The Social Avoidance and Distress Scale: An Exploratory Factor Analysis Assessing the Independence of Avoidance and Distress

Ashley A. Richter, B.S., Kelsey C. Collimore, M.A., R. Nicholas Carleton, M.A., & Gordon J. G. Asmundson, Ph.D.

Anxiety and Illness Behaviours Laboratory, Department of Psychology, University of Regina, Regina, SK

Introduction

- The Social Avoidance and Distress Scale (SADS; Watson & Friend, 1969) and the Fear of Negative Evaluation Scale (FNE; Watson & Friend, 1969) are commonly used measures of social anxiety.
- The FNE scale response format was changed from a dichotomous response format to a 5-point Likert scale response format by Leary (1983).
- The SADS continues to use a dichotomous response format and consists of 30 true/false items pertaining to two facets of social-evaluative anxiety - social avoidance and social distress.
- Likert response formats allow for finer assessments of variance, improve reliability and validity, are often better accepted by respondents, and support a more robust dimensional structure of measured constructs than dichotomous response formats (Velicer, DiClemente, & Corriveau, 1984).
- Following the scale development of other associated measures (e.g., Brief Fear of Negative Evaluation Scale; Carleton et al., 2006; Leary, 1983), the present investigation further validated a Likert-response format SADS using exploratory factor analysis.

Method

- Participants included 404 community participants (70% women; age *M*=29.7; *SD*=11.0), who completed the SADS as part of a larger investigation approved by the University of Regina Research Ethics Board.
- Demographics were supplemented with:
  - Social Avoidance and Distress Scale, Likert Scale (SAD; Watson & Friend, 1969)
    - The SADS is a 28-item self-report measure assessing active avoidance of social situations and the experience of distress during or in anticipation of social situations.
    - In this scale version, items are rated on a 5-point Likert scale ranging from 1 (*not at all characteristic of me*) to 5 (*entirely characteristic of me*).
- Exploratory Factor Analyses (EFA) were performed using Osborne's (2008) recommendations to assess whether responses to avoidance and distress items reflected distinct constructs; specifically, the analyses used Principle Axis Factoring (PAF) with Promax rotation. Factor structure and item retention were based on eigenvalues > 1, parallel analysis, communalities > .40, factor loadings > .50, and cross-loaded items < .32.
- There was a significant difference between men and women on the SADS, but the effect size was small, $t(402)=-2.19$, $p<.05$, $r^2=.01$

Results

- Assessing all items resulted in support for a 3-factor structure accounting for 58.2% of the variance (see Table 1). The items within each factor were readily categorized as representing:
  - The 14 Reverse-worded items, α = .92
  - The 7 Avoidance items, α = .90
  - The 7 Distress items, α = .91
- The inter-factor correlations were as follows:
  - Reverse-worded – Avoidance, $r=-.60$, $p<.05$
  - Reverse-worded – Distress, $r=-.75$ $p<.05$
  - Distress – Avoidance, $r=.68$, $p<.05$
- When the 14 straightforwardly-worded and 14 reverse-worded items were analyzed with separate EFAs, the results suggested each had a unitary solution accounting for 56.6% and 52.5% of the variance, respectively.
- The factorial distinction between avoidance and distress items reappeared if the straightforwardly-worded items were forced to create a 2-factor solution, which accounted for 61.6% of the variance and with a significant inter-factor correlation, $r=.77$, $p<.05$.
- The factorial distinction between avoidance and distress items was less robust if the reverse-worded items were forced to create a 2-factor solution, which accounted for 55.7% of the variance and with a significant inter-factor correlation, $r=.81$ $p<.05$.

Discussion

- The present investigation sought to further validate a Likert version of the SADS for improved utility in clinical practice and research. This investigation is among the first to evaluate the factor structure of the 28 items proposed by Watson and Friend (1969).
- The current findings provide statistical support for the conceptual distinction between avoidance and distress within social anxiety.
- Positively-worded items loaded robustly onto two factors, avoidance and distress, whereas reverse-worded items did not load as robustly.
- Accordingly, the reverse-worded items in the SADS may need to be revisited in the same fashion as items from other measures of SA (Rodebaugh et al., 2007). For example, the reverse-worded items could be positively reworded.
- The findings of this investigation may be most generalizable to women, given that the sample was comprised of 71% women.
- Future research may seek to replicate these findings in a clinical sample to improve utility in research and clinical practice. Furthermore, application of these findings to other measures may warrant conversion from a dichotomous response format to a Likert response format.

SADS Item Numbers and Factor Loadings

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
All Items Factor Analysis																												
Avoidance	.16	.53	.25	-.34	.56	-.04	-.01	.22	-.08	.27	.10	-.15	.88	.15	.16	.23	.09	.23	-.00	.44	.77	-.11	.45	.77	-.02	.71	-.33	-.06
Distress	-.50	.14	-.51	.10	.19	-.14	-.04	.51	-.02	.36	.80	-.15	-.07	.77	-.39	.66	-.10	.56	.22	.52	.15	-.08	.40	.03	.01	.05	.29	-.11
Reverse	.50	-.19	.53	.52	-.06	.69	.58	-.09	.67	-.12	.04	.55	.07	.11	.58	.06	.69	.05	.68	.04	.04	.67	-.03	-.02	.65	-.07	.63	.70
Separate Factor Analyses of Straightforward and Reverse Items																												
Straight		.76			.74			.73		.67	.78		.70	.74		.77		.67		.84	.81		.79	.76		.76		
Reverse	.80		.78	.65		.83	.62		.73			.77			.79		.71		.49			.81			.64		.60	.83
Separate Factor Analyses of Straightforward and Reverse Items, Forced 2-Factors																												
Straight – Avoidance		.52			.46			.06		.13	-.15		.90	.01		.07		.22		.36	.82		.42	.78		.72		
Straight- Distress		.28			.33			.71		.58	.98		-.14	.78		.74		.50		.52	.05		.42	.04		.09		

SADS Item Numbers and Descriptives

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
M	2.65	1.50	2.64	2.64	1.10	2.19	1.68	1.49	2.21	1.01	1.60	2.20	1.61	1.96	2.44	1.34	1.81	1.84	2.66	1.35	1.67	1.78	1.51	1.37	2.15	1.38	1.75	2.04
SD	1.24	1.32	1.24	1.24	1.21	1.27	1.24	1.26	1.29	1.23	1.35	1.27	1.38	1.40	1.21	1.30	1.33	1.33	1.16	1.26	1.37	1.34	1.38	1.31	1.31	1.38	1.25	1.22
Skew	-.52	.48	-.61	-.61	.88	-.15	.39	.44	-.28	1.03	.36	-.12	.42	.03	-.37	.67	.10	.16	-.52	.63	.31	.22	.46	.61	-.15	.65	.18	-.12
K	-.80	-.94	-.67	-.67	-.24	-1.04	-.71	-.85	-1.02	-.05	-1.12	-1.04	-1.06	-1.28	-.86	-.75	-1.20	-1.15	-.68	-.66	-1.13	-1.11	-1.06	-.80	-1.11	-.87	-1.04	-.93

M = Mean, *SD* = Standard Deviation, *K* = Kurtosis (Std. Error = .12), *Skew* = Skewness (Std. Error = .24)

For a copy of this poster please visit: www.aibl.ca

Poster presented at the Anxiety Disorders Association of America Annual Conference, Baltimore, 2010