

Initial Reliability and Validity of the Life Satisfaction Scale for Problem Youth in a Sample of Drug Abusing and Conduct Disordered Youth

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Responses to Life Satisfaction Scale for Problem Youth (LSSPY) items were examined in a sample of 193 substance abusing and conduct disordered adolescents. In responding to the LSSPY, youth endorse their percentage of happiness (0 to 100%) in twelve domains (i.e., friendships, family, school, employment/work, fun activities, appearance, sex life/dating, use of drugs, use of alcohol, money/material possessions, transportation, control of one's life). Results indicated that the LSSPY yielded three factor structures (i.e., Social Satisfaction, External Obligations Satisfaction, Substance Use Satisfaction), demonstrated good initial psychometric properties, and appears to be a useful instrument in the evaluation of treatment outcome in problem youth. Males were more satisfied in the Social and External Obligations domains than females, although no gender differences were indicated in Substance Use Satisfaction. Caucasian, African-American, and Hispanic youths responded to LSSPY items similarly. Future directions are discussed in light of these results.

KEY WORDS: life-satisfaction; adolescent; drug; conduct disorder; alcohol.

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Life satisfaction, which is typically assessed subjectively, denotes how people appreciate the quality of their life (Veenhoven, 1996). Although validity of subjective rating scale scores was initially challenged in the literature, studies have substantiated strong psychometric properties in the use of subjective ratings of life satisfaction. Studies of perceived life satisfaction were initially limited to adult samples (e.g., Lawton, 1975; Neugarten, Havighurst, & Tobin, 1961; Rodgers, & Converse, 1975). However, attention has recently focused on the assessment of life satisfaction in adolescent samples (e.g., Gilman & Huebner, 1997; Henry, Ostrander, & Lovelace, 1992; Huebner, 1991a). Of the empirically supported measures that have been developed to assess life satisfaction, many are limited to a single item (e.g., Andrews & Withey, 1976; Armsden & Greenberg, 1987). Unfortunately, single item scales provide limited information because they do not permit comparisons of satisfaction across various life domains (Veenhoven, 1996), such as employment (Smith, Kendall, & Hulin, 1969), friends, activities (Smetana, 1989), and family relationships (Henry, Ostrander, & Lovelace, 1992).

The Students' Life Satisfaction Scale (SLSS) is a 7-item assessment measure of life satisfaction for use with children that has received extensive psychometric evaluation (see Heubner, 1991a & b; Dew & Huebner, 1994; Gilman & Huebner, 1997). However, its items focus on life satisfaction in general (e.g., my life is going well, I have a good life), which as mentioned earlier does not allow assessment of satisfaction across different life experiences. Similarly, the SLSS, like many measurement's of life satisfaction (e.g., Satisfaction with Life Scale; Diener, Emmons, Larsen, & Griffin, 1985), differs in phrasing but not content.

Some measures of life satisfaction have assessed a greater range of experiences in adult samples (i.e., Henry, Ostrander & Lovelace, 1992; Schumm, McCollum, Bugaighis, Jurich, & Bollman, 1986). However, only a few investigations have been conducted to evaluate the psychometric properties of instruments that assess life satisfaction across multiple domains, and that are specific for use with adolescents. Gullone and Cummins (1999) administered the Comprehensive Quality of Life Scale (CQLS) to 264 adolescents who were not identified to evince behavior problems. The CQLS includes seven scales that are relevant to life satisfaction in youth (i.e., Material Well-Being, Health, Productivity, Intimacy, Safety, Place in Community, and Emotional Well-Being). Therefore, it offers distinct advantages over the single domain life satisfaction scales. Gullone and Cummins (1999) found internal consistency and test-retest reliability of CQLS scores were adequate, and the investigators reported the convergent validity of this instrument is promising, as youth responses to instruments measuring fear and anxiety were generally associated with lower CQLS factor scores.

Griffin (2000) evaluated the psychometric properties of the Multidimensional Students' Life Satisfaction Scale (MSLSS, Huebner, 1994) in a sample of 49 severely emotionally disturbed youth (SED), and 49 matched non-SED youth. Like the CQLS, the MSLSS assesses satisfaction in multiple domains. Initial internal consistency for scores in the MSLSS domains, suggested the instrument

should be modified for use in SED youth. Following scale modifications, reliability estimates for most domains (i.e., 5), were acceptable, and initial validity of MSLSS scores was promising, with SED students. Importantly, results indicated SED youth formulate their overall life satisfaction judgments differently than non-SED youth. Suggesting psychometric evaluation of life satisfaction instruments in drug abusing and conduct-disordered populations is warranted, since these youth (a) are likely to respond to life situations differently than non-problem youth, (b) represent greater than 50% of referrals to mental health clinics (see Kazdin, 1995; Miller & Brown, 1997), and (c) evidence behavior problems that have been shown to be negatively related to life satisfaction in adolescents. Indeed, Valois, Zullig, Huebner, and Drane (2001) found life satisfaction in 5,032 adolescents was negatively related to externalizing problem behaviors (e.g., violence, alcohol misuse), and consequently recommended the employment of life satisfaction measures when conducting fieldwork, research, and program evaluation with these youth.

Comparisons in life satisfaction domains among gender and ethnic groups are particularly warranted in adolescent samples. Recent preliminary data suggest Caucasian-American, African-American, and Hispanic-American adolescents are no different in their satisfaction with life, although male adolescents report greater levels of life satisfaction than female adolescents (Bromley, 2000).

Therefore, the purpose of our study is threefold: (1) to initially assess the reliability and validity of the Life Satisfaction Scale for Problem Youth in a sample of conduct-disordered and substance abusing adolescents, (2) to identify areas of relative dissatisfaction in these youth, and (3) to compare life satisfaction across gender and ethnic groups.

METHOD

Participants

Participants were 193 adolescents who were referred to an outpatient mental health treatment center for drug abusing and conduct-disordered adolescents. Participants were referred to the study by juvenile detention center staff, judges, probation officers, and school administrators. Youth who met the following inclusionary criteria during a structured telephone interview participated in this study: (1) between 12 and 17 years of age, (2) exhibited DSM-IV diagnoses (American Psychiatric Association, 1994) of (a) Conduct Disorder plus either Substance Abuse or Substance Dependence, or (b) Substance Dependence and Oppositional Defiant Disorder, (3) lived with the parent, (4) lived within 30 minutes of the clinic, (5) no diagnosis of mental retardation or a psychotic disorder, (6) not currently receiving psychological intervention, and (7) at least one parent who could provide transportation to, and participate in, the youth's treatment at the clinic.

The mean age of youth was 15.3 years ($SD = 1.3$), and their median self-reported family income was \$35,000 (range = 0 to \$300,000). One hundred and fifty of these youth were male (78%), 130 were Caucasian (67%), 28 were Hispanic (15%), 20 were African-American (11%), and 14 (7%) were of other minority racial descent. One hundred and fifty-two (79%) of these youth were enrolled in school, and 69 (36%) participated in special education classes. Of the 185 youth who disclosed their employment history (96% of sample), 138 (72%) were currently not employed. Of those participants who had reported employment ($N = 47$), the median number of hours of reported employment during the most recent month was 42, range = 2.4 to 267).

Procedure

With the exception of the timeline-follow-back procedure (see Measures section below), participants were scheduled to complete the assessment measures used in this study within their initial outpatient session at the clinic. The time-line follow-back procedure, and other assessment measures that were not relevant to the present study, were administered during each of 4 outpatient sessions, including the initial outpatient session mentioned above. The assessment sessions were scheduled one week apart. Clinical psychology doctoral students trained in the use of these procedures administered the assessment measures.

Measures

Beck Depression Inventory (BDI)

The BDI (Beck, Ward, Mendelsohn, Mock, & Erbaugh, 1961) is the most frequently used standardized self-report measure of depression, and it includes 21 items that reflect intensity of depressive symptoms. Scores between 11 and 17 suggest mild depression, scores between 18 and 29 reflect moderate depression, and scores of 30 or more indicate severe depression.

Youth Self-Report (YSR)

The YSR (Achenbach, 1991) is a 112-item measure assessing adolescents' perceptions of their own competencies and problem behaviors. The YSR yields three summary scale scores (Total Behavior Problems, Externalizing Behavior Problems, Internalizing Behavior Problems), 10 Behavior Problem subscale scores (i.e., Social Problems, Thought Problems, Attention Problems, Aggressive, Delinquent Behavior, Withdrawn, Anxious/Depressed, Somatic Complaints, Self-Destructibility/Identity), and two Competence scale scores (Social, Activities).

Reliability and validity of YSR are both good (Achenbach, 1991). Only the Social Problem and Social Competence scales were used in this study.

Time-Line Follow-Back Interview

Self-reports of the youths' frequency of days using illicit drugs and alcohol, as well as frequency of days attending school and hours employed, during the assessment period (i.e., one week prior to initial intake assessment session, approximately 3 weeks after intake assessment), were obtained using a modified version of the "time-line follow back" method (TLFB; Sobell, Sobell, Klajner, Paven, & Basian, 1986). In this study, the participant was asked to report her/his frequency of days using illicit drugs and alcohol since the youth's last clinic contact (usually 7 days prior to the session). A composite score of alcohol and drug use was derived for use in this study by adding the total number of days using alcohol and illicit drugs during the assessment period. Similarly, a composite score of the days attending school and work was obtained by adding the total hours worked, and percentage of days attending school, during the assessment period. Although the preceding method excluded the use of memory aids (i.e., recording birthdays or other significant events on a calendar for the days being assessed) because youth were not asked to recall information in the distant past, it should be mentioned that the time line follow-back method been found to correspond closely with official records and reports by collaterals and test-retest reliability is good (Ehrman & Robbins, 1994; Sobell et al., 1986).

Life Satisfaction Scale for Problem Youth (LSSPY)

In developing the LSSPY, reviews of the literature were first conducted to generate life domains that have been found to be related to happiness in adolescent clinical samples, and group consensus determined the selection of domains to be included in the LSSPY (i.e., 12 items). Each item assesses the youth's happiness in a particular aspect of life (i.e., friendships, family, school, employment/work, fun activities, appearance, sex life/dating, use of drugs, use of alcohol, money/material possessions, transportation, control over one's own life). Adolescents are instructed to rate their degree of happiness in each item domain utilizing a 0% to 100% scale (0 = completely unhappy, 100 = completely happy). A copy of the LSSPY is presented in Appendix.

Overall Life Satisfaction

To provide a gross measure of satisfaction in life, participants were asked to rate their overall satisfaction in life, following the same response scale used

to endorse LSSPY item domains (i.e., 0% to 100% happiness). Psychometric properties of single items of overall life satisfaction have been adequate in previous research (see Andrews & Withey, 1976; Armsden & Greenberg, 1987).

RESULTS

Factor Structure of LSSPY Scores

To determine the construct validity of scores in the LSSPY, a principal components analysis with varimax rotation was performed. Visual inspection of the Scree test indicated a two-factor solution, whereas the Kaiser criterion supported the extraction of three factors with eigenvalues greater than 1.0, accounting for 53.56% of the variance (See Table I). The Kaiser criterion was selected due to ease of interpretability, and because visual judgment of the discontinuity of the slopes of eigenvalues involved in the Scree test is sometimes unreliable (Tabachnick & Fidell, 2001). Loadings above .45 were used when interpreting each factor (see Comrey & Lee, 1992).

Factor 1 indicates satisfaction in social experiences, and was therefore labeled Social Satisfaction. Factor 2 appears to represent satisfaction with obligations that are often externally influenced. For instance, problem youth often perceive school, work, control in one's life, and transportation to be strongly influenced by their parents and other authority figures. Thus, the second factor was named Satisfaction with External Obligations. Factor 3 clearly indicates satisfaction in the use of illicit drugs and alcohol, hence this factor is labeled Substance Use Satisfaction.

Table I. LSSPY Rotated Factor Loadings, Eigenvalues, and Cronbach's Alpha

Item	Factor 1	Factor 2	Factor 3
Sex Life & Dating	.837	.020	.069
Appearance	.748	.177	-.104
Friendships	.661	.167	.036
Money and Material Possessions	.525	.322	.214
Family	.524	.382	.060
Fun Activities	.463	.192	.406
School	.136	.674	-.238
Control One's Life	.343	.637	-.083
Work	.014	.613	.267
Transportation	.269	.584	.210
Drugs	.017	.015	.858
Alcohol	.015	.014	.830
Eigenvalue	3.57	1.76	1.09
Cronbach's Alpha	.75	.57	.74

Internal Consistency of LSSPY Scores

Internal consistency for all item scores on the LSSPY was adequate, Cronbach's $\alpha = .74$. As shown in Table I, Factors 1 (i.e., Social Satisfaction) and 3 (Substance Use Satisfaction) demonstrated satisfactory internal consistencies. However, Cronbach's α for Factor 2 (i.e., Satisfaction with External Obligations) was low, indicating the items in this factor are not sharing a high proportion of variance (Nunnally & Bernstein, 1994). Inter-item correlations, ranging from 0.1 to 0.3, were Low to Moderate (Cohen, 1988).

Criterion Related Validity of LSSPY

To determine criterion related validity of LSSPY scores, correlation coefficients were computed between each of the LSSPY factor scores and measures of similar constructs. Factor scores for each participant were derived by adding the scores indicated in each of the items making up the factor, and dividing this sum by the total number of items in the respective factor. As expected, LSSPY Social Satisfaction scores were positively related to scores on the single item reflecting Overall Life Satisfaction ($r = .690, p < .001$) and Social Competence scores of the Youth Self-Report ($r = .292, p < .001$). Relatedly, Social Satisfaction was negatively related to Social Behavior Problems, as assessed by the Youth Self Report ($r = -.244, p < .005$), and scores on the Beck Depression Inventory ($r = -.541, p < .001$). Thus, as social competence and overall satisfaction in life increase, and depression and social problems decrease, scores in Social Satisfaction increase.

Preliminary support for criterion related validity was also provided for the Satisfaction with External Obligations scale, as its factor scores were positively related to Overall Life Satisfaction scores ($r = .526, p < .001$), and the composite score of the percentage of days attending school and total hours worked ($r = .242, p < .005$). This scale was also negatively related to Beck Depression Inventory scores ($r = -.424, p < .001$). In other words, as Satisfaction with External Obligations increase, so to does school and work attendance and scores representing Overall Life Satisfaction; and as scores measuring depression decrease, Satisfaction with External Obligation scores increase.

Examination of the criterion related validity of the LSSPY Satisfaction with Substance Use Scale was also supported, as its factor scores were positively related to the substance use composite score of total days using alcohol and illicit drugs during the assessment period ($r = .299, p < .001$). Thus, substance use for these youth increases as their satisfaction with substance use increases. However, youth satisfaction with substance use was not related to depression (as measured by the BDI; $p > .05$) or satisfaction in life (as measured by the single item assessing Overall Life Satisfaction; $p > .05$).

Table II. Means and Standard Deviations of LSSPY Satisfaction Factors Scales by Gender

	Social		External Obligations		Substance Use	
	Mean	SD	Mean	SD	Mean	SD
Male ($N = 150$)	78.40	16.56	57.30	23.16	51.45	35.19
Female ($N = 43$)	72.38	21.13	45.74	21.45	58.21	33.29

To examine how the three LSSPY factors predict Overall Life Satisfaction, a multiple regression procedure was performed. The single item reflecting Overall Life Satisfaction was used as the dependent variable, and the three LSSPY factors (i.e., Social Satisfaction, Satisfaction with External Obligation, Substance Use Satisfaction) were used as the independent variables. The overall model was statistically significant, $R = .709$, $F(3, 187) = 63.96$, $p < .01$. Social Satisfaction, $F(1, 187) = 99.50$, $p < .0001$, change in $R^2 = .2644$ and Satisfaction with External Obligations, $F(1, 187) = 10.13$, $p < .003$, change in $R^2 = .0269$, accounted for a significant amount of variance in the equation. Thus, Social Satisfaction and Satisfaction with External Obligation scores, and not Substance Use Satisfaction scores, were able to significantly predict Overall Life Satisfaction scores.

To examine potential differences among ethnicities in responding to items making up the three LSSPY factor scores, a one-way multivariate analysis of variance was performed with ethnicity (Caucasian, African-American, Hispanic, other) as the independent variable, and the LSSPY factors (i.e., Social, Substance Use, External Obligations) serving as the dependent variables. Results indicated a nonsignificant multivariate effect of ethnicity ($p > .05$). Thus, ethnic groups responded similarly to items within each of the LSSPY Factors.

In examining gender differences across the three factors, a one-way multivariate analysis of variance was performed with gender as the independent variable, and the three LSSPY factors serving as the dependent variables. There was a statistically significant multivariate effect of gender, $F(3, 189) = 2.97$, $p < .034$. Subsequent univariate ANOVAs revealed that males, as compared with females, demonstrated higher scores in Social Satisfaction, $F(1, 191) = 4.45$, $p < .037$, and Satisfaction with External Obligations, $F(1, 191) = 6.079$, $p < .016$. The means and standard deviations for each factor as a function of gender can be found in Table II.

DISCUSSION

Our study was the first to examine life satisfaction in a sample of conduct-disordered and substance abusing adolescents. Structured clinical interviews confirmed that the participants were abusing illicit drugs and evidencing severe behavioral problems and LSSPY scores demonstrated adequate reliability and validity. Its construct validity was supported with the extraction of three factors that accounted for 53.56% of the variance (i.e., Social Satisfaction, Satisfaction with

External Obligations, Substance Use Satisfaction). Adequate internal consistency was indicated for the combined items of the LSSPY, and the Social and Substance Use Factor Scores. However, inter-item correlations were Low to Moderate, and items within the Satisfaction with External Obligations factor were not found to share a high proportion of variance. Thus, although items within the External Obligations factor seem useful, the items appear to be assessing different aspects of this domain.

Criterion related validity of the LSSPY was supported, as evidenced by significant correlation coefficients between each of the LSSPY factor scores and measures of similar constructs. As social competence scores increased, and social problems decreased, scores in Social Satisfaction increased. Satisfaction with External Obligation scores were positively related to youth attendance at school and work, and as Substance Use Satisfaction increased for youth, so to did their frequency of alcohol and illicit drug use. Substance Use Satisfaction scores were unrelated to depression, and overall life satisfaction. However, significant relationships were indicated between these domains (i.e., depression and overall life satisfaction) and the Social Satisfaction and Satisfaction with External Obligation factor scores. The latter finding suggests life satisfaction in substance abusing and conduct disordered youth may be enhanced if these youth perceive greater control in their treatment plan (e.g., selection of problem behaviors to stress in treatment, being invited to select empirically-based interventions to emphasize in therapy); a contention that is consistent with the results of a recent controlled intervention trial in this population (see Azrin et al., 2001).

In addition to relatively good internal consistency and criterion related validity of the LSSPY scores, the measure also has good "sensitivity," as its items appear relevant to the concept being measured, it is quick to administer and score, and the measure is easy to understand (see McDowell & Newell, 1996). The LSSPY response format also allows one to view several life domains at a glance, thus permitting quick identification of relative areas of dissatisfaction, and rapid identification of treatment goals for therapy by asking the youth what changes would be necessary to bring about 100% satisfaction for lower rated domains.

Youth were most happy in social aspects of their life, particularly in their social activities, friendships, appearance and sexual relationships. This is consistent with the results of previous studies that have found conduct-disordered youth may be as content with their deviant peers as non-conduct disordered youth are with their peers (e.g., Conger, 1976; Krohn, & Massey, 1980). However, it should be mentioned that severely emotionally disturbed youth have reported lower levels of life satisfaction than their nondisturbed peers (Griffin, 2000). Youth in this study appeared to be most dissatisfied in domains of their life that are often scrutinized and controlled (i.e., work, school, transportation, substance use) by their parents and other authority figures (i.e., teachers, employers, police). Suggesting substance abusing and conduct disordered youth may perceive the latter domains warrant particular attention in their treatment.

The significant positive relationship found between school/work attendance and Satisfaction with External Obligations (which includes school and work satisfaction items) is consistent with studies in adult samples that have found positive relationships between employment and life satisfaction (e.g., Martella & Maass, 2000), and job and life satisfaction (Iverson & Maguire, 2000). Thus, it appears abusing and conduct disordered youth emphasize school and work attendance in their assessment of life satisfaction, much like adults.

Examination of the psychometric properties of LSSPY scores needs to be conducted in other adolescent samples. Our results suggest Caucasian, African-American, and Hispanic substance abusing and conduct disordered youth respond similarly across LSSPY factor scales. However, males were found to be more satisfied in Social and External Obligation domains, indicating gender needs to be considered when interpreting the LSSPY factor scores. The latter study findings are very consistent with those found in Bromley (2000). In her examination of life satisfaction in male and female adolescents of African-American, Caucasian-American, and Hispanic-American backgrounds, no differences in gender were evidenced, although she did find males to be generally more satisfied in life than females. The present results, however, suggest male and female drug abusing and conduct disordered youth report similar satisfaction levels in their use of illicit drugs and alcohol. An important next step in establishing this measure will be its ability to discriminate youth who have evidenced problem behaviors (i.e., drug abuse and conduct disorder) from those who have not.

ACKNOWLEDGMENT

This research was supported by a grant from the National Institute of Mental Health (NIMH, 1RO1MH53455-01A1).

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APPENDIX: LIFE SATISFACTION SCALE FOR PROBLEM YOUTH

For each area below, circle the number that represents how happy you are with these areas of your life. A 100% means that you are completely happy, and 0% means that you are completely unhappy. Higher numbers mean that you are happier.

AREAS	☹	☺	☺
Friendships	0%	10	20 30 40 50 60 70 80 90 100% happy
Family	0%	10	20 30 40 50 60 70 80 90 100% happy
School	0%	10	20 30 40 50 60 70 80 90 100% happy
Employment (work)	0%	10	20 30 40 50 60 70 80 90 100% happy
Things I do for fun	0%	10	20 30 40 50 60 70 80 90 100% happy
My appearance	0%	10	20 30 40 50 60 70 80 90 100% happy
Sex life/dating	0%	10	20 30 40 50 60 70 80 90 100% happy
Use of drugs	0%	10	20 30 40 50 60 70 80 90 100% happy
Use of alcohol	0%	10	20 30 40 50 60 70 80 90 100% happy
Money and material possessions	0%	10	20 30 40 50 60 70 80 90 100% happy
Availability of transportation	0%	10	20 30 40 50 60 70 80 90 100% happy
Amount of control you have over what happens in your life	0%	10	20 30 40 50 60 70 80 90 100% happy
Overall life satisfaction	0%	10	20 30 40 50 60 70 80 90 100% happy

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