Available online at www.sciencedirect.com
ScienceDirect
Behavior Therapy 42 (2011) 689–699
Behavior Therapy
www.elsevier.com/locate/bt

Psychometric Properties of the Mobility Inventory for Agoraphobia: Convergent, Discriminant, and Criterion-Related Validity

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Aims of this study were (a) to summarize the psychometric literature on the Mobility Inventory for Agoraphobia (MIA), (b) to examine the convergent and discriminant validity of the MIA's Avoidance Alone and Avoidance Accompanied rating scales relative to clinical severity ratings of anxiety disorders from the Anxiety Disorders Interview Schedule (ADIS), and (c) to establish a cutoff score indicative of interviewers' diagnosis of agoraphobia for the Avoidance Alone scale. A meta-analytic synthesis of 10 published studies yielded positive evidence for internal consistency and convergent and discriminant validity of the scales. Participants in the present study were 129 people with a diagnosis of panic disorder. Internal consistency was excellent for this sample, $\alpha = .95$ for AAC and .96 for AAL. When the MIA scales were correlated with interviewer ratings, evidence for convergent and discriminant validity for AAL was strong (convergent *r* with agoraphobia severity ratings = .63 vs. discriminant *r*s of .10–.29 for other anxiety disorders) and more modest but still positive for AAC (.54 vs. .01–.37). Receiver operating curve analysis indicated that the optimal operating point for AAL as an indicator of ADIS agoraphobia diagnosis was 1.61, which yielded sensitivity of .87 and specificity of .73.

This research was supported in part by NIMH R01 MH 070664 (held by Jacques P. Barber) and NIMH R01 MH070918 (held by Barbara L. Milrod). Dianeth Rodriguez was supported in part by the Leadership Alliance. The funding agencies had no role in the design of this research. We thank the diagnosticians and Elizabeth Graf for their contributions to this research.

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0005-7894/xx/xxx-xxx/$1.00/0

Keywords: agoraphobia; panic disorder; Mobility Inventory; reliability; validity

A SELF-REPORT MEASURE OF agoraphobic avoidance, the Mobility Inventory for Agoraphobia (MIA) was published 25 years ago (Chambless, Caputo, Jasin, Gracely, & Williams, 1985). Since that time, the MIA has been widely used for clinical purposes and for research. According to a PsychInfo search, as of August 6, 2010, the original validation article had been cited 231 times. The measure has been reprinted in a number of compendiums of anxiety disorders measures (e.g., Antony, Orsillo, & Roemer, 2001) and translated into 11 other languages (Dutch, Canadian French, German, Hebrew, Japanese, Portuguese, Spanish, Swedish, Italian, Russian, and Greek). The MIA includes two agoraphobic avoidance scales. For the Avoidance Accompanied scale, respondents rate 26 items on Likert-type scales ranging from 1 (*never avoid*) to 5 (*always avoid*) to indicate how much they avoid various situations due to anxiety or discomfort when they are accompanied by a trusted companion. For the Avoidance Alone scale, respondents rate the same items for the circumstances under which they are alone, plus an additional item for staying home alone.[1] The MIA can be administered in paper or Internet versions with consistent results (Austin, Carlbring, Richards and Andersson, 2006; Carlbring et al., 2007). A copy of the inventory may be found in the Appendix to this article.

Despite the long-standing and widespread use of the MIA, no summary of psychometric research on its reliability and validity has been published, with the exception of a manual on research on the German version of the scale (Ehlers & Margraf, 1993). Although some publications have had as their avowed purpose examination of the psychometric properties of the MIA, in others such information is buried in reports with another primary aim. Accordingly, a review of the MIA's psychometric features is overdue, and the first purpose of the present paper is to provide such a distillation. The second purpose is to add to the psychometric database in areas where little information on the MIA's performance is available, in particular, the MIA's convergent, discriminant, and criterion-related validity with reference to diagnosticians' severity ratings for anxiety disordera and to their diagnosis of agoraphobia.

In a PsychInfo search we located 16 papers in addition to the original validation study (Chambless et al., 1985) in which at least one psychometric property of the MIA was examined. We selected papers published in English, Spanish, or French (the only languages the authors can read), but papers could include data collected with translated versions of the MIA.[2] In Table 1, we summarize the results of 10 papers in which data concerning the internal consistency and/or convergent and discriminant validity of the MIA are reported. Using meta-analytic methods for summarizing correlational data (Rosenthal, 1991), we calculated mean reliability and validity coefficients weighted by sample size. Participants in these studies included student and community subjects and patients with panic disorder with agoraphobia or other anxiety disorders. Studies in Table 1 were conducted in the United States ($n = 2$), Australia ($n = 3$), Sweden ($n = 3$), Canada (Anglophone $n = 2$; Francophone $n = 1$), and the Netherlands ($n = 1$).[3]

As can be seen in Table 1, internal consistency data were available for an aggregated sample of 1,279 respondents. As indicated by Cronbach's α of $\geq .93$, the MIA scales are highly internally consistent. Test–retest reliability has been reported for several samples. For two samples of agoraphobic patients Chambless et al. (1985) reported test–retest reliability coefficients of .86 for Avoidance Accompanied and .90 for Avoidance Alone over a period of 8 days, whereas the coefficients were .75 and .89, respectively, over a period of 31 days. Over a 42-day interval, Stephenson, Marchand, and Lavallée (1997) reported reliability coefficients of .75–.76 for a student sample. Finally, Rodriguez, Pagano, and Keller (2007) reported that these scales were remarkably stable over a 5-year period with reliability coefficients of .76 for Avoidance Accompanied and .83 for Avoidance Alone for a sample of patients with panic disorder with agoraphobia. Thus, the available data indicate that test–retest reliability is excellent over short periods and very good even over very long periods.

Investigations of the construct validity of the MIA have involved studies of its factor structure, its convergent and discriminant validity, and its criterion-related validity. Four groups of authors have examined the internal structure of the MIA via factor

[1] As originally published in 1985 (Chambless et al., 1985), the Mobility Inventory had one less item. Avoidance of *shopping malls* was later added to the scales. Of the studies cited in Table 1, the authors of two used the 26/27-item version (Austin et al., 2006; Carlbring et al., 2007), as does the present study. The remaining authors used the original 25/26-item version.

[2] Thus, we omit the extensive validation work of Ehlers and Margraf (1993) published in German, as well as published validation of a Portuguese version (Gouveia, Duarte, & Seminotti, 1999). In addition we have omitted consideration of Kotov, Schmidt, Zvolensky, and Vinogradov's (2005) English-language description of their Russian translation because the authors added a number of items to the MIA to make it more appropriate for a Russian sample. The data reported for Kotov et al. in Table 1 are from a U.S. community sample that presumably completed the standard English-language version of the MIA.

[3] Numbers sum to 11 rather than 10 because Austin et al. (2006) included both Swedish and Australian samples in their research.