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The Self-Improvement Orientation Scheme: A Measure of Amenability to Change. Psychometric Properties and Construct Validity among Incarcerated Offenders

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Abstract

Considerable theoretical, empirical, and clinical evidence in the field of behavior change indicates that personal, social, and environmental factors are associated with a person's amenability to change. Unfortunately, there is a lack of standardized assessment instruments specifically designed to assess these factors, which limits clinical and research endeavors. The Self-Improvement Orientation Scheme (SOS) is a 72-item self-report assessment instrument designed to measure various factors of the amenability to change construct. The instrument yields a Total Score and scores on 12 subscales that reflect different amenability to change domains. The present study examined the psychometric properties and construct validity of the SOS among a sample of 89 incarcerated offenders. The results provided normative data and yielded preliminary support for the psychometric integrity of the instrument. In addition, scores on the SOS were related to offender treatment performance but largely unrelated to criminal risk. Implications of the findings with respect to theory and practice are considered.

The Self-Improvement Orientation Scheme: A Measure of Amenability to Change. Psychometric Properties and Construct Validity among Incarcerated Offenders

From the early work of Freud's (1953) psychoanalysis to the more recent transtheoretical model of change (Prochaska & DiClemente, 1983), clinicians and researchers have sought to better understand why some people make changes in their lives and others do not. The literature on this topic has had contributions from various human service fields (e.g., psychology, social work, health, theology, etc.) and spans virtually all human spheres. The behavior change spheres include the broad areas of physical health (e.g., dieting, smoking cessation, substance use desistance, etc.), mental health (e.g., neuroses, phobias, etc.), and general life functioning (e.g., marriage, social relations, antisocial conduct, etc.). Given the complexity of human behavior, it is not surprising that a variety of personal, social, and environmental factors have been linked to a person's amenability to change. In spite of the considerable interest in behavior change factors, insufficient attention has been devoted to the development and evaluation of instruments designed to measure such factors. The Self-Improvement Orientation Scheme (SOS) is a new assessment instrument that was developed to assess the amenability to change construct in a comprehensive yet practical manner, that addresses limitations with existing instruments.

A comprehensive critique of the definitional issues within the behavior change literature is beyond the scope of the present study; however, it is important to establish an operational definition of the construct under investigation. The term most synonymous with behavior change is 'motivation' (Miller & Rollnick, 1991); a term that has traditionally been viewed in psychology as implying a drive state. Although satisfactory for use in everyday language, the term motivation reflects only a single construct in the multidimensional nature of behavior change. To capture broader dimensions of behavior change, the term 'amenability to change' was adopted in the present study. This term connotes a responsiveness to behavior change and considers a wide spectrum of underlying influences (personal, social, environmental).

From a theoretical perspective, the most popular model of behavior change is the transtheoretical model of change, commonly referred to as 'stages of change' (Prochaska & DiClementi, 1983). This theoretical model proposes that behavior change is a process rather than event. This process primarily involves five distinct stages: 1) Precontemplative (person is uninterested in change), 2) Contemplative (person is intending to change but has taken no steps toward change), 3) Preparation (person is intending to take action in the immediate future), 4) Action (person has overtly changed his/her behavior), and 4) Maintenance (person focuses on avoiding relapse). The model speculates that individuals progress through the stages in a reciprocal manner and utilize a differential decisional balance within each stage. There is considerable empirical support for the model within the health field (Velicer, et. al., 1998).

Determining stage placement is a key element in the transtheoretical model of change because different change strategies are implemented within different stages. Accurate assessment of stage is therefore of critical importance in this regard. The University of Rhode Island Change Assessment (URICA: McConnaughy, Prochaska, & Velicer, 1983) is the companion assessment instrument of the transtheoretical model of change. The URICA is a 32 item self-report assessment instrument designed to measure the stage predominance of the transtheoretical model. Items on the URICA are scored using a 5-point Likert scale (e.g., 1= strongly disagree, 2= disagree, 3 = undecided, 4 = agree, and 5 = strongly agree) that yields scores for the precontemplative, contemplative, action, and maintenance stages. The interpretation of URICA scores is supposed to be based on stage profiles (i.e., typologies) that have been derived through multivariate statistical techniques (e.g., cluster analysis). For various practical reasons, however, this original method has been compromised with most URICA users simply interpreting scores based on highest stage score. In a review of studies on the change process using the URICA, Rosen (2000) found that almost 60% of studies incorrectly placed participants into stages using this method.

One of the keys to the practical implementation of assessment and treatment technology is the balance between comprehensiveness and simplicity. To understand and effectively assist people in their change efforts, assessment and treatment services

must address germane issues but in a manner that is not onerous or complicated. Debates about the psychometric integrity of the URICA (Littrell, & Girvin, 2002) and the compromised scoring methods of the instrument limit its utility as a measure of amenability to change. The absence of a quality measure of the amenability to change construct will impair advances in the area.

There are two polar approaches in test development: purely empirical or purely rational. In the empirical approach, data are analyzed using variously sophisticated statistical procedures that yield discrete variables of interest of which scaling techniques and coding formulae are applied. The rational approach is more theory driven in which a large number of items are developed that are consistent with the construct of interest and then data are collected to winnow the items into an instrument. Both the empirical and the rational approach to test development have strengths and weaknesses. Comery (1988) contends that a blend empirical and rational approach to test development may be the most popular. The SOS followed this tradition, in that it was conceptually and theoretically conceived and developed through empirical field trials.

The development of the SOS proceeded in three phases. First, the clinical psychology literature was reviewed to determine which broad constructs were related to change potential. This included studies that examined both therapists and patients ratings of treatment adherence, retention, and success; and the variables that contributed to success and failure in these areas. Second, SOS items were developed that were thought to capture the essence of each constructs reflected in the variables nominated by therapists and patients as important for behavior change. Item development was sensitive to contemporary notions of test theory and measurement procedures; the most relevant of these was scoring procedures.

Historically, self-report rating scales have used a Likert type response format with linear numeric values that correspond to various reference points. The typical response format is based on a 5-point rating scale that ranges from 1 (strongly disagree) through 3 (undecided) to 5 (strongly agree). Of the considerable theory and research on the topic of self-report assessments (see Schwarz, 1999 for an overview), there is empirical evidence (Schwarz, et. al., 1991) that respondents dramatically increase their

endorsement of self-report questions when there is congruence between the numeric scoring value and the content of the question. This can be accomplished by altering the typical linear 5-point rating scale described above to one that includes negative numeric values. The SOS employs this approach in its rating scale. Specifically, across the 5-point scoring spectrum the following responses are: -2 ("strongly disagree"), -1 ("agree"), 0 ("undecided"), +1 ("agree"), and +2 ("strongly agree").

The third phase in the development of the SOS was the collection of data in several pilot field trials. The most relevant of these was that of Shturman (2003), who examined the psychometric properties and construct validity (e.g., treatment participation) of the SOS among a sample of state prison inmates. Although this study found that offender 'motivation', as measured by the SOS, was an important variable in treatment performance (higher motivated participants performed better than lower motivated participants), it also revealed that modifications to the SOS were necessary. This was undertaken to produce the current version of the SOS.

One observation from the behavior change literature is that amenability to change is invariant to client characteristics. That is, people from various backgrounds (e.g., race, age, occupation, etc.) and current circumstances may be equally 'motivated' or 'unmotivated' for behavior change. The treatment literature among individuals in conflict with the law has a long and lively history (e.g., Andrews, Zinger, et. al., 1990; Martinson, 1974), but is similar to the general treatment literature in this aspect. Inherent in the correctional treatment literature is a recognition that offenders vary in the degree to which they may be amenable to lifestyle modification. Shturman, et. al., (2005) conducted a meta-analytic review of the correctional treatment literature on the relationship between offender 'motivation' and treatment retention and criminal recidivism and found a positive relationship between motivation and outcome. One important finding from this study was that the relationship between offender 'motivation' and outcome parallels the broad 'motivation' literature among non-offenders. There are two implications from this finding: First, the constructs of amenability to change and criminality are independent, and second, there is no compelling reason to suspect differences in amenability to change between offenders and non-offenders.

In summary, considerable theoretical, empirical and clinical evidence indicates that amenability to change is an important construct in understanding why some people change and others do not. To date, there has been only limited attention devoted to the development of assessment instruments that can measure this construct. The purpose of the present study was to explore the psychometric properties, reliability, and validity of a new measure; the Self-Improvement Orientation Scheme (SOS), among a sample of incarcerated offenders. It was expected that the SOS would demonstrate acceptable psychometric properties and be related to relevant treatment programming outcome criteria. Given the conceptual independence between amenability to change and criminality, it was expected the SOS would be unrelated to indices of criminal risk.

Method

Participants

Participants were 89 male inmates who ranged in age from 20 to 61 years (M = 38.1, SD = 9.0). The racial composition of the group was: Caucasian (82%), African American (10%), Aboriginal (6%), and Other (2%). Using broad categories of index offenses, the proportional distribution of current offences of participants were: robbery (39%), assault (27%), murder (11%), driving (8%), failure (i.e., breaches, failures to comply, etc; 7%), theft and burglary (6%), and drug (2%). Current sentence length ranged from 2 years to 28 years, with a mean of 6.5 years (SD = 5.8). Ninety-four percent were repeat offenders, with a range of prior convictions between 1 and 69 (excluding two outlier cases that had 100 and 128 prior convictions, respectively). The mean number of prior convictions was 16.7 (SD = 12.2), with outliers excluded. Eighty-two percent of participants had been incarcerated previously, with a range between 1 and 21 (M = 5.9, SD = 4.8) incarcerations. The majority of participants (88.9%) were currently incarcerated in a medium security institution, with 8.7% housed in minimum security, and 2.4% in maximum security.

Measures

Self-Improvement Orientation Scheme (SOS). The SOS is a 72 item self-report instrument designed to measure the degree to which a person is amenable to change. It consists of a Total Score, which is the sum of all items, and 12 subscales that reflect

different amenability to change domains. The subscales include: 1) Openness (self-reflection and receptiveness to new ideas), 2) Life Potential Denial/Minimization (downplaying failed accomplishments), 3) Self-Appraisal Skills (awareness of personal strengths and weaknesses), 4) Self-Efficacy/Willpower (confidence and strength of conviction in achieving goals), 5) Cognitive Perspective (mental orientation), 6) Structured Treatment Expectancy (belief in formal interventions), 7) Self-Improvement Expectancy (belief in change potential), 8) Social Support (perceived social network), 9) Motivation Level (drive to change), 10) Coping Skills (problem solving skill set), 11) Self-Esteem (views of self), and 12) Environmental Support (contextual supports). The SOS is scored using a 5-point Likert scale (approximately 35% of items are reverse scored), with higher scores reflecting greater amenability to change. All subscales are scored such that higher scores reflect strengths in corresponding domains. The exception is the Life Potential Denial/Minimization subscale which is scored such that higher scores indicate less denial/minimization, and hence greater amenability to change.

Level of Service Inventory-Revised. The Level of Service Inventory-Revised (LSI-R; Andrews & Bonta, 1995) is an actuarial risk/need instrument used to classify offenders according to their risk for deviant behavior and need for treatment. The LSI-R contains 54 items denoting specific risk variables rationally grouped into 10 subcomponents representing different risk/need areas: Criminal History, Education/ Employment, Finances, Family/Marital, Accommodations, Leisure/Recreation, Companions, Alcohol/Drug, Emotional/Personal, and Attitude/Orientation. Items are scored during a clinical interview and corroborated with file information as either present or absent and then summed to yield a total score, with higher scores reflecting a greater risk of recidivism and need for clinical intervention. The LSI-R has an extensive research validation data base among a variety of offender samples including inmates and community offenders in the United States (Andrews & Bonta, 2003), female offenders (Coulson, Ilacqua, Nutbrown, Giulekas, & Cudjoe, 1996), sexual offenders (Simourd, & Malcolm, 1998), and adult inmates serving lengthy custody sentences (Simourd, 2004). A meta-analysis summarizing 30 predictive validity studies of the LSI-

R (Gendreau, Goggin, & Smith, 2002) demonstrated scores on the LSI-R are significantly related to recidivism.

Outcome Indices: Two outcome indices of amenability to change were examined in the present study; employment and treatment participation. Employment was based on work initiatives participants were involved with during their current incarceration, which reflects concurrent validity. Employment performance was evaluated by the participant's immediate supervisor using a 3-point Likert type rating system that corresponded to: 0 (poor), 1 (satisfactory), and 2 (excellent). The treatment criteria were based on attendance and performance during both current and prior incarcerations, thus reflecting concurrent and postdictive validity. Participant's treatment performance was rated using a 3-point Likert type rating scale corresponding to: 1 (poor), 2 (satisfactory), and 3 (excellent). Treatment performance ratings were obtained from the final reports of the program facilitators when available in file information and from participant self-reports provided to the psychologist during the interview. Approximately half of the data were obtained from each source.

Procedure

In Canada, offenders serving sentences in excess of two years are a federal responsibility. Federal offenders with crimes against persons applying for conditional release (i.e., parole) are required to undergo a psychological assessment. All data in the present study were collected as part of a psychological assessment. Participants completed a battery of self-report measures, individually or in some instances in small groups, and participated in a clinical interview that was either conducted or supervised by a doctoral-level psychologist trained in the administration of all of the measures. The LSI-R was completed during the clinical interview. File information was also reviewed to corroborate information obtained during the interview and to gather information regarding participant's work performance and treatment participation.

Results

Psychometric Properties

The study's first phase involved an examination of the psychometric properties of the SOS. Table 1 presents interscale correlations, internal consistency estimates

(Cronbach Alpha), and descriptive statistics of the SOS. As can be seen, there were modest correlations among the SOS subscales that ranged between r = -.06 for Self-Improvement Expectancy and Self Esteem, and r = .62 for Self-Appraisal Skills and Coping Skills. The correlations between the subscales and the SOS Total ranged between r = .74 for Social Support, and r = .21 for Cognitive Perspective. The internal consistency estimate of the SOS Total score was .78, with subscale estimates ranging between .72 for Motivation Level and .21 for Self-Esteem and Environmental Support. As for descriptive statistics, the mean SOS Total was 61.1 (SD = 18.1).

Insert Table 1 about here

Validity Estimates

The second phase of the study was an examination of the validity of the SOS. The first step in this process was to explore the relationship between the SOS and two outcome indices: participation in institutional employment, and participation in therapeutic programs. Generally speaking, involvement in employment requires some, but not a great degree of attitudinal and behavioral commitment. Participating in therapeutic activities, on the other hand, requires a greater degree of attitudinal and behavioral commitment. For these reasons, it was expected the SOS would be more strongly correlated to therapeutic program variables than employment variable. For the employment criteria, 74% of participants were involved in institutional employment. Twenty percent of participants had excellent performance ratings, 54% were rated as satisfactory, and 26% were rated as poor. The mean employment performance rating of participants was 1.9 (SD = 0.7). The correlation between SOS Total score and work performance ratings was r = .20, which was not statistically significant.

For treatment participation, 75% of participants had completed at least one therapeutic program. The number of programs completed ranged between 1 and 10, with a mean of 2.2 (SD = 2.1). The type of program varied but addressed the broad issues of substance abuse (36.1% of participants); thinking skills (23.3% of participants), anger management (15.0% of participants), general violence (7.5% of

participants), family violence (7.5% of participants), sexual offender (3.8% of participants), and other (6.8% of participants). The base rate of performance ratings were: poor (37.7%), satisfactory (46.4%), and excellent (15.9%). The correlation between SOS Total score and number of programs completed was $r = .15$, which was not statistically significant. The correlation between SOS Total score and program performance ratings was $r = .31$, which was statistically significant.

To examine which SOS subscales may be linked to program performance, comparison was made between offenders of different performance levels on the SOS subscales. There were insufficient data to conduct comparisons across the three rating groups; however, the satisfactory and excellent rated groups were combined to form a satisfactory group and compared to the poor group. These comparisons appear in Table 2. As can be seen, the satisfactory performance participants had generally greater mean scores than poor performance participants on the majority of SOS subscales, although most did not reach statistical significance. Statistically greater mean scores favoring the satisfactory performance participants were found on: Openness ($t(67) = 2.4$, $p < .05$), Social Support ($t(67) = 2.7$, $p < .05$), and SOS Total Score ($t(67) = 2.0$, $p < .05$).

Insert Table 2 about here

The second step in the validation phase of the SOS involved a comparison between the SOS and a criminal risk/need assessment measure. As noted above, amenability to change and criminal risk are conceptually distinct and as such any measures of these two constructs should be statistically unrelated. To assess the independence between the underlying construct of the SOS (i.e., amenability to change) and criminal risk, the SOS Total Score was correlated with the LSI-R Total Score and the 10 LSI-R subcomponents. The hypothesis that the two constructs are unrelated was confirmed by the weak and negative correlation (e.g., $r(82) = -.12$, ns) that did not reach statistical significance.

The LSI-R consists of several subcomponents some of which may reflect elements of the amenability to change construct and therefore worthy of investigation. Separate LSI-R subcomponent scores were correlated with the SOS Total Score and yielded two significant correlations; between the SOS Total Score and Emotional/Personal and Attitudes/Orientation LSI-R subcomponents. There are five items in the Emotional/ Personal subcomponent that reflect different therapeutic type issues (e.g., current mental health difficulties, past and current treatment attendance, etc.) and four items in the Attitudes/Orientation subcomponent (e.g., criminal attitudes, opinions about sentence, and supervision, etc.). It is possible that certain items from the respective subcomponents account for the statistical relationship between SOS and the LSI-R subcomponents. To examine this, items within each of the Emotional/Personal and Attitudes/Orientation subcomponents were correlated with the SOS Total. This analysis revealed that LSI-R item measuring current modest mental health disturbance (e.g., LSI-R item #46), and negative attitude toward supervision (LSI-R items #54) were correlated with the SOS. The two LSI-R items were correlated with SOS Total Score and subscales and appear in Table 3. As can be seen, half of the SOS subscales were significantly correlated to the LSI-R mental health and supervision item, notably in a negative direction.

Insert Table 3 about here

Discussion

The purpose of the present study was to explore the psychometric properties and construct validity of a new measure of the amenability to change construct. The Self-Improvement Orientation Scheme (SOS) is a self-report assessment instrument that was administered to a sample of Canadian criminal offenders as part of a psychological assessment. The results provided preliminary support for the utility of the SOS as a measure of amenability to change. The data indicated that the SOS had acceptable psychometric properties and demonstrated construct validity through its relationship to

treatment program performance. Perhaps the strongest evidence of the SOS to measure the amenability to change construct was derived from the validity data, specifically the modest and positive (r = .31) correlation to various treatment performance indicators. Scores on the SOS discriminated between participants rated as having poor treatment performance and those rated as having either satisfactory or excellent treatment performance. It is important to recognize that although many of the SOS subscales did not reach statistically significant levels, they were in the expected directions. It is possible that the relatively low sample size and the aggregating of 'satisfactory' and 'excellent' performance participants effected these results. Further study of this issue among an expanded sample size is currently being conducted.

A somewhat surprising finding relates to the internal consistency estimates of the SOS. Although the SOS Total score was in the range considered to be acceptable, the majority of SOS subscales had less than impressive results. Internal consistency is but one index of the psychometric integrity of an assessment instrument and by no means are strong internal consistency estimates a statistical necessity. There may be several reasons for these findings, ranging from poor item quality through relatively low sample size to participant characteristics (e.g., high risk violent offenders). Subsequent studies are currently being planned to address these issues.

The present study is the first to report data on the SOS and as such the results are without existing normative or psychometric benchmarks. In a broad sense, the positive relationship between the SOS and treatment performance indicators is consistent with those found with the University of Rhode Island Change Assessment (URICA: McConnaughy, Prochaska, & Velicer, 1983), which is perhaps the most popular measure in the behavior change literature. The main conceptual limitation of the URICA, however, is that it is designed to measure behavior change 'readiness' at a prescribed time rather than broader and less time limited personal, social, or environmental factors that may underlie the 'readiness' to change. The SOS was designed to fill this important theoretical and clinical gap.

The extensive empirical and clinical literature on human behavior change indicates that there is a complex relationship between amenability to change and actual

behavior change. The transtheoretical model of behavior change (Prochaska & DiClemente, 1983) is perhaps the most popular conceptual model at the present time and the University of Rhode Island Change Assessment (URICA: McConnaughy, Prochaska, & Velicer, 1983) is the companion assessment instrument designed to assess stage of change location. The transtheoretical model and the URICA have been applied to various unitary behavior change initiatives primarily in the health field such as substance use, medical compliance, dieting, and general psychotherapy with varying degrees of success. However, with compound behaviors (multiple behavior change issues) such as criminality, the model and instrument have not been as effective (e.g., Lewis, 2004; Simourd & O'Connor, 2000). Although measurement issues may partially account for these findings, another explanation for a weaker relationship between amenability to change among compound behaviors may be linked to the broad relationship between attitude and behavior. The theory of reasoned action (Ajzen & Fishbein, 1980) suggests that intention is a powerful mediating variable between attitudes and behavior. Although not tested in the present study, it may be that amenability to change as measured by the SOS may be reflective of the intention module of the theory. This remains to be tested empirically.

Theoretically, the constructs of amenability to change and criminal risk are conceptually distinct and as such there is no reason why offenders should be different on amenability to change than non-offenders. The results of the present study support this notion with a weak and non-significant relationship between the SOS and a well known criminal risk/needs assessment instrument (i.e., LSI-R). Further investigation found the SOS was correlated with only two LSI-R subcomponent items; one item reflecting modest mental health disruption and the other reflecting hostility toward supervision. The direction of the correlation was inverse, however, indicating that lower levels of mental health disruption and lower levels of hostility are related to greater amenability. From a clinical perspective, this suggests clients who have moderate levels of anxiety, depression, or other mental health conditions or are hostile in some fashion, may be less responsive to behavior change initiatives than those without these conditions. The clinical task in these cases should be to ameliorate the factors that may

impair their amenability to change potential before introducing behavior change initiatives.

It is important to note that the modest mental health and hostility toward supervision variables that were found to be inversely related to amenability to change, were obtained from broad clinical information derived from a generic risk/needs assessment instrument. It is unclear, however, the degree to which measurement of mental health issues and hostility issues influenced the link with amenability to change. To examine these relationships further, a study is currently being conducted comparing scores on the SOS scores to more specialized assessments of hostility and criminal attitudes. It is hoped the results of this investigation will shed more interpretive light on the results obtained in the present study.

The findings of the present study have direct practical implications. In corrections, the comprehensive notions of risk-need-responsivity (Andrews, Bonta, & Hoge, 1990) form the dominant clinical model. The risk component of the model contends that interventions should be delivered proportionally, with greater services provided to higher criminal risk offenders. The need component of the model contends that treatment services should be dedicated to the specific problem areas of offenders; those that are directly related to client's criminality. The responsivity component of the model contends that services should be delivered in a tailored fashion based on the unique learning styles and contextual issues of each client. It would seem that the amenability to change construct, as measured by the SOS, reflects on the responsivity component. As such, using the SOS to determine client 'motivation' would be an important piece of the overall strategy of reducing criminality through offender rehabilitation.

The differential correlation between number of programs attended and program performance is consistent with the notion that it is more important that a person develops actual skills or insight from a therapeutic activity than simply attending such activities. In what may be considered as a overlooked seminal treatment study, Wormith (1984) found that criminal recidivism predictive accuracy was enhanced when based on the differential between pre-treatment and post-treatment assessment data,

than either pre-treatment or post-treatment data alone. The SOS may be a helpful tool in this regard as a guide to therapeutic program admittance triage. For example, the instrument could be administered as part of an intake assessment protocol with individuals scoring low on the SOS (by whatever definition of 'low') managed differently (e.g., placed on a waiting list, treated together as a 'low motivation group', etc.) than individuals scoring 'high' on the instrument. Furthermore, the SOS subscales can be helpful to identify which amenability to change influences may be most in need of clinical attention (e.g., motivation enhancement training, environmental adjustments, etc.).

Another potential application of the SOS is in the evaluation of treatment programs. Clinicians, researchers, and policy-makers have become increasingly interested in knowing the outcomes (i.e., effectiveness) of therapeutic activities. There are various program evaluation protocols to address this issue, with each having strengths and limitations. However, the 'motivation level' of participants is rarely examined as a potential mediator or moderator of treatment effectiveness, an issue that may have a profound influence on the outcome. In one study of a generic cognitive treatment program for offenders (Maricopa County Adult Probation Department, 2000), participant's treatment session performance was rated by program facilitators using a five-point scale ranging from negative to positive. Using participant 'attitude' performance rating as a proxy for amenability to change potential, participants who were rated as having a good attitude had better treatment performance than participants who were rated as having a poor attitude. It would appear that amenability to change represents an important variable to consider in program evaluation contexts and the SOS may be a useful adjunct in this process.

In summary, the amenability to change area has received considerable theoretical, empirical, and clinical attention over many years. Although impressive gains have been made in understanding why some people change and others do not, the absence of adequate assessment instruments has hampered knowledge accumulation. The results of the present study on the SOS are encouraging and suggest the instrument may be a vehicle for further inquiry in the amenability to change area.

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Author Notes

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Table 1. Interscale Correlations, Internal Consistency (Cronbach Alpha), and Descriptive Statistics of the Self-Improvement Orientation Scheme (N = 89)

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Openness	(.51)												
2. Life Potential Denial/Minimization	.08	(.44)											
3. Self-Appraisal Skills	.35	-.11	(.70)										
4. Self-Efficacy/Willpower	.19	.14	.52	(.54)									
5. Cognitive Perspective	.04	.00	.08	.10	(.57)								
6. Structured Treatment Expectancy	-.03	.31	.08	.21	-.09	(.58)							
7. Self-Improvement Expectancy	-.15	.50	-.04	.23	-.11	.31	(.59)						
8. Social Support	.44	.24	.54	.55	.05	.19	.12	(.42)					
9. Motivation Level	.27	.45	.25	.44	.06	.24	.29	.47	(.72)				
10. Coping Skills	.31	-.06	.63	.42	.09	.14	.02	.40	.14	(.57)			
11. Self Esteem	.36	.02	.62	.40	.11	-.05	-.06	.46	.18	.36	(.21)		
12. Environmental Support	.20	.04	.20	.25	.11	.11	.01	.28	.43	.14	.01	(.21)	
13 SOS Total	.52	.52	.59	.66	.21	.45	.38	.74	.65	.51	.49	.41	(.78)
M	3.7	7.5	9.4	5.8	0.2	5.4	8.1	6.2	5.4	4.5	3.0	1.1	61.1
SD	4.5	4.0	3.3	4.2	2.3	3.5	3.4	2.5	2.7	2.8	2.8	1.8	18.1

Note. Coefficient alphas are in parentheses. Correlations above .20 are significant beyond the .05 level.

Table 2. Mean SOS Scores by Treatment Performance

	Group		
	Poor (n = 26)	Satisfactory (n = 43)	t
Openness	2.5 (4.7)	5.1 (4.0)	2.4*
Life Potential Denial/Minimization	7.9 (3.8)	7.8 (3.5)	0.2
Self-Appraisal Skills	8.8 (3.8)	9.8 (3.1)	1.2
Self-Efficacy Willpower	4.8 (4.6)	6.3 (4.3)	1.3
Cognitive Perspective	- 0.2 (2.4)	0.3 (2.0)	0.9
Structure Treatment Expecancy	4.9 (3.0)	5.5 (3.5)	07
Self-Improvement Expectancy	8.8 (3.2)	7.5 (3.8)	1.5
Social Support	5.1 (3.2)	6.7 (1.8)	2.7*
Motivation Level	4.9 (2.7)	5.8 (2.0)	1.5
Coping Skills	3.7 (3.0)	5.0 (2.7)	1.8
Self-Esteem	3.0 (3.0)	3.1 (2.6)	0.2
Environmental Support	0.7 (1.7)	1.5 (1.9)	1.7
SOS Total	55.1 (22.7)	64.3 (15.6)	2.0*

Note. Standard deviations in parentheses. *p < .05.

Table 3. Correlations between SOS Scores and Criminal Risk Variables (n = 83)

SOS Score	Mental Health	Poor Attitude
Openness	-.15	-.31*
Life Potential Denial/Minimization	.00	-.01
Self-Appraisal Skills	-.27*	-.25*
Self-Efficacy Willpower	-.20*	-.32*
Cognitive Perspective	.13	.13
Structure Treatment Expecancy	.08	-.19
Self-Improvement Expectancy	-.02	-.06
Social Support	-.30*	-.09
Motivation Level	-.15	-.15
Coping Skills	-.28*	-.30*
Self-Esteem	-.16	-.05
Environmental Support	-.21*	-.35**
SOS Total	-.26*	-.36**

Note. Standard deviations in parentheses. *$p < .05$, **$p < .001$.