarding both the modification of existing items and the addition of new

items were made by these juvenile justice professionals. After further review by the first and fourth authors, these suggested changes subsequently were incorporated into the battery of items.

Methods

Our goal was to lay the foundation for the creation of a reliable and valid global risk assessment device that is designed to measure potential threats to the overall development and well-being of adolescents penetrating the juvenile justice system. The battery of items used to begin this work contained 86 items reflecting seven dimensions (13 items addressed prior offenses, 23 items addressed family/parenting, 13 items addressed education/work, 3 items addressed peers, 6 items addressed substance use, 24 items addressed personality/behavior problems, and 4 items addressed attitudes/orientation issues). The first and fourth authors compiled these items based on their ability to represent the different ways that adolescents might be exposed to risk factors in the various domains of interest. The average time that it took to complete this instrument was twenty minutes.

The Prior Offense subscale contained items that reflected past participation in delinquent behavior (i.e. “Past contact with police for any reason”). The Family/Parenting subscale included items that reflected difficulty in the home (i.e. “Difficulty disciplining your son/daughter”). The Education/Work subscale contained items addressing the degree of school and job difficulties (i.e. “Difficulty with school rules or code of conduct”). The Peers subscale contained items that reflected association with delinquent friends (i.e. “Hangs out with kids who steal”). The Substance Use subscale included items that reflected use of alcohol and/or other drugs (i.e. “Does your son/daughter’s use of alcohol or drugs play a role in disrupting his/her academic work or performance”). The Personality/Behavior subscale contained items that reflected internalizing and externalizing problem behaviors (i.e. “Is impulsive or acts without thinking”).

The Attitudes/Orientation subscale included items that reflected difficulty in the adolescent's disposition (i.e. "Doesn't seem to feel guilty after misbehaving"). Respondents were asked to respond to the items by indicating on a scale of 0 ("Not a problem at all; I'm not concerned") to 2 ("Very much of a problem; I'm definitely concerned") how much apprehension they experienced regarding the impact of these risk items on the present circumstances of their adolescent's life.

Sample 1

In order to gather pilot data, the battery of items was utilized in a telephone interview by the intake personnel of the Growing Up FAST program (Gavazzi, 1995; Gavazzi, Wasserman, Partridge, & Sheridan, 2000; Gavazzi, Yarcheck, Wasserman, & Partridge, 2000), a family-based diversion initiative that routinely received referrals from the local juvenile court. This procedure resulted in data being collected on 248 youth and their families. There were 130 (52%) male adolescents and 118 (48%) female adolescents represented in this sample, with a mean age of 14.6 years for male adolescents (range: 11-17) and 14.7 years for the female adolescents (range: 11-17). Forty-nine (20%) of these adolescents were referred on delinquency-related charges, 163 (66%) of these adolescents were referred due to incorrigible/unruly concerns, and 22 (9%) were referred for truancy. Five (2%) families contacted the program without having a current offense, and the type of offense was missing for 9 (3%) adolescents.

Forty-two percent of the respondents who indicated their family structure reported that they were a single-parent household. An additional 22% reported married, biological parents, 26% were step-families, 1% indicated the adolescent was in a foster home, and 9% reported some other family structure. The median family income was between \$35,000-\$44,999, the mode was between \$55,000-\$99,000, with a range of \$0-\$4,999 to \$100,000 or more. Sixty-six percent

indicated that they were “White, Non-Hispanic.” There were 29% who reported being “Black, Non-Hispanic,” 2% were “Hispanic” and 3% reported being of some other ethnicity.

Internal Consistency Analysis of Sample 1 Data

As the upper limit of the validity of a scale is determined by its reliability, the first step in validating the items was to examine their inter-item reliability. Cronbach alphas were used to estimate the reliability of each of the subscales. The alpha levels for each of the seven subscales are presented in Table 1. Alpha's ranged from .63 (Peer Relationships) to .90 (Family/Parenting).

The mean item to total scale score correlation for the Prior Offenses subscale was .34 (range: .13-.60). The mean item to total scale score correlation of the Family/Parenting subscale was .50 (range: .28-.61), for Education/Work the mean item to total scale score correlation was .43 (range: .25-.57), for Peer Relationships the mean item to total scale score correlation was .43 (range: .39-.54), for Substance Use/Abuse the mean item to total scale score correlation was .55 (range: .19-.73). Two of the items on the Personality/Behavior factor were measured in terms of the length of time problem behavior have been present. As these items were assessed on a different scale of measurement, they were not included in the reliability analyses. The mean item to total scale score correlation for the remaining 22 items was .31 (range: .15-.55). For the Attitude/Orientation factor the mean item to total scale score correlation was .47 (range: .33-.56).

Confirmatory Factor Analysis of Sample 1 Data

Consistent with Rosay, Gottfredson, Armstrong, and Harmon's (2000) assertion that structural equation modeling is an effective and appropriate method for evaluating instruments designed to assess risk, among other constructs, a confirmatory factor analysis was conducted in order to test the goodness of fit of the solution. The inter-item correlation matrices were assessed using the RAMONA program for SYSTAT 9.0. Models were specified according to the seven

dimensions specified in Andrews and Bonta (1995). Thirteen items were hypothesized to load on Prior Offenses, 23 on Family/Parenting, 13 on Education/Work, 3 on Peers, 6 on Substance Use/Abuse, 24 on Personality/Behavior, and 4 on Attitudes/Orientation. For this model, iteration began with ordinary least squares and then proceeded with maximum likelihood estimation. No warnings of redundant parameters or boundary estimates were encountered. This indicated that the confirmatory model had been specified accurately and that RAMONA did not encounter any parameter estimates which it had to constrain within 0 to 1. With a sample size of 248 and 3,578 degrees of freedom, this analysis has a power of 1.0. Root Mean Square Error of Approximation (RMSEA) was .07 (90% CI = .071 to .076). This is considered reasonable using RMSEA as a measure of goodness of fit and the guidelines provided by Browne and Cudeck (1993).

All confirmatory factor loadings for the items on the Growing-Up FAST sample were statistically significant at the .05 level. The mean confirmatory factor loading for Prior Offenses was .42 (SD = .16, range from .13 to .70), for Family/Parenting .52 (SD = .10, range from .24 to .69), for Education/Work .47 (SD = .12, range from .25 to .65), for Peer Relationships .62 (SD = .16, range from .52 to .80), for Substance Use/Abuse .63 (SD = .25, range from .23 to .89), for Personality/Behavior .45 (SD = .11, range from .13 to .71), and for Attitude/Orientation .63 (SD = .10, range from .48 to .71). The inter-factor correlations are presented in Table 2.

Summary of Sample 1 Results

Based on these results, the data support the seven-factor structure of the item set. However, there were several items that loaded poorly onto their hypothesized factor, indicating that, at least for this population, these items were not effectively tapping the dimension of risk that they were intended to assess. Furthermore, it appears from these results that certain aspects

of the desired construct were not being measured by the items utilized. Therefore, the items were revised in a number of ways before further testing, as described below.

Sample 2

To examine the use of these items by juvenile justice professionals while concurrently gathering additional data, the battery was utilized by the intake counselors of a local juvenile court intake/diversion department. Prior to implementation of this data-gathering strategy, the intake counselors were asked to give further feedback regarding the items and the dimensions that were addressed. Through this process, and in conjunction with further review of the literature, additional items were added in each of the seven domains (1 item for prior offenses; 8 items for family/parenting; 1 item for education/work; 3 items for peer relationships; 2 items for substance abuse; 8 items for personality/behavior problems; and 2 items for attitude/orientation). Consistent with other literature indicating the importance of extracurricular activities, an in conjunction with the YO-LSI's further development, an eighth dimension concerning leisure activities was developed. Hence, the Leisure subscale contained four items addressing what prosocial activities the adolescent was involved in currently (i.e. "What your son/daughter is doing in his/her spare time").

Seven intake counselors were instructed to utilize the items with at least 20% of the interviews they conducted with those youth and families that they had contact with over a three-month period. This procedure resulted in data being collected on 373 youth and their families. There were 207 (55%) male adolescents and 166 (45%) female adolescents represented in this sample, with a mean age of 14.5 years for male adolescents (range: 8-18) and 14.7 years for the female adolescents (range: 10-17). Seventy-five (20%) of these adolescents were referred on delinquency-related charges, 280 (75%) of these adolescents were referred due to

incorrigible/unruly concerns. The remaining eighteen (5%) families either contacted the program without having a current offense, or else the type of offense was missing.

Forty-eight percent of the respondents came from a single-parent household. An additional 29% reported married, biological parents, 15% were step-families, only two adolescents were from a foster home, and 7% reported some other family structure. One percent of the data on family structure were missing. Data on family income were not available for the court sample. Fifty-eight percent indicated that they were “White, Non-Hispanic.” There were 40% who reported being “Black, Non-Hispanic,” and an additional 2% were either “Hispanic” or reported being of some other ethnicity.

Internal Consistency Analysis of Sample 2 Data

The alpha levels for each of the 8 subscales are presented in Table 3. Alphas ranged from .87 (Prior Offenses) to .97 (Family/Parenting). The mean item to total scale score correlation for the Prior Offenses subscale was .53 (range: .27-.71). The mean item to total scale score correlation for the Family/Parenting subscale was .67 (range: .39-.87), for Education/Work the mean item to total scale score correlation was .58 (range: .21-.76), for Peer Relationships the mean item to total scale score correlation was .68 (range: .21-.76), for Substance Use/Abuse the mean item to total scale score correlation was .68 (range: .58-.77), for Leisure the mean item to total scale score correlation was .79 (range: .72-.82). One of the Personality/Behavior items was not included in the reliability analysis. The item was “Length of time your son/daughter has been temperamental.” This item was excluded because it was answered in years (responses ranged from 1 to 18 years) and not on a three-point scale as were the remainder of the items. The mean item to total scale score correlation for the remaining 31 items of the Personality/Behavior was .62 (range: .25-.79). There was also an item on the Attitude/Orientation factor that dealt with

time (“at what age did you son or daughter start having problem behaviors?”). Therefore, this item also was left out of the reliability analysis for this factor. The mean item to total scale score correlation for the remaining five items on the Attitude/Orientation factor was .83 (range: .80-.84).

Confirmatory Factor Analysis of Sample 2 Data

A confirmatory factor analysis was conducted to test the goodness of fit of the solution. The inter-item correlation matrices for the court sample also were assessed using the RAMONA program for SYSTAT 9.0. Models were specified according to the revised eight dimensions, including the Leisure factor, and the new items on the seven other factors. Fourteen items were hypothesized to load on Prior Offenses, 31 on Family/Parenting, 14 on Education/Work, 6 on Peers, 8 on Substance Use/Abuse, 4 on Leisure, 32 on Personality/Behavior, and 6 on Attitudes/Orientation. For this model, iteration began with ordinary least squares and then proceeded with maximum likelihood estimation. Again, for this model also there were no warnings of redundant parameters or boundary estimates. This indicated that the confirmatory model had been specified accurately and that RAMONA did not encounter any parameter estimates which it had to constrain within 0 to 1. With a sample size of 373 and 6,412 degrees of freedom, this analysis has a power of 1.0. Root Mean Square Error of Approximation (RMSEA) was .06 (90% CI = .068 to .070). The fit of this model with the additional Leisure factor and the additional items on the court sample is considered a reasonable fit using RMSEA as a measure of goodness of fit and the guidelines provided by Browne and Cudeck (1993).

Confirmatory factor loadings for the items on the court sample are presented in Appendix A. All confirmatory factor loadings were statistically significant at the .05 level. The mean confirmatory factor loading for Prior Offenses was .55 (SD = .16, range from .26 to .83), for

Family/Parenting .68 (SD = .14, range from .38 to .90), for Education/Work .60 (SD = .16, range from .20 to .83), for Peer Relationships .73 (SD = .11, range from .60 to .87), for Substance Use/Abuse .72 (SD = .18, range from .40 to .93), for Leisure .84 (SD = .03, range from .80 to .87), for Personality/Behavior .63 (SD = .16, range from .23 to .85), and for Attitude/Orientation .79 (SD = .17, range from .44 to .90). The inter-factor correlations are presented in Table 4.

Summary of Sample 2 Results

Based on these results, the data support the revised version of the battery of items based on the eight factors employed. The additional items appear to have solidified some of the items that loaded more weakly on the first version, producing a valid and reliable assessment of the eight measured risk factors. Furthermore, the items assessing the Leisure domain each loaded very highly on the Leisure factor, confirming the structure of this domain. The addition of the Leisure factor also improved the overall fit of the model from RMSEA .07 to RMSEA .06. Therefore, it appears that the model containing the eight factors provided a better assessment of risk in the participating adolescents.

Discussion

The purpose of this paper was to report on the conceptualization and empirical use of a set of global risk indicators that were designed to measure potential threats to the overall development and well-being of adolescents penetrating the juvenile justice system. While the set of items is based in part on the conceptual categories of the YO-LSI assessment battery (Shields & Simourd, 1991), its individual items originate from more objective and easily quantifiable instruments (Achenbach, 1991; Patterson, Crosby, & Vuchinich, 1992; Krohn, Stern, Thornberry, & Jang 1992).

The result is a psychometrically valid set of items that captures the conceptual domains of importance identified in the delinquency literature, and has the ease of administration necessary for use by practitioners working with youth who come into contact with the juvenile justice system. These items are administered in a variety of ways, including face-to-face contact or phone conversations with family members, and with very little training or assistance given to the users. With additional clarification and instructions, a self-administered paper and pencil version would be possible.

In addition, these items are administerable in approximately 20 minutes. The majority of assessments conducted in the two studies reported in this paper were completed within this timeframe. Additionally, the items can be administered without additional training by professionals who have general experience in working with high-risk youth and their families. Further, these items were constructed as closed-end questions that are easily quantifiable. The response set for the items was based on either a 3-point like-type scale ("Not a problem at all; I am not concerned" to "Very much of a problem; I'm definitely concerned"), or reference to a specific length of time ("How many years has..."). Such responses lend themselves well to quantification and standardize responses without the necessity of additional probing or interpretation by an interviewer.

Recent studies have suggested that the activities of adolescents during their "leisure time" (time outside of school and employment) can be predictive of negative developmental outcomes (Larson, 2000). The critical nature of what happens during this leisure time necessitates its inclusion on any assessment of risk. The inclusion of a psychometrically valid leisure subscale in this study adds considerable strength to the present effort over previous instruments developed for use in the juvenile justice field.

This study represents the initial step in the development and evaluation of a global risk assessment device designed for use by professionals working with court-involved youth and their families. Future studies must focus on a number of important issues regarding such an effort. First, attention must be directed toward the clarification of vague or otherwise overly broad language used in many of the items. Here, future efforts must be directed toward more precise use of words and phrases that better capture specific behaviors associated with adolescent well being.

Present examples of items that will be reconstructed include “gets in many fights” (prior offenses domain), “talks too much” (personality/behavior domain) and “disobedient at home” (family/parenting domain). In the first example (taken from the Prior Offenses domain), it is impossible to ascertain whether the fights are physical or verbal (or a mixture of both), as well as not being able to make a distinction between the youth who initiates conflict versus the youth who is engaged in self-defense. The second example (from the Personality/Behavior domain) is entirely dependent on the context that the respondent is thinking about when faced with this item. For instance, some parents may be less verbally skilled than their adolescents, and therefore may respond in ways that communicate more about their inferiority than the adolescent’s at-risk status per se. feel inferior in their ability to communicate as well as their children. Finally, the third example (from the Family/Parenting domain) fails to clarify the contextual basis for the behavior. Is the youth displaying the fairly typical teenage challenges to parental authority (i.e. refusing to clean their room or talking back to their parent), or is the youth refusing to adhere to a curfew or is engaging in physical altercations with siblings.

On the other hand, the language used in many of the other items is quite specific, and at the same time may be overly concentrated on those behaviors that are most closely associated with delinquency. In order to truly capture a more “global” profile of overall adolescent well-being, the language in the domains will need to be modified to reflect behaviors and social context phenomena associated with involvement in multiple systems of care, including but not limited to the juvenile court.

In particular, special attention must be paid to the future development of items in the Family/Parenting domain. Of critical importance here is the expansion of items that will allow users to identify the reciprocal nature of parent-adolescent relationships. Here, it is not simply what the adolescent does or does not do in response to other family members’ behaviors, but also what those family members are doing (or not doing) to the adolescent.

Additionally, future research using the global risk assessment items must examine potential gender differences. All too often, important differences exist between males and females on certain indicators of risk (Funk, 1999), yet these differences are subtle enough to remain hidden by the way that a given item is written. Hence, items already in place must be examined for potential gender bias.

At the same time, other gender-sensitive issues may be entirely missed by the current set of global risk items. For instance, there is a need to include future items that tap into gang association. In this regard, females are just as likely to associate with gang members as males. However, the type of involvement is quite different for females, as they are an auxiliary component of the gang, often used as couriers and/or for sexual favors, rather than being in those positions of leadership most often associated with males (Chesney-Lind & Sheldon, 1998).

Further, the predictive validity of the different subscales must be established in terms of multiple outcomes such as recidivism, problem behaviors in school, and mental health outcomes. Longitudinally designed studies assessing multiple outcomes will be necessary in these validation efforts as well. In addition, it is important that future research evaluates the differential value of the subscales in the success of referrals and subsequent interventions. If the profiles generated by this global risk assessment effort are to be of value, the link both to referral outcomes and to the success of subsequent interventions in empirical studies must be established.

Also, in order to be useful to practitioners, cut points for specific referrals must be developed and criterion-based guidelines established for making recommendations based upon assessment results. For example, effort should be put toward determining what score derived from the peer assessment would lead to a prescriptive effort to redefine an offender's peer relations. Also unanswered are questions regarding the notion that responses within a particular subscale offer any evidence as to what the intervention effort should entail. Future work on the development and evaluation of a global risk assessment device must address these issues of utility.

Overall, the two-sample procedure used in this study allowed the investigators to strengthen a conceptually sound categorization of risk factors into a psychometric valid set of items with easy cost-effective implementation. The psychometric validation of this global risk assessment device using confirmatory factor analyses provides initial evidence that "risk" may be categorized into conceptually and quantifiably unique components that may have differential predictive value to practitioners. Future research must explore the differential predictive value of these subscales and their implications for prevention and intervention.

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Table 1

Sample 1 Inter-Item Reliability Coefficients

Scale	Number of Items	Alpha
Prior Offenses	13	.72
Family/Parenting	23	.90
Education/Work	13	.80
Peer Relationships	3	.63
Substance Use/Abuse	6	.78
Personality/Behavior	24	.86
Attitudes/Orientation	4	.68

Table 2

Sample 1 Inter-Factor Correlations

	Prior Offenses	Family/ Parenting	Education/ Work	Peers	Substance Use	Personality/ Behavior	Attitude/ Orientation
Prior Offenses	1.0						
Family/ Parenting	.65	1.0					
Education/ Work	.64	.62	1.0				
Peers	.48	.43	.45	1.0			
Substance Use	.08	.08	.07	.35	1.0		
Personality/ Behavior	.66	.90	.81	.55	.04	1.0	
Attitude/ Orientation	.63	.72	.75	.57	.15	.79	1.0

Table 3

Sample 2 Inter-Item Reliability Coefficients

Scale	Number of Items	Alpha
Prior Offenses	14	.87
Family/Parenting	31	.97
Education/Work	14	.90
Peer Relationships	6	.87
Substance Use/Abuse	8	.90
Leisure	4	.91
Personality/Behavior	31	.95
Attitudes/Orientation	5	.94

Table 4

Sample 2 Inter-Factor Correlations

	Prior Offenses	Family/ Parenting	Education/ Work	Peers	Substance Use	Leisure	Personality/ Behavior	Attitude/ Orientatio n
Prior Offenses	1.0							
Family/ Parenting	.87	1.0						
Education/ Work	.74	.82	1.0					
Peers	.64	.66	.67	1.0				
Substance Use	.41	.38	.38	.42	1.0			
Leisure	.63	.66	.64	.66	.40	1.0		
Personality/ Behavior	.83	.91	.88	.65	.36	.64	1.0	
Attitude/ Orientation	.83	.92	.77	.72	.33	.68	.90	1.0

Appendix A

Sample 2 Confirmatory Factor Loadings

Factor	Item	Point Estimate
Prior Offenses	People accuse your adolescent of stealing?	0.60
	Gets in many fights?	0.58
	Lies or cheats?	0.71
	Runs away from home?	0.46
	Steals at home?	0.68
	Steals outside of the home?	0.56
	Threatens people?	0.65
Family/Parenting	Vandalizes?	0.53
	Conflict with your son/daughter?	0.82
	Difficulty disciplining your son/daughter?	0.87
	Difficulty keeping track of your son/daughter?	0.70
	Son/daughter argues a lot?	0.80
	Is cruel, bullies, or is mean to others?	0.74
	Destroys his/her own things?	0.59
	Destroys things belonging to his/her family or others?	0.61
	Disobedient at home?	0.83
	Physically attacks people?	0.62
	Screams a lot?	0.75
	Teases a lot?	0.60
	Has temper tantrums or a hot temper?	0.77
	Annoys others on purpose?	0.75
	Your adolescent getting worse and harder to control after they are punished?	0.82
	Fear that your son/daughter is going to hurt someone when you enforce the rules with him/her?	0.73
	Feeling like you need to tip-toe around your son/daughter in order not to upset him/her?	0.65
	Having to tell other family members not to upset your son/daughter?	.062
	Not asking your son/daughter to do things in order to keep the peace?	0.76
	Being worried about your son/daughter taking it out on other kids when you try to make him/her obey?	0.70
Finding it easier to control your son/daughter only when another adult is present?	0.59	
Finding it easier to do things yourself instead of asking your son/daughter to do them?	0.73	
Having to leave your son/daughter alone because they are often grouchy?	0.70	

Factor	Item	Point Estimate
Education/Work	Your son/daughter leaving after they have been told to stay put?	0.78
	Your son/daughter taking off without permission?	0.77
	How you are able to get help for your son/daughter?	0.76
	Difficulty reading or writing?	0.59
	Having poor school work (bad grades, missed homework assignments, etc.)?	0.64
	Difficulty with school rules or code of conduct?	0.68
	Difficulty getting to school and/or staying in school for the entire school day?	0.54
	Son/daughter's ability to fill out a job application?	0.50
	Son/daughter's ability to read a menu, newspaper, or other everyday reading materials?	0.50
	Your son/daughter's reading level as compared to his/her age group?	0.53
Peer Relationships	Failing to follow through on instructions?	0.74
	Interrupting or intruding on others' activities?	0.65
	Blurting out answers to questions before they have been completed?	0.56
	Your son/daughter having a hard time waiting for his/her turn?	0.65
	Who the friends are that your son/daughter hangs out with?	0.77
	Hangs around with others who get into trouble?	0.76
	Prefers being with older kids?	0.66
	Hangs out with kids who steal?	0.64
	Amount of leadership your son/daughter shows with friends?	0.65
	Clothing style of your son/daughter and his/her friends?	0.58
Substance Use/Abuse	Use of street drugs or legal drugs for non-medical reasons?	0.76
	Your son/daughter's use of alcohol or drugs playing a role in disrupting the relationship between: him/her and other family members?	0.83
	him/her and the school personnel?	0.81
	Your son/daughter's use of alcohol or drugs playing a role in disrupting his/her academic work or performance?	0.89
Leisure	What your son/daughter is doing in his/her spare time?	0.72
	The amount and kinds of hobbies your son/daughter is involved in?	0.82
	The sports and other athletic activities your son/daughter is involved in?	0.80

Factor	Item	Point Estimate
Personality/Behavior	The clubs/organizations your son/daughter is involved in?	0.82
	Possible learning problems?	0.46
	Possible psychological problems?	0.69
	Controlling his/her anger?	0.75
	Your son/daughter having signs or symptoms of ADD/ADHD?	0.57
	Your son/daughter's need to be treated with medication for any problems?	0.53
	Can't concentrate, can't pay attention for long?	0.72
	Can't sit still, is restless, or is hyperactive?	0.67
	Day-dreams or gets lost in his/her thoughts'?	0.52
	Is impulsive or acts without thinking?	0.78
	Is nervous, high strung, or tense?	0.70
	Has nervous movements or twitching?	0.50
	Shows off or clowns around?	0.65
	Is stubborn, sullen, or irritable?	0.80
	Suddenly changes mood or feeling?	0.79
	Swears or uses obscene language?	0.68
	Talks too much?	0.56
	Thinks about sex too much?	0.50
	When playing games, tends to play unfairly?	0.59
	Length of time your son/daughter has been having problem behaviors?	N/A
	Your son/daughter's being temperamental?	0.73
	If concerned, at what age did your son or daughter start being temperamental?	0.69
	Amount of anger that your son/daughter has?	0.77
Your son/daughter being resentful?	0.80	
Easily annoyed by others?	0.78	
Your son/daughter trying to get even, acting spitefully or vindictively?	0.75	
Your son's/daughter's sexual activity?	0.46	
Attitude/Orientation	Taking responsibility for his/her own actions?	0.82
	Not seeming to feel guilty after misbehaving?	0.85
	Blaming others for problems or mistakes?	0.80
	Your son/daughter lying with a straight face?	0.83
	Your son/daughter trying to cover it up after they have done something wrong?	0.84