

A Concurrent Validation Study of the Alcohol and Other Drug Identification (AODI) Scale

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ABSTRACT. This study measured the concurrent validity of the Alcohol and Other Drug Identification (AODI) scale, a measure of barriers to social workers addressing substance abuse issues with their clients. The scale was administered along with the Drug and Drug Problems Perceptions Questionnaire (DDPPQ), a measure of mental health workers' attitudes toward working with substance abusers. A total of 197 graduate social work students and field supervisors participated in a Web-based administration of the scales. Principal components analysis indicated that three subscale factors of the AODI remained, with two items deleted. All subscale factors of the AODI negatively correlated with the DDPPQ, indicating evidence for concurrent validity.

KEYWORDS. Alcohol, drug, identification, scale development, social workers

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Despite ever-increasing knowledge of assessment, diagnosis, and treatment of the alcohol and other drug (AOD) abuser, there is still a great deal of reluctance on the part of social workers and other helping professions to address this topic with clients. Past research has shown that this is due to a combination of lack of knowledge of how to broach the topic, negative attitudes and stigma toward substance users, beliefs in the ineffectiveness of treatment, and the worker's own problems or family history with AOD abuse (Dore, Doris, & Wright, 1995; Kagle, 1987; Miller, Sheppard, & Magen, 2001; Ritson, 1999). Concern about social workers' lack of knowledge and skills in this area is so great that recently the National Institute of Alcohol Abuse and Alcoholism funded a large national project to train social work educators to integrate alcohol content across the curriculum (see <http://pubs.niaaa.nih.gov/publications/Social/main.html>). For a full review of the literature, see our prior article (Hohman, Clapp, & Carrilio, 2006).

PURPOSE OF THE STUDY

In an attempt to address this problem, we developed and tested the Alcohol and Other Drug Identification (AODI) scale to measure potential barriers that social workers may encounter when addressing client AOD use (Hohman et al., 2006). One purpose of this study is to replicate the first study, using a different sample. The first study consisted of data from an in-person survey of the AODI along with demographic questions administered to 219 current MSW and BSW students and home visitors working in a home visitation program. From that study, the initial pool of 29 items was reduced to 14 items that clustered in three factors: attitudes, knowledge, and relationship skills. All factors demonstrated good internal consistency.

A second purpose of this study is to determine the concurrent validity of the scale. According to Rubin and Babbie (2005), concurrent validity is "a form of criterion-related validity examining a measure's correspondence to a criterion that is known concurrently" (p. 745). In this case the construct being measured is comfort in identifying and discussing substance use with clients. Thus, our research questions were: (a) In a second administration, would the AODI maintain its three factors and internal reliability? (b) Does the AODI correlate with a somewhat similar measure of attitudes toward working with drug users? The AODI is a more parsimonious scale than the comparison scale and

measures self-reported behaviors, whereas both scales measure attitudes and knowledge.

METHODS

A Web-based survey was created to collect responses from 735 MSW and BSW Spring 2005 graduates, current MSW students, field instructors, and child welfare services employees. An e-mail was sent inviting them to participate and providing the uniform resource locator (URL) of the survey instrument on the Internet. Respondents were told that all responses were anonymous and that there was no way to link their e-mail address to their response. Because of this, 11 days after the first e-mail message was delivered, a follow-up request to participate was sent to the entire sample.

Responses were stored in a secure database and converted into an SPSS data file for subsequent analysis. Thirty-five of the e-mail messages were returned undelivered. Of the remaining 700 persons asked to participate, 200 responses were secured. We reviewed the data as suggested by Birnbaum (2004) for duplicate entries and it was determined that three responses were identical to immediately preceding entries. These responses were eliminated, bringing the sample to 197, an adequate number of cases needed to examine the latent factor structures in data (Tabachnick & Fidell, 1989). This represents a response rate of 28%. It is important to note that the primary purpose of this article is not to estimate population parameters but to examine the statistical relationship between measures of similar constructs. Having a low response rate precludes "norming" of the instrument or estimating the constructs of interest in the population from which the sample was drawn; however, it does not preclude examining the statistical structure of the data (Hair, Anderson, Tatham, & Black, 1992).

MEASURES

The survey for this study contained the AODI scale and the Drug and Drug Problems Perceptions Questionnaire (DDPPQ). Also included were questions regarding demographic descriptors, extent of training and work with AOD abusers, and information about the respondents' agencies.

The AODI was developed to identify barriers that social workers and other helping professionals may experience in discussing substance use with clients. An initial validation study of the scale determined that 14 items clustered in three factors: attitudes toward substance users, worker-client relationship skills, and substance use knowledge (Hohman et al., 2006). Items are scored on a Likert scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). Sample items include, "I avoid bringing up substance use issues with my clients because they might get offended with me," and "There is no point in discussing substance use with clients as they will always lie about their substance use." Several items are reverse scored and then all are summed, with higher scores indicating greater comfort or willingness to discuss AOD use with clients. In the initial study, the internal consistency of the scale was .86.

The DDPPQ is a 22-item measure of attitudes of mental health professionals toward working with substance users. Respondents rate their agreement with items on a Likert scale ranging from 1 (*strongly agree*) to 7 (*strongly disagree*). Sample items include, "I feel I have the right to ask patients/clients questions about their drug use when necessary," and "I feel there is little I can do to help drug users." Factor analysis of the DDPPQ in its validation study found six factors: role adequacy, motivation, role legitimacy, task-specific self-esteem, role support, and work satisfaction. Role adequacy is defined as believing one has appropriate knowledge to work with substance users; role legitimacy is the extent to which practitioners believe that working with substance users is their responsibility; role support is the belief that colleagues and supervisors provide support in their work with substance users. Task-specific self-esteem reflects the practitioners' beliefs that they are able to work well with substance users. Several items are reverse scored and are summed, with higher scores indicating more negative views toward working with drug users. Internal consistency in the initial study for both the scale and subscale factors was "satisfactory;" however, no statistics were reported (Watson, Maclaren, Shaw, & Nolan, 2003). For this study, all participants were asked to fill out both measures, of which the AODI was presented first.

Demographic measures on the survey included gender, age, degree, years of experience in the helping profession, type of agency, and job function. Respondents were asked to indicate the type of services their agency provided (i.e., case management, substance abuse treatment), and could provide more than one answer. Questions also included client substance use rates at their agency and past amount of training in identifying

and intervening in substance use problems (none to a course or more). If respondents answered "other" to this last question, they were asked to type in what that training experience was. Respondents were also asked if they had completed a 15-hr AOD course that is required for licensure in the state of California. Current and recently graduated students were asked to answer these questions about their training and work based on their recently completed field internship.

ANALYSIS

All data from the Web-based survey were downloaded into an SPSS file. Data were analyzed using SPSS 11.5. A principal components analysis (PCA) using a varimax (orthogonal) rotated component matrix was conducted to determine if the three factors identified in our previous study of the AODI were maintained. The PCA approach with orthogonal rotation was employed to derive the most parsimonious independent factor solution for the data (Hair et al., 1992). A second reason for this approach was to replicate our original study using a new data set. We repeated this procedure with the DDPPQ to determine if its subscale factors remained in this sample. Once items that did not have high loading scores (.5) were removed from the scale, we computed internal reliability scores (Cronbach's alpha) for the overall AODI scale and its subscale factors, as well as for the identified DDPPQ subscale factors and the total scale. To determine concurrent validity, we correlated the two scales' factors along with the total scores. Finally, to assess concurrent validity, the overall score of the AODI was regressed on the DDPPQ to determine how well the AODI related to the DDPPQ.

RESULTS

Demographic variables are presented in Table 1. The respondents were predominantly female (85.3%), White (79.9%), and held an MSW or other master's degree (66.5%). Their ages were fairly evenly distributed, with over one fourth being in the 25 to 29 age range, followed by those 30 to 34 (19.8%) and over 50 (19.3%). Over half reported that they worked in a private, nonprofit setting, followed by 38.2% who reported they worked for a public agency. Almost half (43.7%) worked in an agency that provided mental health services, as well as case management, for both adults (24.9%) and adolescents and children (24.9%). Not quite a quarter (22.3%)

TABLE 1. Demographic, Job Description, and Practice Experience of the Sample (N = 197)

	N	%
Gender (n = 197)		
Female	163	85.3
Race (n = 194)		
White	155	79.9
Hispanic	18	9.3
African American	6	3.1
Asian American	9	4.6
Other	6	3.1
Education (n = 193)		
College degree	17	8.6
Current MSW student	45	22.8
MSW	124	62.9
Other graduate degree	7	3.6
Age (n = 192)		
> 25	11	5.7
25–29	50	26.0
30–34	38	19.8
35–39	19	9.9
40–44	15	7.8
45–49	22	11.5
> 50	37	19.3
Agency setting (n = 186)		
Public	71	38.2
Private, nonprofit	99	53.2
Private, for-profit	16	8.6
Type of agency services ^a		
Mental health	86	43.7
Case management—adult	49	24.9
Case management—children/adolescents	49	24.9
Child Protective Services	44	22.3
Substance abuse	35	17.8
Medical services	29	14.7
Domestic violence	24	12.2
Services for elderly	19	9.6
Probation/parole	15	7.6
Hospice services	7	3.6
Homeless shelter/services	7	3.6
Medicaid/job training	6	3.0
Other	33	16.8

(Continued)

TABLE 1. (Continued)

	<i>N</i>	%
Current job function (<i>n</i> = 190)		
Direct practice with clients	92	48.4
Supervisor	35	18.4
Administration/management	24	12.6
Not employed	21	11.1
Other	18	9.5
Years experience in social work (<i>n</i> = 194)	<i>M</i> = 10.53	<i>SD</i> = 8.72
Percent of clients with AOD problems (<i>n</i> = 187)		
Low (> 10%)	45	24.0
Medium (11–50%)	51	27.3
High (51–100%)	71	38.0
Not applicable/do not carry a caseload	20	10.7
Training in identifying AOD problems (<i>n</i> = 195)		
None	13	6.7
Very little (several hours)	34	17.4
Some (several days training)	52	26.7
Quite a bit (a course or more)	74	37.9
Other	22	11.3
Training in AOD intervention (<i>n</i> = 197)		
None	25	12.8
Very little (several hours)	51	26.0
Some (several days training)	51	26.0
Quite a bit (a course or more)	55	28.1
Other	14	7.1
AOD licensure course (<i>n</i> = 191) Yes	74	38.7

Note. AOD = alcohol and other drugs.

^aMore than one answer could be provided, thus numbers do not add up to 100%.

worked for Child Protective Services and 17.8% worked in a setting that provided substance abuse treatment services. Almost half of the respondents (46.7%) worked directly with clients and 17.8% reported being in a supervisory position. The respondents had worked a mean of 10.53 years (*SD* = 8.72) in social services. Over one third (38.0%) of the respondents indicated that 50% or more of their clients had AOD problems.

Table 1 also lists the respondents' experience in the substance abuse field. Almost one fourth (24.1%) of the sample indicated having no to little training in identifying AOD problems, and 64.6% reported having some (several days training) to quite a bit (a course or more) of training

on this topic. Over one third (38.7%) reported none to a little training in AOD intervention and 54% reported some to a great deal of training in intervention. Those who reported "other" kinds of training (11.3% in assessment, 7.1% in intervention) indicated that they were personally in recovery from addiction, had received an AOD studies certificate, or received ongoing AOD training through their agency. Over a third of the sample (38.7%) had taken the 15-hr AOD course required for licensure.

As indicated in Table 2, we found the same three factors (knowledge, attitudes, and relationship skills) as we did in our previous study; however, three items ("Addressing clients' substance use is a problem for me because it might bring in CPS," "There's no point in bringing up substance use issues with my clients as there are no treatment programs for them," and "I don't address substance use issues because my supervisor never

TABLE 2. Rotated Component Matrix of the Alcohol and Other Drug Identification Scale

Items	Rotated component matrix		
	1	2	3
Q1: Addressing clients' substance use is not worth the effort, as they are not going to change their use anyway.	.016	-.078	.871
Q3: I avoid bringing up substance use issues with my clients because they might get offended with me.	.123	.887	.280
Q4: I avoid bringing up substance use issues with my clients because it might make them angry.	.145	.873	.311
Q5: I don't like to bring up substance use issues with my clients because it would ruin my relationships with them.	.098	.823	.126
Q6: There is no point in discussing substance use issues with clients as treatment for substance abuse is ineffective.	.094	.290	.702
Q9: I can recognize a client under the influence of alcohol.	.819	.124	.028
Q10: I can recognize a client under the influence of marijuana.	.844	.111	.100
Q11: I can recognize a client under the influence of methamphetamine.	.849	.133	.093
Q12: I can recognize drug paraphernalia when I see it in clients' homes.	.819	.036	.161
Q13: There is no point in discussing substance use with clients as they will always lie about their substance use.	.101	.346	.628
Q14: It's not my job to identify or intervene in client substance use.	.112	.363	.624

Note. Numbers in bold are items that loaded > .50.

wants to talk about these issues in supervision”) did not load higher than .50 (our cutoff was higher than the standard .30 due to the smaller sample size). This reduced solution of 11 items accounted for 67.13% of the variance in the overall model. The internal consistency of the new 11-item AODI scale was .84 and each subfactor had the following values: knowledge, .86; relationship skills, .90, and attitudes toward substance users, .74.

A rotated varimax factor analysis of the DDPPQ, as indicated in Table 3, found four of the original six subscale factors remained: role adequacy, role support, role legitimacy, and task-specific self-esteem. Role adequacy gained an additional ninth item that was originally under work satisfaction (“In general I feel I can understand drug users”) that loaded onto the original eight items. Only two items of the original four items loaded onto work satisfaction, thus this subscale was not used for the final analysis. The one item measuring motivation (“I feel there is little I can do to help drug users”) did not load on any factor. Utilizing these four subscale factors, Cronbach’s alpha for the overall scale was .91, and for the subscale factors had the following values: role adequacy, .98; role support, .91; role legitimacy, .67, and task-specific self-esteem, .63. The reduced solution of 21 items explained 77% of the variance.

Concurrent validity was assessed through the correlation of the two resulting scales as well as the subfactors of each scale, using the Pearson product-moment analysis. As can be seen in Table 4, both scales’ total scores were significantly correlated ($r = -.546, p < .01$; note that scales are coded in opposite directions) and the four identified subfactors of the DDPPQ were significantly negatively correlated with the subfactors of the AODI. Our linear regression of the AODI on the DDPPQ indicated that the AODI explained 45.4% of the variance ($\beta = .67, t = 59.72, p < .001$) in the DDPPQ, indicating that the two scales are measuring similar constructs.

DISCUSSION

This study confirmed the reliability and validity of the AODI. This study also found that the scale remained reliable with three items deleted, thus the measure became more parsimonious with a total of 11 items. Although the correlation is not perfect, findings indicate evidence for the concurrent validity of the scale with the DDPPQ. The still unexplained variance indicates that both scales are measuring similar but not exactly the same concepts. Given the changes in each scale based on its administration in this sample, further research is needed to refine both scales by administering them in to a larger sample, to determine the stability of the measures. Most likely the AODI

TABLE 3. Rotated Component Matrix of the DDPPQ

Factor	Rotated Component Matrix					
	1	2	3	4	5	6
1. I feel I have a working knowledge of drugs and drug-related problems.	.861	.196	.031	-.063	.099	.064
2. I feel I know enough about the causes of drug problems to carry out my role when working with drug users.	.815	.235	.160	-.038	.091	.043
3. I feel I know enough about the physical effects of drug use to carry out my role when working with drug users.	.909	.112	.042	.094	-.019	.084
4. I feel I know enough about the psychological effects of drugs to carry out my role when working with drug users.	.914	.152	.034	.038	.094	.054
5. I feel I know enough about the factors that put people at risk of developing drug problems to carry out my role when working with drug users.	.865	.095	.027	.161	.039	.079
6. I feel I know how to counsel drug users over the long term.	.701	.156	.363	.153	.240	.234
7. I feel I can appropriately advise my clients about drugs and their effects.	.748	-.007	.301	.121	-.003	.173
8. I feel I have the right to ask clients questions about their drug use when necessary.	.364	.264	.069	.325	-.082	.663
9. I feel that my clients believe I have the right to ask them questions about drug use when necessary.	.047	.267	.091	-.065	.430	.517
10. I feel I have the right to ask a client for any information that is relevant to their drug problems.	.143	-.016	-.063	.057	.069	.888
11. I felt the need when working with drug users I could easily find some one with whom I could discuss any personal difficulties I might encounter.	.242	.904	.005	.045	.037	.075

12. If I felt the need when working with drug users I could easily find someone who would help me clarify my professional responsibilities.	.140	.942	.072	.058	.091	.051
13. If I felt the need I could easily find someone who would be able to help me formulate the best approach to a drug user.	.185	.884	-.011	.144	.088	.119
14. I want to work with drug users.	.261	.010	.928	.049	.162	.023
15. I feel that there is little I can do to help drug users.	.071	.075	.480	.387	.271	-.079
16. In general, I have less respect for drug users than for most other clients I work with.	.015	.199	.121	.844	-.048	.113
17. I feel I do not have much to be proud of when working with drug users.	.070	-.013	.011	.872	.115	.056
18. In general, it is rewarding to work with drug users.	.107	.052	.270	.147	.861	-.006
19. In general, I feel I can understand drug users.	.666	-.061	.194	.195	.456	-.079
20. In general, one can get satisfaction from working with drug users.	.150	.107	.114	.111	.853	.143
21. On the whole, I am satisfied with the way I work with drug users.	.712	.112	.216	.144	.092	.140
22. At times I feel I am no good at all with drug users.	.293	.034	.070	.517	.238	.041

Note. Numbers in bold are items that loaded > .50.

TABLE 4. Correlations of the AODI and the DDPPQ Total Scores and Factors

Factors	1	2	3	4	5	6	7	8
1. Role legitimacy								
2. Role support	.400*							
3. Task-specific self-esteem	.233*	.221*						
4. Role adequacy	.407*	.461*	.308*					
5. AOD knowledge	-.241*	-.267*	-.348*	-.587*				
6. Relationship skills	-.440*	-.268*	-.328*	-.328*	.274*			
7. AOD attitudes	-.305*	-.231*	-.475*	-.212*	.254*	.547*		
8. AODI scale	-.438*	-.349*	-.538*	-.534*	.755*	.769*	.743*	
9. DDPPQ	.486*	.563*	.316*	.990*	-.569*	-.355*	-.232*	.546*

AODI = Alcohol and Other Drug Identification scale; DDPPQ = Drug and Drug Problems Perception Questionnaire; AOD = alcohol and other drugs.

* $p < .01$.

could be used as a pre- and posttest for substance abuse training or within a research or practice setting other than AOD abuse where social workers do not seem to be identifying AOD-abusing clients at the expected rates.

The limitations of this study are that we only surveyed social work students and field supervisors instead of a broad range of social workers and that only those who had some interest in the topic may have responded to the Web-based survey. Our sample was limited to those who mostly lived in one geographical area (the Southwest) although it is unknown how many students actually left the area once they graduated. Although we did not measure how many respondents graduated from the school of social work where this study took place, it is most likely the majority. This program offers one elective course on AOD assessment and treatment but only some of the respondents may have taken this course, as it is one of many electives. The strengths of the study include the possibility of more reliable answers because the survey was administered via computer (Birbaum, 2004) and that a broad range of social work experiences and contexts since graduation were represented.

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