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Comments

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Abstract

We describe a new self-report instrument, the Inventory of Depression and Anxiety Symptoms (IDAS), which was designed to assess specific symptom dimensions related to major depression and related anxiety disorders. We created the IDAS by conducting principal factor analyses in three large samples (college students, psychiatric patients, community adults); we also examined the robustness of its psychometric properties in five additional samples (high school students, college students, young adults, postpartum women, psychiatric patients) that were not involved in the scale development process. The IDAS contains 10 specific symptom scales: Suicidality, Lassitude, Insomnia, Appetite Loss, Appetite Gain, Ill Temper, Well-Being, Panic, Social Anxiety, and Traumatic Intrusions. It also includes two broader scales: General Depression (which contains items overlapping with several other IDAS scales) and Dysphoria (which does not). The scales (a) are internally consistent, (b) capture the target dimensions well, and (c) define a single underlying factor. They show strong short-term stability, and display excellent convergent validity and good discriminant validity in relation to other self-report and interview-based measures of depression and anxiety.

Development and Validation of the Inventory of Depression and Anxiety Symptoms (IDAS)

Self-report measures of depression have been a mainstay of clinical research for more than 40 years. Researchers currently can choose from several self-report scales, including the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996) and the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). These measures have made a valuable contribution to the clinical literature (Joiner, Walker, Pettit, Perez, & Cukrowicz, 2005). At the same time, however, the accumulating research has exposed some limitations in these instruments, thereby establishing the need to develop alternative measures. In this paper, we report the development of a new multidimensional instrument, the Inventory of Depression and Anxiety Symptoms (IDAS), which was designed to complement these traditional measures.

<center>Limitations of Existing Measures</center>

Discriminant Validity

Several factors limit the usefulness of these traditional measures, at least in certain contexts. First, the discriminant validity of these instruments tends to be problematic. The most widely studied problem concerns the very strong associations between self-report depression measures and corresponding indicators of anxiety. In a review of this literature, Clark and Watson (1991) reported overall mean correlations between self-reported depression and anxiety ranging from .62 to .70 across different types of instruments and samples. Moreover, this finding is highly robust and has been demonstrated in children and adolescents, college students, adults, and psychiatric patients (e.g., Brady & Kendall, 1992; Clark & Watson, 1991; Steer, Clark, Beck, & Ranieri, 1995; Watson, 2005; Watson et al., 1995).

This problem is not simply confined to self-report data. Considerable overlap also has been found in clinicians', parents', and teachers' ratings of depression and anxiety (Brady & Kendall, 1992; Clark & Watson, 1991; Mineka, Watson, & Clark, 1998). Furthermore, substantial

comorbidity has been observed at the diagnostic level (Mineka et al., 1998). These data establish a very close connection between depression and anxiety and highlight the importance of modeling anxiety symptoms in any comprehensive assessment of depression.

Content Considerations

Many self-report measures also have been criticized on content grounds. We briefly review three content-based concerns. First, many instruments contain non depression-related content. In particular, Gotlib and Cane (1989) document that several common self-report measures—including the BDI and the CES-D—contain items tapping various types of anxiety; the inclusion of this anxiety-related content obviously contributes to the discriminant validity problems noted earlier.

Second, some instruments have been criticized because their content is not sufficiently comprehensive; that is, they do not contain items tapping all nine symptom criteria for major depression in *DSM-IV* (see Dozois, Dobson, & Ahnberg, 1998; Penley, Wiebe, & Nwosu, 2003). The CES-D, for example, does not assess suicidal ideation (criterion 9), and it does not tap content related to either appetite gain (a component of criterion 3) or hypersomnia (part of criterion 4). This is not inherently problematic, as it may not be necessary to assess all relevant symptoms in many contexts. However, it does limit the applicability of these instruments; for instance, because of its limited symptom coverage, the CES-D is unable to assess the atypical, seasonal, and melancholic subtypes of depression (Joiner et al., 2005).

Third, many instruments contain multiple items assessing certain types of content, but only single indicators to represent other symptoms. For example, the BDI-II contains several items tapping feelings of worthlessness and guilt (criterion 7); however, it includes only single items related to appetite disturbance, sleep disturbance, and suicidal ideation. These variations in symptom sampling are important, in part, because they help to explain some of the structural

evidence we discuss later. The inclusion of multiple items with similar content encourages the

identification of a corresponding content-based factor. Conversely, content-based factors cannot

be identified when only a single relevant marker is included in the item pool.

Absence of Well-defined Subscales

The third limitation is that virtually all of these measures originally were created to yield a

single, overall index of symptom severity. The use of overall scores is not necessarily

problematic, given the impressive internal consistency of these scales. Nevertheless, some

researchers have expressed the concern that this focus on overall scores ignores the

heterogeneous and multidimensional nature of depressive symptoms, and that it hampers the

identification of meaningful subtypes (Ingram & Siegle, 2002; Joiner et al., 2005).

<div align="center">The Structure of Depressive Symptoms</div>

Many researchers have argued that meaningful symptom dimensions can be identified

within depression, and that it would be clinically advantageous to assess them separately. This,

in turn, has stimulated the emergence of an extremely large—and rapidly growing—literature on

the underlying structure of depressive symptoms. The bulk of this evidence comes from factor

analyses of the items comprising already-developed instruments. We briefly summarize

evidence related to (a) the BDI and BDI-II and (b) the CES-D.

The BDI and BDI-II

BDI. Beck, Steer, and Garbin (1988) summarize the findings from 13 studies that factor

analyzed the items included in the original BDI. The extracted structures varied widely, with

solutions ranging from one to seven factors. Beck et al. concluded that the evidence pointed

toward a structure defined by three highly correlated factors, which they labeled Negative

Attitudes Toward the Self, Performance Impairment, and Somatic Disturbance.

BDI-II. Factor analyses of the BDI-II items have failed to yield a consistent structure.

Some investigators have obtained three-factor structures that resemble those reported with the original BDI (e.g., Norris, Arnau, Bramson, & Meagher, 2004). Most studies, however, have identified a two-factor structure. Unfortunately, two different two-factor solutions have been reported in the literature. Several investigators have found that the cognitive and affective items combine to form a single dimension, with the somatic/vegetative symptoms defining a separate factor (e.g., Duzois et al., 1998; Osman, Kopper, Barrios, Gutierrez, & Bagge, 2004). Alternatively, several studies have found that the somatic and affective items jointly define a "Noncognitive" or "Somatic-Affective" factor, with the cognitive items forming their own distinct dimension (e.g., Steer, Ball, Ranieri, & Beck, 1999; Steer, Rissmiller, & Beck, 2000).

CES-D

In the original article describing the development of the CES-D, Radloff (1977) conducted item-level factor analyses in three samples. These analyses revealed consistent evidence of an underlying four-factor structure that included two large symptom dimensions (Depressed Affect and Somatic Disturbance), a Positive Affect factor that was defined by all four reverse-keyed items (e.g., "I was happy"), and a small, two-item Interpersonal factor. Many subsequent studies have tested the adequacy of this four-factor structure. The results have been quite mixed: Although some studies have supported Radloff's original structure (e.g., Golding & Anehensel, 1989; Hertzog, Van Alstine, Usala, Hultsch, & Dixon, 1990), others have not (e.g., Crockett, Randall, Shen, Russell, & Driscoll, 2005; Foley, Reed, Mutran, & DeVellis, 2002).

Overall Conclusions

Two broad conclusions can be drawn from this extensive literature. First, most investigators do find evidence of additional content dimensions beyond the general depression factor. This finding suggests that meaningful subfactors potentially can be identified within this domain. Second, analyses of the most frequently examined instruments have failed to identify

consistent, replicable factor structures.

Although these results may seem disappointing, they hardly are surprising in light of the item sampling issues we discussed earlier. Instruments such as the BDI-II and CES-D originally were created to be general measures of depression and were not explicitly constructed to yield meaningful content factors or subscales. Thus, they may simply lack the range and sampling of item content necessary to produce replicable symptom dimensions.

<center>Overview of the Current Research</center>

Basic Assessment Strategy

We created the IDAS to complement these existing measures and to address their limitations. Unlike instruments such as the BDI-II and CES-D, our explicit goal was to create specific symptom scales reflecting distinctive aspects of depression. We highlight three key aspects of our approach. First, because of the discriminant validity problems noted earlier, we included a broad range of anxiety-related symptoms in our item pool.   This enabled us to examine the relations between symptoms of anxiety and depression, and to create specific scales with enhanced discriminant validity.

Second, to maximize the utility of the IDAS for depression-related research, we included multiple items for each of the nine *DSM-IV* symptom criteria for a major depressive episode. Moreover, we were careful to include items reflecting different aspects of these criteria. Most notably, we wrote items reflecting both (a) appetite loss and appetite gain, (b) insomnia and hypersomnia, and (c) psychomotor retardation and agitation.

Third, we included multiple markers to define all of the symptom dimensions that potentially could emerge in a structural analysis. To ensure that sufficient markers were included for each potential dimension, we rationally organized the candidate items into *homogeneous item composites* (Hogan, 1983), or HICs. For instance, our original item pool

contained 8 items reflecting fatigue and loss of energy. The creation of these HICs ensured that

the corresponding symptom dimension had a reasonable chance to emerge in our subsequent

structural analyses; in this particular case, the inclusion of these fatigue/anergia items ultimately

led to the creation of the IDAS Lassitude scale. Note, however, that the construction of these

HICs does not force a corresponding factor to emerge; indeed, as we will see, many of our

rationally-created HICs failed to define distinctive dimensions.

Relation to the MASQ

In many ways, the IDAS can be viewed as a successor to the Mood and Anxiety Symptom

Questionnaire (MASQ; Watson et al., 1995), and it bears some obvious similarities to this earlier

instrument. Both instruments are based on an explicit recognition that symptoms of depression

and anxiety need to be assessed together. Moreover, they each assess both general/non-specific

and more specific symptoms within this domain. Finally, they measure many of the same types

of symptoms. Indeed, many of the MASQ items were adapted for use in the IDAS. For

example, 10 of the 17 MASQ Anxious Arousal items were adapted to create the panic HIC in

the original IDAS item pool (see Table A-1 in Appendix A).

However, the two instruments also differ in several important ways. First, whereas the

IDAS scales were constructed on the basis of a series of factor analyses, the MASQ scales were

created rationally using the tripartite model of Clark and Watson (1991) as a conceptual guide

(see Watson et al., 1995). For instance, items assessing depressed mood were placed in the

MASQ General Distress: Depressive Symptoms (GD: Depression) scale because—according to

the tripartite model—they are non-specific and characterize both depression and anxiety; in

contrast, items reflecting anhedonia and suicidal ideation were placed in MASQ Anhedonic

Depression because they are viewed as more specific manifestations of depression in this model.

As we will see, the factor analyses that produced the IDAS caused these symptoms to be

classified and assessed differently: Items reflecting depressed mood and anhedonia both were put in the IDAS Dysphoria scale, whereas thoughts of death and self-harm were included in the Suicidality scale.

Second, the MASQ anxiety items primarily were culled from the symptom criteria for generalized anxiety disorder (GAD) and panic disorder (Watson et al., 1995). In contrast, the original IDAS item pool contained a much broader range of anxiety-related content, including items related to GAD, panic disorder, agoraphobia, social phobia, obsessive-compulsive disorder (OCD) and posttraumatic stress disorder (PTSD). Moreover, the final version of the IDAS contains scales assessing social anxiety and PTSD-related intrusions that are not assessed in the MASQ.

Third, the IDAS was explicitly designed to provide more differentiated coverage of depression. The MASQ has only two depression scales (GD: Depression and Anhedonic Depression), both of which are somewhat heterogeneous in content. In contrast, the final version of the IDAS contains multiple scales relevant to depression, including several that are highly homogeneous and assess specific types of symptoms (e.g., Insomnia, Lassitude, Suicidality).

Appendix A provides additional information regarding the relations between the MASQ and IDAS. All appendices are available as online supplements to this article.

<div align="center">Study 1: Preliminary Analyses of the IDAS Item Pool</div>

The basic goal of this study was to evaluate the nature and quality of the items in our initial pool. For instance, we were interested in whether the items were worded too strongly or too mildly. We also used the participants' responses to identify highly correlated items that contained redundant information; we systematically eliminated these unnecessary items. Finally, we were interested in identifying potentially interesting symptom dimensions that might be underrepresented in our initial item pool; these analyses then served as the basis for the

generation of new items.

<center>*Method*</center>

Participants and procedure

The participants were 499 undergraduate students enrolled in an introductory psychology course at the University of Iowa. They participated in partial fulfillment of a course research exposure requirement. All respondents were assessed in small-group sessions. The sample consisted of 376 women and 121 men (two participants did not specify their sex). The large majority of the participants were Whites ($N = 472$, 94.6%).

Measure

The item pool consisted of 180 items; the participants indicated the extent to which they had experienced each symptom "during the past two weeks, including today" on a 5-point scale ranging from *not at all* to *extremely*. As discussed earlier, we rationally organized the candidate items into HICs to ensure proper content coverage . There were 20 HICs in this initial pool. This initial item pool is presented in Appendix B, which also provides information regarding the composition of the 20 HICs.

Thirteen HICs (a total of 117 items) targeted symptoms that were broadly relevant to depression. Nine HICs (a total of 79 items) corresponded to the basic symptom criteria for major depression in *DSM-IV* (depressed mood, loss of interest or pleasure, appetite disturbance, sleep disturbance, psychomotor problems, fatigue/anergia, worthlessness and guilt, cognitive problems, suicidal ideation). The four remaining HICs tapped symptoms potentially relevant to the hopelessness subtype of depression (Abramson, Metalsky, & Alloy, 1989), the specific symptom features of melancholic depression (e.g., worsening of symptoms in the morning; see Joiner et al., 2005), angry/irritable mood (which can be an alternative expression of depressed mood in children and adolescents; see *DSM-IV,* p. 327), and markers of high energy and positive

affect (which have been shown to be specifically related to depression; see Mineka et al., 1998).

The other seven HICs (a total of 63 items) assessed various anxiety-related symptoms. These seven groups were anxious mood (e.g., felt afraid), worry (e.g., found myself worrying all the time), panic (e.g., heart was racing or pounding), agoraphobia (e.g., found it difficult to go out in public), social anxiety (e.g., felt anxious in social situations), obsessive-compulsive symptoms (e.g., washed hands excessively), and traumatic intrusions related to posttraumatic stress disorder (e.g., had memories of something scary that happened).

Results and Discussion

We were interested in identifying potentially important symptom dimensions that might be underrepresented in our initial item pool. We therefore conducted a preliminary series of factor analyses in this initial item pool. Because of the marked heterogeneity among anxiety symptoms (Mineka et al., 1998), we conducted separate analyses of the depression and anxiety symptoms. This approach maximized our ability to detect relatively subtle distinctions among the depression symptoms. We subjected each set of items to principal factor analyses, using squared multiple correlations as the initial communality estimates; all factors were rotated using both varimax (which constrains the factors to be orthogonal) and promax (which allows them to be correlated).

Analyses of the 117 depression items suggested the existence of seven meaningful factors. The first dimension—which we tentatively labeled Core Depression—was large and relatively broad, and was marked by items from several different HICs (e.g., "I felt sad", "I had trouble making up my mind", "I blamed myself for things"). In contrast, five other factors were specific in nature and essentially defined individual symptom criteria of depression; we tentatively labeled these dimensions Suicidality (e.g., "I thought about killing myself"), Insomnia (e.g., "I woke up frequently during the night"), Lassitude (e.g., "I felt too tired to do anything"), Psychomotor Problems (e.g., "I felt as if my thinking was slowed"), and Appetite Problems (e.g.,

"My appetite was poor"). The final factor, Well-Being (e.g., "I felt cheerful"), was defined by the items reflecting high energy and positive affect. Appendix C presents the varimax loadings from this 7-factor solution (see Table C-1).

Analyses of the 63 anxiety symptoms revealed five interpretable factors. Four of these dimensions—Panic, Social Anxiety, Obsessive-Compulsive Symptoms, and Traumatic Intrusions—clearly corresponded to our original HICs. In contrast, the fifth factor—which we labeled Anxious Mood—was an amalgam of the anxious mood and worry HICs. Finally, the items comprising our agoraphobia HIC failed to define a distinct factor in these analyses; this dimension therefore was dropped from further consideration (although some of the items were retained because of their potential relevance to other factors, such as Social Anxiety). Appendix C reports the varimax loadings from this 5-factor solution (see Table C-2).

These results are very encouraging, as they strongly suggest that it is possible to identify specific, differentiable symptom dimensions within both depression and anxiety. One obvious limitation of these data, however, is that they are based entirely on the responses of college students, who generally report low levels of symptoms. We eliminated this problem in Study 2 by collecting responses in multiple samples, including psychiatric patients.

As discussed previously, we also conducted a series of analyses to identify extreme and redundant items. On the basis of these various analyses, we dropped 32 items (which are listed in Appendix B) and wrote 21 new ones, creating a revised item pool of 169 items. This revised pool was then used in the second phase of scale development. This revised item pool is presented in Appendix D, which also lists the symptoms that were added at this stage.

Study 2: Development and Initial Validation of the IDAS

In Study 2, our basic goals were to (a) develop a final set of symptom scales and (b) validate these scales against other measures of depression and anxiety. In order to enhance the

generalizability of our results—and to ensure that we were identifying robust and replicable symptom dimensions—we developed our scales through simultaneous (and separate) structural analyses in three large samples: college students, psychiatric patients, and community-dwelling adults.

We also were interested in exploring how our measures relate to the 9 basic symptom criteria for a major depressive episode in *DSM-IV*. We therefore obtained judgments from expert raters, who evaluated the correspondence between our items and these *DSM-IV* criteria.

Method

Participants and Procedure

College student sample. The participants were 673 undergraduate students enrolled in introductory psychology courses at the University of Iowa ($N = 369$) and the University at Buffalo ($N = 304$). They participated in partial fulfillment of a course research exposure requirement. All respondents were assessed in small-group sessions. The sample consisted of 426 women and 247 men. It included 544 Whites (80.8%), 77 Asian Americans (11.4%), 24 African Americans (3.6%), and 28 participants (4.1%) whose racial status was either unknown or from another category.

Psychiatric patient sample. This sample consisted of 369 psychiatric patients (age range = 18-82, $M = 39.2$ years) who were recruited from the Community Mental Health Center of Mideastern Iowa, the Adult Psychiatry Clinic at the University of Iowa Hospital and Clinics, and the Seashore Psychology Clinic in the Department of Psychology at the University of Iowa. Patients at these sites were individually approached and asked if they were interested in participating in a research study. Individuals who consented to participate were given a packet of questionnaires, which they then completed at home and returned by mail in a prepaid envelope. They were paid $15 on receipt of the mailed packet. The sample consisted of 247

women and 121 men (the sex of one participant was not specified). It included 301 Whites

(81.6%), 27 Asian Americans (7.3%), 19 African Americans (5.1%), 5 Native Americans (1.4%)

and 17 participants (4.6%) whose racial status was either unknown or from another category.

Complete IDAS data were available on 353 patients, who constitute the final sample that was

used in subsequent analyses.

A subset of these patients also were asked to participate in a second study on the relations

between personality and psychopathology. As part of this second study, they were assessed with

the Interview for Mood and Anxiety Symptoms (IMAS; this measure will be described later).

We subsequently report correlations between self-report IDAS scores and IMAS interview data

in a subsample of 139 patients. The average time lag between the self-report and interview

assessments was approximately six weeks (M interval = 43 days).

Community sample. The participants were 370 community-dwelling adults (age range =

18-77, M = 32.9 years) living in eastern Iowa. They were recruited in a variety of ways,

including newspaper advertisements and posters displayed around the Iowa City and Cedar

Rapids metropolitan areas.   Most of the participants were assessed in small- to moderately-sized

group sessions, but some were mailed packets which they then returned to us in prepaid

envelopes. They were paid $15 for their participation. The sample consisted of 250 women and

116 men (the sex of four participants was not specified); 337 of the participants (91.1%) were

White. Complete IDAS data were available on 362 respondents, who constitute the final sample

that was used in subsequent analyses.

Expert rater sample. This sample consisted of 23 members of clinical psychology doctoral

training programs at the University of Iowa and the University at Buffalo. It included 13 faculty,

five master's level graduate students, and five graduate students who had completed their

comprehensive examinations.

Measures

Revised IDAS item pool. As noted earlier, the Study 2 participants completed the revised

pool of 169 symptoms; this included 148 items retained from the first phase of the research, plus

21 items that were newly added in this round. As in Study 1, the respondents indicated the

extent to which they had experienced each symptom "during the past two weeks, including

today" on a 5-point scale ranging from *not at all* to *extremely.*

BDI-II and BAI. The Iowa students, the psychiatric patients and the community adults

completed the BDI-II (Beck et al., 1996) and the Beck Anxiety Inventory (BAI; Beck & Steer,

1990). Together with its predecessor instrument, the BDI, the BDI-II is one of the most widely

used and best validated self-report measures of depression (see Joiner et al., 2005). The BDI-II

consists of 21 items, each of which is rated on a 4-point scale ranging from 0 to 3; thus, total

scores can range from 0 to 63. For each item, respondents choose the option that best

characterizes how they have been feeling "during the past two weeks, including today."

The BAI assesses 21 affective and somatic symptoms of anxiety that are rated on a 4-point

scale (0 = *not at all,* 3 = *severely/I could barely stand it*). Respondents indicate to what extent

they have been bothered by each symptom "during the past week, including today."

Complete BDI-II and BAI data were available from 368 college students, 344 psychiatric

patients, and 359 adults. The BDI-II had internal consistency reliabilities (coefficient alpha)

ranging from .93 to .95 in our samples; the BAI had coefficient alphas ranging from .92 to .94.

DSM-based scales. The 23 expert raters were given a list of the 9 *DSM-IV* symptom

criteria for a major depressive episode, as well as a list of the depression symptoms from the

IDAS item pool presented in a random order. The raters were asked to read each item and then

indicate which of these 9 criteria—if any—it assessed.

On the basis of these data, we created *DSM*-based scales reflecting each of these criteria; an

item was included on a scale if it was judged to assess that criterion by at least 18 of the experts.

This yielded a 5-item scale for criterion 1 (Depressed Mood); 7-item scales for criteria 6

(Lassitude), 7 (Worthlessness/Guilt), 8 (Cognitive Problems), and 9 (Suicidality); and a 13-item

scale for criterion 2 (Loss of Interest). Preliminary analyses revealed moderate to strong positive

correlations (ranging from .50 to .63 across the three samples) between the 6 agitation and 4

retardation items reflecting criterion 5; they therefore were combined to yield an overall index of

Psychomotor Problems. Finally, we created separate measures of Appetite Loss (5 items) and

Appetite Gain (5 items) for criterion 3, and separate measures of Insomnia (8 items) and

Hypersomnia (3 items) for criterion 4. The symptoms included in these *DSM* scales are listed in

Appendix D.

   Interview for Mood and Anxiety Symptoms (IMAS). The IMAS (Kotov, Gamez, & Watson,

2005) is a semi-structured instrument that assesses symptoms related to the mood and anxiety

disorders in *DSM-IV*. Individual symptoms are scored on a 3-point scale (0 = clearly absent, 1 =

possibly present, 2 = clearly present) and then are summed to create composite indexes.

Symptoms are rated using a past-month time frame. In order to assess the convergent and

discriminant validity of individual IDAS scales, we report data on 8 IMAS composites that

assess parallel symptom content: Social Anxiety (24 items), Panic (16 items), Suicidality (4

items), Lassitude (5 items), Insomnia (4 items), Appetite Loss (2 items), Irritability (6 items),

and PTSD Intrusions (5 items).

   The interviewers were advanced psychology undergraduates who underwent extensive

training. To assess inter-rater reliability, the interviews were audiotaped, and 34 of them were

scored independently by a second interviewer (due to auditory problems in different portions of

the tapes, however, the actual *N*s ranged from 24 to 34 across the symptom indexes). The

intraclass correlation for Appetite Loss was .93 (*N* = 32); all other values were .98 or higher.

Values in this range indicate excellent inter-rater reliability (see Cicchetti, 1994).

<div align="center">*Results and Discussion*</div>

Development of the Final Scales

   Basic analytic approach. We conducted separate principal factor analyses of the 169

candidate items in our three large samples; as in Study 1, we used both varimax and promax

rotations to help clarify the nature of the underlying structure.   In selecting dimensions as targets

for scale development, we were guided by three basic principles. First, our goal was to identify

the maximum number of factors that were psychologically meaningful, and we were particularly

interested in isolating content factors that reflected specific types of symptoms. Accordingly, we

concentrated on solutions with relatively large numbers of factors. Second, we wanted to create

scales that showed an acceptable level of discriminant validity; we eventually had to drop certain

symptom dimensions that failed to emerge as reasonably distinct. Third, we only were interested

in dimensions that were robust and generalizable across our three samples; consequently, our

final scales reflect factors that emerged in all three data sets.

   The 10 specific factors. Using this approach, we identified 10 specific content factors that

represented distinct, well-defined symptom dimensions. It is noteworthy that seven of these

dimensions—Suicidality, Insomnia, Lassitude, Well-Being, Panic, Social Anxiety, and

Traumatic Intrusions—also emerged in our Study 1 analyses. An eighth Study 1 dimension—

Appetite Problems—split into separate Appetite Loss and Appetite Gain factors in these data.

The final dimension was Ill Temper (e.g., "I lost my temper and yelled at people"), which did not

emerge as a distinct factor in Study 1.

   Creation of the specific scales. We created scales to assess these 10 dimensions. In

selecting items for the final scales, we were guided by three basic considerations. First, we

retained items that tended to be the purest factor markers (i.e., had high loadings on that

dimension and very low loadings on all other factors) and, therefore, maximized the discriminant

validity of the scale vis-à-vis the others. Second, we minimized redundancy as much as possible

and retained maximally distinct and informative items. Third, in making the difficult final

choices between items that had very similar psychometric properties, we selected those that

optimized the characteristics of the scales in our psychiatric patient sample (see Appendix E for

more information regarding the principles we used to retain and drop items in creating the final

scales). On the basis of these considerations, we created 8-item measures of Well-Being and

Panic; 6-item measures of Suicidality, Lassitude, and Insomnia; 5-item measures of Social

Anxiety and Ill Temper; a 4-item Traumatic Intrusions scale; and 3-item measures of Appetite

Loss and Appetite Gain.

Three of these scales (Panic, Social Anxiety, and Traumatic Intrusions) assess symptoms

that traditionally are linked to anxiety, whereas five others (Suicidality, Insomnia, Lassitude,

Appetite Loss, Appetite Gain) represent classic manifestations of depression. It is interesting to

examine these latter scales by correlating them with the corresponding *DSM*-based scales. The

IDAS Suicidality, Insomnia, Appetite Loss and Appetite Gain scales essentially are equivalent to

their *DSM*-based counterparts, with correlations ranging from .97 to .99 across the three samples.

Thus, the IDAS Suicidality scale essentially represents *DSM-IV* criterion 9, Insomnia reflects the

corresponding portion of criterion 4, and the two appetite scales jointly define criterion 3.

The situation with Lassitude is more complex, however. The IDAS Lassitude scale

contains several fatigue/anergia items (e.g., "I felt exhausted", "It took a lot of effort for me to

get going") and it was strongly related to its *DSM*-based counterpart, with correlations ranging

from .87 to .90 across the three samples. The underlying factor also was defined by

hypersomnia, however, and the final scale includes one relevant item ("I slept more than usual");

not surprisingly, therefore, the IDAS Lassitude scale also correlated strongly with the *DSM-*

based Hypersomnia scale (*r*s ranged from .84 to .85 across the three samples). Thus, the scale

also taps the hypersomnia portion of criterion 4. Finally, Lassitude contains an item reflecting

circadian variation ("I felt much worse in the morning than later in the day") that originally was

part of the HIC designed to tap the symptom features of melancholic depression.

   Creation of the Dysphoria scale. In addition to these specific symptom dimensions, we

also identified a very large and relatively broad factor. In order to get a sense of the scope and

content of this non-specific factor, Table 1 presents correlations among five of the *DSM*-based

scales: Depressed Mood (criterion 1), Anhedonia (criterion 2), Psychomotor Problems (criterion

5), Worthlessness/Guilt (criterion 7), and Cognitive Problems (criterion 8). The Table also

includes a 9-item Anxious Mood scale that was created from the items remaining from the

original anxious mood (e.g., "I felt fearful") and worry (e.g., "I worried a lot") HICs.

   These results clearly establish very strong relations among these different types of

symptoms. Indeed, the mean correlations among these scales (after *r*-to-*z* transformation) were

.73 (students), .72 (patients), and .76 (adults). On the basis of this evidence, we constructed a

10-item Dysphoria scale that captures the nature and scope of this diverse dimension. We

selected single items to assess depressed mood, anhedonia, worry, worthlessness, and guilt. We

also selected two markers apiece from the *DSM*-based Psychomotor Problems (one reflecting

retardation, the other agitation) and Cognitive Problems scales. Finally, we included one item

from the original hopelessness HIC ("I felt discouraged about things"). Thus, the final version of

the IDAS contains a total of 64 items.

   Creation of the General Depression scale. The Dysphoria scale appears to assess the core

emotional and cognitive symptoms of depression (and anxiety), and it obviously is broad and

non-specific in its scope. We believe it will be an extremely useful measure for many

assessment purposes. Nevertheless, it is narrower in scope than most traditional measures of

depression, such as the BDI-II. We therefore felt it was desirable to create an expanded measure that more closely resembles these traditional measures and that includes a comprehensive range of depression-related content. This led us to develop the 20-item General Depression scale. This scale includes all 10 Dysphoria items, as well as two items apiece from Suicidality, Lassitude, Insomnia, Appetite Loss, and Well-Being (these items are reverse-keyed).

Appendix F presents the final 64-item version of the IDAS, along with the item composition of all 12 scales. Appendix G provides an expanded 99-item version of the instrument; in addition to the 12 standard IDAS scales, this augmented form also allows one to score (a) abbreviated versions of the *DSM*-based criterion scales and (b) measures of anxious and angry/irritable mood using items from the original HICs.

Descriptive Statistics

Table 2 presents the means and standard deviations for the IDAS scales in each of the Study 2 samples. As would be expected, the psychiatric patients reported the greatest levels of distress and disturbance. To quantify this observation, we conducted one-way analyses of variance with post hoc comparisons using Scheffe's test. These analyses indicated that the psychiatric patients had significantly higher scores than the other groups on 10 IDAS scales (General Depression, Dysphoria, Suicidality, Lassitude, Insomnia, Appetite Loss, Ill Temper, Social Anxiety, Panic, and Traumatic Intrusions), and significantly lower scores on Well-Being. Finally, the groups did not differ significantly on Appetite Gain. This last finding is consistent with other evidence indicating that appetite/weight gain symptoms are relatively non-specific and pervasive in the general population (e.g., Beck & Steer, 1993); we return to this issue subsequently.

We further examined this issue by comparing the patient responses with overall mean scores collapsed across the two non-patient groups, and then quantifying the resulting effect sizes

using Cohen's *d* (Cohen, 1988). This analysis revealed large effect sizes for General Depression

($d = 0.85$) and Dysphoria ($d = 0.85$); moderate effect sizes for Suicidality ($d = 0.69$), Well-Being

($d = -0.63$), Traumatic Intrusions ($d = 0.60$) and Social Anxiety ($d = 0.58$); and small effect sizes

for Insomnia ($d = 0.45$), Panic ($d = 0.45$), Appetite Loss ($d = 0.45$), Lassitude ($d = 0.38$), Ill

Temper ($d = 0.27$), and Appetite Gain ($d = 0.12$).

Finally, Table 2 presents the mean BDI-II and BAI scores in each sample for comparison

purposes. It is noteworthy that the psychiatric patients had mean BDI-II and BAI scores of 23.24

and 18.52, respectively. Based on normative data presented in the instrument manuals, these

scores reflect moderate levels of depression and anxiety (Beck & Steer, 1990; Beck et al., 1996).

Internal Consistency

Table 3 presents internal consistency reliabilities (coefficient alphas) and average interitem

correlations (AICs) for the scales in each sample; it also presents median values to facilitate

comparisons across samples. The alpha reliabilities consistently are strong: 34 of the 36

coefficients are .80 or higher, and every scale reaches this level in at least two samples.

Ideally, the AIC for a scale should be moderate, falling in the general range of .15 to .50

(Clark & Watson, 1995). With a few exceptions, seven scales—General Depression, Dysphoria,

Panic, Lassitude, Well-Being, Insomnia, and Suicidality—have AICs within this range. Overall,

these seven scales appear to tap a range of moderately related content. It is particularly

noteworthy that we were able to create moderately correlated items to assess three of the specific

symptoms of major depression (Lassitude, Insomnia, Suicidality). In contrast, the AICs for the

five remaining scales—Social Anxiety, Ill Temper, Traumatic Intrusions, Appetite Loss, and

Appetite Gain—tend to be somewhat higher, generally falling in the .50 to .60 range. These

scales clearly subsume a narrower range of symptom content.

Internal Structure of the IDAS

Scale correlations. For ease of presentation, we used combined data from all three samples

(N = 1,388) to examine the correlations among the IDAS scales. To eliminate mean level

differences across samples, we standardized the IDAS scores on a within-sample basis and then

combined them to permit a single overall analysis. Because General Depression shares its items

with several other scales, it was excluded from these analyses.

Table 4 presents the correlations among the non-overlapping scales. The 10 specific scales

show good discriminant validity, with correlations generally in the moderate range. Indeed, the

highest correlation among these scales is only .56 (between Panic and Social Anxiety). It is

especially interesting that scales assessing specific symptoms of major depression tend to be only

moderately related to one another. For instance, Insomnia correlated .40 with Lassitude, .39 with

Appetite Loss, .34 with Suicidality, and .23 with Appetite Gain. Similarly, Lassitude correlated

.38 with Suicidality, .32 with Appetite Loss, and .41 with Appetite Gain. These data

demonstrate that these symptom dimensions can be clearly distinguished from one another.

In contrast, Dysphoria consistently shows much higher correlations with the other scales.

In fact, even though it does not share any overlapping items or content, it has correlations in the

.60 to .70 range with several other scales. These results offer further support for our earlier

suggestion that this non-specific scale assesses the core emotional and cognitive symptoms of

depression and anxiety. Moreover, they suggest that Dysphoria is a broad scale that exists at a

higher structural level than the others (i.e., it shows some properties of a general factor).

Scale-level factor analyses. We next examined the underlying structure defined by these

scales. We conducted separate principal factor analyses of the scales (with squared multiple

correlations in the diagonal) in each of our samples. Our initial prediction was that they would

yield a two-factor structure, with some scales (e.g., Lassitude, Suicidality) defining a depression

factor and others (e.g., Panic, Social Anxiety) marking an anxiety factor. This expectation was

strongly disconfirmed, however. Instead, these analyses established the presence of a dominant general factor. In fact, the first factor accounted for 89.7% to 95.4% of the common variance across the three samples (see the first three columns of Table 5). Not surprisingly, no other interpretable dimension reliably emerged in these analyses.

Loadings of the scales on this general factor are presented in Table 5. Two aspects of these data are noteworthy. First, all 11 scales have moderate to strong loadings on this general dimension (although Appetite Gain has a loading of only .29 in the patient data). Thus, it truly represents a general factor that underlies all of the scales comprising the IDAS. Second, Dysphoria easily is the strongest marker of this general dimension. Indeed, it had loadings of .89 to .92 across the three samples. Because factor loadings represent correlations between observed variables and the latent underlying dimensions, these very high values indicate that Dysphoria essentially is equivalent to the general factor underlying the IDAS (i.e., it correlates approximately .90 with this factor). These data support our earlier suggestion that Dysphoria shows properties of a higher order factor.

These factor analytic results have important implications for our understanding of the IDAS. Most notably, although the instrument contains content that traditionally has been linked to depression and anxiety, the factor analytic data establish that the scales cannot be neatly separated into these two types of symptoms. Instead, the scales define a single large general factor. On the basis of these results, we believe that it is better to view the IDAS as consisting of two broad, general scales (Dysphoria and General Depression) and 10 narrower content-based scales assessing specific symptom dimensions.

Convergent and Discriminant Validity

Correlations with the BDI-II and BAI. We now examine the convergent and discriminant validity of the IDAS in relation to other measures of depression and anxiety. Table 6 reports

correlations between the IDAS and the BDI-II and BAI; for ease of presentation, these results again are based on the standardized combined sample ($N = 1,071$). Table 6 also indicates whether each IDAS scale had significantly different correlations with the two Beck inventories, using the Williams modification of the Hotelling test for two correlations involving a common variable (see Kenny, 1987).

With regard to convergent validity, it is important to note that the two general scales of the IDAS—General Depression and Dysphoria—both were very strongly related to the BDI-II ($r = .83$ and $.81$, respectively). Conversely, Panic showed the strongest association with the BAI ($r = .79$). These data establish that the IDAS scales are very strongly correlated with both the BDI-II and BAI and jointly capture the bulk of the variance in these widely used inventories.

Turning now to discriminant validity, Table 6 indicates that six scales—General Depression, Dysphoria, Suicidality, Lassitude, Ill Temper and Well-Being—had a significantly stronger correlation with the BDI-II than with the BAI (zs ranged from $|2.60|$ to $|15.26|$). This differential pattern demonstrates that these scales tap content that is more strongly linked to traditional manifestations of depression than to anxiety. The findings for Well-Being are especially noteworthy, as they are consistent with other evidence indicating that low positive emotionality is more strongly associated with depression than with anxiety (e.g., Clark & Watson, 1991; Mineka et al., 1998). Conversely, Panic was the only scale that correlated more strongly with the BAI ($r = .79$) than with the BDI-II ($r = .59$) ($z = 13.16$). Finally, it is interesting to note that several scales were similarly correlated with the BAI and BDI-II. In particular, Insomnia, Appetite Loss, and Appetite Gain all had very similar associations with the two inventories These results are particularly striking given that (a) insomnia and appetite disturbance form part of the symptom criteria of major depression in *DSM-IV* and (b) the BDI-II—but not the BAI—contains item content explicitly tapping these symptom dimensions.

Correlations with the IMAS. In establishing convergent and discriminant validity, it is important to examine relations across different methods. As discussed earlier, 139 psychiatric patients were assessed using a structured interview (the IMAS) that includes 8 specific symptom composites that directly parallel scales in the IDAS. Table 7 presents correlations between these two sets of measures in the form of a heteromethod block (Campbell & Fiske, 1959). Looking first at convergent validity, all 8 IDAS scales were significantly related to their interview-based counterparts, with coefficients ranging from .42 (Ill Temper) to .62 (Suicidality). The mean convergent correlation was .50, which is impressive given both (a) the difference in methods and (b) the time lag of approximately 6 weeks between the two assessments. Thus, consistent with previous research (e.g., Beck et al., 1988; Clark & Watson, 1991), these results demonstrate strong associations between self-report and interview-based symptom measures.

A classic test of discriminant validity is that each of the convergent correlations should be higher than any of the other values in its row or column of the heteromethod block. Table 7 indicates that all of the convergent correlations meet this criterion. We further quantified these relations by conducting significance tests (again using the Williams modification of the Hotelling test) comparing these convergent correlations to each of the 14 discriminant correlations in the same row or column of the block; this yields a total of 112 tests of discriminant validity across the 8 symptom dimensions. Overall, 106 of these comparisons (94.6%) were significant ($p <$ .05, 1-tailed), which offers substantial evidence of discriminant validity.

Summary. Our analyses revealed strong convergent validity and good discriminant validity for the IDAS scales. Taken together, these results yield two basic conclusions. First, the IDAS does an excellent job of assessing the content contained in traditional symptom measures such as the BDI-II and BAI. Second, our data demonstrate that specific symptom dimensions—such as suicidality, lassitude, insomnia, and panic—can be identified and clearly distinguished from one

another across instruments and methods.

<div align="center">Study 3: Further Validation of the IDAS</div>

The IDAS scales generally showed strong psychometric properties in Study 2. However, these results are complicated by the fact that data from the Study 2 participants also were used to create the scales. It therefore is essential to examine the generalizability of these findings in new and independent samples. Accordingly, the basic goal of Study 3 was to examine the psychometric properties of the IDAS in five new samples: high school students, college students, young adults, postpartum women, and psychiatric patients.

In addition, the Study 3 data extend our earlier results in three important ways. First, we present data on the short-term retest reliability of the IDAS in our psychiatric patient sample. Second, we report correlations with two popular self-report scales that are designed to assess depression in specialized populations: Specifically, we relate the IDAS to the Second Edition of the Reynolds Adolescent Depression Scale (RADS-2; Reynolds, 2002) in the high school students, and to the Edinburgh Postnatal Depression Scale (EPDS; Cox, Holden, & Sagovsky, 1987) in our postpartum sample. Third, we report correlations with clinicians' ratings on the widely-used Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960) in our postpartum sample (for a recent discussion of the HRSD, see Joiner et al., 2005).

<div align="center">*Method*</div>

Participants and Procedure

High school student sample. The participants were 254 students enrolled in social science courses at three Iowa City high schools. Recruiters attended these classes and briefly explained the study. Interested students were given packets, which they completed at home after obtaining parental consent; they then returned the packets by mail in prepaid envelopes. They were paid $10 for their participation. The sample consisted of 153 girls and 99 boys (the sex of two

participants was unknown); it included 215 Whites (84.6%), 9 Asian Americans (3.5%), 8

African Americans (3.1%), 4 Native Americans (1.6%), and 18 participants (7.1%) whose racial

status was either unknown or from another category. Complete IDAS data were available on 247

respondents, who constitute the final sample used in subsequent analyses.

College student sample. The participants were 307 students enrolled in an introductory

psychology course at the University of Iowa. They participated in partial fulfillment of a course

research exposure requirement. They were assessed in small-group sessions. The sample

consisted of 194 women and 112 men (the sex of one participant was unknown); it included 272

Whites (88.6%), 13 Asian Americans, (4.2%), 4 African Americans (1.3%), and 18 participants

(5.9%) whose racial status was either unknown or from another category.

Young adult sample. This sample consisted of 271 participants in the Iowa Longitudinal

Personality Project (ILPP), an ongoing study of personality development in young adulthood

(Vaidya, Gray, Haig & Watson, 2002). The participants originally were assessed in 1996 when

they were enrolled in an introductory psychology course at the University of Iowa; they

subsequently were retested in 1999, 2002, and 2005. The IDAS was included as part of the 2005

assessment battery. These measures were mailed to the participants and then returned by them in

prepaid envelopes; they were paid $30 for their responses. The sample consisted of 202 women

and 69 men and was 93.7% White ($N = 254$). The mean age of the participants was

approximately 27 years at the time of the 2005 assessment.

Postpartum sample. This sample consisted of 832 postpartum women (age range = 18-45,

$M = 27.8$ years) who had delivered within the previous four months; they were identified through

public birth records in several eastern Iowa counties. Letters inviting participation were sent to

eligible women. Interested participants were sent a battery of questionnaires, which they

returned by mail in a prepaid envelope; they were paid for their participation. The sample

consisted of 743 Whites (89.3%), 42 African Americans (5.0%), 18 Asian Americans (2.2%),

and 29 participants (3.5%) whose racial status was either unknown or from another category.

Complete IDAS data were available on 830 respondents.

A subset of these women ($N = 293$) subsequently were interviewed by staff members who

had masters' level training in clinical/counseling psychology or public health. The interviewers

rated the participants on the HRSD (Hamilton, 1960) following the completion of the interview.

Psychiatric patient sample. The participants were 339 psychiatric patients (age range = 18-

83, $M = 42.4$ years) who were recruited from the same clinic sites described in Study 2. They

were assessed in small group sessions and were paid for their participation. The sample

consisted of 229 women and 109 men (the sex of one participant was unknown); it included 299

Whites (88.2%), 7 African Americans (2.1%), 6 Asian Americans (1.8%), 10 multiracial

participants (2.9%), and 17 respondents (5.0%) whose racial status was either unknown or from

another category. Complete IDAS data were available on 337 patients; a subset of these patients

($N = 250$) were retested on the IDAS approximately one week after the initial session.

Measures

 IDAS. All participants completed the final 64-item version of the IDAS.

BDI-II and BAI. Participants in the high school ($N = 245$), college ($N = 306$), postpartum

($N = 830$) and psychiatric patient ($N = 331$) samples also completed the BDI-II and BAI. The

BDI-II had coefficient alphas ranging from .87 (postpartum) to .94 (high school) in our samples;

the BAI had coefficient alphas ranging from .90 (postpartum) to .94 (patients).

RADS-2. The high school students were assessed on the RADS-2 (Reynolds, 2002), which

is a widely-used self-report measure of depression in adolescents. Respondents indicate the

frequency with which they have experienced each of 30 items on a 4-point scale ranging from

almost never to *most of the time.* The RADS-2 had an alpha reliability of .96 in this sample.

EPDS. The postpartum women also completed the 10-item EPDS (Cox et al., 1987). For

each item, participants choose the response (from four options) that best describes their

experience over the previous week. Substantial evidence has established the validity of the

EPDS as a tool to screen for depression in the postpartum period (Cox & Holden, 2003;

Eberhard-Gran, Eskild, Tambs, Opjordsmoen, & Samuelson, 2001). The EPDS had a coefficient

alpha of .87 in this sample.

HRSD. As noted earlier, clinicians rated a subset ($N = 293$) of the postpartum sample using

the 24-item version of the HRSD (Hamilton, 1960). The items are rated on a scale of increasing

severity. The HRSD had an alpha reliability of .89 in this sample.

To assess inter-rater reliability, the interviews were audiotaped, and 20 of them were scored

independently by a second interviewer . The intraclass correlation was .72, which represents

good inter-rater reliability (Cicchetti, 1994).

Results and Discussion

Descriptive Statistics

Table 8 presents the means and standard deviations for the IDAS scales in each of the

Study 3 samples.   Replicating the results of Study 2, the psychiatric patients had significantly

higher scores than all other groups on 9 IDAS scales (General Depression, Dysphoria,

Suicidality, Lassitude, Insomnia, Appetite Loss, Social Anxiety, Panic, and Traumatic

Intrusions), and significantly lower scores on Well-Being. They also had higher scores on Ill

Temper than every other group except the high school students. Finally, as in Study 2, the

groups did not differ significantly on Appetite Gain.

Following the same procedure as in Study 2, we compared the patient responses with

overall mean scores collapsed across the four non-patient groups. This analysis revealed large

effect sizes for Dysphoria ($d = 1.13$), General Depression ($d = 1.13$), Suicidality ($d = 1.02$),

Traumatic Intrusions ($d = 0.91$) and Panic ($d = 0.90$); moderate effect sizes for Social Anxiety ($d = 0.79$), Well-Being ($d = -0.71$), Lassitude ($d = 0.69$), Appetite Loss ($d = 0.66$) and Insomnia ($d = 0.61$); and small effect sizes for Ill Temper ($d = 0.44$), and Appetite Gain ($d = 0.15$).

Internal Consistency

Table 3 presents coefficient alphas for the IDAS scales in the Study 3 samples. Replicating the results of Study 2, these reliabilities generally are strong: 50 of the 60 coefficients are .80 or higher, and every scale reaches this level in at least three samples. It should be noted, however, that the reliabilities tended to be somewhat lower in the young adult sample. These participants consistently reported the lowest symptom levels (see Table 8), thereby reducing item variances and attenuating the inter-item correlations.

Internal Structure of the IDAS

Scale correlations. Following the procedure outlined in Study 2, we created a standardized combined sample and then computed correlations among the non-overlapping IDAS scales; these correlations are presented in the top portion of Table 4. Once again, the 10 specific scales show good discriminant validity, with correlations generally in the moderate range. In fact, the highest correlation among these scales is only .52 (between Social Anxiety and Panic). Replicating our earlier results, scales assessing specific symptoms of major depression tend to be only moderately related to one another, with coefficients generally falling in the .20 to .45 range. Finally, as would be expected, Dysphoria consistently shows much higher correlations with other scales, with several coefficients in the .63 to .66 range.

Scale-level factor analyses. Next, we conducted separate principal factor analyses of the scales in each sample. These analyses again revealed the presence of a dominant general factor, which accounted for 85.9% to 92.4% of the common variance across the five samples (see Table 5). No other dimension reliably emerged in these analyses.

Loadings of the scales on this general factor are presented in the right portion of Table 5.

Replicating the results of Study 2, Dysphoria had loadings of .89 to .93 across the five samples.

These data again suggest that Dysphoria exists at a higher structural level and shows properties

of a higher order factor.

Item-level factor analyses. How well do the final IDAS scales capture the target

dimensions identified in our structural analyses? We examined this issue in the standardized

combined sample. We initially included the 10 Dysphoria items in these analyses. Because of

the broad and non-specific nature of this dimension, however, it failed to emerge cleanly. We

therefore restricted subsequent analyses to the 54 items contained in the 10 specific scales of the

IDAS. We conducted a principal factor analysis of these items and extracted 10 factors (one for

each of the target scales); these factors were rotated using promax. Fifty three of the 54 items

(98.1%) were clear markers of their target factor, with primary loadings of .35 or higher on that

dimension (see Table H-1 in Appendix H). The single exception was the hypersomnia item ("I

slept more than usual"), which had a primary loading of only .32 on the target Lassitude factor

and a slightly higher cross-loading (-.35) on the Insomnia factor.

Convergent and Discriminant Validity

Correlations with the Beck Inventories. Table 6 reports correlations between the IDAS and

the BDI-II and BAI in the standardized combined sample ($N = 1,712$). It again is noteworthy

that the IDAS General Depression ($r = .83$) and Dysphoria ($r = .81$) scales both were very

strongly related to the BDI-II, whereas Panic was strongly correlated with the BAI ($r = .78$).

The discriminant validity findings also largely replicated the results of Study 2. Once

again, the same six scales—General Depression, Dysphoria, Suicidality, Lassitude, Ill Temper

and Well-Being—had a significantly stronger correlation with the BDI-II than with the BAI (zs

ranged from |5.46| to |12.75|). Conversely, Panic and Traumatic Intrusions were the only scales

that correlated more strongly with the BAI ($zs = 15.31$ and 3.16, respectively). Finally, three

scales—Insomnia, Appetite Loss and Social Anxiety—again had very similar correlations with

the BDI-II and BAI.

Correlations with the RADS-2 and the EPDS.   Analyses of our high school student data

revealed that the RADS-2 was significantly related to all 12 IDAS scales, with correlations

ranging from .21 to .86 ($N = 247$). Most notably, the RADS-2 correlated very strongly with both

General Depression ($r = .86$) and Dysphoria ($r = .84$) in this sample.

Analyses of the EPDS in the postpartum sample yielded virtually identical results. Once

again, the EPDS was significantly related to every IDAS scale, with correlations ranging from

.24 to .84 ($N = 830$). It again is noteworthy that IDAS General Depression ($r = .83$) and

Dysphoria ($r = .84$) both correlated very strongly with the EPDS.

These data establish that the IDAS scales capture the bulk of the variance in the RADS-2

and the EPDS. Together with the other data we have presented, these results further suggest that

the IDAS is appropriate for use with adolescent and postpartum participants.

Correlations with the HRSD. We used a 24-item version of the HRSD that assessed

symptoms of both depression and anxiety; we therefore expected that it would be non-

specifically related to the self-report measures. Table 9 presents correlations between the HRSD

and the self-report scales in the postpartum sample. Three aspects of these data are noteworthy.

First, consistent with previous research (Beck & Steer, 1993; Clark & Watson, 1991), these

results demonstrate strong associations between self-rated and clinician-rated symptoms.

Second, all of the IDAS scales were significantly correlated with the HRSD (rs ranged from |.30|

to |.67|), establishing some degree of convergent validity for each of them. Third, the two

general IDAS scales—General Depression ($r = .67$) and Dysphoria ($r = .64$)—had correlations

with the HRSD that were comparable to those of the BDI-II ($r = .62$), EPDS ($r = .61$), and BAI

($r = .64$). These results demonstrate that the convergent validity of these general IDAS scales is very similar to that of more established measures of depression and anxiety.

Retest Data

    Retest correlations. The IDAS General Depression scale had a one-week retest correlation of .84 in our patient sample ($N = 250$). Table 10 presents retest correlations for the 11 non-overlapping IDAS scales in the form of a multitrait-multioccasion matrix, which also yields evidence of discriminant validity (for a discussion of this approach, see Longley, Watson, & Noyes, 2005); the table displays the heteromethod block within this matrix.   These scales had retest correlations ranging from .72 (Ill Temper) to .83 (Dysphoria and Panic), with a mean value of .79. It is noteworthy that these values all exceed the minimum benchmark of .70 for short-term test-retest reliabilities recommended by Joiner et al. (2005).

    As noted earlier, to establish discriminant validity, each of the convergent (i.e., retest) correlations should be higher than any of the other values in its row or column of the heteromethod block. Table 10 indicates that all of the convergent correlations easily meet this criterion. We conducted significance tests comparing these convergent correlations to each of the 20 discriminant correlations in the same row or column of the block; this yields a total of 220 tests of discriminant validity across the 11 symptom dimensions. All of these comparisons were significant (zs ranged from 4.55 to 14.81, all ps < .01, 2-tailed), which offers strong evidence of discriminant validity.

    Mean-level change. Consistent with previous research on self-rated symptoms (e.g., Sprinkle et al., 2002), our respondents tended to report lower levels of psychopathology at the second assessment. Specifically, they reported significantly lower levels of Suicidality ($d = -.41$), Panic ($d = -.32$), Traumatic Intrusions ($d = -.29$), General Depression ($d = -.29$), Dysphoria ($d = -.29$), Ill Temper ($d = -.23$), Social Anxiety ($d = -.23$), Appetite Loss ($d = -.21$) and Insomnia

(d = -.18) at Time 2. No significant differences were observed on Appetite Gain (d = -.09),

Lassitude (d = -.01) or Well-Being (d = 0.05). Thus, although they are strongly stable in the

short term, the IDAS scales also are sensitive to change over time.

<div align="center">General Discussion</div>

Summary of Results

 Basic Properties of the IDAS. We created the IDAS to complement existing measures of

depression. Our basic goal was to create specific symptom scales reflecting distinctive aspects

of depression and anxiety. We believe we were successful in achieving this goal. Our factor

analyses revealed several distinct and readily interpretable symptom dimensions that replicated

well across diverse samples. The resulting scales are homogeneous and generally do an

excellent job of capturing the target dimensions that we identified in our structural analyses. The

scales display strong short-term retest reliability and also show some evidence of sensitivity to

change. Finally, the IDAS scales show strong convergent validity and good discriminant validity

when related to other self-report and interview-based measures of depression and anxiety. It is

particularly noteworthy that the IDAS scales are able to account for the bulk of the variance

contained in traditional symptom measures, such as the BDI-II, BAI, EPDS and RADS-2.

 Review of individual scales. It also is informative to go beyond this general summary and

to examine what these results tell us about various IDAS scales. First, the instrument contains

two broad, non-specific scales: General Depression (which contains items overlapping with

several other IDAS scales) and Dysphoria (which does not). Not surprisingly, these scales show

the strongest and broadest associations with other indicators of psychopathology. For instance,

they yielded the greatest level of differentiation between the psychiatric patients and the other

respondents and had the strongest correlations with the BDI-II, EPDS, RADS-2, and HRSD.

These scales clearly show the strongest overlap with traditional measures of depression and

should be useful for many of the same purposes.

The IDAS also contains 10 specific symptom scales. Nine of these scales—Suicidality, Lassitude, Insomnia, Appetite Loss, Well-Being, Ill Temper, Panic, Social Anxiety, and Traumatic Intrusions—consistently show strong psychometric properties. They have good to excellent internal consistency reliabilities (Table 3) and show strong stability over a one-week retest interval (Table 10). These scales significantly differentiated the psychiatric patients from the other respondents in both Study 2 and Study 3 (Tables 2 and 8), and they correlated significantly with the BDI-II and BAI (Table 6), the EPDS and RADS-2, and the HRSD (Table 9). They tend to be only moderately interrelated , with most correlations falling in the .20 to .50 range (Table 4). Finally, they show good convergent and discriminant validity in relation to other measures of these same symptom dimensions (Tables 7 and 10). On the basis of this evidence, we believe these scales will be useful in a broad range of research contexts, such as studies of depression, panic disorder, PTSD, and social phobia.

In contrast, the IDAS Appetite Gain scale was somewhat more problematic. It tended to show relatively weak correlations with the BDI-II, the BAI, and the HRSD (Tables 6 and 9). Moreover, it did not differentiate the psychiatric patients from the other participants in either Study 2 or Study 3 (see Tables 2 and 8). As noted earlier, these results are consistent with other evidence indicating that appetite/weight gain symptoms are relatively non-specific and pervasive in the general population; indeed, symptoms of increased appetite were explicitly excluded from the original BDI because they occur so frequently in the general population that their inclusion "would produce a high rate of false positives" (Beck & Steer, 1993, p. 14). This scale obviously needs further validation in subsequent research, and it is possible that it ultimately will be shown to have limited utility as a clinical measure. On the other hand, we believe that it may play a useful role in studying atypical forms of depression (see Joiner et al., 2005). For instance,

seasonal depression typically is characterized by "overeating, weight gain, and a craving for carbohydrates." (DSM-IV, p. 389). It therefore will be interesting to see how the scale behaves across a broader range of clinical contexts.

Utility of the IDAS. The IDAS scales are very strongly related to traditional measures of depression and anxiety, such as the BDI-II, BAI and EPDS. This strong overlap raises the issue of why researchers should consider using the IDAS in addition to—or in place of—these better established instruments. We believe that the IDAS has three attractive features that will make it useful in many contexts. First, it includes a broader range of content than any of these other measures; indeed, it assesses symptoms (e.g., social anxiety and traumatic intrusions) not found in any of them. Second, it contains reliable and valid scales assessing several distinctive symptom dimensions (e.g., appetite loss, insomnia, suicidality); none of these other instruments provides this level of differentiated assessment. Third, the IDAS is simple, brief and easy to administer. Indeed, the entire 64-item IDAS takes no longer to complete than the BDI-II, which contains a total of 90 statements across its 21 items. Overall, therefore, the IDAS can provide broader and more differentiated symptom assessment in a very quick and efficient manner.

Directions for Future Research

Further validation of the IDAS. The results we have presented are very encouraging and indicate that the IDAS provides reliable and valid measures of specific symptom dimensions. Validation is a complex and ongoing process, however, and additional research is needed to explicate the construct validity of the instrument more fully. Most notably, although we have presented data correlating the IDAS with both the HRSD and the IMAS, we have not yet examined it in relation to formal *DSM-IV* diagnoses of major depression and the anxiety disorders. To address this issue, we are assessing both patients and students using the Structured Clinical Interview for DSM-IV (SCID; First, Spitzer, Gibbon, & Williams, 1997). Because of

the strong convergence between the IDAS and measures such as the BDI-II and BAI, we expect

that it will show a comparable level of criterion validity.

Explicating the structure of depression and anxiety. Our item pool included multiple

markers to assess all of the current symptom criteria for a major depressive episode, as well as a

number of additional dimensions that potentially could emerge in a structural analysis. Our data

therefore provide some interesting findings regarding the underlying structure of this domain that

merit further attention in subsequent research.   We briefly note three intriguing areas for future

investigation. First, several of our original HICs ultimately led to the development of closely-

related scales (e.g., Suicidality, Social Anxiety). However, several of these rationally-based

HICs failed to define distinct factors and, instead, yielded a very broad and nonspecific

dimension that ultimately led to the creation of the IDAS Dysphoria scale. This nonspecific

factor basically represents the general distress dimension that plays a prominent role in structural

models of anxiety and depression that have been articulated by Clark and Watson (1991),

Zinbarg and Barlow (1996), and Mineka et al. (1998).

It is noteworthy that this nonspecific symptom cluster included items related to several of

the current *DSM-IV* criteria for major depression. For instance, Table 1 indicates that symptoms

related to criteria 1 (Depressed Mood) and 7 (Worthlessness/Guilt) were very strongly related,

with correlations ranging from .74 to .80 across our Study 2 samples. Of course, these results

need to be replicated using other methods (e.g., interview-based scores). However, they raise the

possibility that these symptoms are not clearly distinguishable from one another and perhaps

could be collapsed together into a single criterion. This is an important issue that merits further

investigation.

Second, our analyses suggest that some of the current *DSM-IV* criteria may not be

optimally arranged. In particular, we found that symptoms of hypersomnia (which is one

component of criterion 4) tended to correlate more strongly with fatigue/anergia (the symptoms

comprising criterion 6) than with insomnia (the other component of criterion 4). Indeed,

analyses of our *DSM*-based scales in Study 2 indicated that Hypersomnia had a significantly

stronger association with Lassitude (*r*s ranged from .61 to .69) than with Insomnia (*r*s ranged

from .14 to .26) in all three samples. Because of this, hypersomnia was included in the IDAS

Lassitude scale.   The Study 3 results were more ambiguous, in that the single remaining

hypersomnia item split between the Insomnia and Lassitude factors (see Table H-1 in Appendix

H). Overall, our results suggest that it might make more sense to move hypersomnia to criterion

6. Again, this possibility warrants further attention.

Third, our findings raise basic questions regarding the underlying structure of this domain.

Most notably, we found that the scales comprising the IDAS define a single underlying factor

and cannot be neatly separated into "depression" and "anxiety" symptoms (see Table 5). Thus,

our findings suggest that current depression and anxiety symptoms do not cohere to form two

distinct higher order factors, but instead define a more complex structure. This, in turn, raises

the more fundamental issue of what the concepts of "depression" and "anxiety" actually

represent structurally (see also Watson, 2005). This is the most fundamental issue that needs to

be clarified in future research.

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Table 1

Correlations among Selected DSM-based Content Scales in the Study 2 Samples

Scale	1	2	3	4	5	6
College Students						
1. Depressed Mood	.—					
2. Anhedonia	**.73**	.—				
3. Worthlessness/Guilt	**.79**	**.73**	.—			
4. Cognitive Problems	.65	**.70**	**.74**	.—		
5. Psychomotor Problems	.66	**.71**	**.70**	**.75**	.—	
6. Anxious Mood	**.76**	**.71**	**.82**	**.77**	**.73**	.—
Psychiatric Patients						
1. Depressed Mood	.—					
2. Anhedonia	**.79**	.—				
3. Worthlessness/Guilt	**.74**	**.74**	.—			
4. Cognitive Problems	.68	**.71**	**.71**	.—		
5. Psychomotor Problems	.66	.69	.63	**.74**	.—	
6. Anxious Mood	**.77**	**.73**	**.76**	**.72**	**.73**	.—
Community Adults						
1. Depressed Mood	.—					
2. Anhedonia	**.80**	.—				
3. Worthlessness/Guilt	**.80**	**.79**	.—			
4. Cognitive Problems	.67	**.70**	**.73**	.—		
5. Psychomotor Problems	**.72**	**.75**	**.71**	**.79**	.—	
6. Anxious Mood	**.78**	**.73**	**.84**	**.76**	**.78**	.—

Note. $N = 673$ (College Students), 353 (Psychiatric Patients), 362 (Community Adults). All correlations are significant at $p < .01$. Correlations of .70 and greater are highlighted.

Table 2

Descriptive Statistics for the IDAS Scales and Beck Inventories in the Study 2 Samples

	Psychiatric Patients		Community Adults		College Students	
Scale	*M*	*SD*	*M*	*SD*	*M*	*SD*
IDAS						
General Depression	56.04[a]	15.42	44.99[b]	14.75	42.41[c]	12.30
Dysphoria	28.80[a]	9.27	22.33[b]	8.66	20.43[c]	7.68
Suicidality	10.73[a]	5.58	8.15[b]	3.73	7.64[b]	3.04
Lassitude	16.50[a]	5.79	14.54[b]	5.87	14.25[b]	5.16
Insomnia	14.92[a]	6.26	12.72[b]	5.71	12.22[b]	4.90
Appetite Loss	6.57[a]	2.99	5.25[b]	2.59	5.42[b]	2.51
Appetite Gain	6.97[a]	3.48	6.87[a]	3.38	6.46[a]	2.87
Ill Temper	10.59[a]	5.17	9.61[b]	4.66	9.22[b]	4.23
Social Anxiety	12.59[a]	5.50	10.04[b]	4.86	9.60[b]	4.14
Panic	15.09[a]	6.10	12.58[b]	5.26	12.63[b]	5.03
Traumatic Intrusions	9.92[a]	4.79	7.60[b]	4.20	7.26[b]	3.52
Well-Being	18.30[b]	6.70	22.43[a]	7.22	22.70[a]	6.03
Beck Inventories						
BDI-II	23.24[a]	13.77	13.53[b]	12.10	11.61[b]	9.59
BAI	18.52[a]	13.31	11.23[b]	10.63	9.83[b]	9.40

Note. Within a row, means not sharing the same superscript differ from one another at *p* < .05, 2-tailed. IDAS = Inventory of Depression and Anxiety Symptoms. BDI-II = Beck Depression Inventory-II. BAI = Beck Anxiety Inventory.

Table 3

Internal Consistency Reliabilities (Coefficient Alphas) and Average Interitem Correlations (AICs) of the IDAS Scales

| | Study 2 Samples | | | Study 3 Samples | | | | |
Scale	College	Patients	Adults	Young Adults	High School	College	Patients	Postpartum
General Depression (20 items)	.89 (.30)	.91 (.34)	.92 (.37)	.88 (.27)	.92 (.36)	.89 (.28)	.92 (.36)	.91 (.34)
Dysphoria (10 items)	.89 (.44)	.90 (.46)	.90 (.49)	.86 (.37)	.90 (.47)	.86 (.39)	.90 (.49)	.90 (.47)
Well-Being (8 items)	.84 (.39)	.88 (.48)	.90 (.52)	.89 (.51)	.86 (.44)	.82 (.36)	.89 (.49)	.87 (.46)
Panic (8 items)	.83 (.39)	.83 (.38)	.85 (.41)	.80 (.33)	.85 (.42)	.80 (.34)	.86 (.43)	.82 (.36)
Lassitude (6 items)	.83 (.44)	.82 (.43)	.86 (.50)	.72 (.30)	.80 (.40)	.82 (.42)	.81 (.41)	.82 (.43)
Insomnia (6 items)	.81 (.41)	.88 (.54)	.86 (.50)	.80 (.40)	.81 (.42)	.82 (.44)	.88 (.55)	.87 (.53)
Suicidality (6 items)	.80 (.41)	.87 (.53)	.82 (.43)	.68 (.29)	.90 (.60)	.84 (.47)	.85 (.49)	.74 (.32)
Social Anxiety (5 items)	.82 (.48)	.86 (.54)	.86 (.56)	.76 (.39)	.84 (.52)	.80 (.44)	.86 (.56)	.84 (.51)
Ill Temper (5 items)	.85 (.52)	.87 (.58)	.87 (.57)	.77 (.40)	.85 (.54)	.79 (.43)	.88 (.59)	.88 (.59)
Traumatic Intrusions (4 items)	.82 (.52)	.85 (.58)	.86 (.61)	.67 (.34)	.82 (.53)	.75 (.43)	.86 (.61)	.83 (.56)
Appetite Loss (3 items)	.78 (.55)	.80 (.57)	.81 (.59)	.91 (.76)	.84 (.63)	.81 (.58)	.86 (.67)	.87 (.70)
Appetite Gain (3 items)	.77 (.52)	.84 (.64)	.86 (.67)	.75 (.51)	.77 (.52)	.80 (.57)	.81 (.59)	.87 (.69)
Median Values	.82 (.44)	.86 (.54)	.86 (.51)	.79 (.38)	.85 (.50)	.81 (.43)	.86 (.52)	.87 (.49)

Note. Values shown are coefficient alphas, followed by AICs in parentheses. IDAS = Inventory of Depression and Anxiety Symptoms.

Table 4

IDAS Scale Correlations in Study 2 and Study 3 (Standardized Combined Samples)

Scale	1	2	3	4	5	6	7	8	9	10	11
1. Dysphoria	.—	**.66**	**.66**	**.63**	.57	**.63**	.52	.56	.42	.32	-.52
2. Social Anxiety	**.68**	.—	.49	.46	.48	.52	.39	.43	.28	.29	-.30
3. Lassitude	**.65**	.47	.—	.45	.38	.48	.32	.44	.26	.38	-.35
4. Ill Temper	**.65**	.50	.49	.—	.49	.46	.45	.40	.24	.26	-.31
5. Traumatic Intrusions	**.64**	.51	.46	.55	.—	.50	.44	.41	.31	.22	-.21
6. Panic	**.62**	.56	.51	.55	.54	.—	.45	.44	.38	.21	-.27
7. Suicidality	.58	.48	.38	.49	.51	.50	.—	.28	.23	.19	-.28
8. Insomnia	.49	.38	.40	.39	.42	.45	.34	.—	.36	.22	-.29
9. Appetite Loss	.43	.32	.32	.34	.35	.43	.30	.39	.—	-.16	-.21
10. Appetite Gain	.40	.31	.41	.32	.29	.30	.22	.23	-.08	.—	-.08
11. Well-Being	-.47	-.33	-.32	-.26	-.23	-.19	-.31	-.21	-.19	-.07	.—

Note. Correlations in the Study 2 samples are shown below the diagonal (N = 1,388); correlations in the Study 3 samples are presented above the diagonal (*N* = 1,992). All correlations are significant at *p* < .01. Correlations of |.60| and greater are highlighted. See text for details. IDAS = Inventory of Depression and Anxiety Symptoms.

Table 5

Loadings of the IDAS Scales on the First Principal Factor in the Study 2 and Study 3 Samples

Scale	Study 2 Samples			Study 3 Samples				
	College	Patients	Adults	Young Adults	High School	College	Patients	Postpartum
Dysphoria	.89	.90	.92	.89	.92	.93	.91	.91
Panic	.75	.73	.74	.60	.76	.72	.75	.70
Social Anxiety	.70	.72	.75	.54	.68	.67	.73	.76
Ill Temper	.75	.61	.76	.56	.78	.55	.70	.72
Traumatic Intrusions	.72	.70	.72	.54	.77	.61	.70	.66
Lassitude	.67	.65	.77	.59	.69	.71	.63	.73
Suicidality	.64	.66	.66	.47	.75	.55	.72	.51
Insomnia	.55	.57	.62	.60	.62	.59	.58	.65
Appetite Loss	.50	.43	.54	.42	.59	.41	.50	.38
Appetite Gain	.46	.29	.42	.37	.28	.39	.23	.40
Well-Being	-.36	-.41	-.50	-.46	-.46	-.45	-.41	-.50
% of Common Variance	94.9	89.7	95.4	91.2	91.4	92.4	85.9	92.0

Note. IDAS = Inventory of Depression and Anxiety Symptoms.

Table 6

Correlations between the IDAS Scales and the Beck Inventories in Study 2 and Study 3
(Standardized Combined Samples)

Scale	Study 2		Study 3	
	BDI-II	BAI	BDI-II	BAI
IDAS Scale				
General Depression	**.83**	.69	**.83**	.70
Dysphoria	**.81**	.70	**.81**	.71
Suicidality	**.63**	.49	**.54**	.45
Lassitude	**.62**	.51	**.62**	.50
Well-Being	**-.58**	-.28	**-.55**	-.34
Ill Temper	**.59**	.54	**.58**	.49
Appetite Gain	.33	.28	**.29**	.22
Social Anxiety	.61	.60	.60	.59
Insomnia	.48	.45	.51	.48
Appetite Loss	.37	.39	.41	.39
Traumatic Intrusions	.57	.58	.52	**.57**
Panic	.59	**.79**	.59	**.78**
Other Scales				
BAI	.68	.--	.67	.--

Note. $N = 1{,}071$ (Study 2), 1,712 (Study 3). All correlations are significant at $p < .01$.
Highlighted correlations are significantly stronger than the corresponding coefficient for the
other Beck inventory in the same study ($p < .01$). IDAS = Inventory of Depression and
Anxiety Symptoms. BDI-II = Beck Depression Inventory-II. BAI = Beck Anxiety
Inventory.

Table 7

 Heteromethod Correlations between the Self-Report IDAS Scales and the Interview-Based IMAS Symptom Composites in the Study 2 Patient Sample

IDAS Scale		IMAS Symptom Composite						
	Suicidality	Lassitude	Insomnia	Appetite Loss	Irritability	Social Anxiety	Panic	PTSD Intrusions
Suicidality	**.62****	.26**	.24**	.21*	.19*	.28**	.25**	.35**
Lassitude	.18*	**.44****	.08	.09	.18*	.24**	.14	.27**
Insomnia	.22**	.12	**.50****	.21*	.20*	.12	.28**	.25**
Appetite Loss	.32**	.24**	.11	**.46****	.12	.09	.16	.20*
Ill Temper	.31**	.30**	.19*	.01	**.42****	.15	.26**	.31**
Social Anxiety	.26**	.26**	.22*	.20*	.20*	**.53****	.35**	.31**
Panic	.28**	.26**	.18*	.11	.15	.27**	**.47****	.32**
Traumatic Intrusions	.31**	.23**	.20*	.12	.29**	.15	.37**	**.56****

Note. N = 139. The convergent correlations are highlighted along the diagonal. IDAS = Inventory of Depression and Anxiety Symptoms. IMAS = Interview for Mood and Anxiety Symptoms. PTSD = posttraumatic stress disorder.

*p < .05, 2-tailed.   **p < .01, 2-tailed

Table 8

Descriptive Statistics for the IDAS Scales and Beck Inventories in the Study 3 Samples

Scale	Psychiatric Patients		High School Students		College Students		Postpartum Women		Young Adults	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
IDAS										
General Depression	56.53[a]	16.17	44.30[b]	14.52	42.33[b]	11.64	38.92[c]	12.40	37.49[c]	10.18
Dysphoria	28.66[a]	9.46	21.31[b]	8.40	20.59[b]	6.99	17.83[c]	7.34	18.24[c]	6.06
Suicidality	10.66[a]	5.35	8.91[b]	4.93	7.16[c]	2.63	6.65[c]	1.76	6.34[c]	0.88
Lassitude	16.88[a]	5.71	14.80[b]	5.39	14.50[b]	5.16	12.49[c]	4.82	12.64[c]	4.04
Insomnia	15.67[a]	6.67	12.67[b]	5.30	12.04[b]	4.80	12.30[b]	5.59	11.66[b]	4.71
Appetite Loss	6.85[a]	3.49	5.89[b]	3.07	5.32[b]	2.56	4.71[c]	2.53	4.46[c]	2.28
Appetite Gain	6.72[a]	3.42	6.45[a]	2.96	6.32[a]	2.91	6.23[a]	3.23	6.10[a]	2.61
Ill Temper	10.81[a]	5.43	10.24[a]	4.87	8.54[bc]	3.52	8.95[b]	4.34	7.68[c]	2.89
Social Anxiety	12.07[a]	5.66	10.28[b]	4.76	9.14[c]	3.92	7.99[d]	3.83	7.77[d]	3.04
Panic	15.38[a]	6.67	13.64[b]	5.77	11.77[c]	4.26	10.08[d]	3.51	9.80[d]	3.03
Traumatic Intrusions	9.56[a]	4.72	7.47[bc]	3.80	6.63[cd]	2.89	6.05[de]	3.05	5.39[e]	2.16
Well-Being	18.73[c]	6.92	23.00[b]	6.78	23.27[b]	5.34	22.72[b]	6.88	28.08[a]	6.03
Beck Inventories										
BDI-II	21.13[a]	12.77	12.92[b]	11.80	10.08[c]	8.26	10.03[c]	7.41	.--	.--
BAI	17.18[a]	13.13	12.31[b]	10.90	8.08[c]	8.79	7.21[c]	7.99	.--	.--

Note. Within a row, means not sharing the same superscript differ from one another at $p < .05$, 2-tailed. IDAS = Inventory of Depression and Anxiety Symptoms. BDI-II = Beck Depression Inventory-II. BAI = Beck Anxiety Inventory.

Table 9

Correlations between the HRSD and Self-Report Symptom Scales in the Study 3 Postpartum Sample

Scale	Correlation
IDAS Scales	
General Depression	.67
Dysphoria	.64
Panic	.60
Social Anxiety	.53
Insomnia	.51
Lassitude	.50
Ill Temper	.49
Traumatic Intrusions	.45
Well-Being	-.38
Suicidality	.34
Appetite Loss	.30
Appetite Gain	.30
Other Scales	
BAI	.64
BDI-II	.62
EPDS	.61

Note. $N = 293$. All correlations are significant at $p < .01$. HRSD = Hamilton Rating Scale for Depression. IDAS = Inventory of Depression and Anxiety Symptoms. BAI = Beck Anxiety Inventory. BDI-II = Beck Depression Inventory-II. EPDS = Edinburgh Postnatal Depression Scale.

Table 10

Multi-Trait/Multi-Occasion Matrix of the Retest Correlations in the Study 3 Patient Sample

	Time 1 Scale										
Time 2 Scale	1	2	3	4	5	6	7	8	9	10	11
1. Dysphoria	**.83**	.53	.63	.40	.16	.50	-.48	.59	.52	.43	.43
2. Panic	.50	**.83**	.50	.39	.05	.40	-.17	.51	.50	.40	.40
3. Social Anxiety	.60	.50	**.82**	.35	.15	.39	-.24	.47	.44	.39	.36
4. Appetite Loss	.39	.34	.35	**.82**	-.28	.21	-.21	.26	.21	.32	.24
5. Appetite Gain	.17	.05	.16	-.36	**.81**	.31	-.01	.16	.11	.10	.13
6. Lassitude	.51	.35	.33	.23	.30	**.78**	-.31	.36	.32	.37	.32
7. Well-Being	-.46	-.20	-.25	-.19	.03	-.24	**.78**	-.33	-.13	-.23	-.17
8. Suicidality	.49	.44	.43	.21	.17	.27	-.30	**.77**	.47	.29	.38
9. Traumatic Intrusions	.47	.49	.47	.26	.15	.27	-.14	.48	**.76**	.40	.42
10. Insomnia	.35	.31	.36	.34	.07	.29	-.15	.23	.32	**.75**	.32
11. Ill Temper	.48	.50	.41	.21	.12	.39	-.17	.54	.47	.37	**.72**

Note. $N = 250$. Retest correlations are highlighted along the diagonal. Discriminant correlations of |.50| and greater are underlined. Mean retest correlation = .79. IDAS = Inventory of Depression and Anxiety Symptoms. Correlations of |.15| and greater are significant at $p < .05$