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Assessing Youth Participation in AA-Related Helping: Validity of the Service to Others in Sobriety (SOS) Questionnaire in an Adolescent Sample

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Background and Objectives: The positive outcomes derived from participation in Alcoholics Anonymous-related helping (AAH) found among adults has spurred study of AAH among minors with addiction. AAH includes acts of good citizenship in AA, formal service positions, public outreach, and transmitting personal experience to another fellow sufferer. Addiction research with adolescents is hindered by few validated assessments of 12-step activity among minors. This study provides psychometric findings of the "Service to Others in Sobriety (SOS)" questionnaire as completed by youths.
Methods: Multi-informant data was collected prospectively from youth self-reports, clinician-rated assessments, biomarkers, and medical chart records for youths (N = 195) after residential treatment.
Results: Few youths (7%) did not participate in any AAH during treatment. Results indicated the SOS as a unidimensional scale with adequate psychometric properties, including inter-informant reliability (r = .5), internal consistency (alpha = .90), and convergent validity (rs = −.3 to .3). Programmatic AAH activities distinguished abstinent youths in a random half-sample, and replicated on the other half-sample. The SOS cut-point of 40 indicated high AAH participation.
Conclusions and Significance: The SOS appears to be a valid measure of AAH, suggesting clinical utility for enhancing treatment and identifying service opportunities salient to sobriety. (Am J Addict 2013;22:60–66)

BACKGROUND AND OBJECTIVES

The 21st century has witnessed the greatest increase in alcohol abuse, prescribed controlled substances, and use of other drugs (AOD) among our nation's minors,[1] potentiating the danger of risky sex, criminal activity, and school drop-out. The rising cost of AOD problems is estimated at $500 billion in increased criminal activity, higher health-care costs, and lost productivity.[2] Efficient, cost-effective approaches for juvenile offenders are needed that alter youths' deleterious life course trajectories while sustaining addiction recovery, developing new sober peer networks, and promoting character development.

In the United States, Alcoholics Anonymous (AA) is the most commonly sought source of help for AOD problems, and most alcoholism treatment programs encourage AA attendance.[3,4] AA participation consistently is associated with improved AOD outcomes for mandated and non-mandated populations,[5] which has spurred national efforts to investigate how behavioral change is mobilized and sustained in AA.[6] A growing body of literature has identified AA-related helping (AAH) as an active ingredient of the 12-step program. Reviews of AAH research report modest effect size estimates of AAH on increased abstinence, reduced depression, and reduced symptoms of extreme self-preoccupation,[7,8] which are not limited to individuals of a certain gender, ethnicity, problem severity, educational level, socioeconomic class, or religious orientation.[9,10]

Service has natural application with adolescent populations: action-oriented for youths without higher-level cognitive skills; provides social and leadership opportunities; is associated with reduced narcissistic behaviors common during adolescence and to AOD populations;[11] is commonly encouraged in promoting adolescent development; and does not require parental permission, fees, or transportation. Given AAH's applicability and association with improved outcomes, the dearth of AAH quantification in adolescent addiction investigations is surprising. One study[12] assessed youth service activity with two items: (1) performing service activities and (2) having sponsored

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anyone. While there was no association between providing sponsorship and AOD use, youths who performed services (8%) were more likely to be abstinent.[12] However, youths may not understand what constitutes performing services, or be reluctant to endorse the title of being a sponsor while engaging in activities common to sponsors. The frequency and impact of youth AAH participation on outcomes may be greater with broader measurement of AAH.

For feasibility in clinical settings, AAH instrumentation needs to be brief and easily scored, capture the myriad ways alcoholics routinely help fellow sufferers, list AAH activities accessible to all individuals at various stages of recovery, assess support given outside of treatment settings, and estimate the degree of AAH participation rather than completed activity. Further, measured AAH activities are more meaningful when they are shown to distinguish abstinence from relapse, and relate activity thresholds to clinical severity. The "Service to Others in Sobriety (SOS)" questionnaire was developed to assess common AAH activities including acts of good citizenship, formal service positions, public outreach, and transmitting personal experience to another fellow sufferer. The SOS has demonstrated adequate psychometric properties with treatment-seeking adults, with good internal consistency (Cronbach alphas = .82–.92), construct validity (rs = .3–.6), test–retest reliability (r = .94), and feasibility.[7,8,13] These findings suggest that the SOS may be a useful tool with adolescents.

In this study, we examined the psychometric properties of a 12-item instrument, SOS, as completed by adolescents court-referred to treatment. This instrument validity study was informed in part by pioneering prior work,[12,13] AAH instrumentation with adults,[8,13] AA literature, altruism literature,[14] and pilot focus groups with young adult members of AA (M.E.P., 2005, unpublished data). The goals of this study were to: (1) explore youth participation patterns in AAH activities as measured by SOS items; (2) establish internal consistency, inter-informant reliability, and convergent validity of the SOS by youth-report; (3) examine the predictive validity of the SOS in relation to clinical outcomes; (4) identify SOS items that best distinguish abstinent youths as measured by positive versus negative urine toxicology screens; and (5) identify the optimal SOS cut-off score in relation to child psychopathology with impaired interpersonal functioning.

METHODS

Procedures

Recruitment for this study was conducted from February 2007 to August 2009 at a single site in Northeast Ohio. Inclusion criteria included: (1) aged 14–18 years, (2) English speaking, (3) stable address and telephone, (4) met DSM-IV diagnosis of a substance use disorder (SUD), and (5) medically stable. Exclusion criteria included: (1) a major chronic health problem other than substance use likely to require hospitalization, (2) currently suicidal or homicidal, and (3) expected incarceration in the subsequent 12 months. In the week prior to their scheduled date of admission, subjects were sent a packet of information that included an invitation letter to participate in the study. Following admission, subjects were approached to participate in the study. After a complete description of the study, eligible subjects signed statements of informed consent/assent. Ninety-minute interviews were conducted within the initial 10 days of admission and repeated at discharge after 2 months of residential treatment (M = 2.2, SD = .2). Urine toxicology screens were collected prospectively each week of the 8-week treatment period by clinical staff as part of routine clinical procedures. Clinicians completed the SOS and one instrument validity measure at discharge. Clinical and research study staff were blind to instrument validity measurement scores. All procedures of this study were approved by the University Hospitals/Case Medical Center Institutional Review Board for human investigation, and a Certificate of Confidentiality from NIAAA was obtained. All subjects and their parent/legal guardian voluntarily provided written informed consent/assent and were paid $25 for completed assessments.

Subjects

A total of 482 adolescents were admitted into treatment during the enrollment period of the study. Subjects were recruited from New Directions (ND), the largest adolescent residential treatment provider in Northeast Ohio. Of the 211 patients approached, none were ineligible and 16 refused to participate, resulting in an enrollment sample of 195 subjects. There were no significant differences between subjects enrolled (N = 195) versus not enrolled (N = 287) in terms of demographic profile, drug of choice, years of illicit drug use, trauma history, sexual orientation, treatment history, and treatment completion. Of the 195 youths enrolled at intake, 175 (90%) completed treatment, 10 (5%) were discharged prematurely against medical advice, 6 (4%) were discharged to a higher-level facility, and 4 (2%) were hospitalized for medical complications. Discharge interviews were unable to be scheduled for 5% of enrolled subjects: three treatment completers, three premature discharges, and four higher-level facility discharges. There were no significant differences between subjects with and without a discharge interview in terms of background characteristics or instrument validity study variables at baseline. Detailed information regarding the overall aims, research design, and baseline assessment of instrument validity study measures is explicated elsewhere.[15]

Measures

Background variables are first described, followed by the SOS and instrument validity study variables.

Background Variables

Background variables assessed at intake included: youth gender, race, ethnicity, age, years in school, parole/probation history, treatment history, parental marital status, parental education, and monthly household income.

AA-Related Helping

The 12-item SOS[13] is a behavioral assessment of service participation within the 12-step program. To reflect the reality of degrees of participation as opposed to definitive yes/no activity, SOS items are rated on a 5-point Likert scale from 1 ("rarely") to 5 ("always") and summed for a total SOS score (range: 12–60). In addition to youth self-report of the SOS, the SOS was also completed by counselors to enable inter-informant reliability analysis with youth-report of the SOS. The majority of intra-correlations between SOS items were low to moderate (rs = .1–.3); one high correlation ($r = .5$, $p < .001$) emerged between SOS items, "reached out to another alcoholic" and "said something positive to another alcoholic."

Instrument Validity Study Variables

Instrument validity study measures included prosocial variables, narcissistic variables, and clinical variables.

Prosocial Behaviors

Prosocial behaviors were assessed with two valid subscales that have been used with AOD populations and normative young adult populations. The 5-item "helping behaviors" subscale from the 10-item Altruism Self-Report[16] assessed charitable activities performed in the past year: giving food or money to a homeless person, doing volunteer work for a charity, giving money to a charity, looking after a person's home while they are away, and carrying a stranger's belongings. Items are rated on a 6-point Likert scale from 1 ("more than once a week") to 6 ("not at all") and summed. These 5 items have shown good psychometric properties in AOD populations[17] and normative young adult populations.[16,18] Two items from the Daily Spiritual Experiences Scale (DSES),[15,19,20] "I feel a selfless caring for others" and "I accept others even when they do things I think are wrong," are rated from 1 ("many times a day") to 6 ("never or almost never"), reverse scored, and summed (range = 2–12). The correlation between the two prosocial subscales was $r = .2$, $p < .05$.

Narcissistic Behaviors

At the opposite end of prosocial behaviors, narcissistic behaviors were measured with the Narcissistic Personality Inventory (NPI), a well-validated self-report of subclinical individual differences in narcissism.[21,22] Three NPI subscales shown to be elevated in AOD populations were selected[13]: exhibitionism (seven items), entitlement (six items), and vanity (three items).

Clinical Variables

Clinical outcomes included two AOD indicators (toxicology screens, AOD cravings), and psychosocial functioning. Youths tested positive for substance use if either ethanol and/or any use of opiates, cannabinoids, cocaine, or phencyclidine were detected in urine samples. Cut-off concentrations (ng/ml) for the following drugs were: THC (50), opiates (300), and PCP (25). The Adolescent Obsessive Compulsive Drinking Scale (A-OCDS) is a valid measure of obsessive thoughts about AOD use and distress caused by these thoughts.[23] With reference to the past week, 14 items are rated on a Likert scale from 0 ("none/never") to 5 ("always/extreme") and summed. Psychosocial functioning was assessed with the clinician-rated Children's Global Assessment Scale (CGAS), a global assessment of a youth's worst functioning at home, school, and with peers in the past month.[24] Scores are rated on a scale from 1 to 100 (lower scores indicating worse functioning), with "anchor points" that separated functioning into 10 decile increments. A CGAS score of ≤ 60 was considered a "definite case," a cut-point supported empirically by epidemiological study of pediatric psychopathology[25] that separates subjects with no versus at least one close friend. Of the three clinical variables, one correlation was found between CGAS scores and positive toxicology screens ($r = -.3$, $p < .01$).

AA Involvement

Information on AA involvement (meeting attendance, providing sponsorship, step-work) was assessed from the well-validated AA Involvement (AAI) scale.[26] Subjects completed the following three AAI items with reference to the assessment period: "how many meetings did you attend?," "did you have a sponsor?," and "what steps did you complete?"

Statistical Analytic Plan

Statistical analyses were conducted with SAS version 9.2 (SAS Institute, Inc., 2008). Distributions of variables were examined for normality. Missing data for key variables at discharge ranged from .1 to 9.5%, and outcomes collected from medical charts were obtained for all subjects. Non-parametric analyses were performed for group comparisons using Fisher's exact test for binary variables and Kruskal–Wallis chi-square test for continuous variables. To determine the SOS factor structure with theoretically correlated factors, an exploratory factor analysis (EFA) was conducted with promax-rotated matrices. Given the exploratory nature of the study, no criteria were specified for the number of factors to retain. Following Brand-Koolen,[27] the following qualifications were used for interpreting the magnitudes of factor loadings: <.2 "low," .2–.4 "moderate," .4–.7 "high," and >.7 "very high." Other SOS psychometric analyses included item analysis, inter-informant reliability (youth- vs. counselor-report of the SOS), internal consistency, convergent validity, receiver operator curve (ROC) analysis, and stepwise discriminant function analysis. For interpretation purposes, Cohen[28] considers $r = .1$ "small," $r = .3$ "medium," and $r = .5$ "large." Statistical significance was set at $p < .05$ (two-tailed).

RESULTS

Sample

We report intake characteristics of the sample, which are comparable to other studies of adolescents in residential treatment. Approximately half of the sample was male (48%)

and from a single parent household (50%), 30% were African American, and 8% were Hispanic. The average age was 16.2 years (SD = 1.1) with 10.1 years of education (SD = 1.2). Approximately half of the sample had a parent with a high school diploma (45%), and the average monthly income across all participants was $2,296 (SD = $1,944). The majority of youths entered treatment with drug dependency (99%), with comorbid alcohol dependency (60%), and had an assigned probation officer (84%). The most prevalent drug dependency types were marijuana dependency (92%) and narcotics dependency (21%). Few had received prior residential treatment (5%), and more than half of the sample had attended fewer than two meetings (median = 2.0) in the 90 days prior to admission. There were no significant differences in background characteristics between male and female subjects at baseline.

Frequency of SOS Items

Table 1 shows the frequency of endorsed responses to SOS items. AAH activities that youths engaged in the most (ie, SOS items rated "often" or "always") were emotionally supportive acts to other alcoholics/addicts (saying something positive to another alcoholic) and the least were programmatic forms of service (taking calls or spending time with a sponsee). Very few youths (7%) did not engage in any AAH during treatment (ie, all SOS items rated "never" or "rarely"). Individual SOS items and total scores were correlated significantly with counselor-report of SOS items (Table 1). Youth AAH participation was higher generally than other programmatic activities (Table 2): approximately one of four youths (24%) had a sponsor, and 15% had completed a 4th step inventory.

Component Structure of the SOS

Resulting eigenvalues from the EFA in descending order were: 3.97, 1.04, .32, .24, .19, .14, .11, .08, .06, .05, .04, and .02. The first rotated factor accounted for 85% of the shared variance, the second factor accounted for 11% of the shared variance, and no items loaded strongly on both factors. The magnitude of factor loadings was moderate for all but two SOS items (Table 1), supporting an interpretation of a unidimensional scale. Using Hatcher's[29] criteria of the eigenvalue (>1.0), inspection of scree plots, interpretability, and at least three significant variable loadings per retained component, a one-component solution was found to be the most appropriate. Inspection of maximum likelihood (ML) hypothesis tests indicated rejection of the first null hypothesis of no common factors ($\chi^2 = 118.83$, $p < .0001$), but failed rejection of the second null hypothesis of more factors needed ($\chi^2 = 15.47$, $p = .07$). The Cronbach's coefficient alpha for scale reliability was .90.

Correlations between the SOS and Instrument Validity Study Variables

As shown in Table 2, the SOS was associated significantly with helping behaviors and compassion subscale scores. The SOS was associated negatively with entitlement subscale scores, but not associated with vanity or exhibitionism subscale scores. When compared to clinical and AA involvement variables, the SOS was associated significantly with fewer AOD cravings, higher psychosocial functioning, higher meeting attendance, and greater step-work.

TABLE 1. SOS item responses at discharge: frequencies, factor loadings, and correlations with SOS by counselor-report

SOS[†]	Item	Median	*M* (SD)	%[‡] Low	Factor[§] loadings	Correlations[‖] with SOS by counselor-report
1.	Listened to an alcoholic/addict[¶]	4.0	4.0 (1.1)	14	.6	.2**
2.	Said something positive to an alcoholic/addict	4.0	3.7 (1.1)	15	.6	.3**
3.	Put away chairs after a meeting	4.0	3.5 (1.2)	16	.6	.3**
4.	Said hello to a newcomer	3.5	3.5 (1.3)	20	.7	.3**
5.	Reached out to alcoholic/addict having a hard time	3.0	3.2 (1.3)	24	.7	.2**
6.	Guided an alcoholic/addict through the 12-steps	3.0	3.1 (1.2)	28	.6	.3***
7.	Read program literature to an alcoholic/addict[#]	3.0	2.9 (1.2)	32	.7	.3***
8.	Shared personal story with an alcoholic/addict	3.0	2.9 (1.5)	37	.8	.4***
9.	Encourage an alcoholic/addict to go to a meeting	3.0	2.8 (1.2)	41	.5	.2*
10.	Donated money to AA/NA[††]	2.8	2.7 (1.4)	47	.6	.2*
11.	Held a service position in a 12-step program[‡‡]	1.0	1.8 (1.0)	76	.2	.3**
12.	Took calls or spent time with sponsee[§§]	1.0	1.2 (.6)	95	.1	.2**
Total score		—	35.5 (8.4)	—	—	.5***

*$p < .05$; **$p < .01$; ***$p < .001$; [†]Items are rated as "never (1)," "rarely (2)," "sometimes (3)," "often (4)," or "always (5)" with reference to the assessment period; [‡]Low = SOS items endorsed "never" or "rarely"; [§]Factor loadings (unrotated); [‖]Spearman product–moment correlation; [¶]Listening qualified as at least 10 min of uninterrupted listening; [#]Literature can be read at meetings (the promises, the steps, etc.) or directly when working with another alcoholic/addict; [††]12-Step programs are self-supporting through members' contributions at meetings or local service centers; [‡‡]Service positions at meetings include: coffee maker, door greeter, chairperson, secretary, treasurer. Service positions outside of meetings include: service delegate, public outreach organizer (ie, jails, etc.), literature delegate.; [§§]Subjects not sponsoring others at any point during the assessment period rate this item as "never."

TABLE 2. Correlations between the SOS[†] and the Altruism Self-Report,[‡] DSES,[§] NPI,[‖] AOCDS,[¶] and CGAS[#] at discharge

Measure	*M* (SD)	Correlations[††] with the SOS	95% Confidence interval
Altruism subscale: helping behaviors	23.9 (4.5)	$-.3^{***}$	−.4, −.1
DSES subscale: compassion	6.4 (2.4)	$.3^{***}$	−.4, −.2
NPI subscale: vanity	1.5 (1.0)	.1	−.1, .2
NPI subscale: exhibitionism	2.6 (1.8)	−.1	−.2, .1
NPI subscale: entitlement	2.1 (1.3)	$-.2^{*}$	−.3, −.1
AOCDS total score	8.6 (5.2)	$-.2^{*}$	−.4, −.2
CGAS	60.9 (6.0)	$.3^{***}$	.1, .4
No. of meetings attended	32.7 (19.7)	$.3^{***}$	.1, .3
No. of steps completed	2.6 (2.0)	$.2^{*}$	.1, 0

$^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$; [†]Service to Others in Sobriety (SOS) Total Score; [‡]Five helping behaviors are items from the 10-item Rushton et al.[16] Altruism Self-Report scale; [§]Daily Spiritual Experiences Scale (DSES); [‖]Narcissistic Personality Inventory (NPI); [¶]Adolescent Obsessive Compulsive Drinking Scale (AOCDS); [#]Children's Global Assessment Scale (CGAS) summary score; [††]Spearman product–moment correlation.

Stepwise Discriminant Analysis of the SOS

The sample was split randomly in half to generate two datasets with balanced toxicology group proportions relative to the population ($N = 195$; 48% positive). The first split half from each toxicology group (ie, negative vs. positive) represented the calibration dataset ($N = 98$; 48% positive); the second split half from each group represented a validation dataset ($N = 97$; 47% positive) that was classified using discriminant analysis functions developed in the calibration dataset. As shown in Table 3, five SOS items assessing programmatic forms of AAH were shown to be useful in separating negative versus positive toxicology groups with a final Wilks' lambda of .67 ($\chi^2 = 316.82$, df = 6, $p < .001$). The cross validation model showed a predicted misclassification error rate of 24%.

Selection of SOS Cut-Off Score

Figure 1 shows the ROC curve for the SOS against CGAS scores ≤ 60 ($N = 90$; 53%). The area under the curve (AUC), a measure of discriminating ability, was .73 with a standard error of .08; this score compares favorably with AUC data for the SOS as completed by adults (AUC = .76)[13] and for other psychological assessments. A cut-off score of 40 or higher was found to provide the highest average of sensitivity and specificity (SN = .81; SP = .66), the highest Phi coefficient ($\varphi = .3$), and the highest degree of concordance ($k = .3$). Using this cut-off score to indicate high AAH, 27% of subjects engaged in high AAH during treatment, similar to the rate observed among adults (28%).[13]

CONCLUSIONS AND SCIENTIFIC SIGNIFICANCE

This study is the first investigation to validate a brief adolescent self-report of AAH in one of the largest samples of substance-dependent juvenile offenders with equal gender proportions. Results from the current study indicate that the SOS possesses the requisite psychometric qualities to be useful as a brief assessment of prosocial behaviors relevant to addiction recovery. Data were derived from psychometrically strong instruments and multi-informants, utilizing youth self-reports, clinician-rated assessments, biomarkers, and medical chart review. The internal consistency of the youth administration of the SOS was excellent and every SOS item demonstrated a meaningful loading on the unidimensional scale. SOS scores were corroborated by counselor-report; low to moderate inter-informant correlations may have been higher if counselors observed youths' AAH participation at both off- and on-site meetings. Convergent validity also was established; the SOS was correlated positively with two subscales of prosocial behaviors and negatively associated with narcissistic entitlement. AAH may offer a solution to faucets of narcissism, such as entitlement and hypersensitivity, which are theorized roots of alcoholism shown to be associated with worse AOD outcomes. The SOS also was associated with fewer AOD cravings and higher psychosocial functioning. Meeting attendance and step-work, significant predictors of long-term abstinence,[13] also were associated with AAH activity.

This study is the first to explore the prevalence of youth AAH activity during treatment, provide a preliminary threshold for high AAH activity tied to psychosocial and interpersonal functioning, and discern which forms of AAH best distinguish youth AOD outcomes. Most youths engaged in formal AAH activities at least some of the time, and only 7% of juvenile offenders did not engage in any AAH. Youth participated more in AAH than other 12-step activities such as step-work, paralleling earlier work by Tonigan et al.[26] who noted lower participation in programmatic components of 12-step programs as compared to fellowship-oriented activities. There is evidence to support more encouragement of youth participation in programmatic AAH activities, which were better predictors of objective SUD biomarkers than general forms of help. The discriminant function correctly classified 76% of subjects, similar to the 78% correct classification rate of the AUDIT among adolescent populations.[30] Future research is warranted to replicate the factor structure, threshold of high AAH, and best set of AAH predictors among diverse samples of adolescents at various stages of recovery.

TABLE 3. Results of stepwise discriminant analysis of SOS items

Step	SOS item entered	SOS item removed	Number in	Partial R^2	F statistic	Prob. $> F$	Wilks' lambda	Prob. < lambda	Avg. sq. canonical r	Prob. > ASCC
1	Shared personal story with an alcoholic/addict		1	.13	7.39	.01	.752	.009	.125	.009
2	Put away chairs after a meeting		2	.11	5.37	.02	.591	.005	.186	.005
3	Read program literature to an alcoholic/addict		3	.10	5.32	.03	.492	.006	.220	.006
4	Guided an alcoholic/addict through the 12-steps		4	.07	3.48	.04	.441	.007	.248	.007
5	Said hello to a newcomer		5	.05	2.53	.10	.399	.005	.286	.005

Five SOS items were found to be helpful in discriminating between positive versus negative toxicology screens during treatment.

FIGURE 1. Receiver–operator characteristics curve of SOS scores versus CGAS scores.

Some limitations of our study merit attention. First, youth AAH activity at meetings may be overestimated given the majority of youths attended 2–3 meetings each week of treatment. However, the 26% rate of high AAH at discharge approximates the rate of AAH (28%) by adult-report of the SOS 3 years post-treatment.[7] Conversely, study design elements (treatment setting, <60 days of sobriety) may have constricted youth ability to hold a formal service position and provide sponsorship. EFA loadings for these two items may be higher when assessed post-treatment with more time sober. Second, with exception of prospective assessment of urine toxicology screens, instrument validity study measures were assessed concurrently at discharge; thus the direction of causation between the SOS and clinical outcomes cannot be concluded. Third, findings may not generalize to youth populations with less severe SUDs and without judicial involvement. However, the most common referral source for adolescent treatment involves judicial sentencing, referrals which will increase with recent legislation changes.[31] Fourth, as with any self-report measure, social desirability bias may be present in the SOS assessment. This potential bias is likely to be minimal, however, given the moderate correlation between youth- versus counselor-report of SOS total scores.

Despite these limitations, our results add to the growing number of empirical studies advancing understanding of how AA helps initiate and sustain behavioral change.[15] Brief screening tools for prosocial behaviors frequently are used as an indicator of mental health and in treatment planning. More generally, future research may explore timing of becoming a sponsor to substantiate the common suggestion of waiting a year or more into sobriety before offering sponsorship. In the meantime, there is a wealth of prescribed AAH activities to engage and benefit newcomers.

Given AAH participation during treatment significantly improves the likelihood of long-term abstinence,[7,32] interventions that facilitate early engagement in AAH are critical in the short window of time youths are willing to change their behavior. As a brief, prosocial behavior screening tool, an SOS total score below 40 can identify youths low in service participation, and identifies AAH activities as resources. Instrumental forms of AAH can be adopted without higher cognitive abstraction, processing, or instruction and can be practiced at meetings to satisfy sentencing mandates for greater benefit. Facing a rising prevalence of substance related problems, the chronic nature of SUDs, and limitations on reimbursement due to national healthcare reform, providers may find the SOS useful for assessing and monitoring levels of AAH. Encouraging such activities during and following treatment may enhance the effectiveness of formal treatment without additional cost, and facilitate more successful youth re-entry into the community.

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Declaration of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this paper.

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