

**Assessment of Suicidal Behaviors and Risk  
Among Children and Adolescents**

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**Disclaimer:**

Any errors or omissions in this review are the sole responsibility of the author.

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## I. Introduction

As indicated by the decision to include suicide as one of the leading indicators of health status in Healthy People 2010 (U.S. Department of Health and Human Services, 1998), a call for prevention issued by the Surgeon General on July 28, 1999 (U.S. Public Health Service, 1999), the proposed Senate Bill S1555 (“Public Health Response to Youth Suicide and Violence Act of 1999;” United States Senate, 1999), Senate Resolution 84 (“Recognizing Suicide as a National Problem and Declaring Suicide Prevention to be a National Priority; U.S. Senate, 1997), and the Public Health Service Revised Program Announcement for Studies of Suicide and Suicidal Behavior (NIMH, 1995), research related to the understanding, prevention, and treatment of suicidal behaviors is a high priority. Because of increased awareness of suicidality as a problem, and because completed suicide is the third leading cause of death among young people, efforts to identify youths who have engaged in suicidal behaviors or are at “high risk” for engaging in suicidal behavior have increased markedly over the last years.

As a case in point, for the decade from 1969 to 1978, a search of abstracts in the *Psych Lit* database yielded 207 articles focused on children or adolescents that included the key words “suicide” or “suicidal.” In the decade from 1979 to 1988, the number of articles published in this area increased fivefold to 1023. From 1989 to 1998, the number of articles discussing juvenile suicidal behaviors increased again by a magnitude of two and a half to 2470.

Despite the tremendous interest in juvenile suicidal behaviors, there is no singular widely accepted paradigm or approach for organizing the literature, explaining or describing existing findings, or even defining the problems or phenomena of interest. This has resulted in an accumulating literature, but a literature that sometimes lacks a systematic direction or set of organizing principles. This problem was acknowledged in a NIMH workshop on Suicidal Behaviors in Adolescents and Young Adults as early as 1987: “Perhaps the most salient conclusion that emerged . . . was that the data reported in the scientific literature (and subsequently in the popular press) were very difficult to interpret because they were collected employing different definitions of critical items, and used disparate instruments with unknown validity and reliability in non-comparable populations” (Lewinsohn et al., 1989).

Because of this concern about the state-of-the-art, Lewinsohn and his colleagues (Lewinsohn et al., 1989; Garrison et al., 1991) were commissioned by NIMH to critically review the literature on the assessment of suicidal behaviors among children and adolescents. Based on their review, several conclusions regarding the assessment of juvenile suicidal behavior were offered, including the following. First, clear and operational definitions of the suicidal behaviors assessed with various instruments were needed. Second, more attention needed to be paid to the validity of instruments, particularly discriminative and predictive validity, and the validity of claims that instruments can identify a group of “high-risk” youths. Third, for case-finding instruments, greater concern regarding the sensitivity and specificity of the instruments was warranted. Fourth, many of the assessment instruments focused on suicidal ideation despite the fact that the relationship between suicidal ideation and other suicidal behaviors was far from clear. Fifth, the intended purposes of many of the instruments were unclear. Sixth, normative data were needed for many of the instruments, as well as data pertaining to gender and ethnic differences.

In November, 1994, the National Institute of Mental Health and the Center for Mental Health Services of the Substance Abuse and Mental Health Services Administration jointly sponsored a workshop entitled “Dimensions and Classification of Suicide Morbidity.” Suicide researchers from diverse disciplines and settings attended this workshop to discuss the terms currently in use for describing suicidal behaviors, previous efforts at classification, the need for a standardized set of terms for describing suicidal behaviors, and the essential elements that need to be included in operational definitions of suicidal behaviors. The workshop participants drafted standardized nomenclature of suicidal behaviors, subsequently published by O’Carroll and his colleagues (O’Carroll et al., 1996).

In November 1998, NIMH sponsored another workshop, “Suicidality in Youth: Developing the Knowledge Base for Youth at Risk,” which brought together researchers in juvenile suicidal behavior, as well as researchers in other areas including developmental epidemiology, child psychiatry, and human development. In this workshop, several areas of need were identified – the continuing need for consistently used operational definitions of suicidal behaviors, the need for some consensus on important constructs regarding the study of suicidal behavior, the need to examine suicidal behaviors in the context of high-risk behaviors, and the need for some consensus as to the most useful ways of assessing suicidality. As a result of this workshop, it was suggested that it would be useful for researchers to have an updated critical review of the instruments that have been used to assess suicidal behaviors among children and adolescents.

In March 1999, in conjunction with the NIH Office of Rare Diseases and the American Foundation for Suicide Prevention, NIMH sponsored another workshop entitled “Treatment Research with Suicidal Patients.” Problems inherent in designing treatment studies for suicidal individuals were discussed in this workshop, and a particular need was identified for knowledge regarding which measures of suicidality should be of most utility in treatment studies. This commissioned review of instruments used to assess suicidal behaviors and risk among youths is a result of the conclusions reached at these workshops.

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## II. Methods and Organization

This review focuses on instruments that have been used to evaluate suicidal behaviors in children and adolescents since 1989, the date when the Lewinsohn et al. (1989) review was published. The review covers both instruments developed since 1989, and instruments developed before 1989 but used subsequently. Instruments are included in the review if they focus on suicidal behaviors or include questions that can be used for assessing risk of suicidality. Several groups of suicidal behavior instruments are reviewed: (a) instruments for assessing the presence of suicidal behaviors, (b) instruments for assessing risk or propensity for suicidal behaviors, (c) instruments for assessing the intentionality and medical lethality of suicidal behaviors, and (d) other instruments (including instruments assessing exposure to suicidal behavior). Both instruments focused specifically on suicidal behaviors (narrow-band instruments) and instruments focusing on a wider range of behaviors but including questions about suicidal behaviors (broadband instruments) are reviewed. Instruments reviewed include both interview (structured and semi-structured) instruments and self-report inventories.

For inclusion in the review, instruments must have been used or described in published articles or chapters (peer-reviewed as well as non-peer-reviewed), or specifically marketed as useful for assessing suicidality in youths since 1989. There are several classes of instruments that are not reviewed in this article. First, there have been numerous studies in which questions about suicidal behavior have been included in “needs surveys” or one-time high school screenings. As a rule, such instruments are not reviewed unless they (a) have been used in large or multi-site studies, or (b) focus on specific understudied populations such as American Indians or gay, lesbian, or bisexual youths.

Second, a large number of variables have been found to be related to increased risk for suicidal behaviors, particularly in general population samples characterized by low levels of distress. Instruments assessing constructs such as general psychopathology or distress, or even severity of depression or anxiety are generally not reviewed herein unless they contains items directly assessing suicidal behaviors, or assess constructs that have been described specifically because of their presumed or theoretical importance in understanding suicidal behavior (e.g., hopelessness or reasons for living).

Third, various projective and objective personality tests (e.g., MMPI-A) have been used in the assessment of “suicidal risk.” Such instruments are generally not reviewed unless they have specific indices or scales for assessing suicidal behaviors or the risk of suicidal behaviors (e.g., the Suicidal Tendencies Scale of the MACI). A recent review (Johnson et al., 1999) concluded that objective personality inventories tend to have limited utility in the assessment of risk and prediction of suicidal behavior.

Last, unlike the Lewinsohn et al. (Lewinsohn et al., 1989; Garrison et al., 1991) review which included instruments used with college students and instruments used only with adults that showed promise with youths, this review focuses only on instruments that have been used with children and adolescents up to the age of 18. Instruments used with college student populations are included in a review of adult suicide behavior assessment instruments being written under contract from NIMH by Dr. Gregory Brown at the University of Pennsylvania (Brown, 2000).

Several methods were used to identify instruments for inclusion in this review. The starting point for this effort was the review by Lewinsohn et al. ten years ago. *Social Science Citation Abstracts*, *Psych Lit*, and *Medline* computerized database searches were conducted to determine if instruments described in the earlier review had been cited or used since 1989. *Psych Lit* and *Medline* searches, and the catalogs of major publishers of psychological tests also were used to identify new instruments. Additionally, a letter was sent to all recipients of NIH funding (identified from the *CRISP* database) who may have published findings regarding suicidal behavior or used instruments for assessing suicidality with youths. A similar letter was sent to members of the Research Division of the American Association of Suicidology. Follow-up contacts were made to researchers known to have published findings regarding juvenile suicidality that failed to respond to earlier mailings or contacts.

This review is organized by type of instrument: (1) instruments for assessing or detecting the presence of suicidality, (2) instruments for assessing risk or propensity for suicidal behaviors, (3) instruments for assessing intent and lethality of suicidal behaviors, and (4) other instruments. However, each instrument is reviewed individually. Instruments are described in terms of the definitions of suicidal behaviors used (when appropriate), and the psychometric characteristics of the instrument (including test-retest and interrater reliability, internal consistency, concurrent validity, predictive validity, utility in treatment studies, and a summary of populations for which the instrument has demonstrated utility). Psychometric data for specific ethnic/cultural groups are described when available. The reference section for each instrument includes all references cited in the evaluation for that instrument.

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### III. Criteria for Evaluating Instruments

Definitions of Suicidal Behavior. Findings from studies of suicidal behavior often are difficult to integrate or interpret because of the differing definitions of suicidal behaviors that are used; differing definitions can yield marked differences in the estimated prevalence of suicidal behaviors (Meehan et al., 1992). Therefore, the instruments in this review are evaluated with regard to how closely the definitions of suicidal behavior used correspond to the operational definitions proposed by O'Carroll et al. (1996) in response to an NIMH/CMHS sponsored workshop. These definitions were proposed because of the problems in communication engendered by the different ways in which terms and definitions have been used by researchers and clinicians working with suicidal behaviors (what was referred to as "suicidology's Tower of Babel").

In the definitional system proposed by O'Carroll et al. (1996, pages 246-247), the term *suicide* refers to "death from injury, poisoning, or suffocation where there is evidence (either explicit or implicit) that the injury was self-inflicted and that the decedent intended to kill himself/herself." The term *suicide attempt* refers to "a potentially self-injurious behavior with a nonfatal outcome, for which there is evidence (either explicit or implicit) that the person intended at some (nonzero) level to kill himself/herself. A suicide attempt may or may not result in injuries." *Suicidal ideation* refers to "any self-reported thoughts of engaging in suicide-related behavior." These operational definitions are similar (but not identical) to definitions proposed by a NIMH Task Force in 1973 (Resnik and Hathorne, 1973).

Based on these suggested operational definitions, there are four questions that are raised with regard to the detection instruments in particular:

(1) *Do the suicidal ideation questions specifically focus on thoughts of wanting to kill oneself, rather than being so inclusive as to include thoughts of death or thoughts of wanting to die? Alternatively, are there separate items in the instrument for thoughts of death and suicidal thoughts?* Within the nomenclature proposed by O'Carroll et al. (1996), thoughts of death or wanting to die without specific thoughts of killing oneself are not considered to be suicidal ideation.

(2) *Are the items for detecting the presence/absence of suicide attempts confounded with the clinical characteristics of the attempt? For example, do questions for assessing the presence or absence of suicidal behavior ask only about suicide attempts with "serious" intent, attempts that are near-lethal, or attempts that require medical attention?* Suicide attempts often are associated with mixed motives and ambivalence (Schneidman, 1986), and there have been mixed reports regarding the degree to which subjective intent and medical lethality are correlated (DeMaso et al., 1994; Lewinsohn et al., 1996; Nasser and Overholser, 1999; Plutchik et al., 1989). According to the recommendations from the 1973 NIMH Task Force, questions regarding the clinical characteristics of suicide attempts should be considered separately from questions regarding the presence/absence of suicide attempts. As such, in neither the nomenclature recommended by NIMH in 1973 nor in that proposed by O'Carroll et al. (1996) is there a separate category for suicidal behaviors judged to be "non-serious" in intent or medical lethality (sometimes referred to as "suicide gestures").

(3) *Is it implicit or explicit in the suicide attempt detection items that the behaviors of interest were associated with some “nonzero” intent to kill oneself?* Within the proposed nomenclature of O’Carroll et al. (1996), self-harm behavior should be associated with at least some “non-zero” intent to kill oneself if it is to be classified as a suicide attempt. Suicide behavior detection items should not be worded so broadly as to potentially elicit information about behaviors that are self-endangering, but are not associated with any intent to die, e.g., self-mutilation for relieving stress, risk-taking behaviors, etc.

(4) *Are the suicide attempt detection items confounded with questions of whether or not the behaviors resulted in identifiable injury or required medical attention?* According to the operational definitions proposed by O’Carroll et al. (1996), suicidal behaviors should be *potentially* self-injurious, but the completed act need not be associated with identifiable injury or need medical attention. Suicide attempts with injuries are considered to be a subset of all suicide attempts.

Using common definitions or basic terms for describing suicidal phenomena does not ensure that respondents will always respond to test items in the manner intended, but it does at least ensure a degree of consistency in approach, therein enhancing communication among researchers and clinicians.

Populations Studied. Because of different base rates of the suicidal behaviors of interest in different populations, as well as different base rates of risk factors for suicidality, instruments that may have utility in identifying individuals “at-risk” in one population may not be as useful in identifying “at-risk” individuals in another population (a point discussed by Meehl and Rosen, 1955). For example, factors found to be associated with risk for suicidal behavior in a high school or community epidemiologic samples, in which the majority of individuals are not distressed, may not be similarly associated with greater suicidal behavior in clinical samples or other “high-risk” populations in which there often is by definition a greater degree of distress or impairment. Hence, instruments are evaluated with regard to the different populations for which they have been demonstrated to have utility.

Reliability. For purposes of this review, the term *reliability* is used to refer to the “reproducibility” of responses to a question or scale. Instruments are described and evaluated with regard to test-retest reliability (or stability over time) and interrater reliability (when appropriate). Reliability data (and any other psychometric characteristics) for specific cultural and ethnic groups are described when available. It is important to note that questions or scales may be “reliable” or yield reproducible responses without necessarily being “valid” or accurate measures of what it is they really purport to assess.

Internal Consistency. The degree to which people respond in a consistent manner to all of the items in a scale is referred to as *internal consistency*. As such, internal consistency reflects how well all of the items within a scale measure the same or similar constructs. Internal consistency is often considered to be an indication of the potential “reliability” of a measure (Shrout, 1995).

Concurrent Validity. Instruments are evaluated with regard to the *concurrent validity* or the degree to which they correlate with other indices of suicidal behavior and related constructs (at the same point in time). When information is available (and it usually is not), instruments also are evaluated with regard to their discriminative validity (the degree to which the measures do not correlate with theoretically unrelated constructs).

Dimensionality. The results of factor analytic studies with instruments are described. Specifically, instruments are described in terms of whether they measure single or multiple intercorrelated constructs (factors), the degree to which these factors dovetail with what would be predicted by the developers of the scale, and the consistency of factor analytic results across differing studies.

Predictive Validity. A number of instruments are described as useful for identifying youths “at high risk” for suicidal behaviors. Nonetheless, the true test of whether individuals are “at risk” is not the ability of an index or measure to differentiate between individuals with different histories, but rather the ability of the index to predict *future* behavior. Hence, instruments (particularly those designed for determining risk or propensity for suicidal behavior) are evaluated with regard to their ability to predict future behavior (including sensitivity and specificity of classifications; please see section on Definitions of Evaluative Terms below).

Treatment Studies. Instruments are described in terms of whether or not they have been used in treatment studies of suicidal behaviors. Information about whether or not the instruments appear to be sensitive to important changes occurring in the course of treatment is also presented.

Definitions of Evaluative Terms. In this review, a number of terms are sometimes used to describe a test’s relationship with future or already observed behavior. In this review, the term *sensitivity* refers to the proportion of individuals with the outcome of interest (e.g., suicide attempts) who have a positive test result (or who have been classified as “high risk”). *Specificity* refers to the proportion of individuals without the outcome of interest who have a negative test result (or who have not been classified as “high risk”). *Positive predictive value* refers to the proportion of individuals classified as “high risk” on the test that actually have the outcome of interest. *Negative predictive value* refers to the proportion of individuals classified as not being “high risk” who in fact do not have the outcome of interest.

*Kappa* is a statistical term that refers to the agreement between two observers, or between a test and an outcome, while controlling for chance agreement given the base rate of the outcome. The following is a rough guide used in the interpretation of kappa (Altman, 1991):

Poor agreement = Less than 0.20

Fair agreement = 0.20 to 0.40

Moderate agreement = 0.40 to 0.60

Good agreement = 0.60 to 0.80

Very good agreement = 0.80 to 1.00

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## IV. Review of Instruments

### A. Detection Instruments (Instruments for Identifying Current or Past Suicidality)

Detection instruments are instruments that are used for identifying either the presence or absence of current and/or past suicidal behaviors (if suicidal behaviors are conceptualized as discrete entities) or the degree of suicidality (if suicidal behaviors are conceptualized as being along a continuum). These instruments can be used in studies describing the phenomenology of suicidal behaviors including their contextual factors, precipitants, and course, or estimating the prevalence of suicidal behaviors. Detection instruments are different from instruments that are used to estimate “risk” or “propensity” for suicidal behaviors. These latter instruments often assess constructs thought to be related to risk for suicidality such as hopelessness or reasons for living, and may or may not include questions about past or current suicidality.

#### 1. Structured and Semi-Structured Psychiatric Diagnostic Interviews

Reviewed in this section are both structured and semi-structured psychiatric diagnostic interviews. Individuals administering structured interviews are supposed to ask questions verbatim. Hence, these interviews are highly standardized, but do not allow for clinical judgment. Individuals administering semi-structured interviews can reword questions or ask additional questions to clarify responses. These interviews therefore are not as highly structured, and allow for more clinical judgment and clarification. The use of structured or semi-structured psychiatric diagnostic interviews can increase the identification of current and past suicidal behavior relative to usual clinical practice (Malone et al., 1995). These interviews differ in format, length, training required for administration, and whether the interviews are structured for the assessment of psychiatric diagnoses (with “skip-outs” when subjects do not report key symptoms) or require assessment of each symptom (i.e., are symptom-oriented rather than diagnosis-oriented).

An evaluation of the general utility, ease of administration, and reliability of the instruments in the assessment of psychiatric diagnoses is beyond the scope of this review. Rather, this review is focused solely on the utility of these structured and semi-structured interviews in the assessment of suicidal behaviors.

#### Reference:

Malone, K., Szanto, K., Corbitt, E., Mann, J. (1995). Clinical assessment versus research methods in the assessment of suicidal behavior. *American Journal of Psychiatry*, *152*, 1601-1607.

## **a. Child and Adolescent Psychiatric Assessment (CAPA)**

### **Description:**

The CAPA is a psychiatric diagnostic instrument that combines elements of both semi-structured and structured interviews (Angold et al., 2000, 1995a, 1995b). The CAPA is designed to be administered by trained lay interviewers or experienced clinicians to both children (ages 8 to 18) and parents/informants. Accompanying the CAPA is an extensive and very well documented glossary explaining coding rules and rationales. The CAPA not only has sections for assessing psychiatric symptoms and incapacity or functional impairment, but also includes sections focusing on life events, family functioning, peer relationships, and school functioning. The CAPA has been used in epidemiologic and services related research (Costello et al., 1996a, 1996b). Two companion instruments, the Child and Adolescent Impact Assessment (CAIA; Angold et al., 1996) and the Child and Adolescent Services Assessment (CASA; Ascher et al., 1996; Burns et al., 1996), have been designed to assist in the assessment of burden associated with psychiatric illness, services use, attitudes toward service use, and barriers to service use.

### **Potential Use:**

Epidemiologic/screening surveys or clinical research; has been used in community-based longitudinal studies

### **Populations Studied:**

The CAPA has not been used in studies specifically focusing on suicidality.

### **Assessment and Definitions of Suicidal Behaviors:**

The suicidal behaviors section of the CAPA includes a screen section asking generally about suicidal and self-injurious behaviors; specific questions about thoughts of wanting to die, suicidal ideation, plans, and attempts; a section regarding intent and lethality associated with suicide attempts (reviewed separately in the section regarding Instruments for Assessing Clinical Characteristics of Suicidal Behaviors); and questions regarding non-suicidal physically self-damaging behavior.

The items regarding suicidal ideation are consistent with the proposed definitions of O'Carroll et al. (1996). For example, in the glossary, suicide attempts are defined as "episodes of deliberate self-harmful behavior, or potentially self-harmful behavior, involving some intention to die at the time of the attempt." Suicidal thoughts refer to "thinking specifically about killing oneself, by whatever means." The CAPA items regarding suicide attempts focus both on the number of attempts in the last three months, and the total number of (lifetime) attempts. There are also separate items for assessing thoughts of death and non-suicidal self-damaging acts.

### **Reliability:**

Interrater agreement for symptom ratings on the CAPA (computed as  $\kappa$ ) ranged from .37 to .98 (Angold and Costello, 1995). Interrater agreement for the suicidal behavior items was not reported separately.

### **Concurrent Validity:**

No published data were located.



**Predictive Validity:**

No published data were located.

**Treatment Studies:**

No treatment studies focusing on suicidal or related behaviors have been published.

**Summary and Evaluation:**

The Child and Adolescent Psychiatric Assessment (CAPA) has an excellent set of questions for assessing suicidal behaviors, and is complemented by two instruments, the CAIA and the CASA, assessing the impact of psychiatric problems and service use. However, the CAPA to date has not been used in studies of suicidal behaviors.

**Where to Obtain the Instrument:**

Adrian Angold, MRCPsych, Developmental Epidemiology Program, Department of Psychiatry and Behavioral Sciences, Duke University Medical Center, DUMC Box 3454, Durham, NC 27710

**References:**

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## **b. Children's Interview for Psychiatric Syndromes (ChIPS)**

### **Description:**

The Children's Interview for Psychiatric Symptoms (ChIPS) is a structured psychiatric diagnostic interview intended to assist in the diagnosis of DSM-IV disorders among youths (Fristad et al. 1998a, 1998b, 1998c; Teare et al., 1998a, 1998b; Rooney et al., 1999; Weller et al., 1999a, 1999b, 2000). The ChIPS was originally developed for children aged 6 to 12, but was later expanded so that it could be used with youths up to the age of 18. For the youngest of subjects, careful attention was paid in the development of the ChIPS to vocabulary used and the length of questions. The ChIPS can be administered by trained lay interviewers. The ChIPS does not assess gradations of severity of clinically significant symptoms.

### **Potential Use:**

Epidemiologic/screening surveys

### **Populations Studied:**

The ChIPS can be used to assess children's suicidal behaviors, but apparently has not been used in published studies of suicidal youths.

### **Assessment and Definitions of Suicidal Behaviors:**

The "Morbid/Suicidal Thoughts" questions of the ChIPS are in the section assessing symptoms of Major Depression and Dysthymia. Unlike other symptoms of depression, questions regarding suicidal behaviors are asked of youths even when they do not report dysphoric mood or anhedonia.

In the ChIPS, there are separate questions regarding thoughts of death/wishing to be dead and suicidal ideation. The question regarding suicidal ideation ("have you ever thought of suicide [killing yourself]") is straightforward and conforms to the definition proposed by O'Carroll et al. (1996). The question regarding suicidal attempts ("have you ever tried to kill yourself") is straightforward, implies non-zero intent to die, and does not confound clinical characteristics of the suicidal behavior with the rating of whether or not the suicidal behavior occurred.

There are no separate questions for assessing non-suicidal self-damaging behavior or total number of lifetime suicide attempts.

### **Reliability:**

No published data were located.

### **Concurrent Validity:**

No published data were located.

### **Predictive Validity:**

No published data were located.

**Treatment Studies:**

No published data were located.

**Summary and Evaluation:**

The Children's Interview for Psychiatric Syndromes (ChIPS) is a new diagnostic instrument. Questions regarding suicidal behaviors are in the section for assessing symptoms of Major Depression. Because of its easy-to-understand queries, the ChIPS may have particular utility with younger children, but the questions regarding suicidal behavior are limited in scope. Reliability and validity data for the suicidal ideation/behavior items are also not available. To date, the ChIPS has not been used in published studies of suicidal behaviors.

**Where to Obtain:**

American Psychiatric Press, Inc., 1400 K Street, N.W., Washington, DC 20005

**References:**

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### **c. Diagnostic Interview for Children and Adolescents (DICA)**

#### **Description:**

The Diagnostic Interview for Children and Adolescents (DICA) is generally a highly structured interview, but interviewers do have the latitude to “go off-interview” to clarify responses or rephrase questions, similar to semi-structured interviews (Reich, 2000). Similar to the CAPA, the DICA is glossary or manual based, and can be administered by trained lay interviewers. Similar to the Diagnostic Interview Schedule for Children (DISC) which is reviewed next, the DICA was originally modeled after the Diagnostic Interview Schedule (DIS) for adults. The DICA yields current or lifetime diagnoses, and the latest version of the DICA is compatible with both DSM-III-R and DSM-IV diagnostic systems (and can yield some ICD-10 diagnoses). The DICA has separate versions for children, adolescents, and parents. A computerized-assisted version of the DICA (which also can be self-administered) is also available.

#### **Potential Use:**

Epidemiologic/screening surveys or clinical research; has been used in longitudinal studies

#### **Populations Studied:**

The DICA has been used in studies comparing suicide-bereaved children and other children experiencing loss of a parent (Cerel et al., 1999). The DICA also has been used to examine suicidal behaviors among children of depressed and well mothers (Klimes-Dougan, 1998, 1999), and children with post-traumatic stress disorder (Famularo et al., 1996).

#### **Assessment and Definitions of Suicidal Behaviors:**

In the latest version of the DICA (Child, Adolescent, and Parent), the section on suicidal behaviors includes queries about hopelessness, thoughts of death, thoughts of wishing to be dead, suicidal ideation, suicide plan, and suicide attempts in the last month and lifetime (worst episode). In a separate section of the DICA, adolescents are asked additional questions regarding age at first suicidal ideation, age at time of first suicide plan, lifetime suicide attempts, age at first attempt, and medical attention and degree of intent during “most serious suicide attempt.”

The questions about suicidal ideation (“thought about killing yourself”) and attempts (“did you try to kill yourself”) are straightforward and consistent with the O’Carroll et al. (1996) recommendation regarding definitions of suicidal behaviors.

#### **Reliability:**

In a study of 60 children and 60 adolescents (ascertained via birth records in the state of Missouri) as well as 60 of their parents (Reich, personal communication, 11/99), interrater reliability of the DICA question for current suicidal ideation was very good (children:  $\kappa=.91$ , adolescents:  $\kappa=.93$ , parents:  $\kappa=.91$ ).

In a study of adolescents being treated for depression in which the adolescents and parents were administered the DICA approximately 7 to 10 days apart, test-retest agreement for the (current) suicidal ideation item was moderate to good (adolescents:  $\kappa=.79$ , parents:  $\kappa=.51$ ).

In a longitudinal study of youths of depressed and well mothers, interrater reliability of the ratings of lifetime suicidal ideation and behavior (rated on a continuum, similar to Lewinsohn et al., 1996, but using DICA items) was very good ( $\kappa=.86$ ).

Lifetime reports of suicidal behaviors obtained with the DICA were compared to the data generated from four repeated assessments three years apart (Klimes-Dougan, 1998). There was moderate agreement between the two methods of assessment ( $\kappa=.42$  for younger children,  $\kappa=.60$  for older youths). Nineteen percent of youths that reported suicidal ideation at one of the follow-up assessments failed to report suicidal thoughts in the lifetime assessment.

Consistent with other studies (e.g., Velez and Cohen, 1988), agreement between children or adolescents and their parents regarding suicidal behavior was poor ( $\kappa=.15$  for the younger children,  $\kappa=.16$  for the older children; Klimes-Dougan, 1998). Interestingly, mothers who disagreed with their children's reports of suicidal behaviors tended to have a history of suicide attempts themselves (Klimes-Dougan, 1998).

### **Concurrent Validity:**

In a sample of children of well mothers and mothers with affective disorders (Klimes-Dougan, 1998), lifetime reports of "suicidal content" obtained from youths with the DICA-R were related, but not strongly related to reports of suicidality from self-report measures ( $\kappa=.10$  for the younger cohort,  $\kappa=.35$  for the older cohort). Suicidal ideation and behavior (assessed with both the DICA-R and the Children's Assessment Schedule and conceptualized on a continuum) were related to the presence of hypomania and to having a mother who also had made a suicide attempt (Klimes-Dougan et al., 1999). In a sample of children with alleged abuse, youths with post-traumatic stress disorder had a higher rate of DICA-R assessed suicidal ideation than the other abused youths (Famularo et al., 1996).

### **Predictive Validity:**

In a longitudinal study of children of well and affectively disordered mothers, it was found that between 15% and 22% of youths reporting suicidal ideation at an earlier assessment made later suicide attempts (Klimes-Dougan et al., 1999). However, of the 13 youths attempting suicide, 77% reported suicidal ideation in the immediately preceding assessment period (Klimes-Dougan et al., 1999).

### **Treatment Studies:**

The DICA apparently has not been used in a published treatment study of suicidal youths. However, the DICA was used along with the K-SADS to determine whether children and adolescents met DSM-III-R criteria for Major Depression at two points in time as required for participating in a placebo-controlled trial of fluoxetine in the treatment of juvenile-onset depression (Emslie et al., 1997).

**Summary and Evaluation:**

The Diagnostic Interview for Children and Adolescents (DICA) has been used in several studies regarding suicidal behaviors. The suicidal ideation/behavior queries are straightforward and well suited for research. The suicidal ideation item is not highly sensitive as a predictor of later suicidal behavior; however, 77% of youths that attempted suicide in a prospective study reported suicidal ideation at an earlier assessment.

**Where to Obtain:**

Wendy Reich, Ph.D., Washington University School of Medicine, Division of Child Psychiatry, 40 N. Kingshighway, Suite 4, St. Louis, MO 63108

**References:**

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#### **d. Diagnostic Interview Schedule for Children (DISC)**

##### **Description:**

The Diagnostic Interview Schedule for Children (DISC) is a structured psychiatric diagnostic interview for children and adolescents aged 6 to 18, and their parents (Shaffer et al., 2000). The DISC was originally developed to be comparable to the Diagnostic Interview Schedule (DIS) used with adult populations. As its name implies, the most recent revision of the DISC (NIMH DISC-IV) is based on DSM-IV diagnostic criteria. However, an earlier version of the DISC, the NIMH DISC-2.3, is also in use and can be used to diagnose disorders in accordance with DSM-III-R criteria (Shaffer et al., 1996; Schwab-Stone et al., 1996). The NIMH DISC can be administered by trained lay interviewers who are instructed to administer the queries exactly as written. The majority of DISC questions have been worded so that they can be answered “yes,” “no,” and “somewhat” or “sometimes.”

A computer-assisted version of the DISC, the C-DISC, has been developed to aid in administration (Fisher et al., 1997; Shaffer et al., 2000). In addition to the English language version, Spanish (Ribera et al., 1996), French (Breton et al., 1998), and Xhosa (Robertson et al., 1999) versions of the NIMH DISC have been developed.

On the basis of the DISC-2.3, the self-report DSM Scale for Depression (DSD) was developed; this instrument is reviewed separately in the section on depression inventories (Roberts et al., 1998).

A suicidality scale (a Guttman scale) derived from the items on an earlier version of the DISC assessing suicidal behaviors also was developed (Brent et al., 1986). However, no reports could be located regarding whether a suicidality scale based on more recent versions of the DISC had been developed or evaluated.

##### **Potential Use:**

Primarily developed for epidemiologic/screening surveys but also useful for clinical research

##### **Populations Studied:**

Versions of the DISC have been used to examine suicidal behaviors in incarcerated adolescents (Kempton and Forehand, 1992), clinically ascertained children and adolescents (Borst et al., 1991; Brent et al., 1986; Campbell et al., 1993; King et al., 1997; Milling et al., 1992), and community and school-based samples of children and adolescents (Shaffer et al., personal communication, 10/99; Gould et al., 1998).

##### **Assessment and Definitions of Suicidal Behaviors:**

The NIMH DISC 2.3 has separate inquiries about thoughts of death, suicidal ideation, the presence of a suicide plan, and whether these thoughts were associated with dysphoria. These questions reference the 2 weeks, and the 6 months preceding the interview. The queries of the NIMH DISC-IV are similar, and reference the 2 weeks, 4 weeks, and the year preceding the interview. These queries occur in the context of the depressive disorders section, but are asked of all interviewees.



The NIMH DISC 2.3 also has inquires about lifetime suicide attempts, number of suicide attempts, age at first suicide attempt, suicide attempts within the last 6 months, suicide attempts when dysphoric, and methods of suicide attempts. The inquiries of the NIMH DISC-IV are again similar, but focus on lifetime attempts, as well as attempts in the 4 weeks and in the last year preceding the interview. The question about age of first suicide attempt (in the NIMH DISC 2.3) was not included in the NIMH DISC-IV. However, a question about whether the suicide attempts required medical attention was added.

Neither version of the DISC has an item assessing non-suicidal self-damaging behaviors.

The stem query regarding suicidal ideation in both the Parent and Youth versions of the DISC-IV and the child version of the DISC-2.3 are likely to elicit a conservative estimate of suicidal ideation because of the word “seriously” used in the query. Without being explicitly defined, the word “seriously” can be interpreted in various ways by respondents.

The queries regarding suicide attempts (“tried to kill himself/herself or made a suicide attempt”) queries are consistent with recommendations by O’Carroll et al. (1996).

### **Reliability:**

In a sample of child psychiatric outpatients clinically diagnosed as having “common” DSM-IV disorders (and their parents), the NIMH DISC-IV was administered twice at approximately a one week interval (Shaffer et al., personal communication, 10/99). Test-retest agreement for whether children met criteria for DSM-IV Major Depression criterion A (recurrent thoughts of death, suicidal ideation without a specific plan, suicide attempt, or specific plan) was good ( $\kappa=.79$  for parents,  $\kappa=.67$  for youths). Indices of agreement were also computed for the individual questions to youths and parents on the NIMH DISC-IV regarding suicidality. Indices of agreement ( $\kappa$ ) are summarized by question and informant below:

Question	Adult	Youth
Q21. seriously thought about killing self during last year	.78	.66
Q21A. thought about killing self many times during last year	.69	.67
Q21B. plan for suicide during last year	.58	.77
Q21D. seriously thought about killing self during last 4 weeks	.55	----
Q22. ever (in whole life) tried to kill self	.85	.77
Q22B. tried to kill self in last year	.92	.78
Q22E. medical attention for suicide attempt	.74	.74

Canino et al. (personal communication, 11/99) conducted a test-retest study of the Spanish version of the DISC-IV in Puerto Rico. The test-retest interval for the DISC-IV administrations was approximately 12 days. Indices of agreement ( $\kappa$ ) are summarized by question and informant below.

Question	Adult	Youth
Q21. seriously thought about killing self during last year	.68	.35
Q21a. thought about killing self many times during last year	.23	.40
Q21b. plan for suicide during last year	.21	1.0
Q22. ever (in whole life) tried to kill self	.92	.80

In a sample of child and parent pairs from a multisite community sample (half of whom were thought to meet diagnostic criteria for DSM-IV disorders), the NIMH DISC 2.3 was administered twice, 1 to 15 days apart (Shaffer et al., personal communication, 10/99). Indices of agreement were computed for the individual questions to children and parents on the NIMH DISC 2.3 regarding suicidality. Indices of agreement ( $\kappa$ ) are summarized by question and informant below.

Question	Adult	Child
Q27. thought about killing self during last 6 months	.75	.60
Q27A. thought about suicide (when depressed or equivalent)	.65	.52
Q27B. thought about suicide a lot of time for at least 2 weeks	----	.39
Q27C. plan for suicide	.59	.52
Q28. ever tried to kill self	.39	.45
Q29. tried to kill self in last 6 months	.28	.67

#### **Concurrent Validity:**

In a sample of juvenile delinquents, suicide attempts assessed with the DISC-2 were related to number of depressive symptoms in Caucasian adolescents, but not African-American adolescents (Kempton and Forehand, 1992).

In a community sample, suicide ideation and attempts assessed with the DISC-2.3 were found to be associated with elevated rates of almost all psychiatric disorders relative to nonsuicidal youths (Gould et al., 1998). Consistent with the other reports (Kandel, 1988; Garrison et al., 1993), suicide attempts but not suicidal ideation were found to be related to substance use disorders (Gould et al., 1998).

Adolescent psychiatric inpatients who reported the DSM-III-R Major Depression symptom of thoughts of wanting to die or suicidality were more likely to score above the cut-off on the Suicide Ideation Questionnaire (SIQ) than other inpatient youths (King et al., 1997). DISC-assessed suicidal ideation and lifetime suicide attempts were also associated with Spectrum of Suicidal Behavior (SSB) scores (King et al., 1997).

#### **Predictive Validity:**

In one study pertinent to predictive validity (Shaffer et al., personal communication, 10/99), a large number of high school students were screened with several measures including the DISC. A portion of the students, approximately half of whom were thought to be “at risk” because of their responses to another instrument (the Columbia Teen Screen), were followed up approximately 3 to 4 years later. Reports of current suicidal ideation (as assessed with the DISC at the initial screening) had 38% sensitivity and 78% specificity in predicting later DISC-

assessed suicidal thoughts. Reports of lifetime suicide attempts yielded 31% sensitivity and 88% specificity in predicting later ideation. Reports of attempts in the last 6 months yielded only 7% sensitivity and 98% specificity in the prediction of later suicidal thoughts.

In this same study (Shaffer et al., personal communication, 10/99), reports of current ideation (on the DISC) at the initial screen had 50% sensitivity and 81% specificity in predicting suicide attempts over the next 3 to 4 years. Reports of lifetime attempts yielded 47% sensitivity and 90% specificity in the prediction of later attempts. Reports of suicide attempts within 6 months of the initial screening yielded only 18% sensitivity and 99% specificity in the prediction of later attempts.

### **Treatment Studies:**

No published treatment studies of suicidality using the DISC were located.

### **Summary and Evaluation:**

The Diagnostic Interview Schedule for Children (DISC) is perhaps the most widely used structured psychiatric diagnostic interview in studies of suicidal behavior and is well-designed for epidemiologic research. Responses to the NIMH DISC-IV stem suicidal ideation items are likely to yield conservative estimates of the prevalence of suicidal thoughts, but have been shown to have predictive validity. The test-retest reliability of the query assessing lifetime suicide attempts in the NIMH DISC-IV is considerably higher than the reliability of the item assessing lifetime attempts in an earlier version of the DISC, the DISC-2.3. For researchers or clinicians using the Spanish version of the DISC-IV, it should be noted that the test-retest reliability of the stem item regarding suicidal ideation was not high for youths. Similarly, the test-retest reliability of the follow-up questions for suicidal ideation (in the Spanish version of the DISC-IV) was not high for parents. In one study in the New York area, responses to the questions regarding suicide attempts within the last six months had poor sensitivity (perhaps because of low base rate of the predictor variable) in predicting later suicidal ideation and attempts; the questions regarding lifetime suicide attempts were more sensitive predictors of later suicide ideation and attempts.

### **Where to Obtain:**

English language version: Division of Child and Adolescent Psychiatry, Columbia University – New York State Psychiatric Institute, 1051 Riverside Drive, New York, NY 10032

Spanish language version: Glorisa Canino, Ph.D., Professor and Director, Behavioral Science Research Institute, Medical Sciences Campus, University of Puerto Rico, PO Box 365067, San Juan, PR 00936-5067

### **References:**

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## **e. Interview Schedule for Children and Adolescents (ISCA)**

### **Description:**

The Interview Schedule for Children and Adolescents (ISCA) is a semi-structured symptom-oriented psychiatric interview (Kovacs, 1997; Sherrill and Kovacs, 2000). The ISCA can be used with youths from age 8 to 17; the Follow-Up Interview Schedule for Adults (FISA) was developed as a forward extension of the ISCA for assessing youths followed into adulthood in longitudinal studies. There are currently two complimentary versions of the ISCA – a version for assessing current and lifetime symptomatology, and a version for assessing current and interim (since the last follow-up assessment in prospective studies) symptomatology. In both versions of the ISCA, psychiatric symptoms are rated in severity (on a 0 to 8 or 0 to 3 rating scales) over the two weeks or over the six months preceding the interview depending on the symptom. Versions of the ISCA with simplified (0 to 3) severity ratings also have been developed.

The interview is administered to both youths and parents or guardians. Because the interview is symptom-oriented rather than oriented toward specific psychiatric disorders, all symptoms in the main interview are administered, and the results from the interview can be used with multiple diagnostic systems. For each symptom assessed with the ISCA, operational criteria specify the severity levels with which symptoms are considered to be "clinically significant." Only symptoms that are "clinically significant" in terms of duration, severity, and functional impairment contribute to the operational diagnostic criteria for psychiatric diagnoses. The ISCA was designed to be administered by experienced, trained clinicians.

### **Potential Use:**

Clinical research; has been used in several longitudinal studies with clinical populations

### **Populations Studied:**

The ISCA has been used to examine suicidal behaviors among youths in inpatient and outpatient psychiatric settings (Kovacs et al., 1993; Goldston et al., 1996, 1998, 1999), and with medically ill youths (Goldston et al., 1994, 1997).

### **Assessment and Definitions of Suicidal Behaviors:**

There are separate questions in the ISCA corresponding to thoughts of dying or death, suicide ideation/threats, contemplated methods for suicide, "idea" or "purpose" associated with suicidal ideation, recurrent thoughts about wanting to die/suicidal ideation/suicide threats, suicide attempts, number of past attempts, medical attention for suicide attempts, intoxication at the time of attempts, and intent associated with the attempts. There is an item regarding non-suicidal deliberate self-harm in the latest version of the ISCA.

The queries regarding suicide attempts and suicidal ideation are consistent with those proposed by O'Carroll et al. (1996). The definitions used in the ISCA were specifically developed to be compatible with recommendations regarding the assessment of suicidal behavior from a NIMH Task Force (Resnik and Hathorne, 1973). In the ISCA, a suicide attempt is defined as "an executed, completed behavior which has the potential, no matter how remote, of resulting in bodily harm." Behavior is considered to be suicidal if volitional and self-precipitated, and

associated with at least some intent to die. In the ISCA, behaviors that are not completed (i.e., suicide attempts that are interrupted in the preparation stages, before their execution) are considered to be suicidal ideation, not suicide attempts.

In the ISCA, suicidal ideation is defined simply as thoughts of killing oneself. There are separate items for assessing suicidal ideation and recurrent thoughts of death.

Because the ISCA is a symptom-oriented interview, the suicidal ideation and suicide attempt items are asked of all subjects. That is, unlike some other diagnostic interviews, there is no skip-out rule if subjects do not report key symptoms associated with depressive disorders.

**Reliability:**

Data obtained from an interrater trial of 46 cases indicated that agreement for the ISCA items regarding suicide ideation and suicide attempts was high ( $\kappa=1.00$ , Kovacs, 1981). A separate interrater comparison was conducted by Goldston et al. (under editorial review). Two raters examined transcribed interviewer notes regarding suicidal behaviors for 40 clinically ascertained adolescents participating in a longitudinal study who were initially rated as having either suicidal ideation or suicide attempts. The raters (who did not conduct the original interviews and were blind to subjects' identities and any additional information contained in the relevant interviews) independently determined whether subjects had experienced suicidal ideation or made a suicide attempt. Interrater agreement in classifications of suicidal ideation and attempts was 95% ( $\kappa=.90$ ).

**Concurrent Validity:**

ISCA rated suicidal ideation and suicide attempts have been found to be associated with diagnoses of depressive disorders (Kovacs et al., 1993; Goldston et al., 1998). ISCA rated suicidal ideation has also been found to be associated with serious noncompliance with the medical regimen among diabetic youths (Goldston et al., 1994, 1997).

Adolescents rated on the ISCA as having multiple past suicide attempts were found to have different clinical characteristics than adolescents rated as having only a single prior attempt or no prior attempt (Goldston et al., 1996, 1998). Moreover, affective disorders, severity of depressive symptoms, hopelessness, and survival and coping beliefs have been found to be differentially related to likelihood of later suicide attempts depending upon prior history of ISCA-assessed suicide attempts (Goldston et al., 1999, 2000).

**Predictive Validity:**

Prior suicide attempts as assessed with the ISCA have been found to be among the most potent predictors of subsequent suicide attempts among depressed youths and among adolescents who have been psychiatrically hospitalized (Kovacs et al., 1993; Goldston et al., 1999).

**Treatment Studies:**

The published treatment studies of suicidal youths were located.

### Summary and Evaluation:

The ISCA is the only symptom-oriented (rather than diagnosis-specific) semi-structured psychiatric diagnostic interview reviewed, and one of the few semi-structured instruments specifically developed for longitudinal study. The ISCA has been used with clinically ascertained youths and medically ill youths, but not with epidemiologic samples. The ISCA queries are excellent, and have been shown to have predictive validity in two different clinical samples.

### Where to Obtain:

Maria Kovacs, Ph.D., Western Psychiatric Institute and Clinic, University of Pittsburgh School of Medicine, 3811 O'Hara Street, Pittsburgh, PA 15213

### References:

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## **f. Kiddie-Longitudinal Interval Follow-Up Evaluation (K-LIFE) and Adolescent-Longitudinal Interval Follow-Up Evaluation (A-LIFE)**

### **Description:**

The K-LIFE (Keller et al., 1988) is a psychiatric diagnostic interview designed for longitudinal and treatment studies. The K-LIFE is a downward extension of the adult Longitudinal Interval Follow-Up Evaluation (LIFE; Keller et al., 1997) which was used in the Collaborative Treatment Study of Depression. The K-LIFE can be used to assess the course of psychopathology over six months according to DSM-III-R and RDC criteria (depending on the symptom). The K-LIFE can be used with either children or adolescents.

An adolescent version of this instrument, the A-LIFE (Keller, 1993), has been developed but has not been used in published research. The original A-LIFE was designed for use with DSM-III-R, but adaptations of the instrument have been developed for use with DSM-IV, and for follow-up intervals over six months.

### **Potential Use:**

Clinical research; instrument was developed for use in longitudinal studies

### **Populations Studied:**

The K-LIFE was used in a follow-up of psychiatrically hospitalized and clinically depressed adolescents in which the predictive validity of suicidal behaviors was examined (Emslie et al., 1997).

### **Assessment and Definitions of Suicidal Behaviors:**

There are two suicidal behavior assessment sections in the K-LIFE and A-LIFE. The first assessment section occurs in the context of symptoms of Major Depressive Disorder. The query in the K-LIFE section is as follows: “Did you feel so badly that you felt like you wanted to do something to harm yourself? Did you feel like you did not want to live anymore? Did you make any plans or attempt to take your life?” The query for the A-LIFE is similar: “Were things so bad that you were thinking a lot about death or that you would be better off dead? What about thinking of hurting yourself? (If yes) Did you do anything to hurt yourself?”

The multiple queries in both versions of the LIFE are so broad as to likely initially elicit information not only about suicidal ideation, but also thoughts about wanting to die, and thoughts regarding nonsuicidal self-harm. However, the instructions in the A-LIFE explicitly state that the symptom is *not* to be considered clinically significant “if only self-mutilation without suicidal intent.”

The K-LIFE and the A-LIFE also have a second section entitled “Suicidal Gestures and Attempts” in which subjects are asked whether “there have been any times . . . when you’ve tried to hurt yourself.” Follow-up questions include questions about the total number of attempts/gestures, the date, intent, and medical lethality associated with each attempt/gesture, whether subjects were intoxicated, on medication, delusional, hallucinating, confused or disorganized when the gesture/attempt occurred.

Unfortunately, the stem query of this section is so broadly worded as to elicit responses about non-suicidal self-harm in addition to suicidal thoughts/behavior. Additionally, the terms “gesture” and “attempt” are not defined; it is not clear what point on the 1 (“Obviously no intent, purely manipulative gesture”) to 6 (“Extreme – e.g., careful planning and every expectation of death”) rating scale minimally corresponds to actual suicide attempts (as opposed to “gestures”). This query does not appear to conform to the recommendations by O’Carroll et al. (1996) because of the apparent confounding of issues regarding intent and the definition of suicide attempt.

**Reliability:**

No published data were located.

**Concurrent Validity:**

No published data were located.

**Predictive Validity:**

No published data were located.

**Treatment:**

The K-LIFE has not been used in a published controlled treatment trial of suicidal youths. However, in a naturalistic follow-up of adolescents psychiatrically hospitalized for depression (Emslie et al., 1997), youths with a history of suicidal behaviors were found to have a higher rate of recurrence of major depression.

**Summary and Evaluation:**

The parent instrument of the K-LIFE and A-LIFE (the LIFE) was used in the Collaborative Treatment Study of Depression with adults. The K-LIFE and A-LIFE, like the parent instrument, were developed specifically for longitudinal study. Nonetheless, little reliability or validity data have been published regarding the child and adolescent versions of the LIFE. Additionally, the K-LIFE and A-LIFE queries regarding suicidal ideation and behavior are not consistent with the nomenclature for suicidal behavior suggested by O’Carroll et al. (1996).

**Where to Obtain:**

Martin B. Keller, M.D., Butler Hospital, 345 Blackstone Blvd., Providence RI 02906

**References:**

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### **g. Schedule for Affective Disorders and Schizophrenia, School Age – Epidemiologic Version (K-SADS-E)**

#### **Description:**

The Schedule for Affective Disorders and Schizophrenia – School Age Version or K-SADS is a semi-structured interview designed to assess psychiatric disorders in children and adolescents from the ages of 6 to 18. There are at least four versions of the K-SADS currently in use: the K-SADS-P IVR, the K-SADS-L, the K-SADS-PL, and the K-SADS-E. The similarities, differences, and historical development of these versions of the K-SADS have been described by Ambrosini et al. (2000). All currently used version of the K-SADS are designed to be administered separately to parents and youths for the purpose of assessing psychiatric disorders, defined in accordance with DSM-IV criteria. The K-SADS should be administered by clinicians who have been trained in the diagnostic assessment of children and adolescents and are familiar with DSM-IV.

The K-SADS-E (Orvaschel, 1994) focuses on both current symptomatology and the severity of symptoms during the most severe past episode. Symptoms associated with past episodes are rated as present/absent; current symptoms are rated as mild, moderate, or severe (but the format of present/absent ratings can be retained at the discretion of the interviewer). The K-SADS-E is appropriate for both children and adolescents.

In several studies (e.g., Brent et al., 1992, 1994, 1997, 1998; Lewinsohn et al., 1993, 1994, 1996; Renaud et al., 1999) the K-SADS-E has been used in conjunction with the K-SADS-P. The rationale for this strategy is that earlier versions of the K-SADS-P had more detailed current symptom rating scales than the K-SADS-E, but were not designed to assess lifetime psychopathology. The most recent version of the K-SADS-E (Orvaschel, 1994) has finer gradations in symptom ratings for current psychiatric symptoms, just as the most recent version of the K-SADS-P (the K-SADS-P IVR) has a scoring sheet for lifetime psychiatric disorders.

#### **Potential Use:**

Clinical research (primarily, because of the training required of interviewers) and epidemiologic/screening surveys; has been adapted for use in community-based longitudinal studies

#### **Populations Studied:**

The K-SADS-E (often in conjunction with the K-SADS-P) has been used in suicide autopsy studies to assess past history of suicidal behavior among individuals who completed suicide, and history of suicidal behavior among community or clinically referred control subjects (Brent et al., 1988, 1993, 1994). The K-SADS-E also has been used to assess youths who have been exposed to suicide (Brent et al., 1992, 1994), and has been used in studies of suicidal behavior in community epidemiologic and longitudinal samples (e.g., Lewinsohn et al., 1993, 1994, 1996), and among incarcerated youths (Rohde et al., 1997). The K-SADS-E also has been used to assess psychiatric outpatient adolescents participating in a treatment study of depression (Brent et al., 1997, 1998).

### Assessment and Definition of Suicidal Behaviors:

Unlike the other versions of the K-SADS, the K-SADS-E has separate queries for recurrent thoughts of wanting to die, suicidal ideation, the presence of a plan for suicide, and suicide attempts in the Major Depression section. These items are rated both for the current episode of disorder and for the greatest severity in the past.

The item regarding suicidal ideation (“have you thought about hurting or killing yourself?”) is likely to elicit responses both about suicidal ideation and ruminations about non-suicidal self-injury (e.g., cutting oneself to relieve tension). The item regarding suicide attempts (“did you ever try to kill yourself?”) is straightforward and implies non-zero intent to die. There is a question assessing total number of past suicide attempts in the K-SADS-E. There is one question regarding non-suicidal physically self-damaging suicidal behaviors.

Similar to other versions of the K-SADS, the suicide behavior questions in the Major Depression section of the K-SADS-E might be skipped altogether if researchers choose to use “skip-outs” when subjects do not answer positively to stem items regarding dysphoric mood or anhedonia. For this reason, the K-SADS-E also includes separate suicide assessment questions at the end of the interview that are asked of all subjects. These questions ask about the presence of a suicide plan and the presence (and number) of suicide attempts. The wording of the query regarding suicide attempts (“Have you ever tried to kill yourself or done anything that could have killed you?”) may elicit initial answers about non-suicidal risk-taking suicidal behaviors (in addition to suicide attempts), requiring further clarification.

### Reliability:

Orvaschel (personal communication, 10/99) reported the following interrater reliability data from interviewers in training for the suicidal behavior items of the K-SADS-E:

Item	Parent*	Child	Summary
Thoughts of Death	.80	.77	.74
Suicidal Ideation	.74	.83	.70
Suicide Plan	.62	.81	.78
Suicide Attempt	.88	.50	.56

\*reported as correlation coefficients

Using a modification of the K-SADS-E (see Table 1 of Lewinsohn et al., 1996), Lewinsohn et al. (personal communication, 9/99) reported interrater agreement as follows (n=213 adolescents):

Item	Current*	Past
Thoughts of Death	.85	.71
Wishing to be Dead	.70	.69
Suicidal Ideation	.88	.78
Suicide Plan	----	.74
Suicide Attempt	----	.95

\*reported as  $\kappa$

In a sample of 281 adolescents and parents, Lewinsohn et al. (personal communication, 9/99) found poor to moderate parent-child agreement for the modified K-SADS-E items; however, it should be noted that parents are often unaware of their children's suicidal behaviors.

Item	Current*	Past
Thoughts of Death	.17	.40
Wishing to be Dead	.01	.40
Suicidal Ideation	----	.39
Suicide Plan	----	.32
Suicide Attempt	----	.50

\*reported as  $\kappa$

Asarnow and Guthrie (1989) developed a classification of suicidal behavior based on reports to the K-SADS-E, the Depression Self-Rating Scale, and information in medical charts (0=absent, no report of suicidal ideation or attempts; 1=suicidal ideation only, some documentation of suicidal ideation but no report of suicide attempts; 2=evidence of a suicide attempt). In a sample of child psychiatric inpatients, interrater reliability was found to be good ( $\kappa=.77$  for ratings of suicidality status on the 3-point scale,  $\kappa=.72$  for presence/absence of suicidal ideation,  $\kappa=1.0$  for presence/absence of suicide attempt).

#### **Internal Consistency of a Screener Composed of K-SADS-E items:**

Lewinsohn et al. (1996) found that a screener composed of five modified K-SADS-E items (the questions regarding thoughts of death and suicidal ideation from the K-SADS-E depression section, a modification of the K-SADS-E depression question regarding suicide plans, the question regarding suicide attempts at the end of the K-SADS-E asked of all subjects, and one additional question regarding wishing to be dead; see Table 1 of Lewinsohn et al. (1996) for actual items) was internally consistent and fit a Guttman scale of increasing severity/frequency.

#### **Concurrent Validity:**

Adolescents in the community with history of suicide attempts assessed with a modified K-SADS-E were found to have greater current and lifetime suicidal ideation, more pessimism, more negative attributions, a greater likelihood of depressive, disruptive disorders, and substance use diagnoses, lower self-esteem, poorer coping skills, poorer health, more use of medications, and more parental dissatisfaction with grades than youths without a history of attempts (Lewinsohn et al., 1993). Among incarcerated adolescents, current and lifetime suicide attempts assessed with the K-SADS-E have been found to be associated with a greater likelihood of major depression, dysthymia, and anxiety disorders (Rohde et al., 1997).

Using a combination of the K-SADS-E and the Present State version of the K-SADS in a psychological autopsy study, Renaud et al. (1999) found that suicide completers had a greater history of non-lethal suicide attempts than matched community controls (Renaud et al., 1999). Lewinsohn et al. (1996) found that the answers to the adapted K-SADS-E questions regarding thoughts of death and suicidal behavior (as described above; see Table 1 of Lewinsohn et al., 1996, for actual items) loaded on a single factor in a principal components analysis with scores from another suicide screening instrument (developed as an addition to the CES-D).

**Predictive Validity:**

Lewinsohn et al. (1994) similarly found prior history of attempts assessed with a modification of the K-SADS-E to be one of the strongest predictors of later attempts (increasing the risk 18-fold). Using past history of suicide attempts as assessed with the K-SADS as a screener for future suicidality in a community sample of adolescents would have yielded 54% sensitivity, 94% specificity, 14% positive predictive value, and 99% negative predictive value (Lewinsohn et al., 1996).

**Treatment Studies:**

The K-SADS-E does not appear to have been used in a treatment study specifically targeting youths' suicidal behaviors. However, the K-SADS-P and K-SADS-E have been used together in a treatment study of depressed youths (Brent et al., 1997, 1998); in this study, suicidality (at baseline) was not found to predict treatment response (although it should be noted that the most adolescents thought to be at highest risk for suicidal behaviors were excluded from the study).

**Summary and Evaluation:**

The K-SADS-E (often in conjunction with the K-SADS-P) is probably the most widely used semi-structured psychiatric diagnostic interview used in studies of suicidal behavior. The K-SADS-E has more specific questions regarding suicidal ideation/behaviors, and much more psychometric data regarding the suicidal ideation/behaviors items than other versions of the K-SADS. The K-SADS-E has been used in a treatment study of depression and has demonstrated predictive validity.

**Where to Obtain:**

Helen Orvaschel, Ph.D., Center for Psychological Studies, Nova Southeastern University, 3301 College Avenue, Ft. Lauderdale, FL, 33314

**References:**

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## **h. Schedule for Affective Disorders and Schizophrenia, School Age – Lifetime Version (K-SADS-L)**

### **Description:**

The K-SADS-L (Klein, 1994) is a semi-structured diagnostic instrument that has been used primarily in industry sponsored clinical trials (Ambrosini et al., 2000). Unlike the other versions of the K-SADS which can be used with children as well as with adolescents, the K-SADS-L is specifically recommended for use with adolescents. As the name implies, this version of the K-SADS was designed to assess lifetime psychopathology; however, symptoms are rated both for lifetime occurrence and occurrence during the last two weeks or current episode of disorder. The symptom severity rating scales differ depending on the symptom, but most symptoms are rated on a 0 to 4, 0 to 6, or 0 to 7 scale.

Similar to the K-SADS-P IVR, the K-SADS-L is a modification of earlier versions of the K-SADS-P.

### **Potential Use:**

Clinical research

### **Populations Studied:**

The K-SADS-L has been used with depressed adolescents, but has not specifically been used in studies focusing on suicidal behaviors (Klein, personal communication, 11/99).

### **Assessment and Definitions of Suicidal Behaviors:**

Suicidal ideation and behavior in the K-SADS-L are rated according to their most severe level during the lifetime and according to their most severe level during the preceding two weeks or current episode of the disorder.

There are not separate items assessing thoughts of death and suicidal ideation in the K-SADS-L. Indeed, thoughts of death, suicidal ideation, and suicide attempts are rated on a single 0 (Not at All) to 7 (Very Extreme: Suicidal attempt with definite intent to die or potentially medially harmful) rating scale. The continuous rating scale of severity reflects the perspective of some researchers that thoughts of wanting to die, suicidal ideation, suicide attempts, and suicide completions all fall along a single continuum (e.g., Lewinsohn et al., 1996).

Using a cut-off of 4 (Moderate) for clinical significance (recommended by Klein, personal communication, 11/99) indicates that the subject “thinks of suicide and has thought of a specific method.” This cut-off is consistent with the DSM-IV diagnostic criteria for Major Depression. However, this cut-off is more stringent than the definition of suicidal ideation proposed by O’Carroll et al. (1996) because of the requirement that a specific method of suicide attempt be considered. Hence, a cut-off of 4 on this item would yield a conservative estimate of the prevalence of suicidal ideation.

The continuous rating scale also confounds questions about the presence/absence of suicidal behavior with the clinical characteristics of the behavior. For example, suicidal behavior of a “primarily communicative” type (a question of intent) is rated as less severe than suicidal behavior that is “potentially medically harmful” (a question of medical lethality). This is problematic because suicidal intent and medical lethality are not always correlated in juvenile populations.

There is one item in the K-SADS-L inquiring about total number of discrete suicidal acts within the present episode of illness, and during the lifetime. Additional questions in the K-SADS-L focus on medical lethality and intent associated with suicide attempts (and are reviewed separately), and on non-suicidal physical self-damaging acts.

**Reliability:**

No data regarding the reliability of suicidal ideation/attempts items are available (Klein, personal communication, 11/99)

**Concurrent Validity:**

No published data were located.

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

The K-SADS-L apparently has not been used in a treatment study of suicidal youths. However, items of the K-SADS-L have been used to determine whether youths were suicidal, and hence ineligible to participate in a multi-site pharmacotherapy treatment study for depression (Klein, personal communication, 11/99).

**Summary and Evaluation:**

The suicidal ideation/behavior queries of the K-SADS-L are not as specific as those of the K-SADS-E. The K-SADS-L suicidal ideation/behavior items have also not been evaluated psychometrically as thoroughly as those from the K-SADS-E.

**Where to Obtain:**

Rachel G. Klein, Ph.D., Department of Psychiatry, New York State Psychiatric Institute, 1051 Riverside Drive, New York, NY 10032

**References:**

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## **i. Schedule for Affective Disorders and Schizophrenia, School Age – Present State Version IVR (K-SADS-P IVR)**

### **Description:**

The K-SADS-P IVR (Ambrosini and Dixon, 1996; Ambrosini et al., 2000) was developed primarily for the assessment of current psychopathology. Severity ratings range from 0 to 4, or 0 to 6 depending on the symptom. A scoring sheet for recording lifetime diagnoses has been developed but its validity has not been tested.

The K-SADS-P IVR has three “mini-SADS” modules (M-SADS for Affective Disorders, A-SADS for Anxiety Disorders, B-SADS for behavioral disorders) that can be administered in lieu of the entire K-SADS if researchers so choose (for example, if the purpose of a clinical trial is to study the effects of an intervention on a specific disorder).

In addition, unlike other versions of the K-SADS, items from the Hamilton Depression Rating Scale using the Structured Interview Guide for the Hamilton Depression Rating Scale (Williams, 1988) have been incorporated into the latest version of the K-SADS-P so comparisons to adult research using this scale can be made.

An earlier version of the K-SADS-P has been translated into Hebrew (Apter, 1989).

### **Potential Use:**

Clinical research (primarily, because of training involved) and epidemiologic surveys

### **Populations Studied:**

The K-SADS-P (sometimes in conjunction with other versions of the K-SADS) has been used in suicide autopsy studies to assess past history of suicidal behavior among individuals who completed suicide, and history of suicidal behavior among community or clinically referred control subjects (Brent et al., 1988, 1993, 1994; Shaffer et al., 1996). The K-SADS-P also has been used to study suicidal behaviors in community epidemiological and longitudinal samples (e.g., Garrison et al., 1991; Lewinsohn et al., 1993, 1994, 1996; McKeown et al., 1998), with psychiatric outpatients and inpatients (e.g., Apter et al., 1995; Myers et al., 1991a, 1991b), and with adolescent psychiatric outpatients participating in a treatment study (Brent et al., 1997, 1998).

### **Assessment and Definitions of Suicidal Behaviors:**

The K-SADS-P IVR has several detection items regarding suicidal behaviors. The first is actually the suicide item from the Hamilton Depression Rating Scale (HAM-D). This query includes questions about both suicidal ideation and suicide attempts within the last week. Suicidal behavior is rated on a single rating scale from 0 (Absent) to 1 (Feels life is not worth living) to 2 (Wishes to be dead or has any thoughts of possible death to self) to 3 (Suicidal ideas or gesture) to 4 (Attempts at suicide). This item should be used in combination with other items on the HAM-D (also included in the K-SADS-P IVR) in estimating severity of depression.

This suicide item is not meant to be considered separately from the other items of the HAM-D included in the K-SADS-P IVR, and if done so, would be problematic for two reasons. First, one of the suggested queries is whether the subject has had thoughts “of hurting or even killing yourself.” This item likely elicits information both about suicidal ideation and non-suicidal self-harm behaviors. Second, in terms of severity on the rating scale, the item equates suicidal ideation with “gestures,” a term which is not defined but is presumed to reflect either low suicide intent or low medical lethality associated with the suicidal act, or perhaps non-suicidal self-harm. Despite the issue of whether such an “equivalence” in a severity rating scale is grounded in data, “suicide gesture” is not a term recommended by either O’Carroll et al. (1996) or the 1973 NIMH Task Force (Resnik and Hathorne, 1973) and is a term which confounds the definitions of suicidal behavior with the clinical characteristics of the suicidal behavior.

The second detection item of the K-SADS-P IVR focuses on suicidal ideation. As with most other non-HAM-D items on the K-SADS-P IVR, this item is rated twice both for the worst level of severity during the last year or present episode of illness, and for the level of severity for the last week. Similar to the K-SADS-L, suicidal ideation and behavior are rated on a single 1 to 7 continuous rating scale.

Unlike the K-SADS-L, a cut-off of 3 on this scale (“Mild: sometimes has thoughts of suicide but has not thought of a specific method) corresponds only to suicidal ideation and not thoughts of death. A cut-off of 4 on this scale (“Moderate: often thinks of suicide and has thought of a specific method”) would yield a conservative estimate of the prevalence of suicidal ideation/behavior. (Note that even DSM-IV does not require *both* recurrent suicidal ideation and suicidal ideation with a plan for the symptom to count toward a diagnosis of Major Depression; rather, DSM-IV requires *either* recurrent suicidal ideation *or* suicidal ideation with a plan).

Similar to the K-SADS-L, the continuous rating scale is also problematic because it confounds the definition of suicidal behavior with the clinical characteristics of suicidal behavior.

A third detection item in the K-SADS-P IVR focuses specifically on the number of discrete suicidal acts during the last year or during the present episode. This latter item can be used to determine history of suicide attempts separately from ideation. However, only suicide attempts during the last year are rated with this item. This may be problematic for clinicians and researchers, in that data from both adolescents and adults have suggested that a history of suicide attempts not in the recent past may have the same prognostic value as attempts that are more proximal (Clark et al., 1989; Goldston et al., 1999).

The K-SADS-P IVR also has queries about the medical lethality and intent associated with suicidal behavior; these last questions are reviewed separately in the section on Instruments for Assessing Clinical Characteristics of Suicidal Behaviors. In addition, the K-SADS-P IVR has a question asking specifically about non-suicidal self-damaging physical acts.

**Reliability:**

Inter-rater and test-retest reliability data for psychiatric diagnoses assessed with different versions of the K-SADS-P have been reported (Ambrosini et al., 2000), but reliability data specifically for the suicidal behavior items have not been reported.

**Internal Consistency of K-SADS Screener:**

The internal consistency of the summed scores of suicide items from a modification of both the K-SADS-P and K-SADS-E has been described by Lewinsohn et al. (1996). These data are described in the K-SADS-E section (because the questions used by Lewinsohn et al. more closely resemble the suicidality items in the K-SADS-E than the K-SADS-P).

**Concurrent Validity:**

In a mixed sample of child and adolescent outpatients and inpatients, Myers et al. (1991a) found suicidality (as rated on the 7-point K-SADS-P continuous scale) to be positively correlated with severity of depressive symptoms and hopelessness, and negatively correlated with self-esteem.

Adolescent psychiatric inpatients with affective disorders and a history of suicide attempts had earlier and longer duration of affective disorder, greater self-rated depression, more cognitive distortion, and greater likelihood of exposure to suicidality than similar but non-suicidal youths (Brent et al., 1990).

**Predictive Validity:**

Myers et al. (1991b) found severity of suicidality rated from the K-SADS-P 7-point rating scale at baseline to be predictive of suicidal ideation and behavior over the 3-year follow-up. Additionally, in a longitudinal study of young adolescents in the community, McKeown et al. (1998) found any K-SADS rated suicidal behavior (ideation, plans, or attempts) within the last year to be predictive of suicide plans one year later. There was a strong, but statistically non-significant trend for prior suicidal behavior to be predictive of suicide attempts over the next year, and a weaker trend for prior suicidal behavior to be related to later suicidal ideation.

**Treatment Studies:**

The K-SADS-P does not appear to have been used in a treatment study of suicidal youths.

**Summary and Evaluation:**

The HAM-D Suicidal Ideation item embedded within the K-SADS-P IVR should not be used as a screen for suicidal ideation/behavior. The other inquiries regarding suicidal ideation and behavior on the K-SADS-P IVR are not as specific as those of the K-SADS-E. Nonetheless, the K-SADS-P has a history of extensive use in research studies, and the suicidal ideation/behavior items of the K-SADS-P have been shown to be predictive of later suicidal ideation and behavior in one study, and suicidal plans in another study.

**Where to Obtain:**

Paul J. Ambrosini, M.D., MCP Hahnemann University, EPPI, 3200 Henry Avenue, Philadelphia, PA 19129

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## **j. Schedule for Affective Disorders and Schizophrenia, School Age – Present and Lifetime Version IVR (K-SADS-PL)**

### **Description:**

The K-SADS-PL assesses both lifetime and current psychiatric diagnoses (Kaufman, et al., 1996, 1997). The K-SADS-PL was modified from an earlier version of the K-SADS-P, and was influenced by several other interviews including the K-SADS-E. The format of the K-SADS-PL differs from that of the other versions of the K-SADS. After the unstructured interview, the patient or informant is administered a Diagnostic Screening Interview. Symptoms in the screen interview are rated both according to their current severity and most severe levels in the past. Depending upon the severity of key current and past symptoms reported in the Screening Interview, any of five diagnostic supplements (Affective Disorders, Psychotic Disorders, Anxiety Disorders, Behavioral Disorders, Substance Use and Other Disorders) can be administered. The K-SADS-PL does not yield severity ratings for clinically significant symptoms (symptoms are rated as not present, subthreshold, or threshold).

### **Potential Use:**

Clinical studies (primarily because of training involved) and epidemiologic surveys

### **Populations Studied:**

The K-SADS-PL apparently has not been used in studies of suicidal behaviors.

### **Assessment and Definitions of Suicidal Behaviors:**

Unlike the K-SADS-P IVR and the K-SADS-L, the K-SADS-PL includes separate queries about recurrent thoughts of death and suicidal ideation. The K-SADS-PL does not include as many sample queries as the K-SADS-P IVR or the K-SADS-L but the queries that are provided are straightforward and easy to understand.

The rating scale for suicidal ideation is similar to that of the K-SADS-P IVR and K-SADS-L; occasional thoughts of suicide without consideration of a specific method are rated as subthreshold, and thoughts that occur often and with a specific plan are rated as clinically significant. As described earlier, using the threshold of suicidal thoughts that occur often *and* with a specific plan is likely to yield a conservative prevalence of suicidal ideation. This classification scheme is more conservative than both the operational definition of suicidal behavior in the DSM-IV criteria for Major Depression, and the proposed operational definitions suggested by O'Carroll et al. (1996).

A second set of questions in the K-SADS-PL focuses on the presence of suicide attempts. However, the rating scale used to designate whether or not symptoms are clinically significant reflects a confounding of the definition of suicide attempts and the clinical characteristics of the attempts – only attempts of a certain medical lethality and/or intent are rated as clinically significant. Therefore, the use of this item for the detection of suicide attempts is likely to yield a conservative estimate of the behavior of interest.

Additional questions in the K-SADS-PL focus on medical lethality and intent associated with suicide attempts (and are reviewed separately), as well as non-suicidal physically self-damaging behavior.

**Reliability:**

Reliability data for the suicidal items were located.

**Concurrent Validity:**

No published data were located.

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

The K-SADS-PL apparently has not been used in published studies of the treatment of suicidal youths.

**Summary and Evaluation:**

The psychometric characteristics of the suicidal ideation/behavior inquiries of the K-SADS-PL have not been published, nor has the instrument been used in studies of suicidal behavior.

**Where to Obtain:**

Joan Kaufman, Ph.D., Department of Psychology, Yale University, P.O. Box 208205, New Haven, CT 06520. Also at <http://www.wpic.pitt.edu/ksads>

**References:**

- Kaufman, J., Birmaher, B., Brent, D., Rao, U., Flynn, C., Moreci, P., Williamson, D., Ryan, N. (1997). Schedule for Affective Disorders and Schizophrenia for School-Aged Children – Present and Lifetime (K-SADS-PL): Initial reliability and validity data. Journal of the American Academy of Child and Adolescent Psychiatry, 36, 980-988.
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## **2. Interviews for Assessing Suicidal Behaviors**

### **a. Adolescent Suicide Interview (ASI) and the Multimedia Adolescent Suicide Interview (MASI)**

#### **Description:**

The Adolescent Suicide Interview (ASI) is a revision of a semi-structured interview developed by Shaffer and colleagues. The revision is a highly structured interview that can be administered by a lay interviewer or by computer (the MASI, or Multimedia Adolescent Suicide Interview; Lucas, 1997). The ASI has four sections for the assessment of DSM-IV symptoms of Major Depression, severity of suicidal ideation, severity of suicide attempts, and exposure to suicide.

#### **Potential Use:**

Clinical research or epidemiologic/screening surveys

#### **Populations Studied:**

The ASI has been tested in a preliminary manner with boys admitted to Boys Town, NE, and other clinical populations (Lucas et al., 1999b). The ASI also has been tested in a community sample of adolescents (Lucas et al., 1999a).

#### **Assessment and Definitions of Suicidal Behaviors:**

The ASI has separate items for thoughts of death (“have you thought a lot about death or dying?”) and suicidal ideation (“have you thought about suicide or about killing yourself?”). The stem question regarding suicidal ideation is followed by three questions regarding frequency of suicide attempts, wish to die, and suicide plans. There is a question asking whether the informant has ever had a period of recurrent suicidal ideation lasting at least a week. The ASI also has a question about lifetime suicide attempts (“Have you EVER in your WHOLE LIFE tried to kill yourself?”). If the respondent reports suicide attempts, the clinical characteristics of these are assessed separately. Questions about exposure to suicide are asked of all respondents.

Consistent with the O’Carroll et al. (1996) definitions, the stem questions regarding suicidal ideation, and the question regarding lifetime attempts imply “non-zero” intent to die.

#### **Reliability:**

Test-retest reliability (over an interval of 1 to 5 days) was assessed in a sample of 189 consecutive admissions to Boys Town (Lucas et al., 1999b). Results suggested that both the interviewer administered ASI and the computer administered ASI yielded reliable results (ICC=.96 and ICC =.84, respectively).

Test-retest reliability in another sample of clinically referred patients was found to be moderate (ICC=.61; Lucas et al., 1999b).

**Internal Consistency:**

No data are available regarding the internal consistency of the suicidal ideation items.

**Concurrent Validity:**

An ongoing study is investigating the relationship between the ASI and the DISC suicidality items, the Beck Depression Inventory, and clinical judgements about suicidality (Lucas, personal communication, 11/99).

**Dimensionality:**

No data have been published (the author suggests that factor analysis would be inappropriate because the scale is linked to an external diagnostic system; Lucas, personal communication, 11/99).

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

The ASI has not been used in treatment studies.

**Summary and Evaluation:**

The ASI is a new structured screening interview, and the possibility of its computer-assisted administration is intriguing (particularly, since there are hints that respondents may report more suicidal behavior to a computer than to a person). However, the ASI has not yet been used in any published studies.

**Where to Obtain:**

Chris Lucas, M.D., Department of Child and Adolescent Psychiatry, Columbia University – New York State Psychiatric Institute, 1051 Riverside Drive, New York, NY 10032.

**References:**

- Lucas, C. (1997). The Multimedia Adolescent Suicide Interview (MASI). Unpublished instrument, Columbia University, New York State Psychiatric Institute, New York, NY.
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## **b. Child Suicide Potential Scales (CSPS) (including the Spectrum of Suicidal Behavior Scale and the Concepts of Death Scale)**

### **Description:**

The Child Suicide Potential Scales (CSPS) is one of the first comprehensive semi-structured interviews developed for assessing suicidal behaviors in youths (Pfeffer et al., 1979). Some of CSPS scales, e.g., the scales assessing ego functioning and ego defense mechanisms, are grounded in developmental and psychodynamic theory. The CSPS was developed as a tool that could be administered by clinicians or researchers. The interview consists of assessments for demographic and background information, assaultive behavior, suicidal behavior (the “Spectrum of Suicidal Behavior Scale”), life events prior to the evaluation, recent affects and behavior, past affects and behavior, family background, concept of death, current ego functions, ego defenses, and a section for recording diagnostic impressions.

The Spectrum of Suicidal Behavior Scale (SSB) has been used and interpreted in various ways – as an instrument for assessing presence of suicidal behavior, as an instrument assessing “dangerousness” of suicidal behaviors, and as an instrument theoretically linked to suicide potential. The other clinical scales on the CSPS are included in the instrument because of their presumed or purported linkages with suicidal behaviors.

The CSPS has been translated into Hebrew. A self-report version of the CSPS is planned (Pfeffer, personal communication, 11/99).

### **Potential Use:**

Clinical assessment or clinical research

### **Populations Studied:**

The CSPS has been used in studies of child and adolescent psychiatric inpatients (King et al., 1993a, 1993b, 1995; Miller et al., 1992; Milling et al., 1992; Pfeffer et al., 1979, 1982, 1991, 1993), in non-clinically-referred children (Pfeffer et al., 1984), and in child psychiatric outpatients (Pfeffer et al., 1980). The Hebrew version of the CSPS has been used in studies of Israeli adolescent psychiatric inpatients, adolescent suicide attempters presenting in an emergency room setting, and adolescent non-patients (Apter et al., 1997; Gothelf et al., 1998; Ofek et al., 1998; Stein et al., 1998).

### **Assessment and Detection of Suicidal Behaviors:**

The presence of suicidal behaviors is rated on a 1 to 5 continuum (“the spectrum of suicidal behavior”) from nonsuicidal to serious attempt. In this rating system, “suicidal ideation” (a rating of 2) is defined as “thoughts or verbalization of suicidal intention.” Suicidal threat (a rating of 3) is defined as “verbalization of impending suicidal action and/or a precursor action which, if fully carried out, could have led to harm.” A mild attempt (a rating of 4) is defined as “actual self-destructive action which realistically would not have endangered life and did not necessitate intensive medical attention.” A serious attempt (a rating of 5) is defined as “actual self-destructive action which realistically could have led to the child’s death and may have necessitated intensive medical care.”

Cut-offs on the 1 to 5 rating scale have been used to define suicidal and nonsuicidal groups in research studies, and can be evaluated with regard to the recommended nomenclature for suicidal behaviors (O'Carroll et al., 1996). In this context, the SSB queries regarding suicidal ideation (a minimum rating of 2) are not so broad as to include thoughts of death or thoughts of wanting to die (without suicidal ideation). The queries regarding suicidal thoughts are distinguished from less specific thoughts of death.

The queries for suicide attempts (a rating of 4 or 5) do not necessarily imply "non-zero" intent to die as suggested in the O'Carroll et al. (1996) nomenclature. Rather, the suicide attempt items refer to "self-destructive action," a term that if taken literally, could refer not only to suicidal behavior but additionally to a variety of other life- or health-endangering or risk-taking behaviors.

The SSB ratings for suicide attempts confound issues regarding the presence/absence of suicidal behavior with the clinical characteristics of suicidal behavior. For example, suicidal behavior that "does not necessitate intensive medical attention" is rated as less severe than suicidal behavior that "may have necessitated intensive medical care." However, in at least one study (King et al., 1997, p. 1437), the two ratings designating suicide attempts have been combined, avoiding the confounding of clinical characteristics with definitions of suicidal behavior.

**Reliability:**

In two samples of 6- to 12-year-old psychiatric inpatients (Pfeffer et al., 1979, 1989), a sample of non-clinically ascertained school children (Pfeffer et al., 1984), and a sample of adolescent psychiatric inpatients (Miller et al., 1992), high levels of interrater agreement have been found for Spectrum of Suicidal Behavior Scale ratings (94%, 100%, and 100% agreement, and  $r=.96$ , respectively).

In a sample of non-clinically-referred preadolescents, the interrater reliability of the Concept of Death scale was found to be high ( $r=.92$ ; Pfeffer et al., 1984). In this same sample, the interrater reliabilities of the CSPS scales other than the Concept of Death and Spectrum of Suicidal Behavior Scales range from moderate to high ( $r=.54$  to  $r=.97$ ; Pfeffer et al., 1984).

Interrater reliabilities for the Spectrum of Assaultive Behavior and the Spectrum of Suicidal Behavior scales of the Hebrew version of the CSPS ranged from  $r=.77$  to  $r=.93$ . Interrater reliabilities ranged from .89 to .90 for the Concept of Death scales, from  $r=.65$  to  $r=1.0$  for the Ego Mechanism Scales, and  $r=.83$  to  $r=1.0$  for the Ego Defense Scales.

In assessing suicidal behavior over a 6- to 8-year follow-up of a mixed sample of prepubescent children who were psychiatric inpatients or normal controls, the interrater reliability of the Spectrum of Suicidal Behavior Scale was found to be moderate ( $\kappa=.55$ ; Pfeffer et al., 1993).

**Internal Consistency:**

The Spectrum of Suicidal Behavior Scale from the CSPA yields a single rating and is therefore not amenable to tests of internal consistency.

With a sample of 6- to 12-year-old inpatients, internal consistency of the Concept of Death Scale was found to be high ( $\alpha=.86$ ). In this same sample, the internal consistency of the other CSPA Scales in this sample was found to range from moderate to high ( $\alpha=.54$  to  $.97$ ).

In a sample of adolescent inpatients, the internal consistency of selected sections of the CSPA was generally in the moderate range ( $\alpha=.39$  to  $.79$ ; Ofek et al., 1998).

**Concurrent Validity:**

CSPA-assessed depression, hopelessness, worthlessness, thoughts of wishing to die, being preoccupied with death, and having mothers who were depressed were more common among suicidal than nonsuicidal inpatient children (Pfeffer et al., 1979). Maternal depression, and believing that death is a pleasant state were related to suicidal behavior, whereas anxiety and aggressive behaviors were not (Pfeffer et al., 1979).

Suicidal and nonsuicidal inpatient and outpatient children did not differ with regard to CSPA-assessed life stresses, ego functioning, and family problems other than parental suicidal ideation (Pfeffer et al., 1979, 1980).

CSPA-assessed perception of death as temporary and the use of introjection as a defense were inconsistently associated with suicidality among child psychiatric inpatients (Pfeffer et al., 1979, 1982).

In a sample of non-clinically-ascertained school children, suicidal 6- to 12-year-olds were found to have more CSPA-assessed current and past depression, to be more preoccupied, and to use more introjection as a defense) than nonsuicidal school children (Pfeffer et al., 1984).

Suicidal and nonsuicidal psychiatric inpatients (as assessed with the CSPA) were also found to differ with regard to family variables (Miller et al., 1992, King et al., 1993b). Specifically, suicidal adolescent inpatients described their families as less cohesive and less adaptable (Miller et al., 1992), as having poorer overall family functioning and more paternal depression than nonsuicidal inpatients with mood disorders (King et al., 1993b). Suicidal adolescent inpatients with mood disorders were also found to have “more distant, unaffectionate, and uncommunicative relationships with their fathers” than nonsuicidal inpatients with mood disorders (King et al., 1993b).

Using the Hebrew version of the CSPA, repeat adolescent psychiatric inpatient suicide attempters, but not first-time attempters, were found to have more aggressive tendencies and more “antisocial tendencies” than nonsuicidal adolescents (Stein et al., 1998). Suicidal adolescent inpatients were also more preoccupied with death and more likely to view death as pleasant (according to CSPA ratings) than other adolescents (Gothelf et al., 1998).



Most of the scales on the Hebrew version of the CSPA were only modestly to moderately (but statistically significantly) related with measures assessing similar constructs (Ofek et al., 1998). For example, ratings on the Spectrum of Suicidal Behavior were correlated .37 with the Self-Aggression Scale of the Overt Aggression Scale and .45 with the Suicide Risk Scale, and CSPA-rated depression correlated .21 with Beck Depression Inventory scores (Ofek et al., 1998).

**Dimensionality:**

No published data were located.

**Predictive Validity:**

CSPA ratings of suicidal behavior among adolescent psychiatric inpatients have been found to predict CSPA ratings of suicidal behavior one year later (Ofek et al., 1998), and SIQ-Jr ratings of suicidality 6 to 8 months later (King et al., 1997).

Child psychiatric inpatients and non-clinically-ascertained controls rated as having suicidal ideation and suicide attempts on the Spectrum of Suicidal Behavior were three times and six times, respectively, more likely to make suicide attempts over the 6- to 8-year follow-up (Pfeffer et al., 1993).

**Treatment Studies:**

The scales of the CSPA have not been used in treatment studies.

**Where to Obtain:**

Cynthia R. Pfeffer, M.D., Professor of Psychiatry, New York Hospital – Westchester Division, 21 Bloomingdale Road, White Plains, NY 10605

**Summary and Evaluation:**

The CSPA has been used extensively in studies of child suicidal behaviors. The detection items do not strictly conform to the recommendations regarding definitions of suicidal behaviors by O'Carroll et al. (1996), but can be grouped to more closely approximate this classification scheme (King et al., 1997). The utility of the CSPA is evidenced by the number of scientific publications using this scale, and the predictive validity of the Spectrum of Suicidal Behavior items in two samples.

**Where to Obtain:**

Cynthia R. Pfeffer, M.D., Professor of Psychiatry, Cornell University Medical College, New York Hospital – Westchester Division, 21 Bloomingdale Road, White Plains, NY 10605

**References:**

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### **c. Evaluation of Suicide Risk Among Adolescents and Imminent Danger Assessment (ESRAIDA)**

#### **Description:**

The Evaluation of Suicide Risk Among Adolescents and Imminent Danger Assessment (ESRAIDA) is a two-stage screening interview for the evaluation of suicidal behaviors and risk (Rotheram-Borus, 1987, 1989; Bradley and Rotheram-Borus, 1990). This instrument is predicated on notions that it is more cost- and time-efficient to try to predict suicide in populations thought to be “at-risk” than it is to predict low base-rate suicidal behavior in the general population. The Screening for Risk Related Factors is used for the identification of youths thought to be “at risk” (including youths who directly report suicidal ideation and attempts) and hence, are in need of closer evaluation. This screen consists of questions about thoughts of wanting to die, suicidal ideation, and suicide attempts in the last week; lifetime suicidal ideation and attempts; exposure to suicidal behavior from close friends or family members; feelings of anger and dysphoria and symptoms of depression; and symptoms of conduct disorder.

If adolescents are considered to be at risk on the basis of an algorithm for combining the risk factors (youths with current suicidal ideation or plan are automatically considered to be at risk), they are administered the second stage screening interview, the Evaluation of Imminent Danger. This screen is predicated on the notion that youths who are in “imminent danger” of harming themselves should not be able to complete five clinical tasks “incompatible with suicide”(it should be noted that the completion of these tasks in and of itself may be therapeutic for youths). These tasks include making three self-referent positive statements (self-compliments), identifying (using a “feeling thermometer”) situations associated with suicidal feelings and behaviors, articulating or generating a list of alternative actions to suicidal behaviors in the context of the above situations, identifying three resource people who can help the youth cope with suicidal feelings, and promising to not engage in suicidal behavior for a discrete period of time and to contact someone if feeling suicidal. If adolescents are unable to complete any of the above five tasks, they are evaluated for possible psychiatric hospitalization (emergency referral). Otherwise, they are referred for follow-up care (preventative referral).

#### **Potential Use:**

Clinical assessment, clinical research, and screening

#### **Populations Studied:**

The ESRAIDA has been used to screen primarily African-American and Hispanic runaway teenagers (Rotheram-Borus and Bradley, 1991) and gay and bisexual adolescent males seeking services (Rotheram-Borus et al., 1994), as well as primarily Caucasian middle-class adolescents seeking crisis services (Rotheram-Borus et al., 1996).

#### **Assessment and Detection of Suicidal Behavior:**

The ESRAIDA includes several queries for the assessment of suicidal behavior. The primary questions regarding suicidal ideation are as follows: “Have you thought about hurting yourself or killing yourself in the last week?” and “Have you ever seriously thought about killing yourself? By seriously, I mean every day for a week, or more?” The wording of the former question is

such that it may elicit responses about thoughts of non-suicidal self-harm behavior (“hurting yourself”) in addition to suicidal behavior. The wording of the latter question is also problematic. To the authors’ credit, they define the word “seriously” for respondents (which most instruments using this wording do not do); however, although a subset of adolescent suicidal behavior is deliberated for a considerable period of time, other suicidal behavior is more impulsive, certainly considered for less than a week. Hence, this question is likely to yield a conservative estimate of youths considering suicide (and as a screener, the question may miss youths who have been thinking of suicide, but less than one week).

The primary questions regarding suicide attempts are as follows: “Have you ever hurt yourself or tried to kill yourself?” and “When was the last time you tried to hurt yourself.” Both of these questions are likely to elicit responses not only about suicidal behavior (with at least some intent to die) but also about non-suicidal self-harm behavior. As such, these questions are not consistent with definitions of suicidal ideation and attempts recommended by O’Carroll et al. (1996).

**Reliability:**

Interrater reliability of videotaped vignettes of suicidal youths being evaluated with the ESRAIDA was high, ranging from an average of .94 for staff members in runaway shelters, to .98 for clinical supervisors, to .93 for the research team (Rotheram-Borus and Bradley, 1991).

**Internal Consistency:**

No published data were located.

**Concurrent Validity:**

Using the questions directly assessing suicidal ideation and attempts on the ESRAIDA, a high rate of lifetime suicide attempts, recent attempts, suicidal ideation within the last week, and exposure to suicidal behavior was found among primarily Hispanic and African-American gay and bisexual adolescent males seeking services (Rotheram-Borus et al., 1994). In this study, suicide attempters (assessed with the ESRAIDA) were found to have higher levels of gay-related stresses, were more likely to drop out of school and live outside of the home, and were more likely to have friends and family members who had attempted suicide (Rotheram-Borus et al., 1994).

**Dimensionality:**

No published data were located.

**Predictive Validity:**

No published data were located.

**Treatment:**

The ESRAIDA screening procedures were used to screen 741 primarily African-American and Hispanic runaway teenagers for suicidal behavior over a 30-month period of time (Rotheram-Borus and Bradley, 1991). Although the numbers are small, there were 9 suicide attempts in the 3 months prior to implementation of the ESRAIDA screening in the run-away shelters, in contrast to 2 attempts in these settings in the 18 months following implementation of ESRAIDA.

**Summary and Evaluation:**

The Evaluation of Suicide Risk Among Adolescents and Imminent Danger Assessment (ESRAIDA) is a two-stage screening interview for the evaluation of suicidal behaviors and risk. The ESRAIDA has much intuitive appeal as a clinical screening instrument and approach for dealing with high-risk youths. However, the assessment questions for suicidal ideation and attempts in the ESRAIDA are not consistent with recommended definitions of these terms by O'Carroll et al. (1996). Moreover, very little psychometric data have been published for the ESRAIDA.

**Where to Obtain:**

Address for publisher of the Bradley and Rotheram-Borus (1990) manual: National Resource Center for Youth Services, 2020 West Eighth Street, Tulsa, OK 74119. The ESRAIDA may also be obtained from Mary Jane Rotheram-Borus, Ph.D., UCLA Neuropsychiatric Institute, 10920 Wilshire Blvd., Suite 1103, Los Angeles, CA 90024.

**References:**

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**d. Lifetime Parasuicide Count (LPC)****Description:**

The Lifetime Parasuicide Count (LPC) is a brief interview developed for use with adults meeting criteria for borderline personality disorder (Linehan and Comtois, 1997). The LPC can be used to assess both suicide attempts and non-suicidal instances of self-harm behavior (collectively referred to as parasuicidal behavior). The interview begins with questions about the first instance and most recent instance of self-harm behavior, and whether self-harm behavior was actually suicidal in intent. The second part of the interview is intended to elicit a more detailed description of self-harm behaviors. In this part of the interview, patients are asked specifically about whether they have engaged in 12 different types of self-harm behavior, whether such behavior was associated with (a) intent to die, (b) ambivalence, or (c) no intention of dying, and whether the self-harm behavior resulted in medical treatment.

**Potential Use:**

Clinical assessment or clinical research

**Populations Studied:**

The LPC has been used with primarily Latino and African-American adolescents attending an outpatient psychiatric clinic for the assessment of depression and suicidal behaviors (Velting and Miller, 1998).

**Assessment and Detection of Suicidal Behavior:**

There are no questions for assessing suicidal ideation with the LPC. In an adolescent clinical population, Velting and Miller (1998) classified any self-harm behavior associated with “ambivalence” or “intent to die” as a suicide attempt. This classification procedure is consistent with recommendations by O’Carroll et al. (1996) that suicide attempts minimally be associated with “non-zero” intent to die.

**Reliability:**

No data regarding test-retest or interrater reliability of the LPC with adolescents are available.

**Internal Consistency:**

No published data were located.

**Concurrent Validity:**

Adolescents in an outpatient psychiatric setting with anxiety disorder, major depression, borderline personality disorder, and/or 3 or more Axis I psychiatric diagnoses had more suicidal behaviors than adolescents without these disorders (Velting and Miller, 1998).

**Dimensionality:**

No published data were located.

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

The LPC has not been used as an outcome measure in a published treatment study with adolescents.

**Summary and Evaluation:**

The Lifetime Parasuicide Count (LPC) may prove useful in estimating total number of suicide attempts and non-suicidal self-harm behaviors. In other studies, the total number of suicide attempts in particular has proved to be a strong predictor of later suicidal behavior (e.g., Goldston et al., 1999). However, little psychometric data regarding the use of the LPC with adolescents are currently available. In the assessment of actual suicide attempts, the LPC could be strengthened or complemented by asking the approximate dates of the attempts – such a procedure sometimes helps clients to differentiate and better enumerate multiple suicide attempts. The Parasuicide History Interview, developed by this same research group, potentially could be used for this purpose, but this instrument has not been used previously with adolescents.

**Where to Obtain:**

Marsha Linehan, Ph.D., Department of Psychology, University of Washington, Box 351525, Seattle, WA 98195-1525

**References:**

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### **e. Suicidal Behaviors Interview (SBI)**

#### **Description:**

The Suicidal Behavior Interview (SBI; Reynolds, 1989, 1990) is a semi-structured interview for assessing current suicidal behaviors in adolescents. The most recent version of the SBI consists of 20 questions, 18 of which are scored. The SBI has two sections: the first part of the interview focuses on distress, life events, and social support, and the second part of the interview focuses on suicidal ideation and attempts. Responses to the SBI can be summed to a total score which is thought to reflect “level” or “seriousness” of suicidal ideation.

#### **Potential Use:**

Clinical assessment or clinical research; Reynolds (1991) describes the utility of the SBI as a follow-up for interviewing youths identified via other screeners as being “at risk”

#### **Populations Studied:**

The psychometric characteristics of the SBI were derived from a sample of non-clinically-ascertained high school students, ages 12 to 19 (some of whom were selected because of high levels of suicidal ideation in a prior screening; Reynolds, 1990). The SBI has also been used with inner-city (primarily African-American and Hispanic) children and adolescents (Reynolds and Mazza, 1999) and with psychiatrically hospitalized adolescents (Champion et al., 1994). The SBI also has been used in conjunction with the SIQ in a two-staged screening approach to the identification of youths at risk for suicidal behavior (Reynolds, 1991).

#### **Assessment and Detection of Suicidal Behavior:**

The questions in the Suicidal Ideation section of the SBI are based on Reynolds’ notions regarding a hierarchy of seriousness of suicidal cognitions and behavior, ranging from thoughts of death, to thoughts of wanting to be dead, to general and then specific thoughts of killing oneself, to making specific preparations for suicidal behavior, to attempting suicide (Reynolds, 1990). As such, these items parallel in part the Suicidal Ideation Questionnaire (Reynolds, 1988).

The SBI is described as focusing on current suicidal ideation; however, only one of the suicidal behavior questions explicitly focuses on “present” feelings, and the question regarding life stresses refers to “the past several months.” The suicide attempt questions refer to the most recent attempt, including those that occurred more than one year ago.

The SBI was designed to assess a continuum of suicidal behavior rather than discrete categories of suicidal behaviors. However, similar to the Child Suicide Potential Scales, the specific items on the SBI can be evaluated with regard to the operational definitions proposed by O’Carroll et al. (1996). On the SBI, there are separate items regarding thoughts of wishing to be dead (Item #5), thoughts of killing oneself (Item #6), suicide attempts (Item #15), and nonsuicidal self-harm (Item #14). Both the suicidal ideation and suicide attempts implicitly refer to “non-zero intent to die,” and are consistent with the nomenclature proposed by O’Carroll et al. (1996).

**Reliability:**

In the initial validation sample, interrater reliability of the SBI was high as indicated by the zero order correlation of .97, and the intraclass coefficient of .99 between pairs of interviewers (Reynolds, 1990). In a second sample of “at-risk” youths, the interrater reliability of the SBI was .95 (Reynolds and Mazza, 1993).

**Internal Consistency:**

Based on responses to the 18 scored items, the SBI is an internally consistent instrument (overall  $\alpha=.92$ ,  $\alpha$  for boys=.89,  $\alpha$  for girls=.93,  $\alpha$  for past suicide attempters=.88; Reynolds, 1990). Item-total correlations ranged from .35 to .75, with a median of .62 (Reynolds, 1990). In a second sample of adolescents (Reynolds and Mazza, 1993), the SBI also was internally consistent ( $\alpha=.90$ ). In a third sample of children and adolescents from inner-city schools (Reynolds and Mazza, 1999), the SBI suicidal ideation factor and the 3-item suicide attempt factor both were internally consistent ( $\alpha=.93$  and .84, respectively).

**Concurrent Validity:**

In a school-based and a clinically referred sample (Champion et al., 1994; Reynolds, 1990), SBI total scores and the 3 factors scores (suicide ideation, distress, suicide attempt) were moderately correlated with measure of depression. Among the factor scores, depression scores were most strongly related to the general distress factor (Reynolds, 1990). SBI total scores and factors scores also had moderate to strong correlations with a history of suicide attempts (Reynolds, 1990). Among the factor scores, the SBI suicide attempt factor scores were most strongly related to history of attempts (Reynolds, 1990). In two school-based samples (Reynolds, 1990; Reynolds and Mazza, 1999), SBI total scores and factor scores were consistently found to have moderate correlations with SIQ and SIQ-Jr scores (ranging from .47 to .75).

**Dimensionality:**

Three factors with eigenvalues greater than 1.0 were obtained in a principal components analysis (Reynolds, 1990). The first factor included items assessing presence of suicidal thoughts, along with items assessing intent, plans, and steps toward actual suicide attempts. The second factor included items regarding general psychological distress (e.g., the questions about life events, social support, wishing to be dead). The third factor included questions about perceived seriousness of actual suicide attempts, expected success of actual attempts, and recency of actual attempts.

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

No published data were located.

### **Summary and Evaluation:**

The SBI is a highly reliable semi-structured interview for assessing suicidal behaviors. Reynolds (1990) has recommended the use of the SBI in conjunction with the SIQ in a two-staged screening procedure for the identification of youths at risk for suicidal behaviors. The queries of the SBI are consistent with recommendations for the definitions of suicidal behaviors by O'Carroll et al. (1996). However, other than correlations with questionnaires for assessing suicidal behavior in this same family of instruments (e.g., the SIQ), there are still few published data regarding the utility of the SBI.

### **Where to Obtain:**

Psychological Assessment Resources, Inc., P.O. Box 998, Odessa, FL 33556 (The SBI had not yet been published as of the date of this review.)

### **References:**

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- Reynolds, W., Mazza, J. (1999). Assessment of suicidal ideation in inner-city children and young adolescents: Reliability and validity of the Suicidal Ideation Questionnaire-JR. School Psychology Review, 28, 17-30.

### **3. Depression Self-Report Inventories and Behavior Checklists**

#### **a. Achenbach Child Behavior Checklist (CBCL), Teacher Report Form (TRF), and Youth Self-Report (YSR)**

##### **Description:**

The Achenbach Child Behavior Checklist (CBCL) is a factor analytic derived behavior checklist completed by parents or guardians (Achenbach, 1991a, 1991b). The CBCL has extensive normative data. Assessed are total behavior problems, broad-band behavior problems (e.g., internalizing behavior problems, externalizing behavior problems), and more narrow-band behavior problems (e.g., attention problems, anxious/depressed mood, aggressive problems, delinquent problems, etc.). The CBCL can be given to parents of 4- to 18-year-olds. A separate version of the CBCL has been developed for the assessment of 2- and 3-year-olds. Parents or informants for 18- to 30-year-olds can complete the Young Adult Behavior Checklist (YABCL; Achenbach, 1997b).

The Achenbach Teacher Report Form (TRF) is similar in form to the CBCL, but is designed to be completed by teachers (Achenbach, 1991a, 1991c). A separate version, the Caregiver/Teacher Report Form has been developed for caregivers or teachers of 2- to 5-year-olds (Achenbach, 1997a).

Youths aged 11 to 18 can complete the Youth Self-Report (YSR; Achenbach, 1991a, 1991d). Young adults aged 18 to 30 can complete the Young Adult Self-Report (YASR; Achenbach, 1997b).

The Achenbach scales have been translated into nearly 60 languages. The Achenbach scales are not measures of suicidality per se, but the different versions (with the exception of the scales for assessing 2- to 5-year-olds) each contain two items assessing suicidal ideation/behavior.

##### **Potential Use:**

Clinical assessment, clinical research, epidemiologic/screening surveys

##### **Populations Studied:**

In studies of suicidal behaviors, the YSR has been administered to non-clinically-ascertained samples of school children (Garber et al., 1998; Stanger et al., 1993). In one of these studies (Stanger et al., 1993), the sample was chosen to be geographically, ethnically, and socioeconomically representative of the United States. The YSR also has been administered to adolescents clinically referred because of their suicidality (Ritter, 1990), and unselected adolescent psychiatric inpatients in Australia (Rey and Bird, 1991). The CBCL has been administered to parents of Australian (primarily white) high school students to examine issues related to suicidality (Martin et al., 1993; Martin and Waite, 1994). In studies of suicidal behaviors, the CBCL (and questionnaires using similar or identical items) have been used in a large nationally representative sample of American school children (Stanger et al., 1993), and in a large community sample in Ontario (Joffe et al., 1988).

**Assessment and Detection of Suicidal Behaviors:**

On the Achenbach scales, respondents are asked to decide whether the behaviors of interest are not true (a score of 0), somewhat or sometimes true (a score of 1), or very true or often true (a score of 2) for the last 6 months. There are two suicidal ideation/behavior items on the CBCL, TRF, YSR, YABCL, and YASR. The suicidal ideation item simply asks whether the subject “thinks about killing self.” The suicide attempt item asks whether the subject “deliberately harms self or attempts suicide.”

The suicidal ideation item is straightforward and implies “non-zero intent to die.” In contrast, the suicide attempt item is worded so broadly as to elicit not only responses regarding suicidal behavior, but also responses about nonsuicidal self-harm behavior.

**Reliability:**

No data are provided for the individual items regarding suicidal ideation/behavior.

**Internal Consistency:**

Not applicable (because there are only two items)

**Concurrent Validity:**

In a sample of Australian students, responses to the YSR items regarding suicidal thoughts, deliberate self-harm, and the YSR depression scale (adjusted for the suicidal items for girls) were all found to be strongly interrelated as expected (Martin and Waite, 1994). In this same sample, higher scores on the suicidal thoughts and deliberate self-harm items were associated with lower perceived maternal and paternal care, and higher perceived maternal and paternal protection (Martin and Waite, 1994).

**Dimensionality:**

Depending on the age and gender group, the deliberate self-harm and suicidal thoughts items load either on factors associated with thought problems, anxiety and depression, or are associated with none of the factor analytic derived scales.

**Predictive Validity:**

In a nationally representative sample, items on the ACQ (Achenbach, Connors, and Quay) Behavior Checklist regarding suicidal ideation and behavior (which are worded almost identically to those on the CBCL) were directly (in path analyses) predictive of school behavior problems and family mental health services, but were not directly related later suicidality 3 years later for children and adolescents (Stanger et al., 1993).

In a sample of 6<sup>th</sup> grade school children, Garber et. al. (1998) found that a suicide index composed of the sum of responses to five measures of suicidality (including the YSR and the CBCL suicidal ideation/behavior items) was moderately predictive of suicidal ideation one year later ( $r=.39$ ).

**Treatment Studies:**

No published treatment studies of suicidal youths using the Achenbach scales were located.

**Summary and Evaluation:**

The Achenbach instruments are very widely used in clinical settings and in research. However, there is only minimal assessment of suicidal behaviors in these instruments, and responses to the suicidality items have not been found to be directly predictive of later suicidal behavior. Hence, the Achenbach instruments should not be used as the primary or only assessment instrument for suicidality.

**Where to Obtain:**

University Medical Education Associations, One South Prospect Street, Room 6434, Burlington, VT 05401-3456

**References:**

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## **b. Beck Depression Inventory (BDI) Suicide Item**

### **Description:**

The BDI (Beck and Steer, 1987) is a 21 item self-report inventory designed to measure severity of depressive symptomatology. The scale was developed for use with adults, but has also been widely used with adolescents (Steer and Beck, 1988). Consistent with Beck's cognitive perspective on the etiology and treatment of depression, the BDI is weighted toward the cognitive symptoms of depression. The BDI-II (Beck et al., 1996) is a 21-item revision of the BDI, and is more oriented toward the symptoms of depression as described in DSM-IV than the original BDI. The BDI and BDI-II have been translated into other languages including Spanish, Portuguese, Chinese, French, Korean, German, Turkish, Arabic, Bulgarian, Swedish, and Danish. The BDI and BDI-II are not measures of suicidality per se, but do contain a single item assessing suicidal ideation.

### **Potential Use:**

Clinical assessment and clinical research, epidemiologic/screening research

### **Populations Studied:**

The BDI suicidal ideation item has been examined in studies of high school students and adolescents in the community (Larsson et al., 1991; Lewinsohn et al., 1993, 1994; Olsson and von Knorring, 1997; Teri, 1982), adolescent psychiatric outpatients (Steer et al., 1998), and adolescent psychiatric inpatients (Ivarsson et al., 1998; Larsson and Ivarsson, 1998).

### **Assessment and Description of Suicidal Behaviors:**

The suicide items for the BDI and BDI-II are identical except for the time frames. The time frame for the BDI references the last week and the time frame for the BDI-II references the last two weeks. On the BDI or BDI-II, respondents are asked to decide which of the following best describes the way they have been feeling: (1) "I do not have any thoughts of killing myself," (2) "I have thoughts of killing myself, but I would not carry them out," (3) "I would like to kill myself," and, (4) "I would kill myself if I had the chance."

A rating of 2 or greater on this single item would yield a response consistent with the O'Carroll et al. (1996) proposed nomenclature for suicidal behavior. The item does not confound thoughts of death and suicidal ideation.

There is no item on the BDI or BDI-II for assessing suicide attempts per se. However, an item has been added to the Swedish version of the BDI inquiring about previous suicide attempts (Olsson and von Knorring, 1999).

### **Reliability:**

In a community sample of adolescents, the long-term (1 year) test-retest reliability of the BDI suicide ideation item was .27 (Lewinsohn et al., 1993). Among Swedish high school students, it was found that 40% of adolescents obtaining scores of 2 or 3 on the BDI suicide ideation item still reported significant suicidal ideation (a score of 2 or 3) when retested 4- to 6-weeks later (Larsson et al., 1991).

**Internal Consistency:**

Not applicable (because there is only a single item)

**Concurrent Validity:**

In a community sample of adolescents, the BDI suicidal ideation item was related to past suicide attempts (OR=3.9; Lewinsohn et al., 1993). In high school students in Sweden, 27% of adolescents who received a score of 2 or 3 on the BDI suicidal ideation item had made a previous suicide attempt, in contrast to only 3% of adolescents with none or minimal suicidal thoughts (Larsson et al., 1991). Among adolescent psychiatric inpatients, 88% of adolescents reporting a prior suicide attempt (including attempts that precipitated the current hospital admissions) had moderate or severe suicidal ideation, in contrast to 16% of hospitalized adolescents without prior attempts (Larsson and Ivarsson, 1998).

**Dimensionality:**

Factor analyses of BDI-II data from adolescent psychiatric outpatients yielded three factors which corresponded roughly to cognitive symptoms, somatic-affective symptoms, and guilt/punishment (Steer et al., 1998). The suicide ideation BDI-II item loaded on the factor with other cognitive symptoms of depression (the largest factor). In two other samples of school children, one in the United States and one in Sweden, the BDI suicidal ideation item also loaded on the largest factor extracted in a principle components analysis (Olsson and von Knorring, 1997; Teri, 1982).

**Predictive Validity:**

In a community sample of adolescents, the BDI suicidal ideation item was found to be predictive of both future suicide attempts (OR=6.9) and future depressive episodes (OR=2.1; Lewinsohn et al., 1994).

Shaffer et al. (personal communication, 10/99) screened a large number of high school students with instruments including the BDI. Students were considered to be at risk on the basis of their responses to another instrument, the Columbia Teen Screen (described in this review). A large sampling of students, approximately half of whom were thought to be "at risk," were followed up approximately 3 to 4 years later. A response of >0 (0 to 4 rated) on the BDI suicidal ideation item was found to have 57% sensitivity and 64% specificity in predicting suicidal ideation over one year according to the DISC administered at the second assessment. A response of >1 on the suicidal ideation had only 7% sensitivity, and 94% specificity in predicting DISC-assessed suicidal ideation.

In this same study, scores of >0 on the BDI suicidal ideation item had 74% sensitivity and 64% specificity in predicting suicide attempts since the initial screen (Shaffer et al., personal communication, 10/99). Scores of >1 had 20% sensitivity, but 95% specificity in predicting later attempts.

In a Swedish study, 44% of formerly psychiatrically hospitalized adolescents who at follow-up 2 to 4 years later reported moderate to severe suicidal ideation also had such thoughts during their index hospitalization (Ivarsson et al., 1998).



**Treatment Studies:**

The BDI has been used in multiple treatment studies with adults, but the BDI suicide ideation item has not specifically been used in treatment studies with youths.

**Summary and Evaluation:**

The BDI is a widely used measure of depression severity in adolescents and adults, but is not appropriate for pre-adolescents. The BDI suicidal ideation item has been used in studies of suicidal behavior, but this item, of course, does not yield any information about suicide attempts. An additional suicide attempt item has been added by researchers to the Swedish version of the BDI. The BDI suicidal ideation item has been shown to have predictive utility; however, scores of >0 (0 to 4 rated) on this item have generally been found to be much more sensitive in predicting later suicidal ideation and attempts than scores of >1.

**Where to Obtain:**

The Psychological Corporation, 555 Academic Court, San Antonio, TX 78204

**References:**

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### **c. Children's Depression Inventory (CDI) Suicide Item**

#### **Description:**

The Children's Depression Inventory (CDI) is a self-report inventory designed for the assessment of depression with children and adolescents aged 7 to 17 (Kovacs, 1985, 1992). The CDI was initially developed because of concerns regarding the use of the Beck Depression Inventory with younger populations. The CDI has 27 sets of items; respondents are asked to choose which of three sentences (in each set) best describes his or her thoughts and feelings over the last two weeks. The CDI yields a total score (ranging from 0-54) as well as five subscores: Mood, Interpersonal Problems, Ineffectiveness, Anhedonia, and Negative Self-Esteem. Scores of 19 and above are thought to be associated with clinically significant depression. The CDI is not a measure of suicidality per se, but it does include a single item assessing suicidal ideation.

A parent-report version of the CDI, the P-CDI, has also been developed (Garber, 1984).

#### **Potential Use:**

Clinical assessment and clinical research, epidemiologic/screening surveys

#### **Populations Studied:**

The CDI suicidal ideation item has been examined in samples of school children and adolescents (Chartier et al., 1994; Kovacs, 1992; Larsson and Melin, 1992; Overholser et al., 1995), bereaved children and adolescents (Cerel et al., 1999), adolescents referred to outpatient psychiatry settings (Kovacs, 1992), inpatient psychiatry adolescents (Overholser et al., 1995), and sexually abused children and adolescents (Wozencraft et al., 1991).

#### **Assessment and Detection of Suicidal Behaviors:**

Suicidal ideation is measured with one item with the following response choices: (0) "I do not think about killing myself," (1) "I think about killing myself but would not do it," or (2) "I want to kill myself." Scores of 1 or 2 on this item obviously indicate suicidal thoughts. This item refers to thoughts about suicidal actions with "non-zero intent to die" and is therefore consistent with the O'Carroll et al. (1996) suggested definitions.

There is not an item on the CDI assessing suicide attempts. Therefore, the CDI in its copyrighted form is not well suited to screening for individuals with suicide attempts. However, Overholser et al. (1995) has developed several additional questions which can be appended to the CDI assessing previous suicidal behavior.

#### **Reliability:**

In a sample of 2<sup>nd</sup> to 6<sup>th</sup> grade school children, it was found that 50% of the youths who endorsed the CDI suicidal ideation item at an initial screening continued to endorse the suicidal ideation item at a second testing 6 to 9 weeks later (Larsson and Melin, 1992).

**Internal Consistency:**

Not Applicable (because there is only a single item)

**Concurrent Validity:**

In the normative sample of youths, the CDI suicidal ideation was correlated with the total scores from the remaining CDI items,  $r=.45$  (Kovacs, 1992). In an outpatient psychiatric sample, a sample of youths newly diagnosed with diabetes, and a second sample of school children, the CDI suicidal ideation item was correlated with CDI total scores,  $r=.52$ ,  $r=.22$ , and  $r=.49$ , respectively (Kovacs, 1992). In a sample of sexually abused youths, the CDI item regarding suicidal ideation was correlated with the rest of the CDI,  $r=.27$  (Wozencraft et al., 1991). In a sample of 2<sup>nd</sup> to 6<sup>th</sup> grade school children, endorsement of the CDI ideation item was significantly related to scoring above the cut-off for clinically significant depression scores on the CDI (Larsson and Melin, 1992).

In adolescent psychiatric inpatients and a high school comparison group, endorsement of the CDI suicidal ideation item (and the added items regarding suicide attempts) were related to lower self-esteem (Overholser et al., 1995). In a sample of clinically referred sexually abused youths (ages 5 to 17), endorsement of the CDI suicidal ideation item was related to characteristics of abuse such as the perpetrator being a family member, having a mother who was rated as less compliant with the evaluation, and remaining in the family home following the investigation of abuse (Wozencraft et al., 1991).

**Dimensionality:**

In addition to a single higher order factor (depression), five primary factors have been identified in factor analytic studies of the CDI: Negative Mood, Interpersonal Problems, Ineffectiveness, Anhedonia, Negative Self-Esteem (Kovacs, 1992). In the normative sample, the suicidal ideation most strongly loads on the Negative Self-Esteem factor (Kovacs, 1992). In a clinical sample, the suicidal ideation item most strongly loads on the Negative Mood factor (Kovacs, 1992). In a sample of incarcerated adolescents (Esposito and Clum, 1999), the suicidal ideation item was one of two items that did not load on any of the 7 factors identified.

**Predictive Validity:**

In a sample of 6<sup>th</sup> grade school children, Garber et. al. (1998) found that a suicide index composed of the sum of responses to five measures of suicidality (including the CDI suicidal ideation item) was moderately predictive of suicidal ideation one year later ( $r=.39$ ).

**Treatment Studies:**

No published studies of the treatment of suicidal youths were located which used the CDI suicidal ideation item.

**Summary and Evaluation:**

The CDI is a widely used self-report questionnaire for assessing of severity of depressive symptomatology. For younger children (for whom “older” depression inventories such as the BDI are not appropriate), the CDI may be particularly useful. The CDI assesses only suicidal ideation and not suicide attempts, but a suicide attempt item has been developed by researchers

for use with the CDI. However, the predictive validity of the CDI suicidal ideation item, by itself, has not been evaluated.

**Where to Obtain:**

Multi-Health Systems, Inc., 908 Niagara Falls Boulevard, North Tonawanda, NY 14120-3003

**References:**

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#### **d. Dimensions of Depression Profile for Children and Adolescents (DDPCA)**

##### **Description:**

The Dimension of Depression Profile for Children and Adolescents (DDPCA) is a self-report inventory that assesses five dimensions of depressive symptomatology: mood, global self-worth, energy and age-appropriate interest in activities, self-blame, and suicidal ideation. This scale was developed based on the premise that low self-esteem or low self-worth is one of the central features of depression, but is often treated as a secondary symptom in diagnostic systems and depression screening instruments.

The DDPCA has 30 items. For each item, respondents are given two statements (e.g., “Some kids feel kind of ‘down’ and depressed a lot of the time” and “Other kids feel ‘up’ and happy most of the time”). They are asked to decide which of the statements best describes them, and they are then asked to choose whether that statement is “Sort of True for Me” or “Really True for Me.” The DDPCA yields a total score and five scale scores (corresponding to the dimensions described above).

##### **Potential Use:**

Screening surveys; the instrument might have utility in clinical assessment or clinical research studies but no published studies with clinical populations were located

##### **Populations Studied:**

The DDPCA Suicide Ideation Scale has been administered to samples of children in the school and to youths with spina bifida (Appleton et al., 1997; Harter and Nowakowski, 1987). The manual for the DDPCA notes that studies with clinically referred youths are planned.

##### **Assessment and Detection of Suicidal Behavior:**

The DDPCA Suicidal Ideation Scale has 6 items assessing whether the respondents see themselves as (1) caring if they live or die, (2) thinking about committing suicide, (3) having thoughts about killing themselves, (4) wanting to commit suicide, (5) spending long periods of time thinking about killing themselves, and (6) having reasons to live.

The dimensional scale therefore does not just assess suicidal ideation, but rather is a composite of responses about suicidal ideation, thoughts of wanting to die, and having deterrents to suicide. Four of the six items explicitly refer to suicide or killing oneself (therein, implying “non-zero intent to die”), but these items are not separated out from the scale score for screening purposes.

There is no item on the DDPCA regarding suicide attempts.

##### **Reliability:**

In a sample of school children, the DDPCA Suicidal Ideation Scale had moderate test-retest stability ( $r=.48$ ) over one year (Harter and Nowakowski, 1987).

**Internal Consistency:**

The Suicidal Ideation Scale of the DDPCA was found to be internally consistent ( $\alpha=.88$  and  $.90$ ) in two samples of 6<sup>th</sup> to 8<sup>th</sup> grade school children (Harter and Nowakowski, 1987).

**Concurrent Validity:**

The Suicidal Ideation Scale of the DDPCA was moderately correlated with the Mood ( $r=.62$  and  $.64$ ), Self-Worth ( $r=.59$  and  $.62$ ), Energy/Interest ( $r=.46$  and  $.41$ ), and Self-Blame ( $r=.42$  and  $.33$ ) DDPCA Scales in two samples of school children (Harter and Nowakowski, 1987). Scores on the DDPCA Suicidal Ideation Scale were lower (lower scores indicate more problems/distress) for 12- to 18-year-olds with spina bifida than for youths without the disease (Appleton et al., 1997). Perceived social support from parents, classmates, and teachers was negatively related to suicide ideation scores in this same sample (Appleton et al., 1997).

**Dimensionality:**

A factor analysis of the DDPCA yielded four factors. In two different samples, the 6 suicidal ideation items on the DDPCA all had moderate to high loadings on a factor of the DDPCA that was primarily related to suicidal ideation (Harter and Nowakowski, 1987). These items did not load highly on any other factors.

**Predictive Validity:**

No published data regarding the predictive validity of the Suicidal Ideation items were located.

**Treatment Studies:**

No published treatment studies using the DDPCA Suicidal Ideation Scale were located.

**Summary and Evaluation:**

The DDPCA is a potentially useful scale of depressive symptomatology that reflects its authors' theoretical notions regarding the centrality of low self-esteem in the experience of depression. The DDPCA Suicide Ideation Scale has not been well-studied beyond the original validation samples. Data regarding the use of the DDPCA in clinically ascertained samples have not been published, and the predictive validity of the DDPCA Suicidality Scale has not yet been established.

**Where to Obtain:**

Dr. Susan Harter, University of Denver, Department of Psychology, 2155 S. Race Street, Denver, CO 80208-0204

**References:**

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- Harter, S., Nowakowski, M. (1987). Manual for the Dimensions of Depression Profile for Children and Adolescents. Denver, CO: University of Denver.

### **e. DSM Scale for Depression (DSD)**

#### **Description:**

A self-report screening inventory, the DSM Scale for Depression (DSD), was developed from the Major Depression items of the DISC-2.3 (Roberts et al., 1997, 1998). The DSD has 31 items, and the respondent is asked to report whether these symptoms have been present in the last two weeks. The scores of the DSD can be summed to yield a severity score for depression, or the responses to the individual items can be used to determine whether the respondent would likely meet criteria for Major Depression. The DSD is not a questionnaire for assessing suicidality per se. However, there are eight suicidal ideation/behavior questions on the DSD that can be used separately as a screener.

#### **Potential Use:**

Epidemiologic/screening studies; the instrument might have utility in clinical assessment or in clinical research studies, but no published studies with clinical populations were located

#### **Populations Studied:**

The DSD has been used in large school-based screenings with several different ethnic groups (Roberts et al., 1997, 1998). The largest ethnic groups in the sample included Anglo American, African American, Central American, Mexican American, Native American, Indian American, Chinese American, Pakistani American, Vietnamese American, and Mixed Ancestry youths. The DSD has not been used with clinically referred samples.

#### **Assessment and Detection of Suicidal Behaviors:**

The DSD has eight questions assessing suicidal behaviors and related constructs in a self-report format. There are separate questions regarding hopelessness, thoughts of death and dying, thoughts of wishing to be dead, suicidal ideation, suicide plans, and suicide attempts. The individual questions are straightforward, and are totally consistent with the suggested nomenclature of O'Carroll et al. (1996) for definitions of suicidal ideation and suicide attempts.

The total score from the eight questions (a suicide severity score) combines the responses to the individual items, but the individual items (e.g., the suicidal ideation item) can and have been used as screens in and of themselves (Roberts et al., 1997).

#### **Reliability:**

No published data were located.

#### **Internal Consistency:**

The DSD has been found to be internally consistent ( $\alpha > .93$ ; Roberts et al., 1998), as have the DSD suicide screening items ( $\alpha = .84$  overall, and .78 to .91 for the different ethnocultural groups; Roberts et al., 1997).



**Concurrent Validity:**

Using the summary measure from the DSD suicide items, it was found that suicidal ideation was more common among females (Roberts et al., 1997, 1998), among older adolescents (Roberts et al., 1997), and among adolescents with lower socioeconomic status relative to their peers (Roberts et al., 1997). Lifetime suicide plans and attempts were also more common among females (Roberts et al., 1997, 1998), for older youths (Roberts et al., 1997), and for those with lower socioeconomic status relative to their peers (Roberts et al., 1997). Adolescents with higher scores on the DSD suicide items were more likely to be depressed, lonely, pessimistic, fatalistic, to have more life stress, and lower self-esteem (Roberts et al., 1998).

Adolescents with a history of suicide attempts as assessed with the DSD suicide items were more likely to report any ideation regarding death or suicide, were 7 times more likely to report suicidal ideation, and were 11 times more likely to report a suicide plan (Roberts et al., 1998). The combination of depression and past history of attempt multiplied the risk; for example, adolescents with a recent attempt but no depression were 10 times more likely to have a recent suicide plan, whereas those with both depression and a recent attempt were 27 times more likely to have a current suicide plan (Roberts et al., 1998).

**Dimensionality:**

No published data were located.

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

The DSD has not been used in published treatment studies.

**Summary and Evaluation:**

The DSD is a new self-report measure of depression developed from the DISC queries for Major Depression. The DSD can be used to estimate severity of depressive symptomatology, or to determine if a respondent likely meets criteria for Major Depression. The DSD has been used with several different ethnocultural groups. The queries regarding suicidal behaviors are consistent with recommendations by O'Carroll et al. (1996) regarding the definitions of suicidal behaviors. However, the scale has not yet been used with clinically ascertained samples, nor has the predictive validity of the suicide items been demonstrated.

**Where to Obtain:**

Robert E. Roberts, Ph.D., Behavioral Sciences, School of Public Health, University of Texas – Houston Health Science Center, P.O. Box 20186, Houston, TX 77225

**References:**

O'Carroll, P., Berman, A., Maris, R., Moscicki, E., Tanney, B., Silverman, M. (1996). Beyond the Tower of Babel: A nomenclature for suicidology. Suicide and Life-Threatening Behavior, 26, 237-252.

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## 4. Questionnaires Designed for Assessing Suicidal Behaviors

### a. Beck Scale for Suicidal Ideation (BSI)

#### **Description:**

The Beck Scale for Suicidal Ideation (BSI; Beck and Steer, 1991) is a self-report measure based on the semi-structured interview, the Scale for Suicidal Ideation or SSI (Beck et al., 1979). The SSI was developed for use with adult psychiatric patients. Steer and Beck (1988) suggest that the SSI is appropriate for research with adolescents as well, although very few studies of adolescents have used the SSI (e.g., Kashani et al., 1991). A French self-report adaptation of the SSI was developed (De Man et al., 1987), examined in French-speaking adolescents (De Man et al., 1993), and then translated back into English and used with English-speaking adolescents (De Man and Leduc, 1994). A Modified (self-report) version of the Scale for Suicidal Ideation (the MSSSI) has also been developed (Miller et al., 1986), but has rarely been used with adolescents (Esposito and Clum, 1999).

The BSI is an easy-to-administer 21-item self-report questionnaire (only 19 of the items are scored) that has promise for greater use with adolescents than the SSI (Beck and Steer, 1991). The authors of the BSI suggest that the instrument is best used to detect and measure severity of suicidal ideation, which is considered to be an indication for suicide risk (Beck and Steer, 1991). However, the authors caution that the BSI should not be the only instrument used for assessing suicidality, and suggest that “endorsement of any BSI item may reflect the presence of suicide intention and should be investigated by the clinician” (Beck and Steer, 1991).

#### **Potential Use:**

Clinical assessment and clinical research

#### **Populations Studied:**

The BSI has been used with adolescent psychiatric inpatients (Kumar and Steer, 1995; Steer et al., 1993) and outpatients (Rathus and Miller, under editorial review), but apparently has not yet been used in published studies of non-clinically-ascertained subjects.

#### **Assessment and Detection of Suicidal Behavior:**

The BSI begins with 5 items assessing wish to live, wish to die, reasons to live versus reasons to die, active suicidal ideation (e.g., “I have a moderate to strong desire to kill myself”), and passive suicidal ideation (e.g., “I would not take the steps necessary to avoid death if I found myself in a life-threatening situation”). If the respondent totally denies active or passive suicidal ideation, s/he is directed to the last two items (#20 and #21) of the questionnaire assessing past suicide attempts and wish to die during the last attempt. If respondents do admit to at least some active or passive suicidal ideation, they complete Items #6 through #19, assessing duration and frequency of suicidal ideation, ambivalence regarding the suicidal ideation, specific deterrents to suicide and reasons for living, suicide plan and opportunity, expectations about following through with an attempt, and preparations in anticipation of suicide.

The BSI is one of the more thorough instruments for assessing severity of suicidal ideation, and one of the only assessment devices for assessing passive suicidal ideation. The total score yields a severity score, but individual items can be used as screens for active suicidal ideation, passive ideation, and past attempts. The items assessing thoughts of death are separate from items assessing suicidal ideation per se. The active suicide ideation screening item (#4) refers to “desire to kill myself,” which implicitly assumes some ruminations associated with “non-zero intent to kill oneself.” The follow-up Item #15 even more clearly addresses issues of intent (e.g., “I am sure I shall make a suicide attempt”).

**Reliability:**

No published data were located.

**Internal Consistency:**

In two samples of adolescent psychiatric inpatients, the BSI was found to be internally consistent as indicated by  $\alpha$  of .95 and .96 (Steer et al., 1993; Kumar and Steer, 1995).

**Concurrent Validity:**

In a sample of adolescent psychiatric inpatients, BSI scores were correlated with the total number of presenting problems (Kumar and Steer, 1995), severity of depression (Kumar and Steer, 1995; Steer et al., 1993), severity of anxiety (Kumar and Steer, 1995; Steer et al., 1993), the diagnosis of mood disorder (Steer et al., 1993), and the BDI suicide ideation item (Steer et al., 1993). Findings regarding the relationship between BSI scores and past suicidal behavior were inconsistent (Kumar and Steer, 1995; Steer et al., 1993).

**Dimensionality:**

In data from adult inpatients, five factors were extracted from the BSI. These were interpreted as reflecting intensity of suicidal ideation, active suicidal desire, suicide planning, passive suicide desire, and concealment (Beck and Steer, 1991). No factor analytic studies have been conducted with adolescents.

**Predictive Validity:**

In recent studies with adult psychiatric outpatients, suicidal ideation “at its worst point” and current suicidal ideation assessed with the SSI were found to predict later suicide (Beck et al., 1999; Brown et al., 2000). However, no studies have examined the predictive utility of the BSI with adolescent populations.

**Treatment Studies:**

In a pilot study of dialectical behavior therapy (biweekly individual and family sessions) with 10 suicidal adolescents who exhibited symptoms of borderline personality disorder, suicidal ideation as assessed with the self-report version of the Scale for Suicidal Ideation decreased from mean scores of 9.8 (SD=5.3) at pretreatment to 3.8 (SD=4.6) at posttreatment 12 weeks later (Rathus and Miller, under editorial review).

### Summary and Evaluation:

The BSI is one of the more thorough instruments for assessing suicidal ideation, and one of the only scales to assess passive suicidal ideation in addition to active suicidal ideation. The BSI is appropriate for use with adolescents, but not younger children. The BSI also has been used in a small pilot study of dialectical behavioral therapy with suicidal adolescents who exhibited symptoms of borderline personality disorder. Nonetheless, test-retest reliability data are not available for the BSI with adolescents, nor has the BSI been used in non-clinically-ascertained samples. In adult samples, current suicidal ideation and suicidal ideation at its worst point has been found to be predictive of later suicide; however, the predictive validity of the BSI (and the interview form, the SSI) has not been demonstrated with adolescents.

### Where to Obtain:

The Psychological Corporation, 555 Academic Court, San Antonio, TX 78204

### References:

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## **b. Harkavy Asnis Suicide Scale (HASS)**

### **Description:**

The Harkavy Asnis Suicide Scale (HASS) was designed “as an information-gathering tool” to directly assess current and past suicidal behavior (Harkavy Friedman and Asnis, 1989a, 1989b). The scale has three sections. The first section (HASS-Demo) is used for assessing demographic information (including factors found in the past to be related to suicidal behavior), and current and lifetime suicidal ideation and plans, suicide attempts, and exposure to suicidal behavior. The second section (HASS-I) has 21 questions for assessing the frequency of suicide-related and substance abuse behaviors in the last two weeks. The third section (HASS-II) has essentially the same questions as the second section, but references lifetime suicide-related and substance abuse behaviors (except for the last two weeks).

### **Potential Use:**

Clinical assessment and clinical research, epidemiologic/screening surveys

### **Populations Studied:**

The HASS has been used both with non-clinical high school samples (Harkavy Friedman and Asnis, 1989a), with referrals to an outpatient psychiatry clinic for depression and suicidal behaviors serving primarily African-American and Hispanic adolescents (Wetzler et al., 1996; Velting et al., 1998), and in a treatment trial evaluating dialectical behavior therapy with adolescents who were suicidal and had at least three symptoms of borderline personality disorder (Rathus and Miller, 2000).

### **Assessment and Detection of Suicidal Behaviors:**

The queries in the HASS-Demo regarding suicidal ideation (e.g., “Have you ever thought about killing yourself but did not actually try?” “Have you ever tried to kill yourself?”) are straightforward screening questions and are consistent with recommended definitions by O’Carroll et al. (1996).

The questions in the HASS-I and HASS-II are used to assess a presumed continuum of non-suicidal and suicidal ideation/behavior from feelings of worthlessness, to thoughts of death and wanting to die, to specific suicidal plans, to initiation of suicide attempts, to actually attempting suicide. These items are summed to yield total scores reflective of frequency of suicidal thoughts and behavior; however, questions of substance abuse have also been included in the HASS-I and HASS-II because “substance abuse has been found to be associated with suicidal behavior.” Hence, the total scores of the HASS-I and HASS-II confound assessment of suicidal ideation and behavior with a risk factor for suicidal ideation/behavior, substance abuse.

### **Reliability:**

No published data were located.

**Internal Consistency:**

In non-clinical and unspecified clinical samples of adolescents, both the HASS-I and the HASS-II were found to be internally consistent ( $\alpha$ =.897 to .915, and .907 to .924, respectively; Harkavy Friedman and Asnis, 1989a).

**Concurrent Validity:**

In high school students, HASS-I and HASS-II total scores correlated moderately with depression, impulsiveness, aggression, and negative life stress, but not positive life stress or social desirability (Harkavy Friedman and Asnis, 1989a).

In a primarily African-American and Hispanic outpatient psychiatric sample, adolescents with histories of suicide attempts or suicidal ideation (defined on the basis of the HASS screening questions) scored higher than non-suicidal youths on the Recent Passive Suicidal Ideation, Lifetime Suicidal Plans and Action, Lifetime Suicidal Ideation, and Lifetime Thoughts of Death factors of the HASS (Wetzler et al., 1996). Adolescents with suicide attempts also had higher scores on the Recent Suicidal Plans and Action and Lifetime Suicidal Plans and Actions factors of the HASS than youths with suicidal ideation only (Wetzler et al., 1996). All three suicide attempt and ideation groups reported more severe depression symptoms than non-suicidal youths (Wetzler et al., 1996).

Velting et al. (1998) reported that 50% of adolescents in a primarily African-American and Hispanic outpatient psychiatric setting provided discrepant information about past suicide attempts on the screening items of the HASS and a structured diagnostic interview, the SCID. However, the largest number of “discrepant” reports in this study were attributable to confusion between “suicide attempts” and “suicide gestures” (the latter which were defined as not being associated with “intent”); suicide “intent” is not an all-or-nothing categorization and suicide gesture is not a recommended term by O’Carroll et al. (1996), clouding the interpretation of these results.

**Dimensionality:**

In a sample of high school students who completed the HASS anonymously, the HASS-I was found to have three factors corresponding to (1) thoughts of death and suicide, (2) active suicidal behavior including suicide plans and suicide attempts, and (3) substance abuse (Harkavy Friedman and Asnis, 1989a). The HASS-II was found to have four factors: (1) thoughts of suicide, (2) substance abuse, (3) thoughts of death, and (4) suicide plans and actions (Harkavy Friedman and Asnis, 1989a).

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

The HASS has been used to assess current suicidal ideation, part of the inclusion criteria for a study of dialectical behavioral therapy with suicidal adolescents (2000). However, the HASS has not been used as an outcome measure in published treatment studies with adolescents.



**Summary and Evaluation:**

The screening questions of the HASS are consistent with recommended definitions of suicidal ideation and attempts by O'Carroll et al. (1996). However, the test-retest reliability of the HASS has not been demonstrated. Moreover, HASS-I and HASS-II total scores are derived in part from responses about frequency of substance use, in addition to questions about suicidal ideation and behavior.

**Where to Obtain:**

The HASS is in the Harkavy Friedman and Asnis (1989a, 1989b) publications.

**References:**

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### **c. Suicidal Ideation Questionnaire (SIQ)**

#### **Description:**

The Suicidal Ideation Questionnaire (SIQ) is a screening measure for severity or “seriousness” of suicidal ideation (Reynolds, 1988). There are two self-report forms of the SIQ: a 30-item version originally designed for 10<sup>th</sup>, 11<sup>th</sup>, and 12<sup>th</sup> graders (named simply the SIQ), and the 15-item version originally designed for adolescents in grades 7, 8, and 9 (named the SIQ-JR). Although the SIQ-JR was developed for use with younger adolescents, it also has been used in studies with older adolescents (Hovey and King, 1996; King et al., 1993, 1995b, 1997a; Sieman et al., 1994). According to the publisher, the SIQ and SIQ-JR are not currently available in languages other than English.

Respondents to the SIQ and SIQ-JR rank each of the items on a 7-point scale, ranging from 0 (“I never had this thought”) to 6 (“almost every day.”). The scores of each item are summed to yield a total score, reflecting severity of suicidal ideation. Normative data (stratified by gender and junior versus high school) are provided for the SIQ and SIQ-JR. Based on data in a non-clinically-referred sample, Reynolds (1988) suggested that adolescents who have a raw score of  $\geq 41$  on the SIQ or  $\geq 31$  on the SIQ-JR be evaluated further for “potentially significant psychopathology and suicide risk” (p.11). In an inpatient psychiatric sample, Pinto et al. (1997) found that a cut-off score of 41 on the SIQ was highly specific but missed a significant number of suicide attempters. Hence, it was argued that a cut-off score of 20 on the SIQ in a clinical setting might prove more useful than the higher cut-off in identifying youths in need of further evaluation for suicide risk.

#### **Potential Use:**

Clinical assessment and clinical research, epidemiologic/screening surveys; Reynolds (1991) describes the utility of the combined use of the SIQ and the SBI in a two a two-stage screening procedure for identifying youths at risk for suicidal behaviors

#### **Populations Studied:**

The standardization samples for the SIQ were normal high school populations (Reynolds, 1988). The SIQ also has been used in junior high school samples (Lamb and Pusker, 1991), high school samples (Mazza and Reynolds, 1988), with suicide attempters (Brown et al., 1991; Harrington et al., 1998; Shaunesey et al., 1993; Spirito et al., 1987), adolescents in inpatient psychiatric settings (Hewitt et al., 1997; Pinto and Whisman, 1996; Pinto et al., 1997, 1998; Shaunesey et al., 1993), physically abused adolescents (Shaunesey et al., 1993), and non-suicidal patients on a pediatric floor (Spirito et al., 1987).

The standardization samples for the SIQ-JR were non-clinically-ascertained 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> graders (Reynolds, 1988). The SIQ-JR also has been used with immigrant and second-generation Latino-American adolescents (Hovey and King, 1996), American Indian adolescents (Dick et al., 1994; Keane et al., 1996; Novins et al., 1999), primarily African-American and Hispanic children and adolescents from the inner city (Reynolds and Mazza, 1999) and adolescents in inpatient psychiatric settings (King et al., 1993, 1995a, 1995b, 1997a; Sieman et al., 1994).

### **Assessment and Detection of Suicidal Behaviors:**

The questions in the SIQ and SIQ-JR are based on Reynolds' theoretical notions regarding a hierarchy of seriousness of suicidal cognitions and behavior. In this scheme, suicidal thoughts and behavior form a continuum ranging from thoughts of death, to thoughts of wanting to be dead, to general and then specific thoughts of killing oneself, to making specific preparations for suicidal behavior, to attempting suicide (Reynolds, 1988).

However, similar to Reynolds' Suicide Behavior Interview, the specific items of the SIQ and SIQ-JR can be evaluated with regard to the operational definitions proposed by O'Carroll et al. (1996). On the SIQ and on the SIQ-JR, there are separate items for thoughts of death and dying (Items #5 and 6 on both the SIQ and SIQ-JR), thoughts of wishing to be dead (Item #12 on the SIQ, Item #11 on the SIQ-JR), and thoughts of killing oneself (Item #2 on both the SIQ and SIQ-JR). The wording of the suicide ideation question refers implicitly to "non-zero intent to die," consistent with the nomenclature proposed by O'Carroll et al., (1996).

There is no item regarding past or current suicide attempts, so the SIQ and SIQ-JR cannot be used as an instrument to identify attempters.

### **Reliability:**

In a large sample of high school students, the SIQ had a test-retest reliability, over an interval of approximately 4 weeks, of .72 (Reynolds, 1988). In a sample of inner-city children and young adolescents, the SIQ-JR had test-retest reliability of .89 over approximately 3 weeks (Reynolds and Mazza, 1999).

### **Internal Consistency:**

In the standardization samples of 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> graders, the SIQ-JR was found to be internally consistent ( $\alpha=.94$ ; Reynolds, 1988). Most of the item-total correlations of the SIQ-JR ranged from .62 to .86 (Reynolds, 1988). The SIQ-JR also was found to be internally consistent ( $\alpha=.96$  and .91, respectively) in a sample of American Indian boarding school high school students (Dick et al., 1994), and in a sample of primarily African American and Hispanic inner city adolescents (Reynolds and Mazza, 1999).

In the standardization samples of 10<sup>th</sup>, 11<sup>th</sup>, and 12<sup>th</sup> graders, the SIQ was found to be internally consistent ( $\alpha=.97$ ; Reynolds, 1988). Most of the item-total correlations for the SIQ range from .70 to .84 (Reynolds, 1988). In addition, the SIQ was found to be internally consistent ( $\alpha=.97$  and .98, respectively) among adolescents in two inpatient psychiatry samples (Pinto et al., 1997; Hewitt et al., 1997).

### **Concurrent Validity:**

In various samples of clinically and non-clinically-ascertained adolescents, higher SIQ scores have been found to be related to severity of depression (Reynolds, 1988; Pinto et al., 1996), greater likelihood of mood disorder (Pinto et al., 1997), hopelessness (Hewitt et al., 1997; Pinto and Whisman, 1996; Reynolds, 1988), anxiety (Pinto et al., 1996; Reynolds, 1988), low self-esteem (Pinto and Whisman, 1996; Reynolds, 1988), lower Reasons for Living (RFL) total scores (Pinto et al., 1998), suicide attempts (King et al., 1990), non-impulsive (as opposed to impulsive) suicide attempts (Brown et al., 1991), higher scores on another suicidality measure

(Reynolds and Mazza, 1994), greater severity of physical abuse (Shaunese et al., 1993), socially prescribed perfectionism (Hewitt et al., 1997), and anger (Pinto and Whisman, 1996).

In inpatient psychiatric samples, adolescent suicide attempters and adolescent suicide ideators did not differ with regard to scores on the SIQ; however, both groups had higher scores on the SIQ than nonsuicidal adolescent inpatients (Pinto et al., 1997; Shaunese et al., 1993).

Among adolescent pediatric inpatients, suicide attempters rated as having chronic psychiatric problems had higher scores on the SIQ than did suicide attempters with acute problems (Spirito et al., 1987).

In various samples of clinically and non-clinically ascertained adolescents, higher SIQ-JR scores have been found to be associated with increased severity of depression (Dick et al., 1994; Hovey and King, 1996; King et al., 1993; Reynolds, 1988), anxiety (Dick et al., 1994; Reynolds, 1988), decreased self-esteem (Reynolds, 1988), higher scores on other measures of suicidality (Dick et al., 1994; King et al., 1993, 1997b; Reynolds and Mazza, 1999), suicide attempts (Reynolds and Mazza, 1999), greater acculturative stress (Hovey and King, 1996), and alcohol use (King et al., 1993). Findings regarding whether SIQ-JR scores are related to family functioning have been inconsistent (Hovey and King, 1996; King et al., 1993).

When data from the Suicidal Behaviors Interview were used as the criterion for determining “clinical level of suicidal risk,” cut-offs of 41 or above on the SIQ, and 31 and above on the SIQ-JR were found to have utility as screens for suicidal behavior (sensitivity of 79% and specificity of 69%; and sensitivity of 92% and specificity of 76%, respectively; Reynolds, 1992).

### **Dimensionality:**

A principal components analysis of SIQ from the standardization sample of high school students yielded three factors with eigenvalues greater than 1.0 (Reynolds, 1988). The first factor (on which the majority of items loaded) included items assessing suicidal ideation, thoughts about not wanting to be alive, and thoughts regarding preparations for suicide. The second factor primarily consisted of items assessing the responses of others to suicide. The third factor included items assessing general thoughts of death and an item regarding the writing of a will.

In an inpatient psychiatric sample, a principal components analysis of the SIQ yielded four factors; however, similar to the results in the standardization sample, the first factor accounted for a much greater proportion of variance than the other factors, suggesting the possibility that the SIQ may be assessing one primary dimension of suicidal thoughts (Pinto et al., 1997).

A principal components analysis of the SIQ-JR from the standardization sample of 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> graders also yielded three factors with eigenvalues greater than 1.0 (Reynolds, 1988). The first factor consisted primarily of items assessing thoughts about death or dying. The second factor included items more specifically assessing suicidal thoughts and suicidal plans. Similar to the third factor for the SIQ, the third factor of the SIQ-JR included two items assessing general thoughts of death.

**Predictive Validity:**

The manual for the SIQ explicitly says that the “SIQ is *not* an instrument for the prediction of suicide per se” (Reynolds, 1988). Nonetheless, in a sample of American Indian adolescents, the SIQ-JR was found to be more predictive of subsequent suicide attempts in a suicide attempt cluster two months later than anxiety, depression, and alcohol use (Keane et al., 1996).

Moreover, among adolescent psychiatric inpatients, SIQ-JR scores have been found to be predictive of later suicide attempts (King et al., 1995b) and SIQ-JR scores one-half year later (King et al., 1997a).

**Treatment Studies:**

The SIQ was used as an outcome measure in a controlled intervention trial (routine follow-up care vs. routine care in addition to home visits and family problem-solving assistance) with suicide attempters, aged 16 and younger. However, no differences were found between the two interventions (Harrington et al., 1998).

The SIQ was also used as an outcome measure in an open-label trial of fluoxetine for adolescents with major depression (Colle et al., 1994). In that study, 7 of 8 patients who remained on fluoxetine at least 24 weeks had significant (>50%) reductions in suicidal ideation as assessed with the SIQ. The gradual reduction in suicidal ideation was noted throughout the period of active treatment, and the lower levels of suicidal ideation were largely maintained at one-year follow-up.

No published treatment studies using the SIQ-JR were located.

**Summary and Evaluation:**

The Suicidal Ideation Questionnaire is one of the most widely used screening measures for suicidal ideation in adolescents. Both a shorter junior high and longer high school version of the SIQ are available. The junior high version of the SIQ-JR may be used with older adolescents (as well as younger youths), particularly when the sample includes youths who may have difficulty with reading, or when the study requirements necessitate a brief instrument. The SIQ and SIQ-JR have been used both with clinically ascertained samples and with non-clinically-ascertained adolescents including American Indians and immigrant Latino-Americans. Considerable data regarding the concurrent validity of both the SIQ and SIQ-JR have been published

There are no items on the SIQ and SIQ-JR regarding attempted suicide. Nonetheless, recent data indicate that individuals who attempt suicide following screening with the SIQ may have higher SIQ scores than individuals not attempting suicide. In addition, the SIQ is one of the few measures of suicidality in youths that has been used as a primary outcome measure in treatment studies. In one trial, no differences were found between two interventions, but in another open-label study, suicidal ideation decreased during the period of active treatment with pharmacotherapy.

**Where to Obtain:**

Psychological Assessment Resources, Inc., P.O. Box 998, Odessa, FL 33556

**References:**

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#### **d. Suicidal Behaviors Questionnaire (SBQ-14) and Suicidal Behaviors Questionnaire for Children (SBQ-C)**

##### **Description:**

The Suicidal Behaviors Questionnaire (SBQ-14) is a self-report questionnaire designed to assess suicidal ideation and suicidal behavior (Linehan, 1996). Intake and repeated assessments versions of the SBQ-14 are available. The SBQ-14 is an expanded version of an earlier 4-item questionnaire (Linehan and Nielsen, 1981). Although responses to the items on the SBQ-14 can be summed to give an overall score reflecting seriousness of suicidal behavior, the individual items on the SBQ also have been extracted and used as screening items for suicidal behavior and suicide risk.

The SBQ-14 is one of the few instruments to assess expectations about suicidal behavior: expectations about the likelihood of considering suicide, expectations about the likelihood of attempting suicide, expectations that death will occur if the respondent makes an attempt, expectations about problems being solved with suicide, and expectation about the availability of a means for attempting suicide.

A children's version of the SBQ simplified to the third grade level (the SBQ-C) has been developed (Cotton and Range, 1993).

##### **Potential Use:**

Clinical research; items have been extracted from the SBQ for screening purposes

##### **Populations Studied:**

SBQ questions have been used in non-clinically-ascertained samples (Cole, 1989a, 1989b; Osman et al., 1998), with adolescent psychiatric inpatients (Kashden et al., 1993; Osman et al., 1996), and with incarcerated adolescents (Cole, 1989b).

##### **Assessment and Detection of Suicidal Behaviors:**

The most common items from the SBQ-14 for screening are those assessing suicidal ideation/behavior, suicidal threat, and expectations about future suicidal behavior. SBQ questions include: "Have you ever thought about or attempted to kill yourself?," "Have you attempted suicide or intentionally harmed or injured yourself?" (if yes, additional questions are asked about method and intent), "How often have you thought about killing yourself?," "Have you ever told someone that you were going to commit suicide, or that you might do it?," "How likely is it that you will attempt suicide?," "What chance is there that you will consider the possibility, no matter how remote, of killing yourself?," "If you did attempt suicide, for any reason, how likely is it that you would die as a result?," and "Would any of your problems be solved if you committed suicide?"

The first screening item on the SBQ-14 asks about suicidal ideation and attempt together. A rating on the item of 1, 2, or 3 denotes suicidal ideation, a rating of 4 denotes suicidal ideation with a plan, and a rating of 5 or 6 denotes actual self-injurious behavior. The wording of the question ("thought about or attempted to kill yourself") implies "non-zero intent to kill" oneself. However, one of the rating choices ("5 = I attempted to kill myself, but I do not think I really



meant to die”) may elicit ambiguous information. Specifically, this rating choice may elicit responses about suicidal behavior associated with "non-zero intent to die” but considerable ambivalence. However, it may also elicit responses about non-suicidal self-injurious behavior.

The four questions on the SBQ-C are very similar (and one is identical) to questions on the adult SBQ-14: “Have you ever thought about or tried to kill yourself?,” “How many times have you thought about killing yourself?,” “Have you ever told someone that you were going to kill yourself?,” and “Do you think that you might kill yourself someday?”

Similar to the adult SBQ-14, the first question on the SBQ-C asks about both suicidal thoughts and attempts. The wording of the 6-point rating scale for this question is slightly different from that of the adult SBQ; however, ratings of 1, 2, or 3 still denote suicidal ideation, a rating of 4 corresponds to suicidal ideation with a plan, and a rating of 5 or 6 refers to suicide attempts. The wording of this first question does imply “non-zero intent to kill” oneself consistent with the O’Carroll et al. (1996) definition of suicide attempts. Nonetheless, similar to the SBQ-14, the fifth rating of the SBQ-C (on the 0 to 6 rating scale; “Yes, I tried to kill myself, but I didn’t really want to die”) may elicit difficult-to-interpret responses. Specifically, this rating may be used by youths who actually made suicide attempts (e.g., “non-zero intent”) but experience ambivalence. On the other hand, youths who engage in non-suicidal self-injurious behavior may also accurately choose this rating as best describing their behaviors.

### **Reliability:**

There are no data regarding the test-retest reliability of items on the SBQ among adolescents (although such data have been published for samples of adults; Cotton et al., 1995).

The SBQ-C had high test-retest reliability over two to four weeks ( $r=.92$ ; Payne and Billie, 1996).

### **Internal Consistency:**

There are no published data regarding the internal consistency of the SBQ-14 among adolescents (although such data have been published for samples of adults; Cotton et al., 1995).

In a mixed sample of children from an inpatient psychiatric facility and from the community, Chronbach’s  $\alpha$  for the SBQ-C was .83 for a first administration and .79 for the retest (Payne and Billie, 1996).

### **Concurrent Validity:**

In a sample of high school students, the sum of 3 SBQ items was found to be positively related to severity of depression (as assessed with three different questionnaires), severity of hopelessness (as assessed with three different questionnaires), and a rating of potential suicide (Cole, 1989a). In high school students (Grades 10-12), the SBQ items regarding suicidal ideation, suicide threats, likelihood of future suicide attempts, and seeing suicide as a solution to problems were all negatively correlated with the Survival and Coping Beliefs and the Responsibility to Family scales of the Reasons for Living Inventory (RFL; Cole, 1989b). In a sample of juvenile delinquents, a version of each of the above SBQ questions (and three others) were all negatively related to Survival and Coping Beliefs. Response to the question regarding attempts was

negatively associated with the Responsibility to Family scale of the RFL as well (Cole, 1989b). In a different sample of adolescents in high school, responses to the SBQ questions regarding suicidal ideation, suicidal threats, and likelihood of future suicide attempts were all negatively related to each of the scales as well as the total score from the Reasons for Living – Adolescent Version scale (Osman et al., 1998).

Among adolescent psychiatric inpatients, responses to the SBQ items regarding suicide ideation and likelihood of future suicidal behavior were negatively associated with the scores on the Survival and Coping Beliefs and the Responsibility Family scales of the Brief Reasons for Living – Adolescent Version scale (Osman et al., 1996). The suicide likelihood question was also negatively related to having moral objections to suicide (Osman et al., 1996).

Suicidal adolescents (assessed in part with the SBQ) on an adolescent psychiatry unit were found to be more impulsive, depressed, and hopeless than nonsuicidal inpatients and a control group of high school students (Kashden et al., 1993).

The children's version of the SBQ (the SBQ-C) was found to have moderate correlations with severity of depression and hopelessness ( $r=.58$  and  $.68$ , respectively; Payne and Billie, 1996).

**Dimensionality:**

No published data were located regarding the factor structure of the SBQ when used with children or adolescents.

**Predictive Validity:**

No published data regarding the predictive utility of the SBQ items with youths were located.

**Treatment Studies:**

No published treatment studies with suicidal youths were located.

**Summary and Evaluation:**

Little psychometric data are available for SBQ-14 (used as an intact measure) in an adolescent population. Somewhat more psychometric data are available for the children's version of the SBQ, the SBQ-C. Several researchers have extracted questions from the SBQ and found these to be correlated with constructs theoretically related to suicidality (e.g., reasons for living), but responses to these have not been demonstrated to have predictive utility.

**Where to Obtain:**

The SBQ-14 can be obtained from Marsha M. Linehan, Ph.D., Behavioral Research and Therapy Clinic, Department of Psychology, University of Washington, Seattle, WA 98195-1525.

The SBQ-C can be obtained from Lillian Range, Ph.D., Department of Psychology, Box 5025, University of Southern Mississippi, Hattiesburg, MS 39406-5025.

### References:

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## 5. Survey Screening Items for Suicidal Behaviors

### a. Center for Epidemiologic Studies Depression Scale (CES-D) Suicide Ideation Items (added to the original measure)

#### **Description:**

The Center for Epidemiologic Studies Depression (CES-D) Scale (Radloff et al., 1977) is a 20-item screening self-report measure of depressive symptoms. The scale was developed for use with adults, but has also been used with adolescents (Radloff et al., 1991). Responses are ranked on a 4-point Likert scale, ranging from “rarely or none” to “most or all” of the time. The CES-D has been translated into a number of different languages including Spanish, French, Chinese, Dutch, Korean, German, and Russian. The CES-D is not a measure of suicidal ideation/behaviors, and does not have suicidal ideation/behavior items. However, two different sets of screening items have been developed for use with the CES-D (Garrison et al., 1991a, 1991b; Lewinsohn et al., 1996).

#### **Potential Use:**

Epidemiologic/screening surveys

#### **Populations:**

The CES-D screeners have been used primarily in general community samples (e.g., Garrison et al., 1991a, 1991b; Lewinsohn et al., 1996; Roberts and Chen, 1995). However, the Lewinsohn et al. (1996) screener has also been used with incarcerated adolescents (Rohde et al., 1997).

#### **Assessment and Detection of Suicidal Behaviors:**

The first suicidality screening items developed in the format of the CES-D (Garrison et al., 1991a, 1991b) are as follows: “I felt life was not worth living,” “I feel like hurting myself,” and “I felt like killing myself.” The reference period for these questions is the one week prior to the assessment. A total suicidal ideation score is computed from the 0 to 3 responses for each of these questions (ranging from 0 to 9). A dichotomous score was also developed, with scores greater than 5 considered to represent a “high” suicidality score.

The single item “I felt like killing myself” is consistent with the O’Carroll et al. (1996) definitions of suicidal behavior because of the implication of the “non-zero intent to die.” However, the three items taken as a whole are problematic for two reasons. First, one of the items (“felt life was not worth living”) does not focus on suicidal behavior per se, and in a narrow but literal sense, does not even assess thoughts of death or wanting to die. Second, another of the screening items (“felt like hurting myself”) is worded so broadly as to elicit responses not only about ideation regarding suicidal behavior, but also thoughts about non-suicidal self-harm behavior. In addition, this set of screening items focuses only on suicidal ideation, and therefore cannot be used as a screen for suicide attempts.

The second set of suicidality screening items developed in the format of the CES-D (Lewinsohn et al., 1996) are as follows: “I had thoughts about death,” “I felt my family and friends would be better off if I died,” “I thought about killing myself,” and “I felt that I would kill myself if I knew

a way.” The reference period for these questions is the one week prior to the assessment. These questions can be summed or focused upon individually.

The item “I thought about killing myself” is a very straightforward item for assessing suicidal ideation. Moreover, this item is clearly differentiated from another item assessing thoughts about death. The summation of the four items, however, yields a sum of questions about both thoughts of death and thoughts about suicide. As with the Garrison et al. (1991a, 1991b) screening items, there is no separate screener for suicide attempts.

**Reliability:**

No published data were located.

**Internal Consistency:**

The Garrison et al. (1991a, 1991b) screener is internally consistent, with  $\alpha$  ranging from .87 to .90 for each year of baseline screening in an epidemiologic study of adolescents (McKeown, personal communication, 11/99). The Lewinsohn et al. (1996) CES-D suicide screener was found to be internally consistent among both Anglo adolescents ( $\alpha = .88$ ) and among Mexican-origin adolescents ( $\alpha = .92$ ; Roberts and Chen, 1995).

**Concurrent Validity:**

In a large community sample of 12- to 14-year-olds, responses to the Garrison et al. (1991a) screening questions were significantly related to the classification of “moderate” to “very extreme” suicidal ideation and suicide attempts with “serious” or greater intent on the K-SADS-P (Garrison et al., 1991b). Across three years of a longitudinal study of young adolescents in the community, the most consistent cross-sectional (same year) correlate of the Garrison et al. (1991a) CES-D screener for suicidal ideation was severity of depression as assessed with the CES-D.

In a large sample of 6<sup>th</sup> to 8<sup>th</sup> grade students, responses to the Lewinsohn et al. (1996) screener were strongly correlated ( $r = .70$ ) with CES-D total scores (Roberts and Chen, 1995). In addition, suicidal ideation as assessed with the CES-D screener was found to be related to loneliness, living in other than a two-parent family, living in a family in which English is not the primary language, and being of Mexican-American as opposed to Anglo heritage (Roberts and Chen, 1995).

In a sample of incarcerated adolescents, several variables were found to be correlated with the Lewinsohn et al. (1996) CES-D suicidal ideation screener (for both genders): current depression, features of borderline personality disorder, major life events, loneliness, lower self-esteem, and greater impulsivity (Rohde et al., 1997).

**Dimensionality:**

No published data were located for the Garrison et al. (1991a, 199b) screener.

A principal components analysis indicated that responses to the Lewinsohn et al. (1996) screener and to K-SADS questions regarding suicidality loaded on a single principal factor.

**Predictive Validity:**

In an epidemiologic survey of adolescents, responses to the Garrison et al. (1991a, 1991b) screener at baseline had low to moderate correlations with scores on the screener one year hence ( $r=.22$  for Caucasian males,  $r=.36$  for Caucasian females,  $r=.44$  for both African-American males and females; McKeown, personal communication, 11/99).

Responses to the Lewinsohn et al. (1996) CES-D screening items were related to later suicidal behavior. Specifically, 16.7% of adolescents defined as having high ideation at an initial screening (because they had two or more items occurring “all the time” during the last week) made a suicide attempt within the following year. In addition, 6.7% of adolescents reporting moderate ideation at an initial screening (by virtue of reporting two more items occurring “occasionally” or one item occurring “all the time”) made suicide attempts within a year. Of youths with mild ideation at the initial screening (one or more items occurring “some of the time”), 2.8% made suicide attempts within the year. Last, of youths reporting no suicidal ideation at the initial screening, only 0.3% made suicide attempts within the year.

In predicting future suicide attempts within the next year, a cut-off score of 5 on the 4-item screener was found to have sensitivity of 81%, specificity of 81%, positive predictive value of 7%, and negative predictive value of 100%.

**Treatment Studies:**

Neither screener has been used in a treatment study.

**Summary and Evaluation:**

Both the Garrison et al. (1991a, 1991b) and the Lewinsohn et al. (1996) suicide ideation screeners were meant to be appended to, or written in the format of the CES-D (which contains no suicide ideation items). Both sets of screeners have been useful in their own respective research programs. However, of the two sets of screeners, the Lewinsohn et al. (1996) screener is more consistent with the recommended definitions of suicidal behavior by O’Carroll et al. (1996). Moreover, more psychometric data have been collected for the Lewinsohn et al. (1996) screener than for the Garrison et al. (1991a, 1991b) screener.

**Where to Obtain:**

The Garrison et al. CES-D screening items are described in Garrison et al. (1991a, 1991b). The items on the Lewinsohn et al. CES-D screener are in Table 1 (page 28) of Lewinsohn et al. (1996).

**References:**

Garrison, C., Addy, C., Jackson, K., McKeown, R., Waller, J. (1991a). A longitudinal study of suicidal ideation in young adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 30, 597-603.

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- Roberts, R., Chen, Y. (1995). Depressive symptoms and suicidal ideation among Mexican-origin and Anglo adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 34, 81-90.
- Rohde, P., Seeley, J., Mace, D. (1997). Correlates of suicidal behavior in a juvenile detention population. Suicide and Life-Threatening Behavior, 27, 164-175.

## **b. The Challenges and Coping Survey for Lesbian, Gay, and Bisexual Youth**

### **Description:**

The Challenges and Coping Survey for Lesbian, Gay, and Bisexual Youth (D'Augelli and Hershberger, 1993; Hershberger and D'Augelli, 1995; Hershberger et al., 1997) is the only instrument reviewed that focuses specifically on youths with same-sex or both-sex sexual orientation. The survey includes questions about sexual orientation and behavior, social aspects of sexual orientation (including openness about gay/lesbian/bisexual identity), victimization (including discrimination and violence), disclosure of sexual orientation within the family, self-acceptance (degree of comfort with sexual orientation), suicidal thoughts and behavior and mental health problems.

### **Potential Use:**

Epidemiologic/screening surveys

### **Populations Studied:**

This survey was developed for and has been used in samples of lesbian, gay, and bisexual youths.

### **Assessment and Detection of Suicidal Behaviors:**

There are several items in this survey that assess suicidal behaviors and constructs. The questions regarding suicidal ideation ask whether respondents “ever seriously thought about taking your own life” or considered this within the last year, and whether such thoughts were related to sexual orientation. Additional questions assess whether respondents considered “hurting or killing yourself” or made any plans to “hurt or kill yourself” in the last week.

The stem question regarding suicide attempts is straightforward: “Have you ever tried to kill yourself?” The follow-up questions assess age and method of each attempt (up to 6 attempts), whether each attempt was related to sexual orientation, and whether the attempt(s) occurred within the last 12 months. Additional questions assess exposure to completed or attempted suicide within the family and among peers (and whether these peers were gay/lesbian/ bisexual).

The questions regarding lifetime suicidal ideation and suicidal ideation within the last year are likely to elicit a conservative estimate of suicidal ideation because of the word “seriously” used in the query. The word “seriously” can be interpreted in various ways by respondents, and is not consistent with the O'Carroll et al. (1996) recommended definition of suicidal ideation, which requires only thoughts associated with “non-zero” intent to kill oneself.

The questions regarding thoughts and plans of “hurting or killing yourself” within the last week are likely to elicit information not only about suicidal ideation, but also about non-suicidal self-harm behaviors.

The question regarding lifetime suicide attempts is consistent with the O'Carroll et al. (1996) proposed nomenclature.



**Reliability:**

No published data regarding test-retest reliability of the suicidal behavior items were located.

**Internal Consistency:**

No data regarding the internal consistency of the suicidal ideation/behavior items were located.

**Concurrent Validity:**

In samples of adolescents attending lesbian and gay community centers and organized youth groups, past suicide attempts were related to lower self-esteem, increased suicidal ideation, depression, anxiety, feelings of being overwhelmed, increased problems in relationships, and increased drug use (D'Augelli and Hershberger, 1993; Hershberger and D'Augelli, 1995; Hershberger et al., 1997). Past suicide attempts were also found to be related to number of friends lost due to sexual orientation, age of first awareness of sexual orientation, number of same-gender sexual partners, years between first disclosure of sexual orientation and telling a parent, keeping parents unaware of their sexual orientation, and victimization, particularly sexual victimization (D'Augelli and Hershberger, 1993; Hershberger and D'Augelli, 1995).

**Dimensionality:**

No published data were located.

**Predictive Validity:**

No published data regarding the predictive validity of the suicidal ideation/behavior questions were located.

**Treatment Studies:**

No published data were located.

**Summary and Evaluation:**

This is the only instrument reviewed that has been developed specifically for use with lesbian, gay, and bisexual youths. The questions regarding the relationship between sexual orientation issues and suicidality are particularly useful. However, because of their wording, some of the questions regarding suicidal ideation might yield prevalence rates that are too low, whereas others might elicit responses about nonsuicidal behaviors in addition to suicidal behaviors.

**Where to Obtain:**

Anthony R. D'Augelli, Ph.D., Department of Human Development and Family Studies, College of Health and Human Development, The Pennsylvania State University, 110 Henderson Building South, University Park, PA 16802-6504

**References:**

D'Augelli, A., Hershberger, S. (1993). Lesbian, gay, and bisexual youth in community settings: Personal challenges and mental health problems. *American Journal of Community Psychology*, *21*, 421-448.

- Hershberger, S., D'Augelli, A. (1995). The impact of victimization on the mental health and suicidality of lesbian, gay, and bisexual youths. Developmental Psychology, 31, 65-74.
- Hershberger, S., Pilkington, N., D'Augelli, A. (1997). Predictors of suicide attempts among gay, lesbian, and bisexual youth. Journal of Adolescent Research, 12, 477-497.
- O'Carroll, P., Berman, A., Maris, R., Moscicki, E., Tanney, B., Silverman, M. (1996). Beyond the Tower of Babel: A nomenclature for suicidology. Suicide and Life-Threatening Behavior, 26, 237-252.

### **c. Columbia Teen Screen**

#### **Description:**

The Columbia Teen Screen was developed as a rapid (11 item) self-report screening questionnaire for assessing risk of suicidal behaviors (Shaffer et al., 1996). This measure includes 4 stem items regarding current and past suicidal ideation and attempts, and stem questions about depression, and alcohol and substance abuse. If the respondent answers positively to the Yes/No stem questions about suicidal behavior, s/he is then directed to a series of Yes/No questions assessing the seriousness of the problem, whether the respondent is receiving help for this problem, and whether the respondent would like to have help with this problem. The stem questions for depression, and about alcohol and drug abuse ask the respondent how much of a problem s/he is having with these areas on a 1 (no problem) to 5 (very bad problem) scale. If the problem is rated as a “bad problem” or a “very bad problem,” respondents are then asked Yes/No questions about whether they are concerned about the problem, have seen a mental health professional, or have an appointment to see a mental health professional.

On this measure, adolescents who report one of the following are assumed to be “at-risk” for suicidal behavior: (1) suicidal ideation, (2) past suicide attempts, (3) a “bad” or “very bad” problem with depression, substance, or alcohol use, (4) a need for help with depression, substance, or alcohol use.

#### **Potential Use:**

Epidemiologic/screening surveys; Shaffer and Craft (1999) describe the utility of the combined use of the Columbia Teen Screen and the NIMH DISC in a two a two-stage screening procedure for identifying youths at risk for suicidal behaviors

#### **Populations Studied:**

In one study (Shaffer et al., personal communication, 10/99), the Columbia Teen Screen was used to screen for “at-risk” youths in eight high schools in the New York City area (one of which withdrew consent in mid-screening and was removed from analyses). These schools initially included two suburban and six urban schools, two single sex schools (one all female and one all male), two parochial schools, one vocational-technical school, and five unspecialized public schools.

#### **Assessment and Detection of Suicidal Behaviors:**

The two stem questions on the Columbia Teen Screen regarding suicidal ideation (“During the past 3 months, have you thought about suicide?”) and suicide attempts (“Have you ever tried to commit suicide?”) implicitly refer to “non-zero intent to die” and are consistent with the operational definitions proposed by O’Carroll et al. (1996).

#### **Reliability:**

From a much larger school-based sample (Shaffer et al., personal communication, 10/99), 85 students were readministered the Columbia Teen Screen 14 days after its initial administration. Test-retest reliability was as follows: suicidal ideation in last 3 months ( $\kappa=.48$ ), frequent suicidal ideation ( $\kappa=.42$ ), “seriously” thought about killing self ( $\kappa=.56$ ), suicidal ideation for “a long

time” ( $\kappa=.39$ ), lifetime suicide attempts ( $\kappa=.58$ ), problems with depression ( $\kappa=.36$ ), problems with alcohol or drugs ( $\kappa=.48$ ).

**Internal Consistency:**

No published data were located.

**Concurrent Validity:**

From a larger school-based sample, 319 adolescents who screened “positive” on the Columbia Teen Screen, and 322 students who endorsed none of the items associated with risk were interviewed with the DISC-2.3 (Shaffer et al., personal communication, 10/99). Endorsement of the item regarding suicidal ideation was associated with an 11.6-fold increase in the likelihood of a prior attempt (assessed with the DISC), 3.6-fold increase in the likelihood of any DISC diagnosis, and a 4.9-fold increase in the increase of a DISC mood disorder diagnosis. Endorsing the item regarding “often thought about suicide” was associated with a 16.4-fold increase in the likelihood of past attempt (as assessed with the DISC), a 4.3-fold increase in the rate of any DISC-assessed diagnosis, and a 4.2-fold increase in the likelihood of a current mood disorder. Endorsing the item “Seriously thought about suicide” was associated with a 21.9-fold increase in the rate of prior attempts (assessed with the DISC), a 4.6-fold increase in the rate of any DISC-assessed disorder, and a 4.7-fold increase in the odds of having a mood disorder.

In this same sample, the screening item regarding suicidal ideation in the last three months had 61% sensitivity and 88% specificity in “predicting” past suicide attempts as assessed with the DISC.

**Dimensionality:**

No published data were located.

**Predictive Validity:**

In the New York metropolitan area, a large number of high school students were screened with instruments including the Columbia Teen Screen (Shaffer et al., personal communication, 10/99). Students were considered to be at risk on the basis of their responses to the Columbia Teen Screen. A large sampling of students, approximately half of whom were thought to be “at risk,” were followed up approximately 3 to 4 years later. A classification of “at risk” on the Columbia Teen Screen was found to have 71% sensitivity and 51% specificity in predicting suicidal ideation within the last year according to the DISC administered at the second assessment. Questions regarding suicidal ideation and attempts on the Columbia Teen Screen generally were much less sensitive, although more specific in their relationship to later suicidal ideation.

In this same study, the Columbia Teen Risk classification of “at risk” yielded 78% sensitivity and 53% specificity in predicting suicide attempts since the initial screen (Shaffer et al., personal communication, 12/99). Again, questions regarding ideation and attempts at the initial screening were generally less sensitive, but more specific in their relationship to later attempts.

**Treatment Studies:**

The Columbia Teen Screen is primarily a screening instrument, and has not been used in treatment studies.

**Summary and Evaluation:**

The Columbia Teen Screen is a new brief screening instrument. Preliminary indications are that the instrument has excellent concurrent validity. More importantly, the classification of “at-risk” from the instrument not only has been shown to be predictive of later suicide ideation and attempts, but is considerably more sensitive as a screener than prior history of suicidal ideation/behavior by itself.

**Where to Obtain:**

Division of Child and Adolescent Psychiatry, New York State Psychiatric Institute, 1051 Riverside Drive, New York, NY 10032

**References:**

- O’Carroll, P., Berman, A., Maris, R., Moscicki, E., Tanney, B., Silverman, M. (1996). Beyond the Tower of Babel: A nomenclature for suicidology. Suicide and Life-Threatening Behavior, 26, 237-252.
- Shaffer, D., Wilcox, H., Lucas, C., Hicks, R., Busner, C., Parides, M. (1996). The development of a screening instrument for teens at risk for suicide. Poster presented at the meeting of the Academy of Child and Adolescent Psychiatry, New York, NY.
- Shaffer, D., Craft, L. (1999). Methods of adolescent suicide prevention. Journal of Clinical Psychiatry, 60, 70-74.

#### **d. Indian Health Service Adolescent Health Survey**

##### **Description:**

The Indian Health Service Adolescent Health Survey is a survey administered to American Indian and Alaskan Native youths in the 6<sup>th</sup> to the 12<sup>th</sup> grades in reservation communities serviced by the Indian Health Service. The survey includes items assessing health-risk behaviors (including suicidal behaviors), resiliency or protective factors, and health outcomes. This survey is included in the review because of its extensive use with Native Americans and because of the strong focus of the survey on the assessment of protective factors.

##### **Potential Use:**

Epidemiologic/screening surveys

##### **Populations Studied:**

The Adolescent Health Survey has been administered to 6<sup>th</sup> through 12<sup>th</sup> grade American Indian and Alaskan Native youths (Blum et al., 1992; Borowsky et al., 1999; Grossman et al., 1991; Pharris et al., 1997). By 1997, it had been administered to over 75,000 youths (Pharris et al., 1997).

##### **Assessment and Detection of Suicidal Behaviors:**

Items regarding suicidal behaviors include questions about exposure to suicide attempts and completion, suicide attempts (“Have you ever tried to kill yourself?”), and suicidal ideation (“I would like to kill myself,” “I would kill myself if I had the chance”).

The question about suicide attempts obviously refers to “non-zero intent” to kill oneself. The questions regarding suicidal ideation also implicitly refer to “non-zero intent” to kill oneself (O’Carroll et al., 1996). However, it is possible to have thoughts about killing oneself, without strongly desiring to do so, or being on the verge of doing so. Therefore, this item may yield a conservative estimate of suicidal ideation.

##### **Reliability:**

No published data were located.

##### **Internal Consistency:**

No published data were located.

##### **Concurrent Validity:**

For American Indian youths, individuals considered at high risk for suicide (because they reported a suicide attempt within the last year and current suicidal ideation, or a history of multiple attempts) differed from youths at low-risk in several respects (Blum et al., 1992). The high-risk youths more often had a family member who tried suicide, or a friend who completed suicide, more often had been physically or sexually abused, more often were involved with heavy drinking and at least weekly marijuana use, and were more likely to have been pregnant, or to have caused a pregnancy (Blum et al., 1992)

American Indian youths who had a history of attempts more often knew where to get a gun, more often knew a friend or family member who had attempted or completed suicide, were less “connected” with their community and families, more often had a parent with a substance abuse problem, and were more likely to be physically or sexually abused (Borowsky et al., 1999).

For sexually abused American Indian youths, the absence of suicidal ideation (assessed with the Adolescent Health Survey) was found to be associated with family attention and the perceived caring of school officials, among other factors (Pharris et al., 1997). The strongest factor associated with absence of suicide attempts was family attention (Pharris et al., 1997).

**Dimensionality:**

No published data were located.

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

No published data were located.

**Summary and Evaluation:**

The Indian Health Service Adolescent Health Survey has already yielded important information about suicidal ideation and behavior among Native American youths. It should be considered to be primarily a screening or epidemiologic survey instrument. A strength of the survey as a whole is that it focuses not only on problem behaviors or risk factors, but also on various potential protective factors. Because of its wording, the Indian Health Survey may yield a conservative estimate of suicidal ideation. Moreover, the suicidal ideation/attempt items on this instrument have not been examined as possible predictors of future behavior.

**Where to Obtain:**

National Adolescent Health Resource Center (a division of General Pediatrics and Adolescent Health, University of Minnesota), 1313 Fifth St. Southeast, Suite 205, Minneapolis, MN 55414

**References:**

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Pharris, M., Resnick, M., Blum, R. (1997). Protecting against hopelessness and suicidality in sexually abused American Indian Adolescents. Journal of Adolescent Health, 21, 400-406.



### **e. Middle Adolescent Vulnerability Study Survey**

#### **Description:**

The Middle Adolescent Vulnerability Study survey is an instrument that has been used in a longitudinal study of the interrelationship between alcohol and drug use, depression, and suicidal behaviors. The survey assesses suicidal behaviors, frequency and amount of alcohol use, other substance use, percentage of friends who drink or use drugs, drinking disinhibitions, motives for drinking, stressful life events, family support, and severity of depressive symptoms. This is the only instrument in this review to specifically focus on the interrelationship between alcohol/substance use and suicidal behaviors among youths.

#### **Potential Use:**

Epidemiologic/screening surveys

#### **Populations Studied:**

The Middle Adolescent Vulnerability Study Survey has been used with high school students.

#### **Assessment and Detection:**

Depending on the assessment, respondents are asked about either lifetime suicidal behaviors or suicidal behaviors during the last 6 months. With reference to those time frames, respondents were asked to rate the frequency (not at all, once, twice, 3 or more times) with which they thought about killing themselves, told someone that they were going to kill themselves, or attempted to kill themselves. If respondents said that they had attempted suicide in the last half year, they were then asked to describe the methods of the attempts.

The questions both about suicidal ideation and suicide attempts are straightforward, and consistent with the recommendations regarding definitions of suicidal behavior by O'Carroll et al. (1996).

#### **Reliability:**

No published data on the test-retest reliability of the suicide items were located.

#### **Internal Consistency:**

The three-item screener has been found to be internally consistent ( $\alpha=.74$ ; Windle, personal communication, 12/99).

#### **Concurrent Validity:**

In a longitudinal sample of high school sophomores and juniors, the cumulative or lifetime suicidal thoughts (from baseline and subsequent semiannual assessments over two years) were related primarily to depressive thoughts, whereas cumulative suicide attempts were highest among youths with both problem drinking and depression (Windle and Windle, 1997). For both genders, suicide attempters reported more frequent illicit drug use, more depression, and more cigarette smoking than suicide ideators (Windle and Windle, 1997).

**Dimensionality:**

No published data were located.

**Predictive Validity:**

In a sample of high school students, suicidal thoughts and attempts were found to be predictive of subsequent suicidal ideation and communications, even after controlling for depression, hopelessness, and alcohol consumption (Reifman and Windle, 1995).

**Treatment Studies:**

The suicidal behavior questions have not been used in a treatment study.

**Summary and Evaluation:**

This is a survey that likely yields very useful information regarding the interrelationship between substance abuse, depression, and suicidal behaviors among youths. The questions regarding suicidal behavior are well-worded and straightforward, but data regarding their reliability have not been collected.

**Where to Obtain:**

Michael Windle, Ph.D., Department of Psychology, The University of Alabama at Birmingham, 415 Campbell Hall, 1300 University Boulevard, Birmingham, AL 35294-1170

**References:**

- O'Carroll, P., Berman, A., Maris, R., Moscicki, E., Tanney, B., Silverman, M. (1996). Beyond the Tower of Babel: A nomenclature for suicidology. Suicide and Life-Threatening Behavior, 26, 237-252.
- Reifman, A., Windle, M. (1995). Adolescent suicidal behaviors as a function of depression, hopelessness, alcohol use, and social support: A longitudinal investigation. American Journal of Community Psychology, 23, 329-354.
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## **f. Midwest Homeless and Runaway Adolescent Project Survey (MHRAP)**

### **Description:**

The Midwest Homeless and Runaway Adolescent Project Survey (MHRAP) is an instrument that has been used in a study of 602 homeless and runaway adolescents. These adolescents have been interviewed on the streets, in shelters, etc. The MHRAP has sections assessing: (1) sociodemographic variables (including sexual orientation); (2) family factors (including questions about alcohol/drug problems in the home, psychiatric/emotional problems of caregiver, physical abuse, and sexual abuse); (3) street factors (including physical and sexual victimization); (4) peer factors (including questions related to peers attempting and completing suicide); (5) externalizing behavior (including questions regarding alcohol and drug abuse); and (6) internalizing behavior (including items regarding depression, self-esteem, and suicidal behaviors). The MHRAP is included in this review because of the unique population with which this survey has been used.

### **Potential Use:**

Epidemiologic/screening surveys

### **Populations Studied:**

The MHRAP has been used in samples of runaway and homeless youths (Yoder et al., 1998; Yoder, 1999).

### **Assessment and Detection of Suicidal Behaviors:**

On the MHRAP, there are 4 questions regarding suicidal ideation and 4 items regarding suicide attempts. The suicide ideation items include questions about hurting oneself, feeling that “I would be better off if I were dead,” thinking about killing oneself, and suicidal plans. The third question of this series (“I’ve thought about killing myself”) is totally consistent with the operational definition of suicidal ideation proposed by O’Carroll et al. (1996).

The MHRAP suicide attempt items begin with a stem question, “Have you ever tried to kill yourself?” If respondents answer positively, they are asked about the number of total suicide attempts, the time of their last suicide attempt, and the method of their last attempt. The stem question is straightforward, and explicitly is consistent with the O’Carroll et al. (1996) suggestion that suicide attempts be associated with “non-zero intent” to kill oneself.

### **Reliability:**

No published data were located regarding test-retest reliability of these items.

### **Internal Consistency:**

In the sample of homeless and runaway youths, the suicidal ideation section of the MHRAP was found to be internally consistent ( $\alpha=.89$ ; Yoder et al., 1998).

### **Concurrent Validity:**

Based on responses to the survey items, homeless and runaway adolescents were classified as nonsuicidal, suicidal ideators, and suicide attempters (Yoder, 1999). Suicide ideators and suicide attempters were both more likely to have low self-esteem and be depressed than the nonsuicidal

youths. Suicide attempters were more likely to report psychiatric/emotional problems among caretakers and a friend who completed suicide than other adolescents. The attempters also reported more physical abuse, more sexual abuse, and more sexual victimization on the streets than suicide ideators, who in turn, reported more abuse and victimization than nonsuicidal youths.

**Dimensionality:**

No published data were located.

**Predictive Validity:**

No data are available, although a longitudinal study will begin soon which will allow assessment of this issue.

**Treatment Studies:**

No published data were located.

**Summary and Evaluation:**

This is a potentially very useful survey that can be used to assess suicidal behaviors and associated risk factors in the difficult-to-track but “high-risk” population of homeless and runaway youths. The suicidal ideation/behavior items are straightforward, consistent with the O’Carroll (1996) recommended nomenclature for suicidal behavior, and elicit responses which are correlated with variables that would be expected to be associated with suicidality. However, the test-retest reliability of the items has not been ascertained.

**Where to Obtain:**

Les B. Whitbeck, Ph.D., Department of Sociology, Iowa State University, Center for Family Research on Rural Mental Health, 2625 North Loop, Suite 500, Ames IA 50010-8296

**References:**

- O’Carroll, P., Berman, A., Maris, R., Moscicki, E., Tanney, B., Silverman, M. (1996). Beyond the Tower of Babel: A nomenclature for suicidology. *Suicide and Life-Threatening Behavior*, 26, 237-252.
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- Yoder, K., Hoyt, D., Whitbeck, L. (1998). Suicidal behavior among homeless and runaway adolescents. *Journal of Youth and Adolescence*, 27, 753-771.

## **g. Youth Risk Behavior Survey (YRBS)**

### **Description:**

The Youth Risk Behavior Survey (YRBS) is a school-based survey developed and administered by the Centers for Disease Control in conjunction with state and local agencies (Kann et al., 1997). The YRBS was designed for the monitoring of six categories of health-risk behaviors: behaviors associated with unintentional and intentional injuries, tobacco use, alcohol and drug use, sexual behaviors, unhealthy dietary behaviors, and physical inactivity.

### **Potential Use:**

Epidemiologic/screening surveys

### **Populations Studied:**

The YRBS has been used in large-scale epidemiologic school-based surveys across the United States.

### **Assessment and Detection of Suicidal Behaviors:**

There are four items on the YRBS assessing suicidal behaviors: “During the past 12 months, did you ever seriously consider attempting suicide?,” “During the past 12 months, did you make a plan about how you would attempt suicide?,” “During the past 12 months, how many times did you actually attempt suicide?,” and “If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?”

The first item regarding the presence of suicidal ideation implies at least “non-zero intent to die.” However, the item also uses the word “seriously” to describe the act of considering suicide; the word “seriously” might be interpreted in different ways by respondents. In the O’Carroll et al. (1996) proposed nomenclature, there is no requirement that individuals with suicidal ideation consider suicide “seriously” and therefore, this question is likely to yield a conservative estimate of suicidal ideation.

Using the item “how many times did you actually attempt suicide” will yield an estimate of suicide attempts that is consistent with the definitions of suicide attempts proposed by O’Carroll et al. (1996). Using the next item (requiring the presence of medical attention for suicide attempts) as some researchers have done will yield a conservative estimate of suicide attempts. In the O’Carroll et al. (1996) nomenclature, it is specifically noted that suicide attempts may or may not be associated with injury, as long as they are potentially associated with harm.

The suicide attempt item, like the suicidal ideation item, refers to the last year. Although useful in estimating the one-year prevalence of this and other risk behaviors (the purpose of the survey), the one-year requirement does not yield important information about total lifetime suicide attempts (often considered to be the best predictor of later attempts).

**Reliability:**

In a sample of high school students (7<sup>th</sup> to 12<sup>th</sup> grades) sampled 14 days apart, the suicidal ideation/behavior questions of the YRBS (with reference to the last year) were found to have the following test-retest reliability – suicidal ideation:  $\kappa=83.8$ , suicide plan:  $\kappa=77.0$ , suicide attempt:  $\kappa=76.4$ , suicide attempt with injury:  $\kappa=60.2$  (Brenner et al., 1995).

**Internal Consistency:**

No published data were located.

**Concurrent Validity:**

McKeown (personal communication, 9/99) found that of 9 older adolescents who attempted suicide in the past (as assessed with the K-SADS), 5 (55.6%) reported seriously thinking about suicide in the last year on the YRBS. Of 14 adolescents reporting current suicidal ideation on the K-SADS, 11 (78.6%) also reported seriously thinking about suicide on the YRBS. In contrast, of the 440 adolescents who reported no suicidal ideation or attempts on the K-SADS, 30 (6.8%) reported seriously thinking about suicide on the YRBS. McKeown (personal communication, 12/99) noted that these results should be interpreted cautiously because of the low number of suicide ideators and attempters.

There also is a wealth of information about the relationship between the YRBS suicidal behaviors questions and other potentially health-endangering behaviors, which can be interpreted as providing some evidence of convergent validity. Other health endangering behaviors that are related to YRBS-assessed suicidal ideation and attempts include: use of cigarettes (Garrison et al., 1993; Woods et al., 1997); use of alcohol and recreational drugs, particularly potentially dangerous drugs (Burge et al., 1995; Felts et al., 1992; Garofalo et al., 1999; Woods et al., 1997); use of anabolic steroids (Middleman et al., 1995), carrying a weapon (Durant et al., 1999; Orpinas et al., 1995; Woods et al., 1997); being in physical fights (Garofalo et al., 1999; Garrison et al., 1993; Woods et al., 1997); sexual behavior (Burge et al., 1995; Nelson et al., 1994); and extreme weight control methods (Neumark-Sztainer et al., 1998). In addition, consistent with other literature, YRBS suicidal behaviors have been found to be associated with sexual victimization and same-sexual orientation or behaviors (Durant et al., 1998; Garofalo, et al., 1999).

**Dimensionality:**

No published data were located.

**Predictive Validity:**

No published data regarding the predictive utility of YRBS suicidality items were located.

**Treatment Studies:**

The YRBS has not been used in treatment studies (and in fact is a screening instrument that would not be well-suited to use in treatment studies).

### Summary and Evaluation:

In terms of evaluating the prevalence of suicidal ideation/behavior among youths in the United States, or the relationship between suicidal behaviors and other health-endangering behaviors, perhaps no other instrument has prompted as much research as the Youth Risk Behavior Survey. Nonetheless, because of its wording, the suicidal ideation query of the YRBS is likely to generate a conservative estimate of suicidal ideation; use of the item regarding suicide attempts requiring medical attention can likewise yield conservative estimates of suicide attempts. The predictive utility of the YRBS items has not been evaluated.

### Where to Obtain:

The YRBS can be downloaded at <http://www.cdc.gov/nccdphp/dash/yrbs/>

### References:

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## **B. Instruments for Assessing Risk or Propensity of Suicidal Behaviors**

This section is dedicated to instruments that have promise in the prediction of future suicidal behaviors, and therefore can truly be conceptualized as indices of future “risk.” In this section, a primary (but often ignored) consideration is the predictive utility of the measure of interest. A clinician is typically not interested in “predicting” something that has already happened (e.g., a past suicide attempt); it is usually easier to just ask whether or not it (e.g., a suicide attempt) has happened. Therefore, the most important challenge for a measure of risk or propensity for suicidal behaviors is whether the measure actually has utility in predicting the future occurrence of that behavior.

Clinicians often do not use objective rating scales in judging risk for suicidal behavior (Jobes et al., 1995). This is unfortunate because traditional clinical interviews are often unreliable as sources of important decision-making information and often less accurate as predictors of future behaviors than information obtained in more “objective” formats (Dawes et al., 1989). Hence, objective measures of risk or propensity with demonstrated predictive validity are particularly needed as supplements to the clinical armamentarium for dealing with suicidal behavior.

### **References:**

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## 1. Beck Hopelessness Scale

### Description:

Hopelessness is the experience of despair or extreme pessimism about the future, and as such, is part of the “cognitive triad” (along with a negative view of oneself and one’s world) described in Beck’s (1979) cognitive model of depression. According to Shneidman (1996), hopelessness-helplessness is the most common emotion experienced among suicidal persons. The Beck Hopelessness Scale (Beck et al., 1974; Beck and Steer, 1988; Steer and Beck, 1988) is a 20-item assessment device designed to measure negative expectations about the future. Individuals completing the BHS are asked to answer the questionnaire based on their attitudes during the preceding week. The self-report instrument may be administered in written or oral form, and each item is scored with a true/false response. Total scores range from 0-20 with higher scores indicating a greater degree of hopelessness. The BHS has been translated into Dutch (DeWilde et al., 1993) and Hebrew (Pershakovsky, 1985).

### Potential Use:

Clinical research and assessment

### Populations Studied:

The BHS has been used with high school students and other non-clinically-ascertained populations (DeWilde et al., 1993; Osman et al., 1998), adolescent psychiatric outpatients (Brent et al., 1997, 1998) and inpatients (Enns et al., 1997; Goldston et al., 2000; Kashden et al., 1993; Kumar and Steer, 1995; Morano et al., 1993; Rotheram-Borus and Trautman, 1988; Steer et al., 1993a, 1993b; Topol and Reznikoff, 1982), and adolescent suicide attempters on a pediatrics unit (Swedo et al., 1991).

### Reliability:

Among adolescents who have been psychiatrically hospitalized, hopelessness as assessed with the BHS seems to be a relatively stable construct (correlation between serial administrations 6 months apart = .63; Goldston, unpublished data, 1/2000). These data dovetail with data from adult samples suggesting that hopelessness as assessed with the BHS has some “trait characteristics” (Young et al., 1996).

### Internal Consistency:

In adolescent psychiatric inpatients (Steer et al., 1993a), the BHS has been found to be internally consistent (KR-20 coefficient=.86). Both the Dutch translation of the scale (in three samples of adolescents) and the Israeli version of the BHS have been found to be internally consistent ( $\alpha$ s from .68 to .75, and  $\alpha$ =.89, respectively).

### Concurrent Validity:

In a United States adolescent psychiatric inpatient sample, and in Canadian samples of Aboriginal psychiatric inpatient suicide attempters and non-Aboriginal psychiatric inpatient suicide attempters, BHS scores were found to correlate ( $r$ =.53, .75, and .82, respectively) with severity of depression as measured with the BDI (Enns et al., 1997). In non-referred adolescents, BHS scores were negatively related (as predicted) with Reasons for Living – Adolescent Version total scores ( $r$ =-.65; Osman et al., 1998). In adolescent psychiatric inpatients, severity of

hopelessness was positively related to suicidal ideation (Steer et al., 1993b). Likewise, changes in hopelessness over one year among high school students were related to changes in suicidal ideation over the same period of time, after controlling for changes in depression (Mazza and Reynolds, 1998).

In both Caucasian and Aboriginal adolescent psychiatric inpatient suicide attempters, BHS scores were related to suicide intent; the relationship between BHS scores and suicide intent remained significant for Caucasian but not Aboriginal youths after controlling for concurrent depression (Enns et al., 1997). BHS scores were not found to be related to suicidal intent among primarily Hispanic and African-American adolescent psychiatry inpatient suicide attempters (Rotheram-Borus and Trautman, 1988).

In one study, adolescent suicide attempters reported more hopelessness at psychiatric hospitalization than did adolescents without a history of attempts (Goldston et al., 2000). In another study, suicidal adolescents as well as depressed nonsuicidal adolescents reported more hopelessness than nondepressed, nonsuicidal adolescents (DeWilde et al., 1993). In this study, depressed adolescents also reported more hopelessness than suicidal youths, although it is worth noting that some of the suicide attempters made their suicide attempts as long ago as one year before the study.

Psychiatrically hospitalized adolescent suicide attempters had higher hopelessness scores than nonattempters, both in samples matched for severity of depression (Morano et al., 1993) and in samples not matched for depression scores (Kashden et al., 1993; Topol and Reznikoff, 1982). Hopelessness was one of two variables that were used to discriminate between (or correctly classify) 76% of suicide attempters hospitalized on a pediatrics unit, other at-risk youths, and normal controls (Swedo et al., 1991).

### **Predictive Validity:**

Among adults, hopelessness has repeatedly been found to be associated with eventual suicide (Beck et al., 1985, 1990; Fawcett et al., 1990) and repeat self-harm behaviors (Scott et al., 1997; Brittlebank et al., 1990) in clinically referred samples.

Among adolescent psychiatric inpatients with a history of suicide attempts, BHS scores were predictive of suicide attempts following discharge from the hospital (Goldston et al., 2000). These predictive effects were not apparent among adolescents without a history of attempts, and were no longer statistically significant after controlling for depression (Goldston et al., 2000).

In a second study (Hawton et al., 1999), the BHS failed to differentiate between adolescents who made repeat attempts and adolescents who did not make repeat attempts in a one year follow-up after hospitalization for self-poisoning. However, this study was limited in power because of the small number of youths attempting suicide in the follow-up. When Hawton et al. (1999) combined for statistical analyses the adolescents who presented at hospitalization with repeat suicide attempts and adolescents who made repeat suicide attempts over the follow-up, the repeaters did on average have higher BHS scores than the youths with single overdoses.

Adults who prematurely discontinue cognitive therapy have higher hopelessness scores than adults who remain in therapy (Dahlsgaard et al., 1998). In a controlled treatment study, Brent et al. (1997) also found that adolescents who dropped out of therapy had higher hopelessness scores than adolescents who remained in therapy. Brent et al. (1998) also found higher BHS scores to be associated with failure to achieve clinical remission of Major Depression.

### **Treatment Studies:**

A suicide prevention program was found to reduce BHS scores in some but not all schools (Orbach and Bar-Joseph, 1993); however, BHS scores were generally low in this high school population even before the intervention.

The BHS has been used in multiple treatment studies with adults (e.g., Rush et al., 1982), but has not been used as a primary outcomes measure in a controlled treatment trial with youths.

### **Summary and Evaluation:**

The Beck Hopelessness Scale is an excellent scale based on the cognitive theory of depression that has been widely used with adults, but less used in studies with adolescents. Among adults, the BHS repeatedly has been found to be associated with repeat suicide attempts and completed suicide in clinically ascertained samples. Hopelessness also has been found to predict later suicide attempts (over 5 years) among psychiatrically hospitalized adolescents with a history of prior attempts (but not among youths without prior attempts). An important consideration in treatment studies is that BHS scores have been found to be associated with treatment drop-out in both samples of adults and adolescents.

### **Where to Obtain:**

The Psychological Corporation, 555 Academic Court, San Antonio, TX 78204

### **References:**

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## 2. Child Suicide Assessment (CSA)

### **Description:**

The Child Suicide Assessment (CSA) is an instrument still in the development stages for identifying youths at risk for suicide, or in need of suicide precautions, particularly youths under the age of 12 for whom most other suicide risk instruments are not appropriate (Larzelere and Anderson, 1998; Anderson and Larzelere, 1997). The CSA is currently being pilot tested and refined (and for this reason was not included with other risk instruments). The CSA has three main sections. The first focuses on “Feelings” (e.g., worry, sadness, crying, sleep problems, feelings of guilt, hopelessness). The second section of this instrument focuses on “Family and Friends” (e.g., peer relationships, feeling loved by family, losses, suicidal behavior in the family). The third section of the CSA focuses on “Child Conception of Death” (e.g., what happens to people when they die, whether people are happier when they die, whether people can come back to live on earth after they die, thoughts of self-harm or suicide, suicide attempts). The (weighted) answers to these queries are summed to yield an overall “risk score.” Ranges of these scores associated with various levels of risk are currently being developed.

### **Potential Use:**

Individual screenings

### **Populations Studied:**

The CSA has been developed and piloted tested with children receiving services at Boys Town sites.

### **Reliability:**

No published data were located.

### **Internal Consistency:**

No published data were located.

### **Concurrent Validity:**

No published data were located.

### **Dimensionality:**

No published data were located.

### **Predictive Validity:**

No published data were located.

### **Treatment Studies:**

No published data were located, but the CSA is being developed primarily as a screening instrument.

**Summary and Evaluation:**

This CSA is an interview-based instrument still in development. The authors began developing this instrument because of a lack of suitable screening instruments for “suicide-risk assessment” in children between the ages of 6 and 12. Psychometric evaluation, pilot testing, and revision of the instrument are still ongoing.

**Where to Obtain:**

Robert E. Larzelere, Ph.D., Director of Behavioral Healthcare Research, Youth Care Building, Father Flanagan’s Boys Home, Boys Town, NE 68010

**References:**

- Anderson, J., Larzelere, R. (1997). Interim summary of the Child Suicide Assessment. Residential Research Technical Report #97-2, Boys Town, Boys Town, NE.
- Larzelere, R., Andersen, J. (1998). Child Suicide Assessment. Unpublished instrument. Father Flanagan’s Boys Home, Boys Town, NE.



### 3. Expendable Child Measure

**Description:**

The Expendable Child Measure is a 12-item clinician-rated scale predicated on the assumption that suicidal youths may perceive the parents' (conscious or unconscious) wish to be rid of them or for them to die (Woznica and Shapiro, 1990, 1998). Sample items include: "Patient feels like a burden on parent(s)/family," "Patient feels unwanted," "Patient feels like a superfluous member of the family," and "Patient feels his/her parent(s)/family don't really want him/her around." The scale may be used to help determine which adolescents may be at particularly high risk for suicide, and therefore warrant additional evaluation by clinicians, or may be used to complement other measures of depression and suicidality.

**Potential Use:**

Clinical research

**Populations Studied:**

This scale has been used with adolescents being seen in therapy in a hospital setting or outpatient clinic (Woznica and Shapiro, 1998).

**Reliability:**

No published data were located.

**Internal Consistency:**

In a sample of both suicidal and non-suicidal adolescent psychiatric outpatients, the Expendable Child Measure was found to be internally consistent ( $\alpha=.92$ ; Woznica and Shapiro, 1990).

**Concurrent Validity:**

Suicidal adolescents in psychiatric outpatient settings (with attempts or ideation) were rated by psychology interns as higher on the Expendable Child Measure than non-suicidal adolescents (Woznica and Shapiro, 1998). Subsequent analyses revealed no differences between youths who attempted suicide and youths with high suicidal ideation.

**Dimensionality:**

No published data were located.

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

No published data were located.

**Summary and Evaluation:**

This measure is predicated on the interesting notion that youths who perceive themselves to be "expendable" by their families will be at higher risk for suicidal behavior. However, relatively little data on the psychometric characteristics of this clinician-rated scale have been published.

**Where to Obtain:**

The scale is reproduced in the Woznica and Shapiro (1998) article, referenced below.

**References:**

- Woznica, J., Shapiro, J. (1990). An analysis of adolescent suicide attempts: The expendable child. Journal of Pediatric Psychology, 15, 789-196.
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#### **4. Firestone Assessment of Self-Destructive Thoughts (FAST)**

##### **Description:**

The Firestone Assessment of Self-Destructive Thoughts (FAST) is a self-report instrument based in part on the theory associated with voice therapy, a variation of psychodynamic therapy (Firestone and Firestone, 1998). “Voices” are conceptualized as internalized self-destructive negative thoughts that are in part introjected from our parents. The FAST was developed “to predict an individual’s suicide potential” and to assess a “continuum of voice attacks (that) would actually parallel manifestations of self-destructive behavior” (Firestone and Firestone, 1998). Within the FAST, self-destructive thoughts are organized into 11 levels that are associated with “increasing suicidal intention.” The first 5 levels are considered to be thoughts associated with low self-esteem and self-defeating tendencies. Level 6 is considered to be a class of thoughts that are associated with and support addictions. The last 5 levels are thoughts that are assumed to be associated with increasing suicide risk. These range from “thoughts contributing to a sense of hopelessness” (Level 7) to “injunctions to carry out suicide plans” (Level 11). A “Suicide Intent Composite” was constructed from items on Levels 7 to 11 which were thought to best differentiate individuals with and without suicidal ideation.

##### **Potential Use:**

Clinical research, clinical assessment, screening in clinical settings

##### **Populations Studied:**

The FAST was developed and has been used with clinically ascertained inpatient and outpatient samples (Firestone and Firestone, 1998).

##### **Reliability:**

In a sample of adolescent and (primarily) adult psychiatric inpatients, the test-retest reliability of the 11 levels of the FAST (over 1 to 31 days) ranged from  $r=.63$  to  $r=.88$ ; test-retest reliability for the entire scale was  $.88$  and for the Suicide Intent Composite was  $.93$  (Firestone and Firestone, 1998). In outpatients, the test-retest reliability (over 28 to 266 days) of the 11 levels ranged from  $.69$  to  $.90$ . Test-retest reliability for the entire FAST was  $.92$ , and for the Suicide Intent Composite was  $.85$ .

##### **Internal Consistency:**

In a sample with both adolescents (age 16 and older) and adults, the internal consistency of the 11 levels of the FAST range from  $\alpha=.76$  to  $.91$ , with the total FAST score having Chronbach  $\alpha$  of  $.97$  and the Suicide Intent Composite having  $\alpha$  of  $.95$  (Firestone and Firestone, 1998).

##### **Concurrent Validity:**

The FAST was found to correlate with the Suicide Probability Scale total score ( $r=.76$ ), and the Beck Depression ( $r=.73$ ) and Hopelessness Scales ( $r=.63$ ; Firestone and Firestone, 1998). The FAST total score and Suicide Intent Composite were found to correlate with a criterion measure reflecting past and current suicidal behavior.

**Dimensionality:**

Factor analysis revealed 3 factors corresponding to items on Levels 1 through 5 (the “Self-Defeating Composite”), Level 6 (the “Addictions Composite”), and Levels 7 through 11 (the “Self-Annihilating Composite”).

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

No published data were located.

**Summary and Evaluation:**

The FAST is based on theory related to “voice therapy.” The FAST was developed with patients ranging in age from 16 to 80. The scale has not yet been used in published studies beyond that describing the development and validation of the measure. The FAST was developed in part to measure patients’ “suicide potential,” but the predictive validity of the scale has not been examined.

**Where to Obtain:**

The Psychological Corporation, 555 Academic Court, San Antonio, TX 78204

**References:**

Firestone, R., Firestone, L. (1998). Voices in suicide: The relationship between self-destructive thought processes, maladaptive behavior, and self-destructive manifestations. Death Studies, 22, 411-443

## 5. Hopelessness Scale for Children

### Description:

The Hopelessness Scale for Children (HPLS) is a 17-item modification of the Beck Hopelessness Scale (BHS). Items are rated either true or false, and total scores range from 0-17. As with the BHS, higher scores indicate a greater degree of hopelessness. Readability of the Hopelessness Scale for Children is at first- to second-grade level.

### Potential Utility:

Clinical assessment and clinical research

### Populations Studied:

The standardization sample for the HPLS was 6- to 13- year-old psychiatric inpatients (Kazdin et al., 1986). The HPLS also has been used with other non-clinically-ascertained samples of high school students (Cole, 1989a; Reifman and Windle, 1995; Spirito et al., 1988), suicide attempters in a pediatric setting (Boergers et al., 1998; Spirito et al., 1987, 1988), child and adolescent psychiatric inpatients (Asarnow et al., 1989; Hewitt et al., 1997; Kashani et al., 1991, 1997; Pinto and Whisman, 1996; Pinto et al., 1998; Whisman and Pinto, 1997), child and adolescent psychiatric outpatients (Spirito et al., 1988), and with incarcerated youths (Cole et al., 1989a).

### Reliability:

There was moderate stability in HPLS scores over a 6-week period of time among child psychiatric inpatients ( $r=.57$ ; Kazdin et al., 1986). Among non-clinically referred young adolescents (9<sup>th</sup> graders), there again was moderate stability over a 10-week test-retest interval ( $r=.49$ ; Spirito et al., 1988).

### Internal Consistency:

In a sample of 6- to 13-year-old (Kazdin et al., 1986) psychiatric inpatients, the HPLS was internally consistent ( $\alpha=.97$ ; Spearman-Brown split-half reliability=.96). The HPLS was also internally consistent among adolescent psychiatric inpatients ( $\alpha=.89$ ; Hewitt et al., 1997; and,  $\alpha=.84$ , Spearman-Brown split-half reliability=.91; Spirito et al., 1988). In a large sample of non-clinically referred 9<sup>th</sup> graders (Spirito et al., 1988), the coefficient  $\alpha$  for the HPLS was .69, and Spearman-Brown split-half reliability coefficient was .75.

### Concurrent Validity:

Among high school students, HPLS scores were positively correlated with a five-item questionnaire used by Beck et al. (1974) to validate the Beck Hopelessness Scale ( $r=.71$ ; Cole, 1989a). Adolescent suicide attempters hospitalized on a pediatric unit were found to have higher HPLS scores than adolescents in a non-clinically referred sample; however, the suicide attempters did not have higher HPLS scores than those obtained with an outpatient psychiatric clinical sample (Spirito et al., 1988). In different samples of child and adolescent pediatric and psychiatric inpatients, higher HPLS scores were found to be associated with greater severity of depressive symptoms (Asarnow and Guthrie, 1989; Cole, 1989a; Kazdin et al., 1986; Marciano and Kazdin, 1994; Overholser et al., 1997; Spirito et al., 1988), a higher prevalence of depressive diagnoses (Kashani et al., 1991), a greater number of total diagnoses (Kashani et al., 1991), poorer self-esteem (Kashani et al., 1991; Kazdin et al., 1986, Marciano and Kazdin, 1994;

Overholser et al., 1995), poorer self-rated social skills (Kazdin et al., 1986), more anxiety (Kashani et al., 1991), greater perfectionism in girls (Hewitt et al., 1997), more difficult temperament (Kashani et al., 1991), lower estimated intellectual functioning (Kashani et al., 1991), suicidal ideation (Hewitt et al., 1997; Kashani et al., 1991; Whisman and Pinto, 1997), suicidal tendencies (suicidal ideation and attempts rated on a continuous scale; Asarnow and Guthrie, 1989; Cole, 1989a), and suicide attempts (McLaughlin et al., 1996).

There have been mixed results regarding whether HPLS scores are related to suicidality after controlling for depression. In one study, the correlation between hopelessness and suicidal ideation did not remain statistically significant after controlling for severity of depression (Asarnow and Guthrie, 1989). In another study, hopelessness continued to be correlated with an index of suicidal behavior after controlling for depression for high school girls, but not for high school boys (Cole, 1989a). HPLS scores were related to a continuous index of suicidality in a mixed sample of child psychiatric outpatients and inpatients, even after controlling for severity of symptoms of depression (Myers et al., 1991a). However, HPLS scores were not related to the suicidality index among youths with major depression after controlling for severity of depression (Myers et al., 1991a). In a sample of incarcerated adolescents, the relationship between HPLS scores and presence/absence of suicide attempts no longer remained significant (in a model including race because of the lower suicide attempts among African-American youths) after accounting for depression (Kempton and Forehand, 1992).

In two studies of child psychiatric inpatients, HPLS scores have contributed to discriminant function analyses in classifying children with suicidal ideation or attempts and nonsuicidal youths (Asarnow and Guthrie, 1989; Marciano and Kazdin, 1994). In both studies, approximately 40% of cases were incorrectly classified even after consideration of HPLS scores. HPLS scores did not differentiate between adolescents hospitalized on a pediatric unit following overdoses and adolescents on the same unit receiving psychiatric consultations for other reasons (Spirito et al., 1987).

In samples of both adolescents recruited from high schools and incarcerated juvenile delinquents, higher HPLS scores have been found to be associated with fewer or less strong reasons for living, particularly survival and coping beliefs (Cole, 1989b; Pinto et al., 1998). HPLS scores have been found to be associated with a "wish to die" as a primary motivation for adolescent suicide attempts (Boergers et al., 1998). HPLS scores have been found to be related to greater expectations of lethal outcome (Spirito et al., 1996) and less impulsive suicide attempts (Brown et al., 1991; Spirito et al., 1996). In one study, the relationship between HPLS scores and overall suicide intent scores was stronger among female than among male adolescent psychiatric inpatients (Overholser et al., 1997). HPLS scores were not found to be associated with medical lethality of suicide attempts among adolescent psychiatric inpatients (Nasser and Overholser, 1999).

**Dimensionality:**

A principal components analysis with data from child psychiatric inpatients yielded one primary and one secondary factor, both assessing negative expectancies for the future, and overlapping in content (Kazdin et al., 1986).

**Predictive Validity:**

Only one prospective study has examined HPLS as a predictor of later suicidal behavior (Myers et al., 1991b). This study focused on 7- to 17-year-olds recruited from inpatient and outpatient psychiatric settings; 100 of the youths had diagnoses of Major Depression and 38 did not. In this study, HPLS scores were not related to suicidality over a 3-year follow-up.

**Treatment Studies:**

The HPLS was used as one of the outcome measures in a comparison of two interventions – routine care vs. a combination of routine care, home visits, and family problem-solving sessions – for adolescents who had taken overdoses (Harrington et al., 1998). At 2- and 6-month follow-ups, the two groups did not differ with regard to hopelessness (the intervention did result in a reduction in suicidal ideation, but only for youths with Major Depression).

**Summary and Evaluation:**

The Hopelessness Scale for Children has been very widely used in research studies of suicidality among youths. The scale may be particularly useful for preadolescents (an age group for whom the Beck Hopelessness Scale is not appropriate). The great majority of studies using the Hopelessness Scale for Children have been cross-sectional in design and have demonstrated the correlation between HPLS scores and other constructs related to depression, distress, or suicidal ideation/behavior. However, among adult populations, the construct of hopelessness is valuable primarily because of its ability to *predict* future suicidal behavior. In this context, it is notable that the single prospective study conducted failed to demonstrate the predictive utility of HPLS scores.

**Where to Obtain:**

The items on the HPLS are reproduced in the Kazdin et al. (1986) article, referenced below.

**References:**

- Asarnow, J., Guthrie, D. (1989). Suicidal behavior, depression, and hopelessness in child psychiatric inpatients: A replication and extension. Journal of Clinical Child Psychology, 18, 129-136.
- Beck, A., Weissman, A., Lester, D., Trexler, L. (1974). Measurement of pessimism: The hopelessness scale. Journal of Consulting and Clinical Psychology, 42, 861-865.
- Boergers, J., Spirito, A., Donaldson, D. (1998). Reasons for adolescent suicide attempts: Associations with psychological functioning. Journal of the American Academy of Child and Adolescent Psychiatry, 37, 1287-1293.
- Brown, L., Overholser, J., Spirito, A., Fritz, G. (1991). The correlates of planning in adolescent suicide attempts. Journal of the American Academy of Child and Adolescent Psychiatry, 30, 95-99.

- Cole, D. (1989a). Psychopathology of adolescent suicide: Hopelessness, coping beliefs, and depression. Journal of Abnormal Psychology, 98, 248-255.
- Cole, D. (1989b). Validation of the Reasons for Living Inventory in general and delinquent adolescent samples. Journal of Abnormal Child Psychology, 17, 13-27.
- Harrington, R., Kerfoot, M., Dyer, E., McNiven, F., Gill, J., Harrington, V., Woodham, A., Byford, S. (1998). Randomized trial of a home-based family intervention for children who have deliberately poisoned themselves. Journal of the American Academy of Child and Adolescent Psychiatry, 37, 512-518.
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- Myers, K., McCauley, E., Calderon, R., Treder, R. (1991b). The 3-year longitudinal course of suicidality and predictive factors for subsequent suicidality in youths with major depressive disorder. Journal of the American Academy of Child and Adolescent Psychiatry, 30, 804-810.
- Nasser, E., Overholser, J. (1999). Assessing varying degrees of lethality in depressed adolescent suicide attempts. Acta Psychiatrica Scandinavica, 99, 423-431.
- Overholser, J., Adams, D., Lehnert, K., Brinkman, D. (1995). Self-esteem deficits and suicidal tendencies among adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 34, 919-928.
- Overholser, J., Freiheit, S., DiFilippo, J. (1997). Emotional distress and substance abuse as risk factors for suicide attempts. Canadian Journal of Psychiatry, 42, 402-408.
- Pinto, A., Whisman, M. (1996). Negative affect and cognitive biases in suicidal and nonsuicidal hospitalized adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 35, 158-165.
- Pinto, A., Whisman, M., Conwell, Y. (1998). Reasons for living in a clinical sample of adolescents. Journal of Adolescence, 21, 397-405.



- Reifman, A., Windle, M. (1995). Adolescent suicidal behaviors as a function of depression, hopelessness, alcohol use, and social support: A longitudinal investigation. American Journal of Community Psychology, 23, 329-354.
- Spirito, A., Williams, C., Stark, L., Hart, K. (1988). The Hopelessness Scale for Children: Psychometric properties with normal and emotionally disturbed adolescents. Journal of Abnormal Child Psychology, 16, 445-458.
- Spirito, A., Stark, L., Fristad, M., Hart, K., Owens-Stively, J. (1987). Adolescent suicide attempters hospitalized on a pediatric unit. Journal of Pediatric Psychology, 12, 171-189.
- Spirito, A., Sterling, C., Donaldson, D., Arrigan, M. (1996). Factor analysis of the Suicide Intent Scale with adolescent suicide attempters. Journal of Personality Assessment, 67, 90-101.
- Whisman, M., Pinto, A. (1997). Hopelessness depression in depressed inpatient adolescents. Cognitive Therapy and Research, 21, 345-358.

## 6. Inventory for Suicidal Orientation – 30 (ISO-30)

### Description:

The Inventory of Suicide Orientation-30 (ISO-30; King and Kowalchuk, 1994) is a 30-item self-report instrument designed for assessing suicidality in 13- to 18-year-old adolescents. The test's content is heavily influenced by theoretical notions that stress the individual's belief systems and "life-affirming orientation" as central to understanding the process that results in suicide. Nonetheless, statements of the purpose of the test are contradictory. In the "Cautions Regarding Test Interpretation" part of the manual, it is stated that the objective of the ISO-30 is to assess "two key indicators of suicide risk (orientation and ideation), not to *predict* suicidal behavior per se" (p.34). However, elsewhere in the manual, it is stated that "the primary objective of the ISO-30 is to identify adolescents who are at high risk for suicide" (p. 2) and that "the aim of the ISO-30 is to assess suicide risk" (p.15); in that vein, a framework is provided for forming "an overall index of suicide risk" (p.15).

The ISO-30 is a revised version of what formerly was known as the Life Orientation Inventory. There are five scales on the ISO-30: Hopelessness, Suicidal Ideation, Perceived Inadequacy, Inability to Cope with Emotions, and Social Isolation and Withdrawal. Respondents are asked to decide whether they feel 30 statements on the inventory describe the way they have been thinking over the last six months. For each item, they are asked to choose one of four options: 1 ("I am sure I disagree"), 2 ("I mostly disagree"), 3 ("I mostly agree"), or 4 ("I am sure I agree"). The 8 items assessing suicidal ideation are considered to be "critical items." Risk classifications (low, moderate, high) are based on a combination of the total scores and the scores on the critical items. The ISO-30 has been translated into Spanish.

### Potential Use:

Clinical research, clinical assessment, screening in clinical settings

### Populations Studied:

The ISO-30 has been tested in clinically referred (King and Kowalchuk, 1994; Piersma and Boes, 1997) and student samples (King and Kowalchuk, 1994).

### Reliability:

Over a period of 3 to 4 days, the test-retest reliability of the ISO-30 was .80 for the total score and .70 for the critical items (King and Kowalchuk, 1994).

### Internal Consistency:

The ISO-30 was found to be internally consistent ( $\alpha=.92$  and  $.90$ ) in clinical and student samples of adolescents, respectively (King and Kowalchuk, 1994). Chronbach  $\alpha$  was  $.79$  for the critical item score in the clinical sample, and  $.78$  in the student sample (King and Kowalchuk, 1994).

**Concurrent Validity:**

In clinical and student samples, ISO-30 total scores correlated .64 and .52, respectively, with the SIQ and .55 and .78, respectively, with the SIQ-JR (King and Kowalchuk, 1994). In the clinical and student samples, the ISO-30 critical item scores correlated .72 and .43, respectively, with the SIQ and .64 and .66, respectively, with the SIQ-JR (King and Kowalchuk, 1994).

Scores on the ISO-30 in youths with and without suicidal attempts apparently have not been evaluated.

**Dimensionality:**

No published data were located.

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

The ISO-30 was used to evaluate adolescents who were psychiatrically hospitalized both at admission and approximately 6 days later (Piersma and Boes, 1997). As expected (since the second administration was a process of determining if patients were ready for discharge), the proportion of patients classified as “high risk” fell substantially during the hospitalization from 61% to 26% (Piersma and Boes, 1997).

**Summary and Evaluation:**

The ISO-30 is a theory-based instrument which is described both as a measure of “life orientation” and as a measure of “suicide risk.” The test’s validation procedures have focused only on suicidal ideation, the risk of which is obviously far different than the risk of completed suicide (which is implied when the phrase “suicide risk” is used). Differences in the test scores have not been demonstrated for suicide attempters and non-attempters, and the predictive validity of the ISO-30 has not been demonstrated.

**Where to Obtain:**

National Computer Systems, Inc., P.O. Box 1416, Minneapolis, MN 55440

**References:**

- King, J., Kowalchuk, B. (1994). Manual for ISO-30 Adolescent: Inventory of Suicide Orientation-30. Minneapolis: National Computer Systems, Inc.
- Piersma, H., Boes, J. (1997). Utility of the Inventory of Suicide Orientation-30 (ISO-30) for adolescent psychiatric inpatients: linking clinical decision making with outcome evaluation. Journal of Clinical Psychology, *53*, 65-72.

## 7. Life Attitudes Schedule (LAS)

### Description:

The Life Attitudes Survey (LAS) is a self-report instrument that is predicated on theoretical notions that “there is a single domain of behaviors to which all life-enhancing and life-threatening behaviors belong” (Lewinsohn et al., 1995). This domain can be viewed as a continuum from positive to negative, and can be conceptualized as including four content areas: death-related, health-related, injury-related, and self-related. A primary goal is to assess behaviors in these four domains. A related goal for LAS is the assessment of “a person’s propensity at a point in time to engage in suicidal behavior” (broadly conceptualized to include “subtle/nonobvious self-destructive behaviors . . . and risk-taking behaviors, as well as behaviors that are obviously and overtly suicidal.” On the LAS, half of the items assess life-enhancing behaviors, and half assess life-threatening behaviors. In addition, the LAS is constructed so that there are equal numbers of items assessing three categories of behavior: thoughts, actions, and feelings. Three alternate forms of the LAS have been developed (Lewinsohn et al., 1995), in addition to a short form (Rohde et al., 1996). The LAS is scored so that higher scores are thought to represent greater suicidal or self-destructive behavior.

### Potential Use:

Clinical research

### Populations Studied:

The LAS has been used both with non-clinically ascertained samples of high school students and with adolescents participating in a treatment study for depression (Lewinsohn et al., 1995).

### Reliability:

In high school students, the 30-day test-retest reliability for the LAS forms ranged from .75 to .88 (Lewinsohn et al., 1995). Test-retest reliability ranged from .76 to .82 for the death-related items, from .68 to .82 for health-related items, from .68 to .88 for injury-related items, and from .72 to .79 for self-related items. Moreover, test-retest reliability ranged from .59 to .80 for items assessing actions, from .69 to .90 for items assessing thoughts, and .71 to .81 for items assessing feelings.

The short form of the LAS has not been administered on two separate occasions to assess test-retest reliability. However, because items from the short form were selected from the longer form, estimates of the test-retest reliability of the shorter form have been published (Rohde et al., 1996). Test-retest reliability for the entire LAS – Short Form is comparable to that of the longer version of the LAS. Test-retest reliability for the content areas and behavior categories is comparable, or in some cases, somewhat less than that reported for the longer version of the LAS.

### Internal Consistency:

In high school students, the internal consistency of the alternate forms of the LAS (as measured by  $\alpha$ ) ranged from .92 to .94 (Lewinsohn et al., 1995). Internal consistency for the scales assessing different content areas are as follows – Death-Related:  $\alpha$  = .77 to .85, Health-Related:

$\alpha=.71$  to  $.77$ , Injury-Related:  $\alpha=.82$  to  $.86$ , Self-Related:  $\alpha=.87$  for all forms. The internal consistency of items assessing the different behavioral categories are as follows – Actions:  $\alpha=.71$  to  $.82$ , Thoughts:  $\alpha=.82$  to  $.87$ , Feelings:  $\alpha=.81$  to  $.88$ .

The short form of the LAS has not been administered in a separate sample from the longer version of the LAS to assess internal consistency. However, because items from the short form were selected from the longer form, estimates of the internal consistency have been published (Rohde et al., 1996). The internal consistency of the LAS – Short Form total scores and scales scores is somewhat less than the comparable internal consistency of the longer version of the LAS.

### **Concurrent Validity:**

The LAS is one of the only instruments for which attention has been paid not only to issues of convergent validity, but also discriminant validity. To reduce redundancy, items were selected with the goal of limiting the degree of correlation with depression, hopelessness, and social desirability. In a sample of high school students, the correlation between the LAS total scores and depression scores (assessed with the CES-D) ranged from  $.43$  to  $.59$  across forms (Lewinsohn et al., 1995). The correlation between the LAS and Beck Hopelessness Scale scores ranged from  $.55$  to  $.65$  across forms. The correlation between the LAS and the Marlow-Crowne Social Desirability Scale ranged from  $.38$  to  $.39$  across forms (comparable to the correlations with past accidental and intentional injury, as described below).

The correlation between the LAS scales and an interview developed to assess the same constructs (the Life Attitude Interview Schedule or LAIS) was also assessed. In general, the correlations between the LAS scales and the scales on the LAIS assessing the same constructs were higher than correlations between different constructs (Lewinsohn et al., 1995).

Correlations between reporting “accidentally hurt or injured self” during the “worst past time” (assessed with the LAIS, described above) and the 6 scales of the LAS were low to moderate and ranged from  $.18$  (n.s.) to  $.32$  (Lewinsohn et al., 1995). Correlations between reports of “intentionally hurting or injuring self” during “worst past time” ranged from  $.21$  to  $.30$  for the scales of the LAS. Correlations with lifetime history of suicide attempts were higher, but still moderate, ranging from  $.30$  to  $.46$ .

### **Dimensionality:**

A confirmatory factor analysis (with LAS items constrained to load on their respective content areas and behavior types) provided a good fit (Lewinsohn et al., 1995). A second-order factor analysis revealed a single dimension for LAS items, which was interpreted as “suicide proneness.”

### **Predictive Validity:**

No published data were located.

**Treatment Studies:**

No published data were located.

**Summary and Evaluation:**

The LAS is a carefully developed new measure based on the notion that “there is a single domain of behaviors to which all life-enhancing and life-threatening behaviors belong.” However, information about the predictive validity of the measure (and the degree to which it actually assesses “suicide proneness” in a predictive sense) has yet to be published. Assessment of the predictive validity of the scale is acknowledged to be a priority area of research by the authors of the scale (Rohde et al., 1996).

**Where to Obtain:**

The long forms of the LAS may be obtained from Peter M. Lewinsohn, Ph.D., Oregon Research Institute, 1715 Franklin Boulevard, Eugene, OR 97403-1983. The short form of the LAS is reproduced in the Rohde et al. (1996) article, referenced below.

**References:**

- Lewinsohn, P., Langhinrichsen-Rohling, J., Langford, R., Rohde, P., Seeley, J., Chapman, J. (1995). The Life Attitudes Schedule: A scale to assess adolescent life-enhancing and life-threatening behaviors. Suicide and Life-Threatening Behavior, 25, 458-474.
- Rohde, P., Lewinsohn, P., Seeley, J., Langhinrichsen, J. (1996). The Life Attitudes Schedule short form: An abbreviated measure of life-enhancing and life-threatening behaviors in adolescents. Suicide and Life-Threatening Behavior, 26, 272-281.

## **8. Measure of Adolescent Potential for Suicide (MAPS) and Suicide Risk Screen (SRS)**

### **Description:**

The Suicide Risk Screen (SRS) and the Measure of Adolescent Potential for Suicide (MAPS) are the instruments used in a two-stage screening procedure for identifying youths with a high probability of suicidal behavior (Eggert et al., 1994). Part I consists of a preliminary questionnaire, the High School Questionnaire (Eggert et al., 1994). Within the High School Questionnaire are items related to the classification of risk in accordance with the “Suicide Risk Screen.” The Suicide Risk Screen includes questions about three areas thought to be related to risk for suicidal behaviors: current suicidal ideation and behaviors, depression, and alcohol/drug use.

Part II of this screening procedure involves a computer-assisted face-to-face interview, the MAPS (Eggert et al., 1994). The MAPS (which takes approximately two hours) assesses three areas in evaluating suicide risk: 1) direct suicide risk factors, 2) related risk factors, and 3) protective factors. Assessment of “Direct Suicide Risk Factors” is accomplished with questions about exposure to suicide, attitudes and beliefs about suicide, suicidal ideation, suicidal behaviors (including planning, behavioral preparation, number of prior attempts, and lethality of prior attempts), and estimation of the degree of current threat of suicidal behaviors. Degree of related risk factors is assessed with items focusing on depression, hopelessness, anxiety, anger, perceived stress, current stresses, victimization or abuse, drug/alcohol use, school problems and likelihood of dropping out, and risk-taking behaviors. Protective factors are assessed with questions about self-esteem, personal control, coping strategies, and availability of support.

### **Potential Use:**

Screening surveys in schools

### **Populations Studied:**

The MAPS screening system has been used to identify youths in the school system thought to be at risk for suicidal behavior (Eggert et al., 1994, 1995; Thompson and Eggert, 1999).

### **Reliability:**

Interrater reliability (based on 3 videotaped MAPS interviews) ranged from .73 to .91 (Eggert et al., 1994).

No published data regarding the test-retest reliability of the SRS or MAPS were located.

### **Internal Consistency:**

The internal consistency of the scales on the MAPS ranges from moderate to high ( $\alpha=.53$  to  $.93$ ; Eggert et al., 1994, personal communication, 11/99). In a sample of students at risk for dropping out of school, the internal consistency of the SRS was .81 (Thompson and Eggert, 1999).

**Concurrent Validity:**

Interviewer global ratings for each scale on the MAPS correlated between .52 and .79 with ratings on the Los Angeles Suicide Potential Scale (Eggert et al., 1994). Ratings of risk based on the SRS were related to clinicians' overall ratings of suicide risk and more severe suicidal ideation as assessed with the SIQ-JR (Thompson and Eggert, 1999).

Most of the other evidence regarding the convergent and discriminative validity of the different scales of the MAPS is provided by the intercorrelations (and lack of correlations) between different MAPS scales, rather than by examination of correlations with measures other than the MAPS. In this vein, youths considered to be "high risk" for suicidal behavior by virtue of assessment with the Suicide Risk Scale reported more related risk (e.g., anger, anxiety, family distress) and lower protective (e.g., problem-solving coping, social and family support) factors on the MAPS, and higher scores on the Direct Risk Assessment Scale of the MAPS than youths not thought to be at risk (Thompson and Eggert, 1999).

**Dimensionality:**

No published data were located.

**Predictive Validity:**

The predictive validity of the MAPS has not been examined (in the sense of predicting future suicidal behavior).

**Treatment Studies:**

The MAPS was used as an outcome in a school-based prevention program with adolescents thought to be at risk for suicidal behaviors (Eggert et al., 1995). However, the two intervention groups and the control group both evidenced significant reductions in suicidal ideation and other risk behaviors. The authors interpreted this as possibly indicating that the MAPS assessments in and of themselves may have had a therapeutic effect. An alternative hypothesis that needs to be ruled out is that there is artifactual attenuation in responding with repeated administrations of the MAPS.

**Summary and Evaluation:**

The Suicide Risk Screen (SRS) and the Measure of Adolescent Potential for Suicide (MAPS) are used together in a two-stage screening procedure for identifying youths with a high probability of suicidal behavior. Evidence pertaining to test-retest reliability and the possible attenuation in responses with repeated administration of the MAPS is needed. In addition, the ability of this screening procedure to identify youths who will make future suicide attempts needs to be evaluated.

**Where to Obtain:**

Leona L. Eggert, Ph.D., RN, FAAN, or Elaine A. Thompson, Ph.D., RN, Department of Psychosocial and Community Health, University of Washington, Box 357263, Seattle, Washington 98195-7263



**References:**

- Eggert, L., Thompson, E., Herting, J. (1994). A measure of adolescent potential for suicide (MAPS): development and preliminary findings. *Suicide and Life-Threatening Behavior*, 24, 359-381.
- Eggert, L., Thompson, E., Herting, J., Nicholas, L. (1995). Reducing suicide potential among high-risk youth: tests of a school-based prevention program. *Suicide and Life-Threatening Behavior*, 25, 276-296.
- Thompson, E., Eggert, E. (1999). Using the Suicide Risk Screen to identify suicidal adolescents among potential high school dropouts. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 1506-1514.

## 9. Millon Adolescent Clinical Inventory (MACI) Suicidal Tendency Scale

### **Description:**

The Millon Adolescent Clinical Inventory (MACI) is a 160-item true/false self-report inventory designed to assess a variety of personality constructs and psychological symptoms in adolescents (Millon, 1993). The inventory is written at a 6<sup>th</sup> grade reading level. The MACI is designed to be a replacement for the Millon Adolescent Personality Inventory (MAPI) that “was developed specifically for use in clinical, residential, and correctional settings.” Results from the MACI can be computer-generated, with detailed summaries of the respondent’s assessment. Of interest for the present review, there is a scale on the MACI entitled “Suicidal Tendency.”

### **Potential Use:**

Clinical research, clinical assessment

### **Populations Studied:**

The MACI Suicidal Tendency Scale has been used with clinically referred populations of adolescents (Hiatt and Cornell, 1999; Millon, 1993)

### **Reliability:**

The MACI Suicidal Tendency Scale was found to have good test-retest reliability ( $r=.91$ ) in the mixed development and cross-validation 13- to 19-year-old clinically referred samples (Millon, 1993).

### **Internal Consistency:**

The MACI Suicidal Tendency Scale has been found to be internally consistent in the development ( $\alpha=.87$ ) and the cross-validation ( $\alpha=.87$ ) of 13- to 19-year-old clinically referred samples (Millon, 1993).

### **Concurrent Validity:**

The MACI Suicidal Tendency Scale has moderate to strong correlations with scales (not on the MACI) assessing constructs such as severity of depression, hopelessness, anxiety, social insecurity, problems with impulse regulation, and sense of ineffectiveness – with which it might be expected to be correlated (Millon, 1993). It essentially has no or low correlations with several constructs that are not typically thought to be associated with suicidal tendencies such as vocational status, problems with leisure/recreation activities, and asceticism (Millon, 1993).

In an adolescent inpatient psychiatric sample (on a unit in which patients were automatically retained on suicide precautions for the first 24 hours of their hospitalization, and then retained on suicide precautions if thought to be “at risk”), scores on the MACI Suicidal Tendencies scale were moderately predictive (classification accuracy of 64% and  $\kappa=.18$ , or accuracy of 69% and  $\kappa=.12$ , depending on the cut-off used) of whether patients were retained on precautions (Hiatt and Cornell, 1999).

**Dimensionality:**

No published data were located.

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

No published treatment studies using the MACI Suicidal Tendency Scale were located.

**Summary and Evaluation:**

The psychometric properties of the MACI Suicidal Tendency Scale have not been evaluated well outside of the initial validation studies. The predictive validity of the scale is unknown.

**Where to Obtain:**

National Computer Systems, Inc., P.O. Box 1416, Minneapolis, MN 55440

**References:**

- Hiatt, M., Cornell, D. (1999). Concurrent validity of the Millon Adolescent Clinical Inventory as a measure of depression in hospitalized adolescents. Journal of Personality Assessment, *73*, 64-79.
- Millon, T. (1993). Millon Adolescent Clinical Inventory: Manual. Minneapolis: National Computer Systems, Inc.

## 10. Multi-Attitude Suicide Tendency Scale for Adolescents (MAST)

### Description:

The Multi-Attitude Suicide Tendency Scale for Adolescents (MAST) is a 30-item measure assessing risk for suicidal behavior (Orbach et al., 1991). The MAST is predicated “on the premise that suicidal behavior evolves around a basic conflict among attitudes toward life and death” (Orbach et al., 1991; p. 398). The four sets of attitudes include those related to 1) attraction towards life (arising from one’s sense of security and the fulfillment of needs), 2) repulsion by life (arising from pain, suffering, unresolvable problems), 3) attraction to death (arising from the notion that aspects of death might be preferable to life), and 4) repulsion by death (arising from fear of death and permanent cessation). The newer version of this scale was developed for adolescents (Orbach et al., 1991). An earlier version (the Fairy Tales Test) was developed for children (Orbach et al., 1983, 1984), but is not reviewed here because few published studies (e.g., Cotton and Range, 1993) have used the instrument since 1989.

### Potential Use:

Clinical research

### Populations Studied:

The MAST has been used with samples of non-clinically-ascertained high school students (Orbach et al., 1991, 1995, 1999), psychiatric outpatients (Orbach et al., 1991, 1995, 1999), and psychiatric inpatients (Orbach et al., 1991, 1995, 1999).

### Reliability:

No published data were located.

### Internal Consistency:

In a mixed sample of non-clinically-ascertained high school students, adolescents with suicide attempts (from outpatient and inpatient settings), and non-suicidal psychiatric inpatients, the internal consistency of the four factor-derived scales was as follows – Attraction to Life:  $\alpha=.83$ , Repulsion to Life:  $\alpha=.76$ , Attraction to Death:  $\alpha=.76$ , and Repulsion to Death:  $\alpha=.83$  (Orbach et al., 1991). Chronbach  $\alpha$  for the entire scale was .92. In a different mixed sample of Israeli youths, Chronbach  $\alpha$  ranged from .69 to .88 for the four MAST scales (Orbach et al., 1999). In a mixed clinical and non-clinical sample of American adolescents, Chronbach  $\alpha$  ranged from .70 to .91 (Osman et al., 1994)

### Concurrent Validity:

In the mixed clinical and non-clinical sample of Israeli adolescents, the four scales were correlated with the Israeli Index of Suicide Potential (an adaptation of the Zung Index of Suicide Potential) as follows – Attraction to Life:  $r=-.66$ , Repulsion to Life:  $r=.64$ , Attraction to Death:  $r=.48$ , Repulsion to Death:  $r=.28$  (Orbach et al., 1991). The correlations for all scales except Repulsion to Death were statistically significant and in the predicted direction.

Similarly, in a mixed clinically ascertained and non-clinical American sample of adolescents, the Attraction to Life scale was negatively associated, and the Repulsion to Life and Attraction to Death scales were positively associated with suicidal ideation, suicide threats, and the estimated likelihood of future suicide as assessed with the Suicide Behavior Questionnaire, and the Hopelessness, Suicidal Ideation, and Negative Self-Evaluation scales of the Suicide Probability Scale (Osman et al., 1994). In each case, the Repulsion to Death scale was not significantly correlated with the other variables.

In this same sample, it was found that social desirability positively correlated ( $r=.24$ ) with the Attraction to Life Scale, and was negatively associated ( $r=-.31$ ) with the Attraction to Death Scale. In the latter case, the reported correlation with social desirability was stronger than the correlations reported with the criterion measures used to demonstrate convergent validity.

In the Israeli mixed clinical and non-clinical sample, suicidal patients and non-suicidal psychiatric inpatient adolescents both had lower scores on the Attraction to Life Scale than the normative sample of high school students; among the suicidal patients, the suicide attempters had lower scores on this scale than the suicide ideators (Orbach et al., 1991). Suicidal patients had higher scores on the Repulsion to Life Scale than the normative sample; among the suicidal patients, the suicide attempters had higher scores on this scale than the suicide ideators. Suicidal patients also had higher scores on the Attraction to Death Scale than either the non-suicidal psychiatric inpatients or the normative sample. There were no differences between groups on the Repulsion by Death Scale.

These findings were largely replicated with a mixed clinically and non-clinically ascertained American sample of youths (Osman et al., 1994). Essentially, the suicidal patients had lower scores on the Attraction to Life Scale, and higher scores on the Repulsion by Life and Attraction to Death scales than non-suicidal psychiatric inpatients and non-referred high school students. The Repulsion to Death Scale did not differentiate between the adolescents.

In a different mixed clinical and non-clinical sample of adolescents, the four Subjective Experience of Problem Irresolvability (SEPI) scales were all negatively related to the Attraction to Life Scale, and positively related to the Attraction to Death and Repulsion to Life Scale (Orbach et al., 1999). The SEPI was not related to the Repulsion by Death Scale.

Lastly, in an Israeli adolescent inpatient sample, the Attraction to Life and Repulsion by Death MAST scales were positively related, and the Attraction to Death and Repulsion by Life scales were negatively related to more positive or adaptive sense of body self-preservation as evidenced by 3 of 4 factors (body image attitudes, body care, body protection) of the Body Investment Scale (BIS; Orbach and Mikulincer, 1998). All of the MAST scales except the Repulsion by Death Scales were also related in a predicted manner to the comfort in physical contact BIS factor. (Orbach and Mikulincer, 1998).

### **Dimensionality:**

In a mixed clinically and non-clinically ascertained sample of Israeli adolescents, the four-factor structure of the MAST that was apparent in the item selection process (corresponding to attraction to and repulsion by life, and attraction to and repulsion by death) was replicated with

the final 30-item version of the scale (Orbach et al., 1991). This same factor structure was replicated in a mixed clinical and non-clinical sample of American youths (Osman et al., 1994).

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

No published data were located.

**Summary and Evaluation:**

The MAST is a theoretically based attitudinal scale that has been shown to differentiate between non-suicidal and suicidal youths. It is one of the few instruments reviewed that assesses deterrents to suicide in addition to other constructs. The test-retest reliability and the predictive validity of the scale have not been demonstrated. Responses to the Attraction to Death Scale are negatively related to social desirability. In addition, the Repulsion to Death Scale of the MAST does not appear to be as useful as the other scales in differentiating among suicidal and non-suicidal youths.

**Where to Obtain:**

Items on the MAST are listed in the Orbach et al. (1991) article, referenced below.

**References:**

- Cotton, C., Range, L. (1993). Suicidality, hopelessness, and attitudes toward life and death in children, Death Studies, 17, 185-191.
- Orbach, I., Feshbach, S., Carlson, G., Ellensberger, I. (1984). Attitudes toward life and death in suicidal, normal and chronically ill children: An extended replication. Journal of Consulting and Clinical Psychology, 52, 1020-1027.
- Orbach, I., Feshbach, S., Carlson, G., Glaubman, H., Gross, Y. (1983). Attraction and repulsion by life and death in suicidal and in normal children. Journal of Consulting and Clinical Psychology, 51, 661-670.
- Orbach, I., Lotem-Peleg, M., Kedem, Pl. (1995). Attitudes toward the body in suicidal, depressed and normal adolescents. Suicide and Life-Threatening Behavior, 25, 211-221.
- Orbach, I., Milstein, I., Har-Even, D., Apter, A., Tiano, S., Elizur, A. (1991). A Multi-Attitude Suicide Tendency Scale for adolescents. Psychological Assessment, 3, 398-404.
- Orbach, I., Mikulincer, M. (1998). The Body Investment Scale: Construction and validation of a body experience scale. Psychological Assessment, 10, 415-425.
- Orbach, I., Mikulincer, M., Blumenson, R., Mester, R., Stein, D. (1999). The Subjective Experience of Problem Irresolvability and suicidal behavior: Dynamics and measurement. Suicide and Life-Threatening Behavior, 29, 150-164.
- Osman, A., Barriours, F., Panak, W., Osman, J., Hoffman, J., Hammer, R. (1994). Validation of the Multi-Attitude Suicide Tendency Scale in adolescent samples. Journal of Clinical Psychology, 50, 847-855.

## 11. PATHOS

### **Description:**

PATHOS is a five-item screening questionnaire administered in interview form by clinicians to identify “serious cases” of adolescent intentional overdose who presumably are at continued risk for suicidal behavior and are in need of more extensive assessment prior to discharge from an emergency room setting (Kingsbury, 1996). The PATHOS was developed to meet a clinical need – a system for triaging and identifying those youths in most need of thorough evaluation, given that some youths with overdoses are discharged from emergency settings before thorough assessments can be undertaken. The five questions of the PATHOS (on which the acronym is based) are: (1) Have you had **P**roblems for longer than one month?, (2) Were you **A**lone in the house at the time?, (3) Did you plan the overdose for longer than **T**hree hours?, (4) Are you feeling **H**opeless about the future?, and (5) Were you feeling **S**ad for most of the time before the overdose? Receiver Operator Curve analyses in the sample in which the scale was developed post-hoc indicated that a score of 2 or greater for the 5 questions (with each Yes counting as 1) best identified youths thought to be “at risk.”

### **Potential Use:**

Clinical research, screening in a clinical setting

### **Populations Studied:**

The PATHOS has been used as a screening instrument for adolescents presenting in emergency settings secondary to overdose (Kingsbury, 1996).

### **Reliability:**

No data regarding interrater or test-retest reliability are available.

### **Internal Consistency:**

No published data were located.

### **Concurrent Validity:**

In a sample of adolescents presenting in an emergency room setting subsequent to overdoses, PATHOS scores were found to be related to independent assessments of depression, hopelessness, suicidal intent, premeditation time, and history of prior overdoses (Kingsbury, 1996). A high-risk group in this same sample was defined as anyone scoring in the top quartile of the depression or hopelessness scales, or assessments of premeditation or suicide intent. A score of 2 on the PATHOS identified these “high-risk” youths well, with sensitivity of 100% and specificity of 57.9%.

### **Dimensionality:**

No published data were located.

### **Predictive Validity:**

No published data were located.

**Treatment Studies:**

No published data were located.

**Summary and Evaluation:**

The PATHOS is a clinical screening procedure for identifying adolescents in emergency settings secondary to overdoses who are thought to be at especially “high risk” and in need of further evaluation. This instrument was developed to meet a clinical need – a system for triaging and identifying those youths in most need of thorough evaluation, given that some youths with overdoses are discharged from emergency settings before thorough assessments can be undertaken. Nonetheless, the ultimate purpose of the screening instrument is unclear because the authors urge that even “low-scoring adolescents” should be fully evaluated in emergency settings. No interrater reliability data are available for the PATHOS, and the utility of the PATHOS in predicting later suicidal behavior has not been demonstrated.

**Where to Obtain:**

The PATHOS can be found in the Kingsbury (1996) article, referenced below.

**References:**

Kingsbury, S. (1996). PATHOS: A screening instrument for adolescent overdose: A research note. Journal of Child Psychology and Psychiatry, 37, 609-611.



## 12. Reasons for Living Inventory

### Description:

The Reasons for Living Inventory (RFL) is a self-report measure designed to assess potential reasons for not committing suicide (Linehan et al., 1983). As such, the scale is one of the few instruments that assess protective factors or beliefs buffering against suicidal behavior, rather than focusing on risk factors. Different versions of the inventory have different lengths; however, the most commonly used version of the RFL is the RFL-48 (the 48-item version). On the RFL, respondents are asked to rate the current importance of each item as a reason for not killing themselves. Items are scored on a 6-point Likert scale ranging from 1 (“not at all important”) to 6 (“extremely important”). Based on factor analyses with adults, the RFL is thought to assess six domains of reasons for living: 1) survival and coping beliefs, 2) responsibility to family, 3) child-related concerns, 4) fear of suicide, 5) fear of social disapproval, and 6) moral objections. The RFL yields a total score as well as six subscale scores corresponding to each of the above domains; however, Linehan has suggested that the subscale results may be more useful in guiding therapy strategies than the total RFL score. Other versions of the RFL include the Brief RFL (BRFL; Ivanoff et al., 1994), the RFL for Adolescents (RFL-A; Osman et al., 1998) and the Brief RFL for Adolescents (BRFL-A; Osman et al., 1996); these latter two instruments are reviewed separately. The RFL also has been translated into Chinese (Chan, 1995).

### Potential Use:

Clinical research

### Populations Studied:

The RFL has been used with student populations (Cole, 1989), incarcerated adolescents (Cole, 1989), and with adolescents in inpatient psychiatric settings (Goldston et al., 2000; Pinto et al., 1998).

### Reliability:

No published data from adolescents were located for the RFL.

### Internal Consistency:

In a sample of psychiatric inpatients, Pinto et al. (1998) found the RFL (with the Child-Related Concerns deleted) to be internally consistent ( $\alpha=.97$ ). The five scales derived in that study (which were similar but not identical to the original scales) were also internally consistent: Survival and Coping Beliefs  $\alpha=.98$ , Responsibility to Family  $\alpha=.91$ , Fear of Failure and Social Disapproval  $\alpha=.86$ , Moral Objections  $\alpha=.81$ , Fear of Suicide  $\alpha=.72$ .

In a sample of Chinese adolescents (Chan, 1995), the RFL scales were found to have moderate to high internal consistency: Survival and Coping Beliefs  $\alpha=.91$ , Responsibility to Family  $\alpha=.78$ , Fear of Suicide  $\alpha=.64$ , Fear of Social Disapproval  $\alpha=.76$ , Moral Objections  $\alpha=.62$ .

### **Concurrent Validity:**

In a sample of normal high school students, scores on both the RFL Survival and Coping Beliefs and Responsibility to Family scales were negatively related to suicidal ideation, past suicide threats, past suicide attempts, estimated likelihood of future attempts, severity of depression, and hopelessness (Cole, 1989). In a sample of incarcerated youths, scores on the Survival and Coping Beliefs scale also were negatively related to each of these criterion variables. In contrast, Responsibility to Family scores were related only to past history of attempts among the incarcerated youths. In a similar manner, among students, scores on the Moral Objections scale were negatively related to past suicidal ideation, past attempts, and estimated likelihood of attempting suicide in the future; however, in an incarcerated sample, scores on the Moral Objections scale were unrelated to these variables. Paradoxically, the Fear of Suicide scale was modestly *positively* related to depression and hopelessness, and *negatively* related to an index of social desirability.

Most of the expected associations between the Survival and Coping Beliefs and the Moral Objections scales and indices of suicidal behavior and suicide expectations remained significant when controlling (in separate analyses) for severity of depression and hopelessness. In contrast, scores on the Responsibility to Family scale were no longer related to suicidal ideation or past suicidal behavior when controlling for depression or hopelessness (Cole, 1989).

High school students with no or brief suicidal ideation had stronger reasons for living as assessed with the Survival and Coping Beliefs, Responsibility to Family, and Moral Objections RFL scales than adolescents with “serious” suicidal ideation or a history of suicide attempts (Cole, 1989). The Fear of Suicide and Fear of Social Disapproval Scales did not differentiate these youths.

### **Dimensionality:**

Factor analysis of RFL data from Chinese high school students in Hong Kong (with the Child Concerns items deleted) yielded a five-factor solution that was similar to that obtained with adult samples. The primary differences between the Chinese RFL derived scales and the original scales were (a) the deletion of the Moral Objections scale in the Chinese version of the RFL because of the small number of items and concerns about instability, and (b) the splitting of the Survival and Coping Beliefs into two separate scales.

Pinto et al. (1998) found that the original five factors identified for the RFL with adult samples did not provide a good fitting model for data from inpatient adolescents. However, in a principal components analysis, Pinto et al. (1998) identified five very similar factors with eigenvalues greater than 1.0 which accounted for a total of 66.5% of the variance in RFL scores. Although the names of these factors were retained (with the exception of Fear of Social Disapproval which was renamed Fear of Failure and Social Disapproval), the items loading on these factors differed from the original items.

### **Predictive Validity:**

In a sample of psychiatrically hospitalized adolescents with a prior history of suicide attempts (but not among adolescents without such a history), greater Survival and Coping Beliefs as rated on the RFL at index hospitalization predicted *longer* times until post-hospitalization suicide attempts (Goldston et al., 2000). Specifically, for inpatient adolescents with a history of

attempts, scores of <4.9 on the Survival and Coping Beliefs scale had 83% sensitivity and 48% specificity in predicting suicide attempts within one year following discharge. Scores of <4.9 on the Survival and Coping Beliefs scale *or*  $\geq 9$  on the BHS yielded 92% sensitivity and 31% specificity in predicting suicide attempts within one year of discharge.

**Treatment Studies:**

No published treatment data using the RFL with adolescents were located.

**Summary and Evaluation:**

The RFL inventory is one of the few assessment devices that assess deterrents to suicidal behavior, or belief systems that theoretically buffer against suicidal behavior. The RFL was developed in adult populations, and has been less widely used in adolescents. There is some evidence suggesting that the factor structure of the RFL may not be the same in adult and adolescent populations. Not all of the scales of the RFL appear to have equal utility with adolescents; the Survival and Coping Beliefs scale has the most items, has the highest levels of internal consistency, has the most demonstrated convergent validity, and is the only scale of the RFL to have been shown to have some predictive validity with adolescents.

**Where to Obtain:**

Items on the RFL-48 are in the Linehan et al. (1983) article, referenced below. Information on other versions of the RFL can be obtained from Marsha Linehan, Ph.D., Department of Psychology, University of Washington, Box 351525, Seattle, WA 98195-1525.

**References:**

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- Osman, A., Kopper, B., Barrios, F., Osman, J., Besett, T., Linehan, M. (1996). The Brief Reasons for Living Inventory for Adolescents (BRFL-A). *Journal of Abnormal Child Psychology*, *24*, 433-443.

Pinto, A., Whisman, M., Conwell, Y. (1998). Reasons for living in a clinical sample of adolescents. Journal of Adolescence, 21, 397-405.

### **13. Reasons for Living Inventory for Adolescents (RFL-A) and Brief Reasons for Living Inventory for Adolescents (BRFL-A)**

#### **Description:**

Two measures, the Reasons for Living Inventory for Adolescents (RFL-A; Osman et al., 1998) and the Brief Reasons for Living Inventory for Adolescents (BRFL-A; Osman et al., 1996), were developed to assess the same adaptive or life-maintaining belief system thought to be measured by the parent version of the RFL. The RFL-A is a 52-item measure, and the BRFL-A is a 14-item measure. The BRFL-A was developed from items on the original RFL; the RFL-A was developed using both existing items and new items.

#### **Potential Use:**

Clinical research

#### **Populations Studied:**

Validation samples for the RFL-A and BRFL-A include both samples of non-clinically-ascertained high school students, and adolescent psychiatric inpatients (Osman et al., 1996, 1998).

#### **Reliability:**

No published data were located.

#### **Internal Consistency:**

In an initial mixed sample of high school students, adolescent psychiatric inpatients, and college freshmen, and in a cross-validation sample of adolescent psychiatric inpatients, the BRFL-A scales were found to be internally consistent: Survival and Coping Beliefs  $\alpha=.76$  and  $.74$ , Responsibility to Family  $\alpha=.74$  and  $.85$ , Fear of Suicide  $\alpha=.67$  and  $.70$ , Fear of Social Disapproval  $\alpha=.80$  and  $.76$ , and Moral Objections  $\alpha=.79$  and  $.68$  (Osman et al., 1996).

The RFL-A has five factor-analytically derived scales. In two samples of non-clinically referred high school students, and another sample of adolescent psychiatric inpatients, the internal consistency of these factor-derived scales was as follows – Future Optimism:  $\alpha=.91$  to  $.94$ , Suicide-Related Concerns:  $\alpha=.93$  to  $.95$ , Family Alliance  $\alpha=.93$  to  $.95$ , Peer Acceptance and Support:  $\alpha=.89$  to  $.92$ , and Self-Acceptance :  $\alpha=.93$  to  $.95$  (Gutierrez et al., 2000; Osman et al., 1998).

The internal consistency of the entire RFL-A was  $.96$  (Osman et al., 1998) and  $.97$  (Gutierrez et al., 2000), in a sample of non-clinically referred high school students, and adolescent psychiatric inpatients, respectively.

#### **Concurrent Validity:**

In a mixed sample of high school students (Osman et al., 1996), adolescent psychiatric inpatients, and college freshmen, the Survival and Coping Beliefs and Responsibility to Family scales of the BRFL-A were found to correlate negatively with estimated suicide probability, self-rated expectation of later suicide attempts, and current suicidal ideation. The Moral Objections

scale was found to be negatively correlated with estimated probability of later suicide attempt and self-rated expectations for later suicide attempts.

However, in this same sample (Osman et al., 1996), the BRFL-A Survival and Coping Beliefs scale was also found to be positively correlated with the Lie and the Defensiveness validity scales of the MMPI-A. The Fear of Social Disapproval Scale was paradoxically negatively related to the Lie Scale of the MMPI-A. The Survival and Coping Beliefs Scale was negatively related to the Depression, Low Self-Esteem, Family Problems, and Negative Treatment Indicators Content Scales of the MMPI-A (following Bonferonni corrections). The Responsibility to Family scale was negatively related to alienation, family problems, and negative treatment indicators. Last, the Moral Objections scale was negatively correlated with the MMPI-A Depression and Negative Treatment Indicators content scales.

In a sample of high school students, the RFL-A total score and scale scores had moderate negative (but statistically significant) correlations with suicidal ideation, suicide threats, and estimated likelihood of future attempts as assessed with the Suicide Behavior Questionnaire, Suicide Probability Scale scores, Beck Hopelessness Scale scores, and the depression section of the Brief Symptom Inventory (Osman et al., 1998). All of the correlations (with measures except the BSI) remained statistically significant after controlling for general psychopathology as assessed with the BSI. In psychiatric inpatients, the RFL-A scales again were negatively correlated with SBQ-assessed suicidal ideation, threats, and estimated likelihood of future attempts (Gutierrez et al., 2000; Osman et al., 1998), SPS total scores (Gutierrez et al., 2000; Osman et al., 1998), hopelessness (Gutierrez et al., 2000), and low self-esteem (Gutierrez et al., 2000).

In one sample, recently suicidal adolescent psychiatric inpatients had lower scores on each of the RFL-A scales and for the entire RFL-A than psychiatric inpatients without recent suicide attempts, and a non-clinically-ascertained sample of high school students (Osman et al., 1998). In a second sample of adolescent psychiatric inpatients, both first-time or repeat suicide attempters had lower RFL-A scores than nonsuicidal adolescents (Gutierrez et al., 2000).

### **Dimensionality:**

In a mixed sample of clinically referred adolescents and normal high school students, exploratory and confirmatory factor analyses of the BRFL-A yielded five factors, consistent with the factor structure of the original RFL (Osman et al., 1996).

In a sample of high school students, exploratory factor analysis of RFL-A data yielded five factors which were interpreted as Future Optimism (by far the largest factor), Suicide-Related Concerns, Family Alliance, Peer Acceptance and Support, and Self-Acceptance (Osman et al., 1998). Confirmatory factor analysis with three additional sets of youths indicated that this factor solution provided an adequate fit for the data (Osman et al., 1998; Gutierrez et al., 2000).

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

No published data were located.

**Summary and Evaluation:**

The RFL-A and the BRFL-A eventually may have greater utility with adolescents than the original RFL. However, relatively little research has been conducted with the scales beyond the validation and cross-validation studies, and the predictive validity of both scales has yet to be documented.

**Where to Obtain:**

Items on the RFL-A are in the Osman et al. (1998) article, referenced below. Items on the BRFL-A are in the Osman et al. (1996) article, referenced below.

**References:**

- Gutierrez, P., Osman, A., Kopper, B., Barrios, F. (2000). Why young people do not kill themselves: The Reasons for Living Inventory for Adolescents. Journal of Clinical Child Psychology, 29, 177-187.
- Osman, A., Downs, W., Kopper, B., Barrios, F., Baker, M., Osman, J., Besett, T., Linehan, M. (1998). The Reasons for Living Inventory for Adolescents (RFL-A): Development and psychometric properties. Journal of Clinical Psychology, 54, 1063-1078.
- Osman, A., Kopper, B., Barrios, F., Osman, J., Besett, T., Linehan, M. (1996). The Brief Reasons for Living Inventory for Adolescents (BRFL-A). Journal of Abnormal Child Psychology, 24, 433-443.

## 14. Suicide Probability Scale (SPS)

### Description:

The Suicide Probability Scale (SPS) is a 36-item self-report measure designed as a screening instrument to assess suicide risk in individuals aged 14 and older (Cull and Gill, 1988). The impetus for developing this scale was “the lack of empirically validated and generally available measures for predicting suicidal behaviors” (Cull and Gill, 1988; p. 1). Items of the SPS assess four areas: hopelessness, suicidal ideation, negative self-evaluation, and hostility. Respondents are instructed to circle whether each item on the SPS describes them “None or a little of the time,” “Some of the time,” “Good part of the time,” or “Most or all of the time.” Interpretation of the SPS is based on individual item analysis, scores on the four subscales (corresponding to the areas above), and the total weighted score (and T-score). The authors caution that the SPS should not be used as the sole instrument for assessing suicidality when a person is thought to be at risk, and state that the SPS is meant to supplement, rather than supplant clinical judgement.

### Potential Use:

Clinical research, clinical assessment, screening in “high-risk settings in conjunction with other methods of assessing suicide potential” (Cull and Gill, 1988, p.3)

### Populations Studied:

The SPS was validated on a primarily adult sample (Cull and Gill, 1988), and the norms on the measure extend to age 14. The SPS also has been used with high school students (D’Attilio et al., 1992; D’Attilio and Campbell, 1990; Osman et al., 1998; Tatman et al., 1993), pediatric health clinic attendees (Cappelli et al., 1995), physically abused youths (Kaplan et al. 1997), adolescents in a group home setting (Larzelere et al., 1996), and adolescent psychiatric inpatients (Osman et al., 1996).

### Reliability:

The test-retest reliability of the SPS for two mixed age groups was high ( $r=.92$  and  $.94$ ), although the SPS had somewhat lower test-retest reliability in certain subgroups (e.g.,  $r=.84$  for male Hispanics; Cull and Gill, 1988).

### Internal Consistency:

In the validation sample of adolescents and (mostly) adults, internal consistency was determined separately for even and odd items, and for each subscale: Total Scale  $\alpha=.93$  and  $.93$ ; Hopelessness Scale  $\alpha=.85$  and  $.86$ , Suicidal Ideation Scale  $\alpha=.89$  and  $.89$ , Negative Self-Evaluation Scale  $\alpha=.68$  and  $.62$ , Hostility Scale  $\alpha=.76$  and  $.75$  (Cull and Gill, 1988).

In a high school sample, internal consistency was as follows: Total Scale  $\alpha=.90$ , Hopelessness Scale  $\alpha=.78$ , Suicidal Ideation Scale  $\alpha=.86$ , Negative Self-Evaluation Scale  $\alpha=.59$ , Hostility Scale  $\alpha=.66$  (Tatman et al., 1993). It was noted that the item-total correlations of the SPS among the adolescent students (Tatman et al., 1993) was significantly lower than that reported for Cull and Gill’s (1988) validation sample.



**Concurrent Validity:**

In a sample of adolescent psychiatric inpatients, the total SPS score was negatively correlated with the Survival and Coping Beliefs, Responsibility to Family, and Moral Objections scales and the total score of the Brief Reasons for Living Inventory – Adolescent (BRFL-A; Osman et al., 1996). In a sample of high school students, SPS scores were found to be negatively associated with all of the Reasons for Living – Adolescent (RFL-A) scales, as well as the total score from that measure (Osman et al., 1998). In student samples, SPS scores also have been found to be associated with decreased social support and death anxiety (D’Attilio et al., 1992; D’Attilio and Campbell, 1990).

In physically abused adolescents, suicide attempters were found to differ from nonsuicidal youths on the Hostility Scale of the SPS (Kaplan et al., 1997). However, in this same sample, the suicide attempters and nonsuicidal youths did not differ on the Negative Self-Evaluation, Suicidal Ideation, or Probability of Suicide Scales, nor with regard to SPS total scores (Kaplan et al., 1997).

**Dimensionality:**

Factor analysis of responses to the SPS revealed six factors with eigenvalues greater than 1.0 (Cull and Gill, 1988). These were interpreted as reflecting Suicidal Ideation, Hopelessness, Positive Outlook, Interpersonal Closeness, Hostility, and Angry Impulsivity. The Positive Outlook factor had only a small cluster of items and was merged with the Interpersonal Closeness factor to form the Negative Self-Evaluation Scale. The Hostility and Angry Impulsivity factors also had a relatively small number of items, and were merged to form the Hostility Scale of the SPS.

Factor analysis in a high school sample yielded a factor solution slightly different from that found in the validation sample (Tatman et al., 1993). Essentially, in this sample, three factors were found which were interpreted as Suicidal Despair (which included modest factor loadings for the hopelessness items), Angry Frustration, and Low Self-Efficacy.

**Predictive Validity:**

In validating this scale, the authors (Cull and Gill, 1988) provided evidence that the items differentiated (in cross-sectional analyses) between individuals who had attempted suicide and individuals who had not attempted suicide. However, in the manual, no evidence about predictive validity (or the ability of the scale to predict suicidal behavior at a later point in time) was offered.

In a sample of adolescents receiving treatment in a group home, SPS scores were predictive (at conventional levels of statistical significance) of future suicide attempts, suicidal verbalizations, and “minor self-destructive behaviors” (Larzelere et al., 1996). However, use of the cut-off for taking suicide precautions cited in the SPS manual would have yielded only 27.6% sensitivity and 89.7% specificity in predicting suicide attempts. Using an alternative cut-off would have yielded sensitivity of 48.3% and specificity of 80.3%.

**Treatment Studies:**

No published studies were located.

**Summary and Evaluation:**

Despite the fact that the SPS was developed in part because of the dearth of available scales predicting suicidal behavior, the manual presents no evidence about the predictive utility of the scale. Evidence is mixed as to the scale's usefulness in an adolescent population. One study found SPS scores to be predictive (at statistically significant levels) of later suicidal behavior in a sample of adolescents in a group home. However, in terms of the clinical or practical significance of the findings, the cut-off score recommended in the SPS manual failed to identify even half of the adolescents who eventually attempted suicide. Additional work assessing the predictive utility of the scale in adolescent populations is recommended.

**Where to Obtain:**

Western Psychological Services, 12031 Wilshire Blvd, Los Angeles, CA 90025-1251

**References:**

- Cappelli, M., Clulow, M., Goodman, J., Davidson, S., Feder, S., Baron, P., Manion, I., McGrath, P. (1995). Identifying depressed and suicidal adolescents in a teen health clinic. Journal of Adolescent Health, 16, 64-70.
- Cull, J., Gill, W. (1988). Suicide Probability Scale (SPS) Manual. Los Angeles: Western Psychological Services.
- D'Attilio, J., Campbell, B. (1990). Relationship between death anxiety and suicide potential in an adolescent population. Psychological Reports, 67, 975-978.
- D'Attilio, J., Campbell, B., Lubold, P., Jacobson, T., Richard, J. (1992). Social support and suicide potential: Preliminary findings for adolescent populations. Psychological Reports, 70, 76-78.
- Kaplan, S., Pelcovitz, D., Salzinger, S., Mandel, F., Weiner, M. (1997). Adolescent physical abuse and suicide attempts. Journal of the American Academy of Child and Adolescent Psychiatry, 36, 799-808.
- Larzelere, R., Smith, G., Batenhorst, L., Kelly, D. (1996). Predictive validity of the Suicide Probability Scale among adolescents in group home treatment. Journal of the American Academy of Child and Adolescent Psychiatry, 35, 166-172.
- Osman, A., Downs, W., Kopper, B., Barrios, F., Baker, M., Osman, J. (1998). The Reasons for Living Inventory for Adolescents (RFL-A): Development and psychometric properties. Journal of Clinical Psychology, 54, 1063-1078.
- Osman, A., Kopper, B., Barrios, F., Osman, J., Besett, T., Linehan, M. (1996). The Brief Reasons for Living Inventory for Adolescents (BRFL-A). Journal of Abnormal Child Psychology, 24, 433-443.
- Tatman, S., Greene, A., Karr, L. (1993). Use of the Suicide Probability Scale (SPS) with adolescents. Suicide and Life-Threatening Behavior, 23, 188-203.

## 15. Zung Index of Potential Suicide (IPS)

### Description:

The Zung Index of Potential Suicide (IPS) is a rating scale developed 25 years ago for “making predictions about suicide potential and selecting the high risk person . . . for early intervention and possible prevention of suicide” (Zung, 1974). The scale has two parts – one composed of social and demographic variables associated with risk, and one associated with clinical variables. There are three alternate forms of the clinical portion of the IPS: a form completed by an interviewer, a self-rating form, and a form completed by a significant other. Items on the Interview guide are typically rated from 0 (“none, not present or insignificant”) to 4 (“severe in intensity or duration, present most or all of the time in frequency”). Responses on the IPS self-rating form are generally rated from 0 (“none of the time”) to 4 (most or all of the time”). Social and demographic variables assessed with the IPS include previous hospitalizations, recent moves, recent losses, religion, and number of individual in the household. However, the IPS was developed for use with adults and several of the sociodemographic variables assessed are not of direct relevance for most adolescents including marital status (scored 1 if single and 25 years old or older, or widowed, divorced, or separated and 50 years old or older), and education (scored 1 if 17 years of education and over), etc. Variables assessed in the clinical portion of the IPS include depressed mood, symptoms of depression, symptoms of anxiety, substance abuse, aggression, hopelessness, irritability, feelings of confusion, feelings of lack of support, somatic complaints, perceived lack of alternatives to suicide, suicidal ideation, suicide plans, prior suicide attempts, and exposure to suicide.

The 21-item Israeli Index of Potential Suicide (IIPS) was developed based on IPS items that were found to differentiate between suicidal and non-suicidal individuals (Orbach and Bar-Joseph, 1993). Items were modified from the original IPS because of cultural differences, and to ensure their appropriateness for adolescents. Items on the IIPS were rated from 1 (“strongly agree”) to 5 (“strongly disagree”).

### Potential Use:

Clinical research, screening

### Populations Studied:

The IPS has been used primarily with non-clinically-ascertained adolescents (e.g., Cole, 1989a, 1989b). The IIPS has been used with non-clinically-ascertained samples, psychiatric samples, and adolescents known to be suicidal (Orbach et al., 1993).

### Reliability:

No published test-retest reliability data for the IPS or IIPS were located for adolescent samples.

### Internal Consistency:

No data on the internal consistency of the IPS when used with adolescents were located.

However, the IIPS, a scale based on the IPS, has been described as internally consistent ( $\alpha=.81$  and  $.91$ ; Orbach and Bar-Joseph, 1993; Orbach et al., 1993).

**Concurrent Validity :**

In a sample of non-clinically ascertained high school students, questions extracted from the IPS regarding suicidal ideation, suicide plans, and suicide attempts were found to be negatively and moderately correlated with the Survival and Coping Beliefs Scale of the Reasons for Living Inventory (Cole, 1989b). There were smaller, but nonetheless statistically significant negative associations between the ideation and attempt items from the IPS (but not the suicide plans item) and the Responsibility to Family and Moral Objections scales of the Reasons for Living Inventory. Again, in a high school sample, a “suicide scale” developed by adding the responses to four items extracted from the IPS directly assessing suicidal ideation and behavior was found to be moderately correlated with three measures of depressive symptoms, three measures of hopelessness, and extracted items from the Suicidal Behavior Questionnaire (Cole, 1989a).

The IIPS (the Israeli modification of the IPS) was found to differentiate between suicidal adolescents and a psychiatric and non-psychiatric control group (Orbach et al., 1993). Moreover, among suicidal subjects (but not among the other youths), suicidal tendencies as assessed with the IIPS were found to be moderately negatively correlated with fear of death (Orbach et al., 1993).

**Dimensionality:**

No published data were located.

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

In a suicide prevention program, suicidal tendencies assessed with the IIPS (the Israeli modification of the IPS) were found to decrease among adolescents in a suicide prevention program (relative to control subjects) in four of six schools studied (Orbach and Bar Joseph, 1993). In a fifth school, suicidal tendencies assessed with the IIPS increased in control subjects, but not among subjects participating in the suicide prevention program (Orbach and Bar-Joseph, 1993).

**Summary and Evaluation:**

The Zung Index of Potential Suicide (IPS) was developed 25 years ago for use in the screening of adults. Little psychometric data, including data regarding reliability and predictive validity, have been published for the IPS when used with adolescents. An Israeli modification of the IPS has been developed for which more psychometric data are available. The Israeli version of the IPS also has been used as an outcome measure in a suicide prevention study. However, the predictive validity of this scale also has yet to be examined.

**Where to Obtain:**

The Zung IPS is reproduced in the Zung (1974) article, referenced below. The Israeli IPS may be obtained from Israel Orbach, Ph.D., Department of Psychology, Bar-Ilan University, 52900 Ramat-Gan, Israel.

**References:**

- Cole, D. (1989a). Psychopathology of adolescent suicide: Hopelessness, coping beliefs, and depression. Journal of Abnormal Psychology, 98, 248-255.
- Cole, D. (1989b). Validation of the Reasons for Living Inventory in general and delinquent adolescent samples. Journal of Abnormal Child Psychology, 17, 13-27.
- Orbach, I., Bar-Joseph, H. (1993). The impact of a suicide prevention program for adolescents on suicidal tendencies, hopelessness, ego identity, and coping. Suicide and Life-Threatening Behavior, 23, 120-129.
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- Zung, W. (1974). Index of Potential Suicide (IPS): A rating scale for suicide prevention. In A. Beck, H. Resnik, and D. Lettieri (Eds.), The prediction of suicide (pp. 221-249). Bowie, MD: Charles Press Publishers, Inc.

### C. Instruments for Assessing Intent and Lethality of Suicidal Behavior

This section of the review focuses on instruments/questions developed for assessing the intent and medical lethality of suicidal behavior. There are potentially several reasons for trying to assess these clinical characteristics of suicidal behavior.

First, suicidal behavior with one set of clinical characteristics may predict later behavior better than suicidal behavior with different characteristics. In this context, it is important to determine whether the clinical characteristics of suicidal behavior have predictive validity as well as incremental validity (i.e., the clinical characteristics add important non-redundant information to the ability to predict future behavior). For example, adult alcoholics who take precautions to prevent intervention in a suicide attempt are more likely to eventually complete suicide than alcoholics who do not take such action (Beck et al., 1989). Is it also the case that adolescents who take precautions to prevent discovery during a suicide attempt have a worse prognosis? It also has recently been shown that suicidal ideation at its “worst point” is predictive of suicide in adults (Beck et al., 1999). In an analogous manner, is suicidal ideation at its “worst point” predictive of suicide among adolescents? Are suicide attempts associated with more “serious intent” more likely than suicide attempts with less “serious intent” to predict completed suicide or suicide attempts? Or could it be that adolescents who make suicide attempts with “more severe medical lethality” are more likely to eventually complete suicide than adolescents who make attempts with “less severe medical lethality?”

Second, clinicians may want to incorporate information about intent and lethality of suicidal behavior into their treatment-planning process. In this vein, it would be important to show that suicidal behavior with specific clinical characteristics has a different course or responds to certain treatments in a different manner than suicidal behavior with other clinical characteristics. That is, it is important to ask questions like “Is there an empirical basis for treating a suicide attempt that almost caused death any differently from a suicide attempt with the same intent, but less serious medical consequences?”

A third reason for assessing the clinical characteristics of suicidal behavior is description. Information about intent and medical lethality help clinicians and researchers communicate efficiently about the similarities and differences of suicidal behaviors under study.

#### References:

- Beck, A., Brown, G., Steer, R., Dahlsgaard, K., Grisham, J. (1999). Suicide ideation at its worst point: A predictor of eventual suicide in psychiatric outpatients. Suicide and Life-Threatening Behavior, 29, 1-9.
- Beck, A., Steer, R., Trexler, L. (1989). Alcohol abuse and eventual suicide: A 5- to 10-year prospective study of alcohol-abusing suicide attempters. Journal of Studies of Alcohol, 50, 202-209.

## 1. Beck Suicide Intent Scale (SIS)

### Description:

The Suicide Intent Scale (SIS) is a semi-structured, 15-item interviewer rating scale which is used to evaluate the severity of suicidal intent for a previous suicide attempt, usually an attempt immediately preceding the interview (Beck et al., 1974). There are two sections in the SIS: one assesses “objective” characteristics of the suicide attempt (such as precautions taken against discovery, degree of planning, taking precautions against discovery), and the other assesses “subjective” characteristics (such as expectation of fatality, perceived seriousness of the attempt, etc.). Although developed for use with adults, the SIS has been recommended as appropriate for research with adolescents (Steer and Beck, 1988).

The Beck Suicide Intent Scale was included in the Suicide Circumstances Schedule, a compilation of instruments assessing suicidal behaviors (Brent et al., 1988).

A Physician ED (Emergency Department) measure for evaluating suicidal behavior, based largely on the SIS, has been developed (Spirito et al., 1994).

### Potential Use:

Clinical research

### Populations Studied:

The SIS has been used with medically hospitalized suicide attempters (Brown et al., 1991; Hawton et al., 1999; Spirito et al., 1996), psychiatrically hospitalized suicide attempters (Enns et al., 1997; Nasser and Overholser, 1999; Overholser et al., 1997; Spirito et al., 1996), youths presenting in an Emergency Department (Kingsbury, 1993; Spirito et al., 1994), Aboriginal youths (Enns et al., 1997), and sexually and other physically abused adolescents (Shaunese et al., 1993).

### Reliability:

There was substantial interrater agreement on the SIS in a small sample of adolescent psychiatric inpatients and their parents, and parents of suicide completers (intraclass correlation coefficients ranging from .83 to 1.00; Brent et al., 1988).

### Internal Consistency:

In a sample of adolescent suicide attempters, the total SIS was found to be internally consistent ( $\alpha=.85$ ; Spirito et al., 1996). The subjective portion of the scale was found to have higher internal consistency than the objective portion of the scale ( $\alpha=.85$  and  $.60$ , respectively). The item-total correlations for items in the objective portion of the scale ranged from  $.12$  (n.s.) to  $.56$ ; Item 8 on the SIS regarding Prior Communication was the only item without a statistically significant item-total correlation. Item-total correlations for the subjective portion of the scale ranged from  $.57$  to  $.81$ .

The internal consistency of the entire SIS was replicated in two samples of adolescents with recent attempts ( $\alpha=.74$  and  $.79$ , respectively; Nassar et al., 1999; Kingsbury, 1993). However, Kingsbury (1993) noted the two sections of the SIS were not highly correlated ( $r=.24$ ).

**Concurrent Validity:**

In various clinically referred samples, SIS total scores have been found to be related to severity of depression (DeMaso et al., 1994; Enns et al., 1997; Overholser et al., 1997; Spirito et al., 1996), hopelessness (Enns et al., 1997; Spirito et al., 1996), anxiety (Enns et al., 1997), and suicidal ideation as assessed with the SIQ (Spirito et al., 1996). Longer premeditation before suicidal attempts (assessed with two items on the SIS) was related to greater depression and hopelessness (Brown et al., 1991).

Mixed results have been reported regarding the relationship between suicide intent scores and medical lethality (DeMaso et al., 1994; Nasser and Overholser, 1999)

**Dimensionality:**

From data collected from adolescents who had taken intentional overdoses, Kingsbury (1993) extracted four factors from the SIS; these factors were variously interpreted as (1) Belief about Intent, (2) Preparation before Overdose, (3) Prevention of Discovery, and (4) Communication. The last factor included only two SIS items.

In a sample of medically and psychiatrically hospitalized adolescent suicide attempts, Spirito et al. (1996) extracted a three-factor solution, interpreted as Expected Outcome, Isolation Beliefs, and Planning Activities. Items 7 (regarding the presence of a suicide note) and 8 (regarding prior communication) did not load on any of the factors.

**Predictive Validity:**

Hawton et al. (1999) did not find that suicide intent as assessed with the SIS differentiated adolescent repeat suicide attempters from one-time only attempters in a one-year follow-up study. Similarly, using the Physician ED Measure (based largely on the SIS), Spirito et al. (1994) did not find that suicide intent was related to repeat suicidal behavior among adolescents in a 3-month follow-up (although length of planning the attempt was positively related to compliance with outpatient psychiatric treatment).

**Treatment Studies:**

No treatment studies using the SIS with adolescents were located.

**Summary and Evaluation:**

The Suicide Intent Scale was initially developed for adult populations, and its utility with adolescents is still being evaluated. The scale correlates as expected with constructs such as depression and hopelessness, but data regarding the relationship between intent and medical lethality of attempts are mixed. Although the SIS appears to be useful as a research instrument, and aspects of suicide intent (e.g., precautions against discovery) have been shown to have predictive value in adults, it is not clear whether the SIS conveys any unique information about prognosis or treatment considerations in adolescents.



**Where to Obtain:**

The SIS is in the Beck et al. (1974) reference below.

The Physician ED measure based on the SIS can be obtained from: Anthony Spirito, Ph.D., Child and Family Psychiatry, Rhode Island Hospital, 593 Eddy Street, Providence, RI 02903.

**References:**

- Beck, A. , Schuyler, D., Herman, I. (1974). Development of suicidal intent scales. In A. Beck, H. Resnik, & D. Lettieri (Eds.). The prediction of suicide. Bowie, MD: Charles Press.
- Brent, D., Perper, J., Goldstein, C., Kolko, D., Allan, M., Allman, C., Zelenak, J. (1988). Risk factors for adolescent suicide: A comparison of adolescent suicide victims with suicidal inpatients. Archives of General Psychiatry, 45, 581-588.
- Brown, L., Overholser, J., Spirito, A., Fritz, G. (1991). The correlates of planning in adolescent suicide attempts. Journal of the American Academy of Child and Adolescent Psychiatry, 30, 95-99.
- DeMaso, D., Ross, L., Beardslee, W. (1994). Depressive disorders and suicidal intent in adolescent suicide attempters. Developmental and Behavioral Pediatrics, 15, 74-77.
- Enns, M., Inayatulla, M., Cox, B., Cheyne, L. (1997). Prediction of suicide intent in Aboriginal and non-Aboriginal adolescent inpatients: A research note. Suicide and Life-Threatening Behavior, 27, 218-224.
- Hawton, K., Kingsbury, S., Steinhardt, K., James, A., Fagg, J. (1999). Repetition of deliberate self-harm by adolescents: The role of psychological factors. Journal of Adolescence, 22, 369-378.
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- Shaunese, K., Cohen, J., Plummer, B., Berman, A. (1993). Suicidality in hospitalized adolescents: Relationship to prior abuse. American Journal of Orthopsychiatry, 63, 113-119.
- Spirito, A., Lewander, W., Levy, S., Kurkjian, J., Fritz, G. (1994). Emergency department assessment of adolescent suicide attempters: factors related to short-term follow-up outcome. Pediatric Emergency Care, 10, 6-12.
- Spirito, A., Sterling, C., Donaldson, D., Arrigan, M. (1996). Factor analysis of the Suicide Intent Scale with adolescent suicide attempters. Journal of Personality Assessment, 67, 90-101.
- Steer, R., Beck, A. (1988). Use of the Beck Depression Inventory, Hopelessness Scale, Scale for Suicidal Ideation, and Suicidal Intent Scale with adolescents. Advances in Adolescent Mental Health, 3, 219-231.

## 2. CAPA Clinical Characteristics Questions

### **Description:**

The Child and Adolescent Psychiatric Assessment (CAPA; Angold et al., 1995) was described earlier in this review (in the section regarding detection instruments/structured and semi-structured psychiatric diagnostic interviews). In the CAPA, there are separate questions regarding method of suicide attempt, suicide intent (coded on a 3-point scale from “minimal intention” to “absolute (or almost absolute) intention to commit suicide”), lethality of suicidal attempt (coded on a 3-point scale from mild or requiring no medical attention to serious, resulting in unconsciousness, resuscitation, etc.), and alcohol or drug intoxication at the time of the attempt.

### **Potential Use:**

Clinical research

### **Populations Studied:**

No published studies using the CAPA questions regarding clinical characteristics of suicidal behavior were located.

### **Reliability:**

No published data were located regarding the test-retest and interrater reliability of the clinical characteristics items.

### **Internal Consistency:**

No published data were located.

### **Concurrent Validity:**

No published data were located.

### **Dimensionality:**

No published data were located.

### **Predictive Validity:**

No published data were located.

### **Treatment Studies:**

No published data were located.

### **Where to Obtain:**

Adrian Angold, MRCPsych, Developmental Epidemiology Program, Department of Psychiatry and Behavioral Sciences, Duke University Medical Center, DUMC Box 3454, Durham, NC 27710

**Summary and Evaluation:**

The questions regarding clinical characteristics of suicidal behavior on the CAPA are straightforward and are likely useful for descriptive purposes. Their utility in clinical decision-making and in research regarding suicidal behaviors has not been demonstrated.

**References:**

Angold, A., Prendergast, M., Cox, A., Harrington, R., Simonoff, E., Rutter, M. (1995). The Child and Adolescent Psychiatric Assessment (CAPA). Psychological Medicine, 25, 739-753.

### **3. ISCA Clinical Characteristics Questions**

**Description:**

The Interview Schedule for Children and Adolescents (ISCA; Kovacs, 1997) was described earlier in this review (in the section regarding detection instruments/structured and semi-structured psychiatric diagnostic interviews). In the ISCA, there are questions assessing methods (and contemplated methods) of suicide attempts, the purpose or “idea” associated with attempts or contemplated attempts, whether inpatient or ambulatory medical care was needed for suicide attempts, and psychological intent (wish to die vs. wish to live) at the time of the attempts.

**Potential Use:**

Clinical research

**Populations Studied:**

No studies using the ISCA questions regarding clinical characteristics of suicidal behavior were located.

**Reliability:**

No published data were located regarding the test-retest and interrater reliability of the clinical characteristics items.

**Internal Consistency:**

No published data were located.

**Concurrent Validity:**

No published data were located.

**Dimensionality:**

No published data were located.

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

No published data were located.

**Summary and Evaluation:**

The questions regarding clinical characteristics of suicidal behavior on the ISCA are straightforward and are likely useful for descriptive purposes. Their utility in clinical decision-making and their predictive validity have not been demonstrated.

**Where to Obtain:**

Maria Kovacs, Ph.D., Western Psychiatric Institute and Clinic, University of Pittsburgh School of Medicine, 3811 O'Hara Street, Pittsburgh, PA 15213

**References:**

Kovacs, M. (1997). The Interview Schedule for Children and Adolescents (ISCA): Current and Lifetime (ISCA – C & L) and Current and Interim (ISCA – C & I) versions. Unpublished instruments, University of Pittsburgh School of Medicine, Western Psychiatric Institute and Clinics, Pittsburgh, PA.

#### 4. K-SADS Medical Lethality and Intent Questions

##### **Description:**

In the K-SADS-P IVR (Ambrosini and Dixon, 1996) and K-SADS-L (Klein, 1994), the rating scale corresponding to questions about the “presence” of suicidal ideation or attempts requires some judgment about the intent and medical lethality of suicidal behavior. Specifically, suicide attempts judged to be “gesture(s) of a communicative rather than a potentially medically harmful type” are not rated as highly as “suicidal attempt(s) with definite intent to die or (judged to be) medically harmful.”

In addition, there are highly similar sets of questions with corresponding 0 to 6 rating scales in the K-SADS-P IVR (Ambrosini and Dixon, 1996), K-SADS-L (Klein, 1994), and K-SADS-E (Orvaschel, 1994) specifically assessing medical lethality and intent associated with suicide attempts. In the K-SADS-PL (Kaufman et al., 1996), there is an analogous, but compressed (0 to 3 instead of 0 to 6) rating scale. Responses to the questions regarding “seriousness” (intent) are rated from “obviously no intent/purely manipulative gesture” to “every expectation of death.” Responses to the questions regarding medical lethality are rated from “no danger” to “extreme, e.g., respiratory arrest, prolonged coma.”

Because of the correlation ( $r=.66$ ) between K-SADS ratings of intent and medical lethality (using the Lethality of Suicide Attempt Rating Scale, to be described next) in a large community sample of adolescents (a finding that has not been demonstrated to be consistent across instruments and studies – see for instance DeMaso et al., 1994; Nasser and Overholser, 1999; Plutchik et al., 1989), Lewinsohn et al. (1996) recommended computing the cross-product of the responses to these answers (Intent X Lethality) to generate a single index of “seriousness of an attempt.”

##### **Potential Use:**

Clinical use

##### **Populations:**

The K-SADS intent and lethality items have been used to assess the clinical characteristics of suicide attempts in a community sample of adolescents (Lewinsohn et al., 1996).

##### **Reliability:**

No published data were located regarding the inter-rater and test-retest reliability for these items.

##### **Internal Consistency:**

No published data were located.

##### **Concurrent Validity:**

In a community sample of adolescents, Lewinsohn et al. (1996) found higher K-SADS intent scores to be associated with more severe depression, internalizing and externalizing behaviors, and poor coping skills. Suicidal intent was also related to male gender, poorer social support, and lower interviewer ratings of attractiveness. “Seriousness” of past attempt (the cross-product of intent and lethality ratings using a different measure) was correlated with current depression ( $r=.23$ ; Lewinsohn et al., 1993).

**Dimensionality:**

No published data were located.

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

No published treatment studies were located in which the K-SADS intent and medical lethality items were used.

**Summary and Evaluation:**

The K-SADS intent and lethality items show promise for research. However, similar to ratings from other interviews, the data regarding lethality and intent have not been shown to have utility in treatment-planning, and have not been shown to have predictive validity.

**Where to Obtain:**

K-SADS-E: Helen Orvaschel, Ph.D., Center for Psychological Studies, Nova Southeastern University, 3301 College Avenue, Ft. Lauderdale, FL, 33314

K-SADS-L: Rachel G. Klein, Ph.D., Department of Psychiatry, New York State Psychiatric Institute, 1051 Riverside Drive, New York, NY 10032

K-SADS-P IVR: Paul J. Ambrosini, M.D., MCP Hahnemann University, EPPI, 3200 Henry Avenue, Philadelphia, PA 19129

K-SADS-PL: Joan Kaufman, Ph.D., Department of Psychology, Yale University, P.O. Box 208205, New Haven, CT 06520. Also at <http://www.wpic.pitt.edu/ksads>

**References:**

- Ambrosini, P., Dixon, J. (1996). Schedule for Affective Disorders and Schizophrenia for School Aged Children – Present Version, Version IVR (K-SADS-IVR). Unpublished instrument, Medical College of Pennsylvania, Eastern Pennsylvania Psychiatric Institute, Philadelphia, PA.
- Kaufman, J., Birmaher, B., Brent, D., Rao, U., Ryan, N. (1996). Kiddie SADS – Present and Lifetime Version (K-SADS-PL). Unpublished instrument, University of Pittsburgh School of Medicine, Western Psychiatric Institute and Clinics, Pittsburgh, PA.
- Klein, R. (1994). Kiddie SADS – Lifetime (K-SADS-L). Unpublished instrument, Columbia University, New York State Psychiatric Institute, New York, NY.
- Lewinsohn, P., Rohde, P., Seeley, J. (1993). Psychosocial characteristics of adolescents with a history of suicide attempt. Journal of the American Academy of Child and Adolescent Psychiatry, 32, 60-68.

- Lewinsohn, P., Rohde, P., Seeley, J. (1996). Adolescent suicidal ideation and attempts: Prevalence, risk factors, and clinical implications. Clinical Psychology: Science and Practice, 3, 25-46.
- Orvaschel, H. (1994). Schedule for Affective Disorders and Schizophrenia for School-Aged Children – Epidemiologic Version 5 (K-SADS-E). Unpublished instrument, Nova Southeastern University, Ft. Lauderdale, FL.



## 5. Lethality of Suicide Attempt Rating Scale

### Description:

The Lethality of Suicide Attempt Rate (Smith et al., 1984) is a measure used to evaluate the severity of medical lethality of suicide attempts. Items are scored on an 11-point scale, ranging from 0 (“death is an impossible result of the suicidal behavior”) to 10 (“death is almost a certainty”). The scale is supplemented by tables describing the lethality of different medications.

### Potential Use:

Clinical research

### Populations Studied:

The Lethality of Suicide Attempt Rating Scale has been used in a community sample of adolescents (Lewinsohn et al., 1993, 1994, 1996), with adolescent psychiatric inpatients (Nasser and Overholser, 1999), and with suicide attempters in a group home (Handwerk et al., 1998).

### Reliability:

Interrater reliability of 24 mental health staff in judging the medical lethality depicted in 24 suicide attempt vignettes was found to be high (ICC from .81 for social workers to .88 for psychologists; Smith et al., 1984).

Interrater reliability for the medical lethality ratings of adolescent psychiatric inpatient suicide attempters was found to be high ( $r=.90$ ; Nasser and Overholser, 1999). Six-month test-retest reliability in ratings was .72 (Nasser and Overholser, 1999).

### Internal Consistency:

Not applicable because of the single item.

### Concurrent Validity:

In a community sample of adolescents, medical lethality ratings were found to be correlated with the number of major life events, earlier physical maturation, severity of depression, internalizing and externalizing behavior problems, and poor coping skills (Lewinsohn et al., 1996).

“Seriousness” of past attempt (the cross-product of K-SADS rated intent and lethality ratings) was correlated with current depression ( $r=.23$ ; Lewinsohn et al., 1993).

Adolescent psychiatric inpatients whose suicide attempts were rated as “high lethality” also reported higher levels of suicide intent on the Suicide Intent Scale than youths with suicide attempts that were not rated as lethal (Nasser and Overholser, 1999). Specifically, adolescents with more lethal suicide attempts were more likely to time their attempts so that they would not be discovered, did not see the results of the attempts as being reversible, were less likely to communicate about the attempts, were more likely to expect that they would die, and said that they wanted to die more than youths with less lethal attempts. The adolescents with suicide attempts of differing levels of lethality did not differ with respect to severity of depression, hopelessness, self-esteem, or substance abuse.

In youths who attempted suicide at a group home, the number of prior communications regarding suicidality was inversely related to ratings of medical lethality (Handwerk et al., 1998).

**Dimensionality:**

Not applicable because a single rating.

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

No published data were located.

**Summary and Evaluation:**

The Lethality of Suicide Attempt Rating Scale is a promising measure of the medical lethality of suicide attempts that is being used in an increasing number of studies. Unlike some previous measures of medical lethality, this instrument seems to be related to ratings of suicide intent among adolescents. The utility of the scale in clinical decision-making, and the predictive validity of the scale have not yet been evaluated.

**Where to Obtain:**

The Lethality of Suicide Attempt Rating Scale is in the Smith et al. (1984) article, referenced below.

**References:**

- Handwerk, M., Larzelere, R., Friman, P., Mitchell, A. (1998). The relationship between lethality of attempted suicide and prior suicidal communications in a sample of residential youth. Journal of Adolescence, 21, 407-414.
- Lewinsohn, P., Rohde, P., Seeley, J. (1993). Psychosocial characteristics of adolescents with a history of attempts. Journal of the American Academy of Child and Adolescent Psychiatry, 32, 60-68.
- Lewinsohn, P., Rohde, P., Seeley, J. (1994). Psychosocial risk factors for future adolescent suicide attempts. Journal of Consulting and Clinical Psychology, 62, 297-305.
- Lewinsohn, P., Rohde, P., Seeley, J. (1996). Adolescent suicidal ideation and attempts: Prevalence, risk factors, and clinical implications. Clinical Psychology: Science and Practice, 3, 25-46.
- Nasser, E., Overholser, J. (1999). Assessing varying degrees of lethality in depressed adolescent suicide attempters. Acta Psychiatrica Scandinavica, 99, 423-431.
- Smith, K., Conroy, R., Ehler, B. (1984). Lethality of Suicide Attempt Rating Scale. Suicide and Life-Threatening Behavior, 14, 215-242.

## 6. Pierce Suicidal Intent Scale

### Description:

In developing the Pierce Suicidal Intent Scale (Pierce, 1977), the author wanted to design and test “a more objective scale for measuring suicidal intent” than the Beck Scale for Suicidal Intent. Nonetheless, the Pierce Scale is essentially a modification of the Beck Scale in that the first six of twelve items, as well as the eighth item on this semi-structured interview were taken directly from the Beck Scale for Suicide Intent. Other items on this twelve-item scale are modifications of items on the Beck Scale for Suicide Intent. Although they are summed with the other items to determine an estimate of “intent,” the last two items on the Pierce Scale do not really measure intent at all, but rather measure medical risk or lethality associated with the suicide attempt. There are three scales on the Pierce Suicidal Intent Scale: the first six items are summed to yield a “circumstances score,” items 7 through 10 are summed to yield a self-report score, and the last two items are summed to yield a “medical risk score.” The Pierce Suicide Intent Scale was developed with a sample of primarily adults, although the youngest age of the suicide attempters was 13.

### Potential Use:

Clinical research

### Populations Studied:

The Pierce Suicidal Intent Scale has been used with mixed samples of adults and adolescents (Pierce, 1977), adolescents recruited from an emergency room setting (Rotheram-Borus et al., 1988, 1990; Trautman et al., 1991), adolescents in outpatient psychiatric settings (Rotheram-Borus and Trautman, 1988), Mexican-American adolescents (Ng, 1996), and samples of primarily Hispanic and African-American adolescents (Rotheram-Borus and Trautman, 1988, 1990; Trautman et al., 1991).

### Reliability:

In an initial sample, the interrater reliability of the suicide intent of 16 patients (ages unspecified) was .97 (Pierce, 1977). With a sample of primarily Hispanic and African-American adolescent suicide attempters, interrater reliability of the Pierce Suicidal Intent Scale was .85 (Rotheram-Borus and Trautman, 1990).

### Internal Consistency:

In a mixed sample of adults and adolescents, item-total correlations ranged from .29 to .66 (Pierce, 1977). In a sample totally composed of adolescents, the internal consistency of the scale (as measured with Chronbach  $\alpha$ ) was .73 (Rotheram-Borus and Trautman, 1990).

### Concurrent Validity:

In a mixed sample of adolescent and (primarily) adult suicide patients, scores from the Pierce Scale were highly correlated with the Beck Suicide Intent Scale scores ( $r=.93$ ; Pierce, 1977). Pierce Suicidal Intent scores were higher for patients with multiple suicide attempts and for patients who had received prior psychiatric treatment (Pierce, 1977). Similarly, in a sample of Mexican-American adolescents, suicide attempts with high intent were associated with a greater number of previous attempts than suicide attempts with lower intent (Ng, 1996).

In a sample of primarily Hispanic and African-American adolescent suicide attempts, scores on the Pierce Suicide Intent Scale were not related to either severity of depression or hopelessness (Rotheram-Borus and Trautman, 1988).

**Dimensionality:**

No published data were located.

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

The Pierce Suicidal Intent Scale has not been used in treatment studies with adolescents.

**Summary and Evaluation:**

The Pierce Suicide Intent Scale is not appreciably different from the more widely used Beck Suicide Intent Scale. The scale confounds issues of intent and medical lethality by including two items regarding the medical consequences of suicide attempts. The utility of the scale in clinical decision-making, and the predictive validity of the scale has not yet been evaluated.

**Where to Obtain:**

The Pierce SIS is in the Pierce (1977) article, referenced below.

**References:**

- Ng, B. (1996). Characteristics of 61 Mexican American adolescents who attempted suicide. Hispanic Journal of Behavioral Sciences, 18, 3-12.
- Pierce, D. (1977). Suicidal intent in self-injury. British Journal of Psychiatry, 130, 377-385.
- Rotheram-Borus, M., Trautman, P. (1988). Hopelessness, depression, and suicidal intent among adolescent suicide attempters. Journal of the American Academy of Child and Adolescent Psychiatry, 700-704.
- Rotheram-Borus, M., Trautman, P. (1990). Cognitive style and pleasant activities among female adolescent suicide attempters. Journal of Consulting and Clinical Psychology, 58, 554-561.
- Trautman, P., Rotheram-Borus, M., Dopkins, S., Lewin, N. (1991). Psychiatric diagnoses in minority female adolescent suicide attempters. Journal of the American Academy of Child and Adolescent Psychiatry, 30, 617-622.

## 7. Risk-Rating Rescue Scale

### **Description:**

The Risk-Rescue Rating Scale (Weisman and Worden, 1972) was originally developed for assessing the medical lethality of suicidal behavior in adults. The clinician-rated scale has a section devoted to medical Risk and a section devoted to likelihood of Rescue. The Risk Scale includes five questions pertaining to the lethality of the method used, level of impaired consciousness, lesions/toxicity of the attempt, potential for medical reversibility vs. lasting damage, and treatment required. The Rescue Scale includes five questions assessing whether or not the location of the attempt was remote or isolated, the person (if any) initiating the rescue, the probability of eventual discovery, accessibility to rescue, and time delay until discovery. Each item on the Risk and Rescue scales is scored 1 to 3; the scores on each of the scales is then summed and combined to yield a total classification based on the Risk-Rescue score.

The Risk-Rescue Rating Scale was included in the Suicide Circumstances Schedule, a compilation of instruments assessing suicidal behaviors (Brent et al., 1988).

### **Potential Use:**

Clinical research

### **Populations Studied:**

The Risk-Rescue Rating Scale has been used to assess medically hospitalized adolescents secondary to suicide attempts (Spirito et al., 1991; Swedo et al., 1991), adolescent suicide attempters in outpatient psychiatric settings (DeWilde et al., 1992, 1993), and adolescent suicide attempters screened from schools (DeWilde et al., 1992, 1993).

### **Reliability:**

In a small sample of suicidal inpatients and their parents, and parents of suicide completers, Brent et al. (1988) found acceptable agreement with the Risk-Rescue Rating Scale (intraclass correlation coefficients ranging from .91 to 1.00). In contrast, Spirito et al. (1991) documented considerable difficulty in obtaining reliable ratings with the Risk-Rescue Rating Scale in adolescents. After devising a set of decision rules because of ambiguity about how items should be rated, graduate student raters were still only able to achieve 81% agreement ( $\kappa=.72$ ) for the Risk Scale and 74% agreement ( $\kappa=.61$ ) for the Rescue Scale. A second test-retest study was undertaken for the most discrepant cases rated in the first study. Between a child psychiatrist and a child psychologist, there was only 70% agreement ( $\kappa=.47$ ) on the Risk Scale and 43% agreement ( $\kappa=.07$ ) on the Rescue Scale.

### **Internal Consistency:**

No data are available for adolescents.

**Concurrent Validity:**

In a chart review of medically hospitalized adolescents (secondary to suicide attempts), Brent (1987) found greater medical lethality to be associated with male gender, diagnosis of affective disorder, affective disorder in combination with substance use disorder, family history of affective disorder, and higher suicide intent. Medical lethality was not found to be related to hopelessness.

**Dimensionality:**

No published data were located.

**Predictive Validity:**

No published data were located.

**Treatment Studies:**

No published data were located.

**Summary and Evaluation:**

The Risk-Rescue Rating Scale was developed to assess medical lethality. Spirito et al. (1991) raised questions about its appropriateness with adolescents, and documented difficulties in obtaining reliable ratings with the scale. The clinical and predictive utility of the scale has not been demonstrated.

**Where to Obtain:**

The Risk-Rescue Rating Scale is in the Weisman and Worden (1972) article, referenced below.

**References:**

- Brent, D. (1987). Correlates of the medical lethality of suicide attempts in children and adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, *26*, 87-89.
- Brent, D., Perper, J., Goldstein, C., Kolko, D., Allan, M., Allman, C., Zelenak, J. (1988). Risk factors for adolescent suicide: A comparison of adolescent suicide victims with suicidal inpatients. Archives of General Psychiatry, *45*, 581-588.
- DeWilde, E., Kienhorst, I., Diekstra, R., Wolters, W. (1992). The relationship between adolescent suicidal behavior and life events in childhood and adolescence. American Journal of Psychiatry, *149*, 45-51.
- DeWilde, E., Kienhorst, I., Diekstra, R., Wolters, W. (1993). The specificity of psychological characteristics of adolescent suicide attempters. Journal of the American Academy of Child and Adolescent Psychiatry, *32*, 51-59
- Spirito, A., Brown, L., Overholser, J., Fritz, G., Bond, A. (1991). Use of the risk-rescue rating scale with adolescent suicide attempters: a cautionary note. Death Studies, *15*, 269-280.
- Swedo, S., Rettew, D., Kuppenheimer, M., Lum, D., Dolan, S., Goldberger, E. (1991). Can adolescent suicide attempters be distinguished from at-risk adolescents? Pediatrics, *88*, 620-629.

Weisman, A., Worden, J. (1972). Risk-rescue rating in suicide assessment. Archives of General Psychiatry, 26, 737-746.

## 8. Self-Inflicted Injury Severity Form (SIISF)

### Description:

The Self-Inflicted Injury Severity Form (SIISF) is an “epidemiological research tool for identifying individuals in hospital emergency departments who have life-threatening self-inflicted injuries . . . (that is,) cases of attempted suicide who would have died from suicide-related injuries had they not received rapid and effective prehospitalization or other emergency treatment” (Potter et al., 1998). The SIISF is a newly published instrument that was validated using a sample of 13 to 34 year old suicide attempters. On the SIISF, self-inflicted injuries are classified first according to method: (1) gunshot, (2) jumping or blunt trauma, (3) hanging, (4) suffocation, (5) laceration or stabbing, (6) ingestion, inhalation, or injection, and (7) other. For each of the specified methods, injuries are then classified on a 1 to 3 or 1 to 4 rating scale according to medical lethality. For example, injuries with a gun are classified as (1) “gun fired, bullet missed patient,” (2) “gun fired, bullet wound limited to skin and subcutaneous tissue,” or (3) “gun fired, bullet penetrated muscle, bone, and/or internal organ.”

### Potential Use:

Clinical research

### Populations Studied:

The SIISF has been used in emergency room settings in classification of self-injuries among adolescents and adults (aged 13-34; Potter et al., 1998).

### Reliability:

Interrater agreement as to the classification of suicide attempt method on the SIISF was high ( $\kappa=.94$ ; Potter et al., 1998). Using the classification of “near-fatality,” agreement as to case status by independent reviewers was also high ( $\kappa=.93$ ), with poisoning being the only method associated with disagreements. Agreement as to level of severity could not be reliably computed for attempts with guns, jumping, hanging, or drowning/suffocating because of the small sample size. There was substantial agreement for severity of injury associated with laceration/stabbing ( $\kappa=.71$ ) and ingestion ( $\kappa=.73$  for level of consciousness;  $\kappa=.78$  for physiological symptoms).

### Internal Consistency:

No published data were located.

### Concurrent Validity:

There was high agreement as to method of self-injury between the SIISF and the Risk-Rescue Rating Scale ( $\kappa=.88$ ; Potter et al., 1998). Injuries classified as “cases” according to the SIISF (because of their “near-fatality”) had higher Risk-Rescue Rating scores than injuries classified as non-cases.

### Dimensionality:

No published data were located.



**Predictive Validity:**

No published data were located.

**Treatment Studies:**

No published data were located.

**Summary and Evaluation:**

The Self- Inflicted Injury Severity Form (SIISF) is a newly developed instrument for identifying individuals who made “near lethal” suicide attempts. As of yet, the instrument has not been used in published studies beyond the original validation sample. The intended purpose of the instrument for identifying “near fatal” suicide attempts is a questionable one for adolescents, given that the predictive validity and clinical utility of ratings of medical lethality of suicide attempts among adolescents have yet to be demonstrated.

**References:**

Potter, L., Kresnow, M., Powell, K., O’Carroll, P., Lee, R., Frankowski, R., Swann, A., Bayer, T., Bautista, M., Briscoe, M. (1998). Identification of nearly fatal suicide attempts: Self-Inflicted Injury Severity Form. Suicide and Life-Threatening Behavior, 28, 174-186.

## **D. Other Instruments**

This section of the review is devoted to instruments assessing areas related to suicidality not covered elsewhere. These include

- instruments assessing attitudes toward suicidal behaviors
- instruments assessing the circumstances of exposure to suicide or death
- compilations of instruments
- forms for recording information from clinical interviews about suicidal behaviors
- “process” instruments and projective instruments for assessing suicidality, and
- interviews for survivors of suicide.

The instruments in this section are not critically evaluated from a psychometric perspective; indeed, some of the instruments in this section are not amenable to the same type of critique as the other assessment devices in this review. Rather, a description of these instruments is simply provided for information purposes.

## 1. Attitudes Toward Suicide List

### Description:

The Attitudes Toward Suicide List is a 20-item measure designed to assess attitudes toward suicidal behavior (DeWilde et al., 1993; Diekstra and Kerkhof, 1989). Factor analysis of this scale has yielded five factors interpreted as follows: “(1) restrictive/permissive attitude toward suicide as a consequence of social/relational loss, (2) restrictive/permissive attitude toward suicide as a consequence of serious physical suffering, (3) moral judgment of suicide, (4) restrictive/permissive attitude toward suicide as a consequence of losing or not acquiring nuclear family, and (5) consequences of suicide (for society or relatives)” (DeWilde et al., 1993; p. 53). The items on this scale are rated on a 5-point scale, ranging from “certainly yes” to “certainly no.” The Attitudes Toward Suicide List has been studied both on the item level (Kienhorst et al., 1991) and on the factor level (DeWilde et al., 1993)

### Where to Obtain:

Dr. Erik J. De Wilde, Department of Clinical, Personal and Health Psychology, University of Leiden, Wassenaarseweg 52, 2333 AK Leiden, The Netherlands

### References:

- Diekstra, R., Kerkhof, A. (1989). Attitudes toward suicide: The development of a suicide-attitude-questionnaire (SUIATT). In: Suicide and its prevention. The role of attitudes and imitations, eds. R. Diekstra, R. Maris, S. Platt, A. Schmidtke, G. Sonneck. Leiden: Brill.
- DeWilde, E., Kienhorst, I., Diekstra, R., Wolters, W. (1993). The specificity of psychological characteristics of adolescent suicide attempters. Journal of the American Academy of Child and Adolescent Psychiatry, 32, 51-59
- Kienhorst, C., DeWilde, E., Diekstra, R., Wolters, W. (1991). Construction of an index for predicting suicide attempts in depressed adolescents. British Journal of Psychiatry, 159, 676-682.

## 2. Attitudes Toward Suicide and Suicidal Ideation

### Description:

The Attitudes Toward Suicide and Suicidal Ideation questionnaire (Stein et al., 1998) was developed to examine adolescents' attitudes toward suicide and the relationship between these attitudes and other factors thought to be risk factors for suicidal behavior. The Attitudes Toward Suicide and Suicidal Ideation questionnaire consists of 156 multiple-choice questions examining the attitudes regarding suicidal behavior, and personal experiences with suicidal ideation and suicidal behavior. Many of the items on this instrument were excerpted from other questionnaires; the remainder were developed by a group of professionals specializing in suicide. Factor analysis (of data from a sample of Israeli 16- to 17-year-olds undergoing evaluations prior to being drafted for military service) revealed that the attitudes fell into four groups: (1) "the right of society to prevent suicide" (e.g., "It is our obligation to prevent suicide even against someone's will," "Suicidal people should receive help, even if this is against their will," "Someone who helps another to commit suicide should be punished"), (2) "suicide as a symptom of deviance or mental illness/relating to suicidal peers" (e.g., "Someone who threatens to commit suicide should be hospitalized," "Someone who threatens suicide is mentally ill"), (3) "the right of the individual to talk about suicide" (e.g., "We should conceal the suicide attempt of a peer from his or her friends," "School discussions about suicide have the potential to reduce the suicidal tendencies of students"), and (4) "taking suicidal statements and behavior seriously" (e.g., "One should relate seriously to suicidal threats by an adolescent," "Someone who threatens to commit suicide would actually attempt to do so," "Someone who commits suicide wants to die").

### Where to Obtain:

Dr. Daniel Stein, Abarbanel Mental Health Center, 15 Keren Kayemet St, Bat-Yam 59100 Israel

### References:

Stein, D., Brom, D., Elizur, A., Witztum, E. (1998). The association between attitudes toward suicide and suicidal ideation in adolescents. *Acta Psychiatrica Scandinavica*, *97*, 195-201.

### 3. Characteristics of Exposure to Death (CED)

#### Description:

The Characteristics of Exposure to Death (CED) Scale (Brent et al., 1992, 1993, 1994, 1995) is an interview measure designed to evaluate the experience of the respondent “just before, during, and after the death of a peer.” Four areas are specifically assessed: the circumstances of death, direct exposure (i.e. what was witnessed), indirect exposure (e.g. visiting scene of death), and events following death. Sample questions include: “Did you see the injury?,” “Were you at the scene of the injury/death before the victim was removed,” “Did you see the victim die?,” “Were you the first person to discover the victim?,” “Did you also hear about the death through the media?,” “Did you attend the funeral?,” “Was the casket open?,” “Looking back, was there anything which might remotely have suggested the victim’s plans?,” “Do you think there may have been something that you could have done to have helped prevent the death?,” and “How long before the death was the last time you spoke with the victim?” Interviewer agreement with the CED has been found to be high ( $\kappa=.97$ ).

#### Where to Obtain:

David A. Brent, M.D., University of Pittsburgh School of Medicine, Western Psychiatric Institute and Clinic, 3811 O’Hara St., Pittsburgh, PA

#### References:

- Brent, D., Perper, J., Moritz, G., Allman, C., Friend, A., Schweers, J., Roth, C., Balach, L., Harrington, K. (1992). Psychiatric effects of exposure to suicide among the friends and acquaintances of adolescent suicide victims. Journal of the American Academy of Child and Adolescent Psychiatry, 31, 629-639.
- Brent, D., Perper, J., Moritz, G., Liotus, L., Richardson, D., Canobbio, R., Schweers, J., Roth, C. (1995). Posttraumatic stress disorder in peers of adolescent suicide victims: Predisposing factors and phenomenology. Journal of the American Academy of Child and Adolescent Psychiatry, 34, 209-215.
- Brent, D., Perper, J., Moritz, G., Liotus, L., Schweers, J., Canobbio, R. (1994). Major depression or uncomplicated bereavement? A follow-up of youth exposed to suicide. Journal of the American Academy of Child and Adolescent Psychiatry, 33, 231-239.
- Brent, D., Perper, J., Moritz, G., Liotus, L., Schweers, J., Roth, C., Balach, L., Allman, C. (1993). Psychiatric impact of the loss of an adolescent sibling to suicide. Journal of Affective Disorders, 28, 249-256.

#### **4. Columbia/Ruane Initial Evaluation Form for Child and Adolescent Suicide Attempters/Ideators**

**Description:**

The Columbia/Ruane Initial Evaluation Form is an evaluation form developed for emergency room settings, crisis service settings and/or the initial interview with suicide attempters. The form was developed to ensure that all pertinent questions were asked of suicide attempters in evaluation settings. Questions include method of attempt, whether the patient was intoxicated at the time of the attempt, symptoms of mania, psychosis, drug use, impulsivity, and antisocial behavior, history of prior suicide attempts, mental health treatment history, family history of suicidal behavior, items from the Hamilton Depression Inventory, and items similar to those of the Beck Suicide Intent Scale regarding isolation, timing, precautions against discovery, final acts in anticipation of death, degree of premeditation, and reported intent at the time of the attempt.

**Where to Obtain:**

Division of Child and Adolescent Psychiatry, Columbia University – New York State Psychiatric Institute, 1051 Riverside Drive, New York, NY 10032

**References:**

Shaffer, D., Trautman, Mufson, L., Piacentini, J., Grae, F. (1997). Columbia/Ruane Initial Evaluation Form for Child and Adolescent Suicide Attempters/Ideators. Unpublished instrument, Columbia University – New York State Psychiatric Institute, New York, NY.

## **5. Completed Suicide Event Interview**

### **Description:**

The Completed Suicide Event Interview (Shaffer et al., 1996) is a very extensive semi-structured interview examining the details of a completed suicide. Included are questions about method of suicide, source of the method, location of the suicide and degree of isolation, details of the discovery of the suicide victim, mood at the time of the suicide, evidence of suicide planning, precipitants of the suicide, exposure to suicide and suicidal behavior among family and peers, other exposure to suicide, degree of morbid preoccupation, and participation in suicide prevention programs. No psychometric data are available for the Completed Suicide Event Interview. A revision of the Completed Suicide Interview has been developed by Madelyn Gould, Ph.D.; studies of the psychometric properties of that version of the interview are in progress.

### **Where to Obtain:**

Division of Child and Adolescent Psychiatry, Columbia University – New York State Psychiatric Institute, 1051 Riverside Drive, New York, NY 10032

### **References:**

Shaffer, D., Gould, M., Fisher, P., Trautman, P., Moreau, D., Kleinman, M., Flory, M. (1996).  
Psychiatric diagnosis in child and adolescent suicide. Archives of General Psychiatry, 53,  
339-348.

## 6. Psychological Pain Assessment Scale (PPAS)

### Description:

The Psychological Pain Assessment Scale (PPAS; Shneidman, 1999) is the only projective personality assessment device described in this review. The PPAS is fashioned after the Thematic Apperception Test of Henry Murray, and has been developed in the context of Shneidman's theoretical notions about psychological pain or "psychache" – the unmet psychological needs and the negative emotions associated with such needs that are thought to be of central importance in the genesis and understanding of suicidal behavior. The PPAS is designed to elicit expressions of psychological pain, and to provide the opportunity for "explorations of relationships between heightened psychache and suicidal acts." As such, the PPAS is not a hypothesis-testing, so much as a hypothesis-generating tool for clinicians. At the beginning of the PPAS is an eloquent definition of psychological pain and a question asking respondents to rate their current level of psychache. After this rating, respondents are asked to look at five emotionally evocative pictures and to rate the psychological pain depicted in each. Respondents are also asked to consider the "worst mental pain" they have ever experienced, and they are asked to circle the three feelings (corresponding to unmet needs) most prominent at the time of that pain. Respondents also are asked if they ever made a suicide attempt and how close to death they came as a result of the attempt. In the last part of the PPAS, respondents are asked to describe in prose the "worst psychological pain felt," the circumstances of this pain, and how the incident "worked out." The PPAS has been administered to both adults and adolescents (Shneidman, personal communication, 9/99).

### Where to Obtain:

Edwin S. Shneidman, Ph.D., Professor of Thanatology Emeritus, University of California – Los Angeles, 11431 Kingsland Street, Los Angeles, CA 90066

### References:

- Shneidman, E. (1999). The Psychological Pain Assessment Scale. In A. Leenaars (Ed.), Lives and Deaths: Selections from the works of Edwin S. Shneidman. Philadelphia, PA: Brunner/Mazel.
- Shneidman, E. (1999). The Psychological Pain Assessment Scale. Suicide and Life-Threatening Behavior, 29, 287-294.



## 7. Reasons for Suicide Attempts/Reasons for Overdose

### Description:

Different from questions of suicidal intent (usually conceptualized in terms of whether or not or how much someone wants to die) are the reasons or motivations for attempting suicide. The Reasons for Suicide Attempts and Reasons for Overdose instruments have been developed to address these issues. The original articles focusing on reasons or motivations for overdose were published in the 1970s and were focused on adult populations (Bancroft et al., 1976, 1979). In 1982, Hawton et al. examined a subset of these reasons for overdose in a sample of adolescents. Boergers et al. (1998) modified the procedures for administering the Reasons for Overdose list (turning the items into a self-report scale as opposed to cue cards to be administered in interview, asking subjects to indicate their “primary” motivation after choosing all reasons for their suicidal behavior, and adding the item “to die” to the list of reasons). Using this scale, Boergers et al. (1998) found that the most commonly endorsed motivations for adolescent suicide attempts were “to die,” “to get relief from a terrible state of mind,” “to escape for a while from an impossible situation.”

The Bancroft et al. (1976, 1979) reasons for overdose also were translated into Dutch by Kerkhof (1985). Instead of endorsing or not endorsing various reasons for suicide attempts, the Dutch version of this instrument (“Reasons for Attempting Suicide”) asks respondents to rate each reason for overdose from 1 (“was certainly not so”) to 7 (“was certainly so”). Factor analysis of these items indicated that the motivations for adolescent suicide attempts fell roughly into five groups: (1) appeal to others, (2) relief or cessation of consciousness, (3) escape or losing self-control, (4) revenge, and (5) considering suicide as the only option left (Kienhorst et al., 1995). The four most commonly endorsed motivations for adolescent suicide attempts were to end an unbearable situation, “to stop feeling pain,” “to die,” and “to escape for a while from an impossible situation” (Kienhorst et al., 1995).

### Where to Obtain:

Items used by Boergers et al. (1998) and Kienhorst et al. (1995) are listed in the respective articles (references are listed below).

### References:

- Bancroft, J., Hawton, K., Simkin, S., Kingston, B., Cumming, C., Whitwell, D. (1979). The reasons people give for taking overdoses: A further inquiry. British Journal of Medical Psychology, *52*, 353-365.
- Bancroft, J., Skrimshire, A., Simkin, S. (1976). The reasons people give for taking overdoses. British Journal of Psychiatry, *128*, 538-548.
- Boergers, J., Spirito, A., Donaldson, D. (1998). Reasons for adolescent suicide attempts: Associations with psychological functioning. Journal of the American Academy of Child and Adolescent Psychiatry, *37*, 1287-1293.
- Hawton, K., Cole, D., O’Grady, J., Osborn, M. (1982). Motivational aspects of deliberate self-poisoning in adolescents. British Journal of Psychiatry, *141*, 286-291.
- Kerkhof, A. (1985). *Suicide en de geestelijke gezondheidszorg (diss); Suicide and mental health care (thesis)*, Liss, Swets & Zeitlinger (cited in Kienhorst et al., 1995, below)

Kienhorst, I., DeWilde, E., Diekstra, R., Wolters, W. (1995). Adolescents' image of their suicide attempt. Journal of the American Academy of Child and Adolescent Psychiatry, 34, 623-628.

## 8. Suicidal Behavior History Form (SBHF)

### Description:

The Suicidal Behavior History Form (SBHF; Reynolds and Mazza, 1992a, 1992b) is form for systematically recording information about suicidal behaviors from a clinical interview. Similar to the Columbia/Ruane Initial Evaluation Form (reviewed earlier), the form's queries can serve as a series of prompts to clinicians to obtain certain information about suicidal behaviors. Indeed, the SBHF manual states that it should be administered as a "semi-structured interview" (Reynolds and Mazza, 1992b; p. 6). On the SBHF, there are sections for recording information about general history of suicide attempts, description of the most recent attempt (including place, circumstances, proximity of others, reasons for the suicide attempt, consequences of the attempts, presence of suicide notes, preparations for death (e.g., writing a will), history of mental health treatment, prior attempt history (including methods, places, circumstances, and consequences of prior suicide attempts), and current status (including access to means of suicide such as firearms or medications and exposure to suicidal behavior in the family, expectations of later suicide attempts, and current suicidal ideation). The SBHF manual states that this instrument should not be used to determine "current risk," and should be used in conjunctions with other specific measures of current suicidal behaviors such as the Suicidal Ideation Questionnaire (SIQ) or the Suicidal Behaviors Interview (SBI).

### Where to Obtain:

Psychological Assessment Resources, Inc., P.O. Box 998, Odessa FL 33556

### References:

- O'Carroll, P., Berman, A., Maris, R., Moscicki, E., Tanney, B., Silverman, M. (1996). Beyond the Tower of Babel: A nomenclature for suicidology. Suicide and Life-Threatening Behavior, 26, 237-252.
- Reynolds, W., Mazza, J. (1992a). Suicidal Behavior History Form. Psychological Assessment Resources, Inc.: Odessa, FL
- Reynolds, W., Mazza, J. (1992b). Suicidal Behavior History Form Clinician's Guide. Psychological Assessment Resources, Inc.: Odessa, FL.

## 9. Suicide Attitude Vignette Experience (SAVE)

### **Description:**

The Suicide Attitude Vignette Experience (SAVE; Stillion et al., 1984) is a method for evaluating attitudes toward suicide. The SAVE technique has now been used not only with adolescents (Lester et al., 1991; Stillion et al., 1984) but also with samples of college students and elderly adults. The scale consists of 10 different vignettes (with the gender of the central character alternating across stories) describing situations that precipitate an attempted suicide. Vignette themes include areas such as academic problems, relationship problems, difficulties with parents, parental disapproval, rejection because of physical appearance, parental death, guilt over an accident, terminal illness associated with pain, and difficulties associated with substance abuse. Respondents are asked to rate the degree they empathize with the central character in each vignette, sympathize with the central character, and agree with his/her actions.

### **Where to Obtain:**

The SAVE vignettes are presented in the Stillion et al. (1984) article (referenced below).

### **References:**

- Lester, D. Guerriero, J., Wachter, S. (1991). The Suicide Attitude Vignette Experience (SAVE) – A search for sexual stereotypes in the perception of suicidal behavior. Death Studies, 15, 435-441.
- Stillion, J. McDowell, E., Shamblin, J. (1984). The Suicide Attitude Vignette Experience: A method for measuring adolescent attitudes toward suicide. Death Education, 8, 65-79.

## 10. Suicidal Circumstances Schedule (SCS)

The semi-structured Suicidal Circumstances Schedule (the SCS) is a compilation of instruments by Brent et al. (1988, 1992) for use in research with adolescents. The SCS includes Beck's Suicidal Intent Scale (Beck et al., 1974), the Risk-Rescue Rating Scale (Weisman and Worden, 1972), and sections assessing the motivation and precipitants of suicidal behavior, previous exposure to suicidal behavior, and accessibility to firearms and medications.

### Where to Obtain:

David A. Brent, M.D., University of Pittsburgh School of Medicine, Western Psychiatric Institute and Clinic, 3811 O'Hara St., Pittsburgh, PA

### References:

- Beck, A., Schuyler, D., Herman, I. (1974). Development of suicidal intent scales. In A. Beck, H. Resnik, & D. Lettieri (Eds.). The prediction of suicide. Bowie, MD: Charles Press.
- Brent, D., Perper, J., Goldstein, C., Kolko, D., Allan, M., Allman, C., Zelenak, J. (1988). Risk factors for adolescent suicide: A comparison of adolescent suicide victims with suicidal inpatients. Archives of General Psychiatry, *45*, 581-588.
- Brent D., Perper, J., Moritz, G., Allman, C., Friend, A., Schweers, J., Roth, C., Balach, L., Harrington, K. (1992). Psychiatric effects of exposure to suicide among the friends and acquaintances of adolescent suicide victims. Journal of the American Academy of Child and Adolescent Psychiatry, *31*, 629-640.
- Weisman, A., Worden, J. (1972). Risk-rescue rating in suicide assessment. Archives of General Psychiatry, *26*, 737-746.

#### **IV. Summary and Recommendations**

The purpose of this review was to update the critical overview of instruments for assessing suicidality in youths written by Lewinsohn et al. (Lewinsohn et al., 1989; Garrison et al., 1991) a decade ago. There has been tremendous growth in interest in the assessment of youths thought to be at risk since the Lewinsohn et al. review was published. The increase in interest focused on troubled youths is welcome. Unfortunately, however, it could be argued that seemingly more effort has been devoted to developing new instruments for identifying “at-risk” youths, than has been focused on thoroughly, systematically, and carefully evaluating the properties and utility of instruments already at hand. The result is a number of promising instruments with insufficient psychometric data, and for which, the intended result or use (e.g., prediction of suicidal behavior) has not been demonstrated.

The objective of this review was not to offer specific recommendations about which instruments might or might not be useful in clinical work and research. As should be obvious from the individual reviews, virtually all of the instruments have their strengths as well as their weaknesses. The choice of instruments should depend primarily on the specific needs of the clinician or researcher, the intended use of the instruments, and an assessment of how an instrument compares to other similar instruments in meeting needs. Moreover, it is worth repeating the obvious fact that most of these instruments are not static entities. They are in constant development, and therefore, it behooves the clinician and researcher interested in a particular instrument to contact the author(s) of the instruments to obtain the most up-to-date information about the instrument before using it.

Based on this review, there are seven areas especially deserving of further attention. First, especially for assessment/detection instruments, there is a need for clinicians and researchers to use a common language to describe suicidal ideation and behaviors. Twenty-five years ago, a special NIMH Task Force was charged with recommending a system for defining and communicating about suicidal behaviors (Resnik and Hathorne, 1973). As a result of this Task Force’s work, operational definitions for basic terms such as suicidal ideation, suicide attempts, and completed suicide were proposed.

Definitional issues were revisited with the 1996 Tower of Babel article in *Suicide and Life-Threatening Behavior* (O’Carroll et al., 1996). Once again, the difficulties caused by lack of efficient communication and cross-talk were described, and a specific nomenclature with objective definitions of suicidal behaviors was proposed. Interestingly, many of the definitions proposed in this article were not appreciably different from those proposed for researchers a quarter of a century ago. During this same quarter of a century, operational diagnostic criteria (such as the Research Diagnostic Criteria and DSM system) have improved our ability to communicate about psychiatric diagnoses, and helped usher in increasingly more sophisticated and complex research about the etiology and course of psychopathology. Research in suicidology has obviously progressed as well, but for the field to continue to progress, there is a striking need for researchers and clinicians in suicidology to use a common language or set of terms in describing suicidal phenomena.

Second, in reviewing the instruments, the evident paucity of prospective studies is especially concerning. There are a number of instruments that have been developed for identifying youths thought to be “at risk” for suicidal behavior. Indeed, several instruments are explicitly marketed as being useful for identifying individuals at risk for suicide. Very few of these instruments, however, have been demonstrated to be predictive of attempted suicide, much less completed suicide in juvenile populations. Instruments without demonstrated predictive validity that are marketed as being able to identify individuals at future risk for suicide are falsely advertised – claims about identifying risk are speculation, or perhaps wishful thinking, but not conclusions grounded in empirical data.

When a researcher or clinician aspires to identify populations “at risk,” s/he is typically not concerned with predicting what has already happened. And yet that is exactly the primary validation strategy used by most instruments for examining “risk.” Individuals with different histories of suicidal and non-suicidal behavior are contrasted with a particular measure, and if the average scores on the measure are sufficiently different for different groups, the measure is said to be able to “predict” suicide status. This is certainly an expedient strategy; longitudinal studies are methodologically difficult, and in the case of low base rate behaviors such as suicidal behavior, they can be quite expensive. But when all is said and done, the reality is that it is much simpler just to ask individuals if they have attempted suicide in the past, rather than using some elaborate probabilistic system for guessing at these facts. What clinicians and researchers alike really need to know is not what has already happened, but who is going to make the suicide attempt or complete suicide in the future. There is no short cut – the only way to discover who is at risk in the future is to follow individuals thought to be “at risk” over some significant period of time.

Third, as part of the validation procedures for measures of suicidal behavior, it is common to demonstrate that the suicidal behavior instrument correlates in a predicted way with other related constructs such as depression and hopelessness (convergent validity). However, there has been insufficient attention paid to discriminate validity, or the degree to which suicidal behavior does not correlate with constructs with which it should not. There also has been insufficient attention paid to issues of incremental validity, or the degree to which a test provides information not available elsewhere. If a test developer designs a suicidality instrument that correlates highly with related measures of depression or hopelessness, all the test developer has succeeded in doing is developing a redundant measure of depression or perhaps psychological distress. Convergent validity is an important part of “casting the nomological net” (Chronbach and Meehl, 1955) in establishing construct validity; however, a new test will only be useful to the extent that it also measures something important that is different from existing measures. As Chronbach and Meehl (1955) note, one problem in establishing concurrent criterion-related validity is that “the criterion may be no more valid than the test.” If there is a need for a new test, there is also a need for the test to be different from what currently exists.

Fourth, most of the “risk assessment” instruments reviewed have a stated goal of predicting completed suicide (or identifying individuals thought to be “at risk” for completed suicide). It is a daunting task (both psychometrically and in terms of costs) to screen for risk of completed suicide in the general population (an outcome with a one year base rate of approximately 10 per 100,000 young people; Centers for Disease Control and Prevention, 2000a). However, suicide

attempts and suicidal ideation have considerably higher base rates (approximately 8 per 100 young people, and 19 per 100 young people per year, respectively; Centers for Disease Control and Prevention, 2000b). Moreover, suicide attempts are a primary reason for referral for child psychiatric emergency services and psychiatric hospitalization. Suicide attempts and suicide ideation are both markers for a variety of psychiatric problems and difficulties with coping, and provide important clues regarding which youths are distressed, and may be at risk for continuing suicidal (and other high-risk) behaviors.

Suicidal ideation and suicide attempts may not be an adequate proxy for completed suicide (because of their non-identical base rates and non-identical correlates; Shaffer, 1996), but they may in some cases precede or be a precursor for completed suicide. Given the low base rate of completed suicide among young people (Shaffer, 1996), and the importance of suicidal ideation and attempts in and of themselves, it may be time for researchers who develop risk assessment instruments to widen their focus beyond the single end point of completed suicide.

Fifth, researchers and clinicians need to consider carefully the populations within which test instruments were developed and have demonstrated utility (Meehl and Rosen, 1955). Instruments developed with school-based or community samples may not have the same predictive utility in “high-risk” or clinically ascertained samples, and vice versa. In samples selected because of their presumed high risk, the base rates of both the outcome of interest (e.g., suicide attempts) and of various risk factors may be far different from what is typically found in the community. To use an example, suppose that in a large community sample, a “risk factor” that is a proxy for general distress has been found to be associated with a statistically higher risk for later suicidal behavior. The predictive validity of this risk factor derives in part from its relatively low base rate and the relative specificity of its relationship to suicidal behavior. In contrast, in a sample of psychiatric inpatients, incarcerated youths, or run-away adolescents, there may be a considerably higher base rate of general distress. In such samples, the usefulness of general distress (or its proxy) as a risk factor for later suicidal behavior may be diminished, because the risk factor no longer distinguishes among different youths. Therefore, it cannot be assumed that different diagnostic and risk assessment instruments will always have same utility in differing population groups, just as it cannot be assumed that research findings are always generalizable across different population groups.

Sixth, there is a need to address why it is important to assess the clinical characteristics of suicidal attempts. Our clinical instincts tell us that information about intent and medical lethality of suicidal attempts are important to know, certainly important to describe, and perhaps important in differentiating various types or classes of suicidal behaviors. However, studying the clinical characteristics of juvenile suicidal attempts has not been a particularly fruitful exercise to date. Empirical data about the clinical characteristics of suicidal attempts have not been shown to be related to course or response in therapy, have not been used to demonstrate that certain types of therapy are any more or less effective with specific suicidal behaviors, and have not been found to be related to future behavior. Beyond simply using instruments that assess clinical characteristics of suicidal attempts for descriptive purposes, there is a need to better understand the significance of those clinical characteristics.



Seventh, there is the issue of the appropriateness of assessment measures for treatment research. An intervention for suicidal youths or potentially suicidal youths can try to reduce risk factors associated with the increased risk, can try to reduce suicidal behaviors or thinking directly, or can try a combination of the two strategies. A good outcome measure should ideally be directly related to the thrust or focus of the intervention, and may therefore focus on the risk factor(s) of interest, the measurement of suicidal behavior, or both. Outcome measures should ideally be sensitive to change, should not be subject to practice effects or attenuation with repeated administrations, and should have demonstrated utility in intervention studies. Unfortunately, there are a limited number of prospective studies which have identified risk factors with predictive utility that might be candidates for potential intervention (it makes sense to intervene with variables that portend later risk, rather than current or past risk). There are even fewer studies in which assessment measures have been administered on multiple occasions and which might yield data on the effects of repeated test administrations. And it almost goes without saying that there is a paucity of controlled intervention studies with suicidal youths – studies which might yield clues about the usefulness of different measures related to suicidality. Therefore, despite an urgent need for development and comparison of interventions for suicidal youths, at this juncture, it is very difficult to make educated guesses about which assessment measures are the “best” candidates for use in controlled treatment outcome studies.

In conclusion, a great deal has been accomplished in the study of suicidal behaviors since Lewinsohn and his colleagues (Lewinsohn et al., 1989; Garrison et al., 1991) wrote their review ten years ago. There are certainly areas that need further attention, but such identified needs simply provide a blue-print or road-map for the work that still needs to be done, rather than detracting from what has already been accomplished. The pace of research in this area seems to be accelerating, and it is expected that the next comprehensive review of this area – presumably ten years hence – will draw upon a much richer data base regarding the predictive and clinical utility of assessment instruments for suicidal behaviors and risk.

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- Centers for Disease Control and Prevention (2000a). 1997 United States deaths and rates per 100,000: Suicide. Available on internet: <http://www.cdc.gov/ncipc/osp/states/0014.htm>.
- Centers for Disease Control and Prevention (2000b). Youth risk behavior surveillance – United States, 1999. Morbidity and Mortality Weekly Report, 49 (SS05), 1-96.
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