

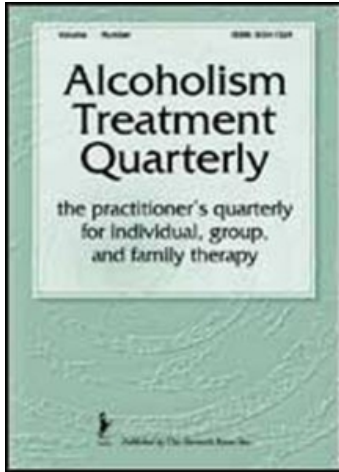
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Utility of the Behavior and Symptom Identification Scale (BASIS-32) at an Alcohol Detoxification Unit

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ABSTRACT. The Behavior and Symptom Identification Scale (BASIS-32) is a commonly used screening and treatment outcome measurement tool in mental health settings. Given the prevalence of co-existing psychiatric and substance use disorders, the five BASIS-32 domains (understanding of self and relationship with others; daily living skills and role functioning; depression, anxiety, and suicidality; impulsive and addictive behaviors; and psychotic symptoms) all have great relevance to substance abuse treatment settings. We examined the utility of the BASIS-32 with a sample of 977 men and 396 women receiving alcohol detoxification services. Results revealed subscale scores comparable to those reported for outpatient and inpatient psychiatric samples, with the

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exception of higher scores on the impulsive and addictive behaviors subscale. Overall, the BASIS-32 appears to have value for substance abuse treatment facilities for purposes of (1) screening (especially with regard to mental health and day-to-day functioning), (2) treatment planning, (3) discharge planning, and (4) outcomes measurement. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2005 by The Haworth Press, Inc. All rights reserved.]

KEYWORDS. Assessment, mental health, treatment outcomes, daily functioning, psychometric properties

The Behavior and Symptom Identification Scale (BASIS-32; Eisen, Dill, & Grob, 1994) is a 32-item instrument that assesses psychiatric symptoms and functional abilities within the following five domains, all of which have great relevance to the treatment of individuals with substance abuse issues: understanding of self and relationship with others; daily living skills and role functioning; depression, anxiety and suicidality; impulsive and addictive behaviors; and psychotic symptoms. The instrument was developed to address a need for brief functional assessment tools with utility for treatment planning and tracking of treatment outcomes. It is a consumer-focused tool that collects information directly from the consumer either through paper-and-pencil or interviewer administration, with both modes of administration being equally reliable and valid (Russo et al., 1997). The BASIS-32 includes items that assess not only psychiatric and substance use symptomatology, but also several aspects of day-to-day functioning. Although originally intended for use with psychiatric inpatients, the BASIS-32 has found wide use in a variety of inpatient *and* outpatient mental health treatment populations (Chow, Snowden, & McConnell, 2001; Eisen, Wilcox, Leff, Schaefer, & Culhane, 1999).

Despite its obvious relevance to substance abuse treatment, the utility of the BASIS-32 with a substance abuse treatment population has not been previously reported in the literature. However, given that the coexistence of psychiatric and substance use disorders is increasingly the rule, rather than the exception, among both mental health and substance abuse treatment populations (Brems & Johnson, 1997; 2002; Kessler et al., 1996; Kessler, Crum, Warner, & Nelson, 1997; Wu, Kouzis, & Leaf, 1999), the BASIS-32 has considerable potential for utility at substance use treatment agencies. This is particularly true given that psychiatric symptoms are often overlooked and

under-assessed at substance use treatment agencies (Brems, Johnson, & Namyniuk, 2002; El-Guebaly, 1990).

The purpose of the current study was to compare the findings from the BASIS-32 as used with a substance abuse treatment sample to those reported for mental health treatment samples. To accomplish this, we requested voluntary participation from individuals receiving services at an alcohol detoxification unit, and compared this sample's BASIS-32 scores with those obtained from inpatient and outpatient mental health samples.

METHOD

Setting

Data was collected from individuals seeking services at a 17-bed detoxification unit within an alcohol treatment agency that provides a full spectrum of services, including outpatient care, detoxification services, intermediate and long-term residential treatment, and dual diagnosis (substance abuse and mental health) treatment for men and women of all ethnic backgrounds. Individuals admitted to the detoxification unit must be in need of detoxification from alcohol; those in need of detoxification from drugs other than alcohol are referred to other agencies in the community. The detoxification unit is set up to provide a four-day treatment program; the majority of patients (71.6%) stayed for a minimum of four days.

Participants

Of the participants, 977 (71.2%) were men and 396 (28.8%) were women. Ages ranged from 18 to 68 years, with a mean of 42.0 (SD = 4.9). Regarding ethnic heritage, 76 (5.7%) were of African American, 48 (3.6%) of American Indian, 704 (53.1%) of European American, 493 (37.2%) of Alaska Native, and 4 (0.3%) of other descent; this information was missing for 48 participants. Relative to highest level of education, 38 (2.9%) of the participants reported grade school as their highest educational achievement; 845 (65.4%) graduated high school, 379 (29.3%) graduated college, and 31 (0.2%) obtained post-baccalaureate college credits; 80 individuals did not provide this information. Relative to employment status, 149 (11.6%) of participants reported working full-time, 54 (4.3%) worked part-time, 10 (0.8%) were homemakers, 557 (43.2%) were unemployed and looking for work, 339 (26.3%) were unemployed and not looking for work, 120 (9.3%) were disabled, 12 (0.9%) had retired, and 49 (3.8%) had other employment circumstances; 83 in-

dividuals did not provide this information. Living situation prior to admission was as follows: 17 (1.3%) participants lived in the criminal justice system; 482 (37.7%) owned or rented a home or apartment; 218 (17.0%) stayed in a shelter; 243 (19.0%) lived in someone else's home; 274 (21.4%) lived on the street or outdoors; 21 (1.7%) were institutionalized in a mental health, substance abuse, or other institution; and 25 (2.0%) had other living arrangements; 93 individuals did not provide this information.

Instrumentation

Behavior and Symptom Identification Scale (BASIS-32; Eisen, Dill, & Grob, 1994). The BASIS-32 is a 32-item self-report scale developed as a quick measure to assess treatment outcomes. It assesses severity of psychiatric and substance abuse symptoms along with general functioning for the week prior to scale administration. Respondents rate the degree to which they have been having difficulty with each item on a five-point Likert scale, with responses of *no difficulty* (0), *a little difficulty* (1), *moderate difficulty* (2), *quite a bit of difficulty* (3), and *extreme difficulty* (4). The scale can be administered as a structured interview if the client is not capable of self-report (e.g., due to illiteracy or interfering symptoms).

The BASIS-32 assesses the following five areas of functioning, along with an overall score. *Relation to Self and Others*, consists of seven items, including "being able to feel close to others," "relationships with family members," and "recognizing and expressing emotions appropriately." *Daily Living and Role Functioning Skills* consists of nine items, including "managing day-to-day life," "feeling satisfaction with your life," and "developing independence, autonomy." *Depression or Anxiety* consists of six items, including "isolation or feelings of loneliness," "fear, anxiety, or panic," and "adjusting to major life stresses." *Impulsive and Addictive Behavior* consists of six items, including "drinking alcoholic beverages," "taking illegal drugs, misusing drugs," and "impulsive, illegal, or reckless behavior." *Psychosis* consists of four items, including "hearing voices, seeing things" and "disturbing or unreal thoughts or behaviors." Subscales are calculated by adding Likert values of the items on a given scale and dividing by the number of items, for a mean score that can range from zero to four. The one exception is *Daily Living and Role Functioning Skills*, for which the highest of three items (work, school, household responsibilities) is chosen for inclusion in calculating the scale score. The BASIS-32 has been translated into numerous languages, including Spanish, French, Cambodian, Japanese, Chinese, and Korean, to name but a few.

Psychometric properties of the BASIS-32 have been reported as adequate by the scale developers (Eisen, Wilcox, Leff, Schaefer, & Culhane, 1999), as well as independent researchers (Hoffmann, Capelli, & Mastrianni, 1997; Klinkenberg, Cho, & Vieweg, 1998; Russo et al., 1997). According to Eisen et al. (1994), internal consistencies were reported at .85 for the total score and ranged from a low of .65 for the impulsive/addictive behavior subscale to .81 for the daily living subscale. Concurrent validity with objective measures of functioning was also adequate; discriminant validity was good as the scale successfully differentiated relevant diagnostic groups. The scale was shown to be sensitive to change, with intake scores being significantly different from discharge scores. Klinkenberg et al. (1999) reported adequate internal consistency and test-retest reliabilities along with good validity for the symptom subscales. The functioning subscales have fared less well, and discriminant analyses were not successful in differentiating client groups based on the BASIS-32 subscales. Hoffmann et al. (1997) found very good internal consistency with coefficients ranging in the .90s. Factor analyses have confirmed the subscale structure and analyses of variance successfully used the BASIS-32 to differentiate clients by diagnostic classification.

Procedure

Data was collected between July 1, 1999 and December 31, 2002. After providing informed consent for treatment that included the use of patient data for research and evaluation purposes, potential participants were approached by agency staff to complete the BASIS-32 in the process of the unit's regular intake assessment. The BASIS-32 and all other forms were obtained as soon as agency staff members believed that individuals were sufficiently sober to give consent, understand instructions, and participate in the assessment process. Typically, this meant that the BASIS-32 was completed on the second day of an individual's stay at the detoxification unit. Participants were provided the BASIS-32, along with other paper-and-pencil forms and questionnaires, and asked to complete and return them. If needed or requested, agency staff assisted individuals in completing their assessment forms.

Data Analyses

To compare whether means and standard deviations of the BASIS-32 subtest and overall scores obtained for the current sample differed from those of mental health samples (inpatient and outpatient), independent two-tailed *t*-tests were calculated. Given the large number of *t*-tests calculated, alpha was adjusted to .001, according to the Bonferroni method (Neter & Wasserman,

1975). Comparisons were also made regarding percentage of individuals who scored at the floor or ceiling of a given scale (i.e., individuals scoring 0 or 4). This analysis assessed whether the instrument has sufficient range for a substance-using sample. Internal consistency of the BASIS-32 total score and subscales was determined by calculating coefficients alpha. Obtained coefficients were compared with those for inpatient and outpatient mental health samples.

RESULTS

Means and standard deviations for the current sample's BASIS-32 subscales and total score and for previously published mental health samples are shown in Table 1. Results of *t*-test analyses revealed numerous statistically significant subscale differences between the current and previously published samples. Although differences were statistically significant, given the large *N*

TABLE 1. Comparison of BASIS-32 Means and Standard Deviations Across Five Studies

	<i>Current Study</i>	<i>Chow et al. (2001)</i>	<i>Eisen et al. (1999)</i>	<i>Eisen et al. (1994)</i>	<i>Russo et al. (1997)</i>
	Detoxification patients - public (N = 1,273)	Outpatient psychiatric - public (N = 1,207)	Outpatient psychiatric - public (N = 399)	Inpatient psychiatric - private (N = 247)	Inpatient psychiatric - public (N = 361)
<i>BASIS-32 Subscale</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>
Relation to Self and Others	1.72 (1.13)	1.69 (1.07)	1.92 (1.02)*	1.47 (0.93)*	2.41 (0.81)*
Depression or Anxiety	1.75 (1.07)	1.75 (1.14)	1.90 (1.03)	1.77 (1.05)	2.44 (0.83)*
Daily Living and Role Functioning	1.82 (1.10)	1.67 (1.57)	1.95 (1.04)	1.93 (1.05)	1.75 (0.85)
Impulsive and Addictive Behavior	1.37 (0.90)	0.77 (0.67)*	0.85 (0.73)*	0.86 (0.86)*	1.57 (0.91)*
Psychosis	0.86 (0.97)	0.95 (0.75)	0.68 (0.76)*	0.77 (0.91)	1.29 (0.96)*
Total Score	1.56 (0.93)	1.41 (1.37)	1.50 (0.80)	1.34 (0.68)*	2.31 (0.67)*

*Mean subscale scores that differ from the current sample, $p < .001$

for many of the samples and the (generally) small mean differences, they are not likely to be clinically significant. Indeed, with two notable exceptions, the current sample means were comparable to those of previously published samples. The first exception was that for the current sample, the mean score for impulsive and addictive behavior was significantly higher than for most of the mental health samples. This finding, if anything, supports the usefulness of the tool with a substance-using sample. The second exception was that the sample means obtained by Russo et al. (1997) were significantly higher than the current and all other published samples. The Russo et al. (1997) sample was drawn from two inpatient units that served persistently and severely mentally ill, largely indigent patients; one unit was voluntary, the other was involuntary. Thus, the Russo et al. sample included the most severe psychopathology of all samples.

Table 2 provides information on the percentage of respondents for whom the subscale scores were at the floor (scores of 0, indicating no difficulty) or ceiling (scores of 4, indicating extreme difficulty) of the BASIS-32 rating scale. These statistics were reported by Eisen et al. (1999) and Chow et al. (2001) for two outpatient psychiatric samples. In comparing these two and the current samples, percentages attained for both ceilings and floors were roughly equivalent, with the exception of impulsive and addictive behaviors. For this latter subscale, 15% of Eisen et al.'s and 19.7% of Chow et al.'s (mental health) samples scored at the floor, as opposed to 4.9% in the current (substance-using) sample. Also shown in Table 2 are the percentages of individuals who responded with a 0 (*no difficulty*) to the BASIS-32 item that deals directly with difficulties when drinking alcohol beverages. In the current sample, 11.9% of the respondents provided a score of 0 to this item, which, given the fact that this sample was of patients at a detoxification facility, represents either extreme denial, oppositional behavior, or inaccurate responding.

Table 3 provides coefficients alpha for the BASIS-32 total score and all BASIS-32 subscales obtained for the current sample and previously published mental health samples. For the current sample, reliability coefficients for the subscales ranged from .78 (for impulsive/addictive behaviors) to .92 (relation to self/others); for the total score, reliability was .97. All of these reliability coefficients exceeded the average of other published mental health samples' alpha coefficients.

DISCUSSION

Analyses compared the scores on the BASIS-32 when used with a substance abuse treatment sample to those reported for mental health treatment

TABLE 2. BASIS-32 Scores and Statistics for the Current and Past Sample

	<i>Current Study</i>	<i>Chow et al. (2001)</i>	<i>Eisen et al. (1999)</i>
<i>BASIS-32 Subscale</i>	Detoxification: public (N = 1,273)	Outpatient psychiatric: public (N = 1,207)	Outpatient psychiatric: public (N = 399)
Relation to Self and Others			
Mean	1.72	1.69	1.92
SD	1.13	1.03	1.02
% Floor	8.4%	7.6%	3%
% Ceiling	3.0%	< 1%	1%
Reliability	.92	.87	.89
Depression or Anxiety			
Mean	1.75	1.75	1.95
SD	1.07	1.14	1.04
% Floor	4.9%	5.6%	2%
% Ceiling	2.9%	2.2%	1%
Reliability	.87		
Daily Living & Role Functioning			
Mean	1.82	1.67	1.90
SD	1.10	1.06	1.03
% Floor	5.2%	5.8%	2%
% Ceiling	3.4%	1.0%	2%
Reliability	.91		
Impulsive or Addictive Behavior			
Mean	1.37	0.77	0.85
SD	0.90	0.67	0.73
% Floor	4.9%	19.7%	15%
% Ceiling	1.9%	< 1%	< 1%
Reliability	.78		
% 0 on alcohol use item ¹	11.9%	n/a	n/a
Psychosis			
Mean	0.86	0.95	1.50
SD	0.97	0.94	0.80
% Floor	29.7%	26.7%	< 1%
% Ceiling	2.2%	< 1%	< 1%
Reliability	.82		
Total Score			
Mean	1.56	1.41	
SD	0.93	0.87	
% Floor	2.3%	1.9%	
% Ceiling	1.2%	< 1%	
Reliability	.97		

¹ Percentage who answered "0" (*no difficulty*) to the item about difficulties with drinking alcohol

TABLE 3. Internal Consistencies (Coefficient Alpha) Comparison for All BASIS-32 Subscales for the Current and Mental Health Samples

	Current Study	Russo et al. (1997)	Eisen et al. (1994)	Hoffman et al. (1997)	Eisen et al. (1999)	Chow et al. (2001)	Klickenberg et al. ¹ (1998)	Hoffman et al. (1997)
<i>BASIS-32 Subscale</i>	Detoxification: public (N = 1,273)	Inpatient psychiatric: public (N = 361)	Inpatient psychiatric: private (N = 247)	Adult inpatient psychiatric: private (N = 462)	Outpatient psychiatric: public (N = 399)	Outpatient psychiatric: public (N = 1,207)	Outpatient psychiatric: public (N = 60)	Adolescent inpatient psychiatric: private (N = 244)
Relation to Self and Others	.92	.80	.77	.80	.89	.87	.95	.80
Depression or Anxiety	.87	.81	.79	.76	.87	.89	.89	.79
Daily Living and Role Functioning	.91	.79	.76	.79	.88	.85	.85	.81
Impulsive and Addictive Behavior	.78	.75	.68	.69	.65	.77	.65	.69
Psychosis	.82	.74	.43	.65	.66	.77	.73	.56
Total Score	.97	n/a	.89	.91	.95	n/a	n/a	.92

¹Klickenberg et al. (1998) reported coefficient alphas for both self-report and interview administrations of the BASIS-32; for consistency with other studies, coefficients included in this table are for the self-report administration.

samples. Results revealed that when used with a sample of individuals receiving alcohol detoxification services, mean scores obtained on most subscales and the overall score are comparable to most published outpatient and inpatient mental health samples. As would be expected, the mean score obtained from the current sample on the impulsive and addictive behaviors subscales was significantly higher than that obtained from most of the published mental health samples. This finding emphasizes the primacy of the substance use problems within this sample and serves as an indicator of validity for this BASIS-32 subscale.

The finding of comparable subscale scores on the subscales of relation to self and others, daily living and role functioning, depression or anxiety, and psychosis subscales and across substance abuse and mental health treatment samples underscores the fact that mental health concerns abound among substance use treatment populations, stressing the importance of assessing both substance use and mental health issues. Ceilings obtained for this sample were also comparable to mental health populations; floors were obtained by fewer individuals than in previous mental health samples, especially on the impulsive and addictive behaviors subscales. Reliability coefficients obtained for this sample compared well with other samples, providing an indicator of consistency in measurement across mental health versus substance abuse groups.

Clinical Implications

Given comparable scores and internal consistencies across mental health and substance abuse treatment samples, this study suggests that the BASIS-32 shows considerable promise for use in substance use treatment settings for several reasons. First, its ability quickly to assess psychiatric and substance use symptomatology along with day-to-day functioning makes the BASIS-32 an instrument that has considerable utility for screening purposes at intake or triage. Subscale scores that at the time of screening indicate at least minor problems in an assessed area can be explored more thoroughly via interviewing or psychometric testing. Further, individual responses can be used as avenues for gaining additional information about consumer needs that might otherwise have been overlooked. Using the BASIS-32 as a screening tool for these psychiatric, substance abuse, and daily functioning domains is a much more psychometrically-sound approach than utilizing the single-item questions typically found on an intake form.

Second, the BASIS-32 shows considerable promise as a tool for treatment planning purposes. Being easily administered, the BASIS-32, when administered at admission, can be used to identify problem areas meriting attention for further assessment. More in-depth follow-up in areas that are shown by the

BASIS-32 to be of likely concern may then lead to more accurate diagnosis. With an accurate diagnosis that pays attention to the substance abuse, mental health, and other presentations of the client, treatment, especially for problem areas other than substance use, can become more accurate and focused. Through the use of the BASIS-32, mental health or functional problems can be incorporated more comprehensively into treatment plans, even in substance abuse treatment settings that do not have time to conduct thorough mental health assessment with every consumer. Future research needs to be conducted to determine if the BASIS-32 works as well as a treatment planning tool in substance abuse treatment as it does in mental health treatment.

Third, the BASIS-32 is short enough that it can be easily re-administered at discharge to assess if treatment had an effect on the symptoms targeted in an individual treatment plan. Prior research with individuals receiving mental health treatment services (Eisen et al., 1999; Hoffman et al., 1997; Russo et al., 1997; Uttaro & Gonzalez, 2002) have found the BASIS-32 to be sensitive enough to measure changes during the treatment process. Although not studied to date, it is likely that reassessment with the BASIS-32 at discharge from treatment can be used to measure treatment outcomes as well as remaining vulnerabilities. With such assessment, discharge and aftercare planning can be more tailored, accurate, and comprehensive.

Fourth, given increasing pressures on providers to collect treatment outcome data, the repeated use of the BASIS-32 across time (e.g., six and 12 months post-treatment) may be of considerable value. Repeated outcome measurement with the BASIS-32 can assist care providers with requirements for showing treatment effectiveness to their funding agencies. This is so because the BASIS-32 is easily administered, even over the phone (a method many substance abuse treatment providers use for outcome measurement), and, as indicated above, research has documented its sensitivity to change as a result of treatment (Eisen et al., 1999; Hoffmann et al., 1997). Having an easily administered measure of substance abuse, mental health, and daily functioning available for outcome measurement purposes will help substance abuse treatment providers make more compelling cases for the effectiveness of the services they render. Given funding sources' current focus on rewarding programs with proven effectiveness, the potentially helpful role of the BASIS-32 cannot be overstated.

One unanswered question is the degree to which the participants' withdrawal symptoms affected their responses to the BASIS-32. That is, even though, to insure sobriety, the BASIS-32 was administered on the second day of their stay on the detoxification unit and asks for symptoms during the prior 30 days, the current physical state of the participants as they experience alcohol withdrawal may have influenced their responses. This may be particularly true for items such as "confusion, concentration, memory," "physical symp-

toms,” and “depression, hopelessness.” Replicating this work with individuals in long-term treatment for substance abuse may clarify this issue.

In summary, although the BASIS-32 cannot, of course, replace in-depth substance use or mental health assessments, it is an excellent instrument for substance abuse treatment agencies wishing to screen for mental health and daily functioning issues and an excellent choice for measuring treatment outcomes across time. The instrument only takes a few minutes for consumers to complete, yet the information it yields may prove worthwhile, both for the consumer (in terms of more tailored and comprehensive diagnosis, treatment planning, and discharge/aftercare planning) and the agency (in terms of providing outcomes measurement and client data that can be used for reporting program effectiveness to funding sources).

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