

UNIVERSITY OF CALGARY

Avoidance and Depression: The Construction of the
Cognitive-Behavioral Avoidance Scale

by

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A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF MASTER OF SCIENCE

DEPARTMENT OF PSYCHOLOGY

CALGARY, ALBERTA

AUGUST, 2002

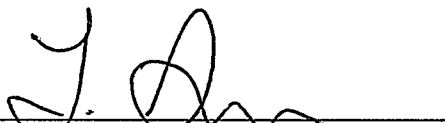
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FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis titled "Avoidance and Depression: The Construction of the Cognitive-Behavioral Avoidance Scale" submitted by Nicole D. Ottenbreit in partial fulfillment of the requirements for the degree Masters of Science.



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Aug 16/02

Abstract

Previous research showing a relationship between avoidance and depression has failed to integrate definitions of avoidance. The present study involved the development and validation of a scale called the “Cognitive-Behavioral Avoidance Scale” (CBAS) designed to measure multiple dimensions of avoidance using an undergraduate student sample (245 females and 146 males). Four reliable factors reflecting combinations of cognitive/behavioral and social/nonsocial dimensions of avoidance were obtained from the factor analysis of the CBAS. The scale showed the predicted relationships with convergent (avoidance) and divergent (approach) measures used for construct validation. As predicted, subscales (factors) on the CBAS, as well as the overall scale score, were significantly related to the depression and anxiety criterion measures. The findings from this study suggest that avoidance may be an important construct in the conceptualization of depression. In addition, this integrated measure of avoidance has potential utility for depression researchers.

Acknowledgements

I would like to sincerely thank my supervisor, Dr. Keith Dobson, for his invaluable guidance and support in this project. His expressed enthusiasm and unrelenting commitment served as driving forces in this effort. I would also like to thank my research assistant, Ms. Catherine Munns, for her dedication of countless hours in running participants and scoring data. I extend my thanks to the many students who took the time and effort to participate in my project. Finally, I would like to thank my friends and family for their ongoing support and confidence in my academic endeavors.

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Avoidance and Depression: The Construction of the
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Key Words: avoidance, coping, depression, scale construction

Introduction

Psychosocial models of depression have established the contributory role of a number of variables. These variables include life events (Brown, Bifulco, Harris, & Bridge, 1986; Brown & Harris, 1978; 1982; 1989; Paykel & Cooper, 1992), social support (Dalgard, Bjork, & Tambs, 1995; Parry & Shapiro, 1986; Paykel & Cooper, 1992), cognitive styles (Coyne & Whiffen, 1995; Segal, Shaw, Vella, & Katz, 1992) and coping strategies (Folkman, Lazarus, Gruen, & Delongis, 1986; Holahan, Moos, & Bonin, 1999). It is very conceivable that the construct of 'avoidance', as explored and clarified in this paper, is a permeating factor contributing to the established relationships between these variables and depression.

The construct of '*avoidance*' refers to refraining from, or escaping from an action, person or thing. Avoidance has been studied extensively in relation to anxiety and has been established as a central feature in the description, diagnosis and treatment of anxiety disorders (Barlow, 2002). In contrast, although Ferster (1973) postulated a central role for avoidance in his functional analysis of depression several decades ago, research examining avoidance in the context of depression has been comparatively scarce.

Ferster's (1973) functional analytic theory of depression stated that the depressed person engages in a high frequency of avoidance and escape from aversive internal and external stimuli with such behaviors as withdrawing or complaining, and that these efforts preempt positively reinforced behavior. Ferster indicated that the predominant employment of behaviors serving an avoidance or escape function leads to a narrowing of the depressed individual's behavioral repertoire and that this repertoire becomes marked by passivity as opposed to initiative or action. He stresses that while

depressed individuals are described by their lack of participation in activities, it is often not that they lack the requisite skills to participate, but rather that the context of their lives comes to fail to support the activities of which they are capable.

Despite this promising theoretical basis for empirical investigation, it has only been in recent years that researchers have begun to systematically examine the relationship between the construct of avoidance and depressive symptoms and disorders. A review of the studies examining the construct of avoidance in relation to depression has shown that many different definitions of avoidance have been employed and that the literature has failed to integrate both the definitions of avoidance and the findings of these studies. Thus, the following review summarizes the results of research on avoidance in the context of depression, presents an integrated model of avoidance, and provides the foundation and framework for the construction of a scale to measure multiple dimensions of avoidance.

Literature Review

In general, a review of the studies examining the relationship between avoidance and depression indicates that avoidance has been examined as a 1) coping strategy, 2) problem-solving style, and 3) personality dimension/style. Positive associations between various definitions of avoidance subsumed under these facets and depression have been identified in a number of studies.

Avoidance as a Coping Strategy

Lazarus (1991) defined '*coping*' as "cognitive and behavioral efforts to manage specific external and internal demands (and conflicts between them) that are appraised as taxing or exceeding the resources of the person" (p. 112). Most studies employing

definitions of avoidance as a coping strategy can be understood in the context of Moos and Schaefer's (1993) classification scheme for coping responses. This scheme posited the following categories underlying coping responses: 1) cognitive versus behavioral and 2) approach versus avoidance categories. Within this framework, '*cognitive avoidance coping*' encompasses responses aimed at denying or minimizing a crisis and/or its consequences or accepting a situation because of the belief that circumstances cannot be changed. '*Behavioral avoidance coping*' includes responses aimed at seeking alternative rewards or escape or avoiding behaving in direct response to a stressor. These avoidance strategies are thus considered to be in contrast to cognitive and behavioral approach coping strategies, which focus on cognitive (i.e. logical analysis, positive reappraisal and cognitive rehearsal of potential actions) and behavioral strategies (i.e. seeking support, active problem-solving), which directly address the problem and/or its consequences.

A review of the research reveals that most studies have found support for a positive association between avoidance coping and depression. For example, Herman-Stahl, Stemmler, & Petersen (1995) found that avoidance coping was associated with higher reported levels of depression and that approach coping was associated with lower levels of depression, as assessed using the Childhood Depression Inventory (CDI; Kovacs, 1983, as cited in Herman-Stahl et al., 1995), in a sample of 603 adolescent students. Results from this study also showed that adolescents who switched from avoidance to approach coping showed a significant decrease in their level of depression over the course of a year. The coping measure used was adapted for this study and failed to differentiate between cognitive and behavioral methods of coping.

Another study conducted by Blalock and Joiner (2000) on a sample of 72 male and 107 female university students first employed confirmatory factor analysis to test a 2-factor model of the 4 avoidance subscales of the Coping Responses Inventory (CRI; Moos, 1988). These authors found that this model, reflecting cognitive and behavioral types of avoidance, provided a better fit to their data than a single factor model of avoidance. The impact of different types of coping, as assessed by the CRI, and gender on the relationship between life stress and the criterion variables of depression and anxiety, as assessed by the Beck Depression Inventory (BDI; Beck, Rush, Shaw, & Emery, 1979) and the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) respectively, was examined. It was found that high negative life event scores were predictive, over a 3-week period, of significant increases in depressive and anxious symptoms for females, but not males, who used greater cognitive avoidance coping strategies. The results also showed that behavioral avoidance coping was unrelated to short-term changes in depressive or anxious symptoms.

The results attained by Blalock and Joiner (2000) are in line with recent research on what has been referred to as the ironic or paradoxical effects of thought suppression (Beevers, Wenzlaff, & Hayes, 1999; Rassin, Merckelbach, & Muris, 2000). Thought suppression, which refers to the process of consciously trying to avoid certain thoughts, reflects the functional essence of cognitive avoidance as described by Moos and Schaefer (1993). The idea reflected in this line of research is that depressed individuals are likely to engage in thought suppression as a way to promote their well-being, but that attempts to suppress thoughts may actually lead to increased frequency of these thoughts and a resultant decrease in well-being.

Weary and Williams (1990) used a behavioral, rather than self-report, measure of avoidance to examine the relationship between avoidance and depression in 20 dysphoric and nondysphoric students, as determined by BDI cut-off scores of 10 or greater and 5 or below respectively. These authors found that dysphoric students as compared to nondysphoric students were significantly more likely to strategically fail at a cognitive-motor task in order to avoid the possibility of future performance demands and losses in self-esteem. In addition, these authors found that this strategic failure, which reflected a behavioral avoidance strategy, was associated with individuals' experienced discomfort and negative affect in regard to their performance. The lack of any self-report measure of avoidance in this study precludes elucidation of whether self-reported avoidance might correspond to the actual employment of avoidance strategies.

Most of the studies examining the relationship between avoidance coping and depression have employed student or analogue samples. However, one study using a sample of 32 females diagnosed with clinical depression and 32 nondepressed females examined the types of coping strategies, as assessed by the Ways of Coping Questionnaire (Folkman & Lazarus, 1988), employed following a recent interpersonal stress event. It was found that depressed women engaged in more escape-avoidance coping strategies (included behavioral and cognitive avoidance responses) and less planful problem-solving or positive reappraisal, controlling for the stressfulness of the event, than nondepressed female controls (Kuyken & Brewin, 1994). Other studies have similarly found support for a relationship between avoidance coping and depressive symptoms with community participants (Folkman & Lazarus, 1986), psychiatric outpatients (Spurrell & McFarlane, 1995), battered women (Mitchell & Hodson, 1983),

cancer patients (Mytko, Knight, Chastain, Mumby, Siston, & Williams, 1996) and HIV patients (Fukunishi, Kosaka, Negishi, Moriya, Hayashim, & Matsumoto, 1996).

It should be noted that although some studies (Turner, King, & Tremblay, 1992; Tremblay & King, 1994) have failed to find a relationship between avoidance coping and depression in clinically depressed samples, these studies have used a coping measure (the Multidimensional Coping Inventory, Endler and Parker, 1988, as cited in Tremblay & King, 1994) which employs a definition of avoidance coping that does not entirely fit within the framework proposed by Moos and Schaefer (1993). Some of the items within their definition of avoidance reflect more constructive coping responses such as engaging in self-soothing activities and spending time with others, the function of which may entail, at least in part, engagement in these activities for their own sake as opposed to avoidance of the problem.

The relationship between avoidance coping and depression has also been examined in longitudinal research. Holahan and Moos (1987), for example, found that a disinclination to use avoidance coping strategies, in combination with other variables including self-confidence, an easy-going disposition and family support, was associated with reduced risk for depression and psychosomatic symptoms, controlling for level of depression at the first testing interval, over a 1-year period in a community sample of 245 men and 248 women. Research has also shown that avoidance coping at the time of intake was associated with lack of remission status over a 1-year period in a sample of 233 women and 172 men presenting for the treatment of depression (Krantz & Moos, 1988). Similarly, a 10 year naturalistic study of 313 patients (60% women) entering treatment for depression and 284 control participants showed that avoidance coping, as

well as more life stressors, fewer close relationships and a less easy-going disposition, were associated with higher odds of experiencing partial remission or nonremission of depression (Cronkite, Moos, Twohey, Cohen, & Swindle, 1998). Given the level of methodological control and temporal precedence that can be established in longitudinal research, these results provide support for the association of avoidance coping with the onset and maintenance of depression, as opposed to avoidance coping being a mere consequence of depression.

In summary, the majority of the research in this area indicates that behavioral and cognitive avoidance coping strategies are associated with higher levels of reported depressive symptoms, both concurrently and over time. It should be noted, however, that despite debate in the coping literature as to whether coping is situational or more of a general style or trait (Kohn, 1996; Krohne, 1996), the majority of the studies in this area employ coping measures assessing individuals' responses to a specific situation or problem. Future research should operationalize and examine coping utilizing a trait conceptualization in order to determine if coping styles do in fact show stability and if any particular styles convey particular vulnerability for depression over time.

Avoidance as a Problem-Solving Style

D'Zurilla and Nezu (1999) define '*social problem-solving*' as "the self-directed cognitive-behavioral process by which a person attempts to identify or discover effective or adaptive solutions for specific problems encountered in everyday living" (p.10). These authors contend that versatile social problem-solving increases the probability that adaptive coping strategies will be employed in dealing with the challenges or problems of life. Within the social problem-solving framework, avoidance strategies are viewed as

the result of ineffective problem-solving and to inhibit further problem-solving efforts. This theory states that although an active, approach focus in problem-solving is optimal, individuals at risk for, or showing, depression often adopt a passive, avoidant strategy in dealing with problems.

Support for this theory was found in a study by D’Zurilla, Chang, Nottingham, and Faccini (1998) examining the relationship between problem-solving orientation and skills, as assessed by the Social Problem-Solving Inventory-Revised (SPSI-R; D’Zurilla, Nezu, & Maydeu-Oliveras, 1999, as cited in D’Zurilla et al., 1998) and hopelessness, depression and suicide risk in college students (185 females and 98 males), general psychiatric patients (70 females and 30 males) and suicidal psychiatric patients (37 females and 24 males). It was found that a negative problem orientation, a positive problem orientation and an avoidance problem-solving style, which was characterized by procrastination, passivity and depending on others to solve one’s problems, all showed significant relationships with depression, hopelessness and suicidality criterion variables for both college students and psychiatric patients.

A longitudinal study by Davila (1993) provided additional support for the role of an avoidant problem-solving style in depression. This investigator set out to examine the relationships between attachment cognitions, interpersonal problem-solving ability, stress and depression over a 6-month time frame in a sample of 94 female high school students between the ages of 17 and 19. The interpersonal problem-solving measure consisted of an interview-based presentation of 4 interpersonal scenarios with probing to identify important problem-solving skills. Responses to these probes were scored along a number skill dimensions as well as for level of behavioral avoidance, from a rating of 1 for

avoidant (engaging in either an active or passive form of avoiding the problem) to 5 for active (describing the specific steps taken to solve the problem).

Although not intended to be the focus of Davila's study, behavioral avoidance showed important relationships with many of the other assessed variables. It was found that an avoidance problem-solving style was associated with higher levels of insecure attachment cognitions. The employment of an avoidance problem-solving style was also associated with the generation of events which were more objectively stressful, but not greater in number, than those generated by active problem-solvers. The results also showed that avoidance problem-solving may serve to protect women from depression when dealing with discrete episodic events, but that these strategies were associated with increased levels of depression when used to deal with chronic stress in romantic and familial domains.

It seems clear that a relationship exists between an avoidance problem-solving style and depression. The above results also suggest that different domains of functioning may be impacted differently by the use of avoidance strategies. It will thus be important to distinguish between avoidance associated with various domains of functioning. More research employing longitudinal designs will be needed to clarify the nature of the relationship between problem-solving styles and depression.

Given the importance of goal setting in problem-solving, studies which examine the construct of avoidance as a goal framing orientation based on Emmons' (1991) conceptualization of personal strivings as involving approach goals reflecting movement toward a desired outcome, and avoidance goals reflecting movement away from an undesired outcome, are briefly mentioned. For example, Coats, Janoff-Bulman, & Alpert

(1996) found that students who endorsed more avoidance goals evidenced higher depression scores and lower scores on self-esteem and optimism measures and reported lower levels of perceived success and satisfaction with regard to their goals than those framing their goals in approach terms. Another study (Elliot, Sheldon, & Church, 1997) found that students with higher proportions of avoidance goals/projects, compared to those with lower proportions of avoidance goals, expected to do worse in strivings over the course of the semester, evaluated themselves more poorly, and reported lower levels of well-being over the course of the semester and a decrease in well-being from the beginning to the end of the semester.

In general, the results from these investigations indicate a positive relationship between avoidance as a goal framing orientation and depression. However, these studies were conducted on student samples and thus the generalizability of these findings to clinically depressed or community samples cannot be discerned.

Avoidance as a Personality Dimension/Style

Studies defining avoidance in terms of a personality dimension have also found support for the relationship between avoidance and depression. 'Harm Avoidance', a personality dimension defined by Cloninger (1987), refers to the tendency to inhibit behavior to avoid punishment, novel stimuli and the lack of rewards. Harm Avoidance, along with Novelty Seeking and Reward Dependence, comprise the three character dimensions assessed by the Tridimensional Personality Questionnaire (TPQ; Cloninger et al., 1991) and the Temperament and Character Inventory (TCI; Cloninger et al., 1993). The Harm Avoidance (HA) dimension is composed of four subscales: Anticipatory Worry, Fear of Uncertainty, Fatigability and Shyness with Strangers. It has been found

that females score higher than males on all except the latter subscale (Giancola, Zeichner, Newbolt, & Stennett, 1994).

Research examining the relationship between HA and depression has shown consistent support for a relationship between HA and depression. For example, Hansenne, Pitchot, Gonzalez Moreno, Reggers, Manchurot, & Ansseau (1997) identified a positive relationship between increased serotonergic activity and HA, as well as an association between severity of depression, as assessed by the Hamilton Depression Rating Scale (HDRS; Hamilton, 1960, as cited in Hansenne et al., 1997), and HA in a group of 21 depressed inpatients. However, the stability of HA in relation to depression has been questioned. One recent study conducted on a sample of 126 depressed inpatients and 126 healthy controls (Richter, Eisemann, & Richter, 2000) provided support for the stability of HA, as HA scores remained elevated for depressed individuals relative to nondepressed controls following combined pharmacological and psychotherapeutic treatment even when significant reductions in depressive symptoms occurred. However, it has been found in many previous studies (Hansenne, Pitchot, Gonzalez Moreno, Reggers, Machurot, & Ansseau, 1998; Chien & Dunner, 1996; Strakowski, Dunayevich, Keck, & McElroy, 1995) that HA shows state dependence, in that elevated scores on HA do not persist with remission in depressive symptoms.

Issues have also been raised in regard to the specificity of HA in relation to depression. A recent study by Tanaka, Sakamoto, Kijima, and Kitamura (1998) conducted on a sample of 223 Japanese students found that depression scores as assessed by the Self-Rating Depression Scale (SDS; Zung, 1965, as cited in Tanaka et al., 1998) were predicted by scores on the character dimension of HA and temperament dimensions

of Self-Directedness and Self-Transcendence of the TCI when controlling for individuals' scores on the State-Trait Anxiety Inventory (STAI, Spielberger et al., 1970). This study also indicated that anxiety scores were predicted by the temperament dimensions of Self-Directedness and Cooperativeness when controlling for individual's depression scores. This finding provided some evidence for the specificity of HA in predicting depression. However, another study (Young et al., 1995) found that HA is not specific to depression, but related to mood disorders in general. It has also been found that HA shows elevation in social phobia patients (Kim & Hoover, 1996).

In general, the results from these investigations indicate that HA as a personality dimension is associated with elevated levels of depressive symptomatology. However, although more recent research provides evidence for the stability and thus the validity of this personality dimension, the majority of research appears to indicate that HA may be state dependent. In addition, there is evidence that HA does not appear to be a characteristic specific to depression.

Framework for the Construction of an 'Avoidance' Scale

Although there clearly appears to be a relationship between avoidance and depression, the varying definitions of avoidance employed in these studies renders both the comparison of results across studies and the formulation of any definitive conclusions in this area difficult. Relatedly, the avoidance measures employed to assess the relationship between avoidance and depression in these studies typically comprised one or more scales or subscales of other coping or personality scales. It is likely that these measures fail to address the multidimensional nature of avoidance elucidated in this review. What is needed at this point in time is an integrative and valid measure of the

construct of avoidance which can be employed in future studies examining the nature of the relationship between avoidance and depression. This measure should utilize and validate a trait conceptualization of avoidance, given support for the stability of coping (Carver & Scheier, 1994; Carver, Scheier, & Weintraub, 1989) and the value that a trait measure holds in terms of identifying risk for psychopathology.

It was proposed that the following dimensions may be important in the conceptualization of the construct of avoidance: cognitive versus behavioral, active versus passive, and social versus nonsocial types of avoidance. The reviewed coping literature supports the need to distinguish between cognitive and behavioral types of avoidance (Blalock & Joiner, 2000). Review of the specific types of avoidance assessed in the previous studies also showed variability in the level of passivity involved in the avoidance strategies employed. It was found that some strategies involved initiating an action in order to escape a situation, while others involved not doing something in order to avoid the situation. This active versus passive dimension of avoidance was thought to hold informational and perhaps discriminative value, given the style of passivity described in depressed individuals (Coyne, Aldwin, & Lazarus, 1981; Ferster, 1973).

In addition to these dimensions underlying avoidance strategies, it was also thought that the domain in which a problem or situation arises may offer important information about individuals' employment of avoidance strategies or the impact of these strategies on depression, as was the case in the Davila (1993) study. Research in the review of avoidance in the context of depression generally failed to distinguish between situations or problems being avoided that are of a social versus nonsocial nature. However, it is quite conceivable that individuals deal very differently with situations or

problems presented in these different domains. In this regard, it should be noted that the characteristics of sociotropy and autonomy (Beck, Rush, Shaw, & Emery, 1979; Clark, Beck, & Alford, 1999) convey differential risk for depression when individuals are confronted with life events in social versus nonsocial domains. Research has shown that sociotropic individuals (those who place high value on social connection and acceptance) are most at risk for depression when confronted with interpersonal loss events, while autonomous individuals (those who place high value on independence and self control) are at risk for depression when confronted with loss events threatening independence, control, or achievement (eg. Coyne & Whiffen, 1995). Thus, this research seems to suggest the salience of the domain of a problem or situation to an individual's manner of coping with the situation and thus, the importance of including the social versus nonsocial dimension in conceptualizing avoidance.

Definitions of the types of avoidance within this conceptual scheme are presented below. '*Cognitive Active Avoidance*' involves avoidance of a problem through denial, minimization or cognitive distraction. '*Cognitive Passive Avoidance*' involves passive acceptance of and failure to address a problem. '*Behavioral Active Avoidance*' involves escape from a problem and/or engagement in alternative/distracting activities. '*Behavioral Passive Avoidance*' involves avoidance of a problem or of dealing directly with a problem. Within these definitions, a '*problem*', as adapted from the problem-solving therapy literature, consists of either an external situation or task or an internal thought, emotion or experience which demands a response for adaptive functioning (Nezu, Nezu, & Perri, 1989). The problem domain may be either '*social*', which refers to the involvement of other people (includes social contacts and activities) or '*non-social*',

reflecting no involvement of other people (includes achievement-related and solitary activities).

Using this conceptual scheme, the “Cognitive-Behavioral Avoidance Scale” (CBAS) was developed to measure an integrated and multidimensional model of avoidance. The primary purposes for the development of this scale were to determine the important dimensions of avoidance that would emerge in empirical analyses, and to examine the concurrent relationship between avoidance and depression. It was also hoped that this study would produce a valid and reliable measure of avoidance which could be employed in future investigations to allow for a more in-depth examination of the relationship between avoidance and depression.

In regard to the scale construction, it was hypothesized that multiple reliable factors reflecting the hypothesized dimensions of avoidance would emerge from the factor analysis. If all specified dimensions of avoidance proved to be important to the definition of the construct, 8 factors reflecting combinations of these avoidance dimensions were expected to emerge. The scale was also hypothesized to show substantive positive correlations with convergent measures of avoidance described below and to show nonsubstantive negative correlations with the divergent (approach) measure also described below. Given that the scale was thought to measure a trait conceptualization of avoidance, it was predicted that the scale would show good test-retest reliability over a brief interval. Of great importance to the premise of this project, it was hypothesized that the CBAS would show substantive positive correlations with the depression and anxiety measures described in the subsequent section.

Method

Participants

The final sample consisted of 391 undergraduate students (245 females, 146 males) recruited through the Department of Psychology Bonus Credit Program. It should be noted that the original sample consisted of 404 participants (254 females and 150 males), but that 13 cases were discarded due to missing data. The mean age of the participants in the final sample was 21.70 years ($SD = 4.59$; range = 17-51). The racial makeup of the final sample was predominantly Caucasian (62%), followed by Asian (28%), East Indian (6%), and other groups (4%).

Measures

Coping Responses Inventory (CRI; Moos, 1988). The CRI is a self-report measure of 8 different types of coping responses to stressful life situations as reflected in 8 subscales, including 4 approach coping subscales and 4 avoidance coping subscales. Logical Analysis and Positive Reappraisal comprise the cognitive approach coping scales. Seeking Guidance and Problem-Solving comprise the behavioral approach coping scales. The cognitive avoidance coping scales include Cognitive Avoidance and Acceptance and Resignation and the behavioral avoidance scales include Alternative Rewards and Emotional Discharge. All 8 subscales are composed of 6 items. Each item asks respondents to indicate to what extent, from “not at all” to “fairly often”, they employed this strategy to deal with the most stressful situation they encountered in the last year. The scale shows fair internal consistency ($\alpha = .61-.72$ across scales for males and $.58-.71$ across scales for females) and stability ($r = .45$ for males and $.43$ for females averaged across scales) over a 12 month period. This scale shows good convergent

validity with prior established coping scales. The avoidance coping subscales were used to assess the convergent validity of the CBAS and the approach coping subscales were used to assess the divergent validity of the CBAS.

Ways of Coping Questionnaire - Escape-Avoidance Scale (WCQ; Folkman & Lazarus, 1988). The Escape-Avoidance Scale of the WCQ is an 8 item scale designed to assess coping responses reflecting wishful thinking and behavioral efforts to escape or avoid the problem. Respondents are asked to indicate to what extent they employed these strategies (on a 0-3 scale) in coping with the most stressful situation they experienced in the past week. This scale shows adequate internal consistency ($\alpha = .72$), which the authors indicate is high in comparison to other coping measures. This measure was used to assess the convergent validity of the CBAS.

Tridimensional Personality Questionnaire - Harm Avoidance (HA) Dimension (TPQ; Cloninger, Przybeck, & Svrakic, 1991; Cloninger, Przybeck, Svrakic, & Wetzel, 1994). The HA dimension of the TPQ is a 34 item scale designed to assess an individual's tendency to inhibit behavior to avoid punishment, novel stimuli and the lack of rewards. This dimension is composed of four subscales: Anticipatory Worry (10 items), Fear of Uncertainty (7 items), Fatigability (7 items) and Shyness with Strangers (10 items). Respondents are asked to indicate in true/false response format whether statements pertaining to HA describe them. This scale dimension has been found to show good internal validity ($\alpha = .85$ for Caucasian males and females, and $.77$ and $.80$ for Black males and females respectively, in a national probability sample) and test-retest reliability ($r = .79$ and $.51$ in national probability and depressed outpatient samples

respectively). This dispositional measure of avoidance was employed to assess the convergent validity of the CBAS.

Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996). The BDI-II is a 21 item self-report inventory that assesses the presence and severity of depressive symptoms over a 2-week period. Each item is rated on a scale of 0-3, with total scores ranging from 0-63. The BDI-II shows high internal consistency ($\alpha = .93$ for college students and $.92$ for outpatients) and adequate content, factorial, convergent and divergent validity. This measure has also been shown to discriminate between individuals with and without a depressive disorder diagnosis. The BDI-II was employed to assess the primary criterion relationship of interest in this study between the CBAS and depression.

Depression Adjective Checklist- "General" Form (DACL; Lubin, 1967). The DACL is a 34 item checklist designed to measure self-reported depressive mood. The score is computed by summing the depressive mood items that are endorsed and the positive affect items that are not endorsed. This instrument (Form E) shows good internal consistency ($\alpha = .83$ for males and $.88$ for females) and convergent validity. The "general" form of the DACL, which asks participants to respond according to how they "generally" feel, as opposed to how they feel that day, was employed in order to attempt to measure participants' more enduring mood states. The DACL was used as a supplementary depression criterion measure.

State-Trait Anxiety Inventory - Trait Version (STAI; Spielberger, Gorsuch, & Lushene, 1970). The STAI-Trait version is a 20 item self-report scale designed to measure trait anxiety or a more general anxiety-proneness. Items are rated on a 4 point

scale reflecting the frequency with which respondents feel what is reflected in the item from “Almost Never” to “Almost Always”. This scale shows good internal consistency ($\alpha = .86$ -.92 across samples of high school and undergraduate male and female students) and test-retest reliability ($r = .76$ for female and $.86$ for male undergraduate students over a 20 day test-retest interval). The STAI–Trait version shows good convergent validity with other trait measures of anxiety. This scale was employed to assess the criterion relationships between the CBAS and trait anxiety.

Procedure

Scale Design and Development

Items designed to sample the hypothesized dimensions of avoidance were developed through review and adaptation of items from other avoidance measures as well as theoretically based writing of new items. Eight positively keyed¹ items were developed to reflect each of the 8 possible dimension combinations, for a total of 64 items. Given the specificity of these definitions of avoidance, it was thought that 8 items would be sufficient to sample the content domain. The items were written as unidimensional self-descriptor items and participants were instructed to indicate how the statement applied to them “in general”, as opposed to at the specific point in time at which the scale was administered, in order to obtain a trait measure of avoidance (see Appendix A). To ensure adequate variability in responses, the response format entailed a 5-point Likert-type scale reflecting similarity ratings (1=not at all true for me, 2=somewhat true for me, 3=moderately true for me, 4=very much true for me, and 5=extremely true for me). These specific labels were designated in accordance with

guidelines by Dobson and Mothersill (1979) to maximize the equidistance of measurement intervals when using Likert-type scales.

Content validation of the written items was established through backward coding of item content dimensions by a blind expert. It was found that the cognitive versus behavioral and social versus nonsocial dimensions were backward coded with 95% and 98% accuracy respectively upon first coding. The active versus passive dimension, however, only showed 72% accuracy upon first coding. Those items for which dimensional ratings were discrepant between the writer and the blind expert were modified and the item pool was recoded by the blind expert. Following this modification, the cognitive versus behavioral dimension was rated with 100% accuracy, the social versus nonsocial dimension was rated with 99% accuracy, and the active versus passive dimension was rated with 92.5% accuracy. The readability level of the final item pool and instructions, using the Flesch-Kincaid method in Microsoft Word 2000, was estimated at a Grade 6.5 level.

Scale Evaluation

The CBAS was validated using an undergraduate student sample consisting of 245 females and 146 males who were recruited through the Department of Psychology Bonus Credit System (see Appendix B for recruitment notice). It was thought that a sample of this size would be sufficient for the factor analytic scale construction procedure, as Tabachnick and Fidell (1996) and Clark and Watson (1995) recommend a sample size of at least 300 for this type of analysis, as well as to perform ancillary gender and race analyses. After obtaining informed consent (see Appendix C), the CBAS and convergent, divergent and criterion-related measures were administered to participants in

a group format. In order to control for order effects, the questionnaires were administered in a counterbalanced order (4 different combinations) and order effects were tested. Basic demographic information, including participants' gender, age and race, was collected for the purposes of sample description and supplementary analyses.

The construct validity of the CBAS was evaluated through examination of the factor structure and internal consistency of the factors and total scale. In addition, relationships between the CBAS and other avoidance measures, including the CRI avoidance scales, the Escape-Avoidance scale of the WCQ, and the HA dimension of the TPQ, were examined to determine the convergent validity of the constructed scale. The divergent validity of the scale was also tested through investigation of the relationships between the CBAS and the approach coping scales of the CRI.

The criterion-related (concurrent) validity of the CBAS was tested through examination of the relationships between the CBAS and depression measures – the BDI-II and the DACL. In addition, the criterion relationship between the CBAS and general anxiety, as assessed by the STAI, was also investigated. Although the primary criterion relationship of interest was that between the CBAS and depression, the strong relationship and high rates of comorbidity between anxiety and depression (Mazer & Cloninger, 1990), as well as the opportunity to compare the criterion relationship of interest to that of an established criterion relationship between avoidance and anxiety (Barlow, 2002), supported the utility of the inclusion of the anxiety measure.

Statistical Analyses

Effects pertaining to the order of the questionnaires administered in relation to CBAS, depression and anxiety scores were tested using one-way ANOVAs. Given that

the construct of avoidance was assumed to be multidimensional, exploratory factor analysis (EFA) using maximum likelihood extraction was employed to determine the factor structure of the CBAS and to direct item analysis and reduction. Varimax rotation was used to maximize interpretability of the emerging factors. This method of rotation was chosen because it was theorized that the hypothesized types of avoidance reflected in the emerging factors were independent of one another. It was hypothesized that the specified dimensions of avoidance (cognitive versus behavioral, active versus passive, and social versus nonsocial) would emerge in the factor analysis. Reliability analyses (item-total correlations, coefficient alphas) were conducted to assess the internal consistency of the scale. The 3-week test-retest reliabilities (correlations between time 1 and time 2 scores) were computed to determine if the CBAS did in fact measure a stable style of dealing with situations and problems.

The construct validity of the scale was tested through the examination of scale correlations with other avoidance measures (for convergent validity) and approach coping measures (for divergent validity). Correlations with criterion measures were conducted to determine if avoidance, as measured by the CBAS, was related to depression and anxiety. It was hypothesized that significant relationships would be found between the CBAS and all criterion measures. The convergent, divergent and criterion-related analyses were conducted by gender and are reported as such.

Ancillary analyses employing one-way ANOVAs to examine the use of avoidance strategies, as assessed by the CBAS, across gender and race were conducted. In addition, the correlations between the CBAS and the criterion-related measures were examined separately across sizeable racial groups.

Results

All ANOVAs conducted to test for questionnaire order effects on CBAS, depression and anxiety scores were nonsignificant. Thus, it can be determined that the order of the questionnaires administered to participants did not account for significant variance in their responding. The section that follows describes the item reduction methods used to construct the CBAS, and the final factor solution, reliability, convergent, divergent and criterion-related validity of the scale. In addition, ancillary gender and racial analyses are presented.

Factor Analysis

Item frequencies, means, and standard deviations were examined to ensure adequate discriminability of items. No items were removed on the basis of the removal criteria of a standard deviation less than .75 or 75% endorsement of a single Likert response. Sixty four items comprising the CBAS item pool were factor analyzed using maximum likelihood extraction method and Varimax rotation² and the results, based on the criteria of eigenvalues greater than 1 and Cattell's scree analysis, suggested a 4 factor solution (see Appendix D). Through an iterative process (11 iterations), items that did not load substantively (below .30) or discriminantly (difference in substantive item loadings across factors less than .05) on the interpretable factors, or that showed low (below .30) item total correlations, either with the total scale or respective subscale, were dropped and further analyses were conducted.

The final analysis producing the best solution was comprised of 31 items. Four interpretable factors emerged, with eigenvalues of 8.54, 2.44, 1.64 and 1.32. Together, these factors accounted for a total of 44.95% of the variance in CBAS responses (Factor

1= 27.54%, Factor 2= 7.87%, Factor 3= 5.30% and Factor 4= 4.24%). The four factors that emerged were labeled as the following: Factor 1 (8 items) – Behavioral Social, Factor 2 (10 items) – Cognitive Nonsocial, Factor 3 (7 items) – Cognitive Social and Factor 4 (6 items) – Behavioral Nonsocial (see Table 1 for factor loadings table and Appendix E for item content).

Examples of item content for the 4 factors are presented below. Items loading highly on the Social Behavioral factor included “I tend to make up excuses to get out of social activities” (.73) and “I avoid attending social activities” (.65). The Cognitive Nonsocial factor included items such as “While I know that I have to make some important decisions about school/work, I just do not get down to it” (.63) and “I distract myself when I start to think about my work/school performance” (.44). Representative items from the Cognitive Social factor consisted of items such as “I just wait out tension in my relationships hoping that it will go away” (.80) and “I try not to think about problems in my personal relationships” (.41). Items loading highly on the Behavioral Nonsocial factor included the following: “I avoid trying new activities that hold the potential for failure” (.64) and “I quit activities that challenge me too much” (.54).

Internal Consistency

Table 2 presents the subscale intercorrelations for the CBAS. Moderate intercorrelations were found between subscales, suggesting that the subscales are measuring distinct, but related constructs and that a composite avoidance score is appropriate. Coefficient alphas for the subscales were all adequate (.86, .80, .78 and .75 for Factors 1 through 4 respectively) and coefficient alpha for the total scale was quite high (.91). Item total correlations for items with their respective subscale and with the

total scale were typically in the .40 to .60 range. With the exception of one item, all showed item-total correlations, with both subscale and total scale, greater than .30. These results suggest that the CBAS has good internal consistency.

Test-Retest Reliability

The 3-week test-retest reliability coefficient for the total scale was quite high ($r = .92$). The reliability coefficients for the Cognitive Nonsocial, Behavioral Nonsocial, Behavioral Social and Cognitive Social subscales were .94, .88, .86 and .58 respectively, reflecting high stability in all but the Cognitive Social subscale and moderate stability for this subscale. These findings support the trait conceptualization of the construct of avoidance.

Convergent and Divergent Validity

The CBAS showed moderate correlations with other avoidance measures ($r = .34$ for females and $r = .30$ for males on the CRI, Total Avoidance scale, $r = .41$ for females and $r = .50$ for males on the Escape-Avoidance scale of the WCQ, and $r = .56$ for females and $r = .63$ for males on the Harm Avoidance Dimension of the TPQ) (see Table 3). Of note, the CBAS showed higher correlations with the dispositional measure of avoidance (Harm Avoidance dimension of the TPQ) than the situational avoidance measures (CRI, Total Avoidance scale, and the Escape-Avoidance scale of the WCQ). While it seems intuitive that trait measures would correlate more highly with one another than with a situational coping measure, it appears that the poor convergent validity for the behavioral avoidance scales of the CBAS with the behavioral avoidance scales of the CRI attenuated the overall convergent relationship between these measures. Given the divergent definitions of the CBAS behavioral avoidance scales and the CRI behavioral avoidance

scales (the latter consisting of Seeking Alternative Rewards and Emotional Discharge) and the convergent relationships shown with other avoidance measures, this finding does not present any considerable challenge to the convergent validity of the CBAS behavioral avoidance scales. The CBAS was found to show consistently negative correlations of low magnitude with the approach coping measure of the CRI ($r = -.15$ for females and $r = -.22$ for males on CRI, Total Approach scale). These findings indicate that the CBAS shows good convergent and divergent validity.

Criterion Correlations

As expected, the CBAS showed moderate correlations with depression ($r = .48$ for both females and males on the BDI-II) (see Table 4). All subscales of the CBAS showed substantive relationships with BDI-II scores, with the Cognitive Nonsocial subscale showing the strongest relationship with depression ($r = .45$ for females and $r = .41$ for males). The correlation between the Behavioral Nonsocial subscale and depression was found to be higher for females ($r = .41$) than males ($r = .34$), indicating that the relationship between Behavioral Nonsocial avoidance and depression is stronger for females than males. Correlations between the CBAS and the DACL were also significant, but somewhat lower than the correlations between the CBAS and the BDI-II.

As expected, the CBAS was found to show moderate to strong correlations with anxiety ($r = .58$ for females and $r = .59$ for males on the STAI). All subscales were found to show at least moderate correlations with the STAI. The results indicated that the relationship between Behavioral Nonsocial avoidance and anxiety was stronger for females ($r = .53$) than males ($r = .45$). Overall, it is noteworthy that the magnitude of the

criterion-related correlations between the CBAS and depression approached those of the correlations between the CBAS and anxiety.

Ancillary Analyses

One-way ANOVAs conducted to test for differences in the use of avoidance strategies, as assessed by the CBAS, across gender and race produced some significant results. It was found that males obtained higher total CBAS scores than females [$F(1, 389) = 6.26, p = .01, \eta^2 = .02$]. Males were also found to score significantly higher than females across most of the subscales with the exception of the Behavioral Nonsocial subscale, which showed no significant differences across gender (see appendix F for means and standard deviations).

The one-way ANOVA conducted to examine differences across Caucasian (N=242), Asian (N=110) and East Indian (N=22) groups on the total CBAS was significant [$F(2, 371) = 7.69, p < .001, \eta^2 = .04$]. Follow-up analyses using the Bonferroni correction indicated that Asian individuals reported significantly greater use of avoidance strategies than Caucasian individuals [$t(350) = 3.87, p < .001$]. The analysis of group differences across subscales showed that there were significant differences across racial groups on the Behavioral Social [$F(2, 371) = 6.59, p = .002, \eta^2 = .03$] and Behavioral Nonsocial [$F(2, 371) = 9.37, p < .001, \eta^2 = .05$] subscales. Follow-up testing using the Bonferroni correction showed that Asian individuals scored significantly higher than Caucasian individuals on the Behavioral Social [$t(350) = 3.61, p < .001$] and Behavioral Nonsocial [$t(350) = 4.27, p < .001$] subscales. No significant racial group differences were found across the Cognitive Social and Cognitive Nonsocial subscales (see Appendix G for means and standard deviations).

Important correlations between CBAS scores and the criterion measures for the sizeable racial groups are presented below. It was found that, for Caucasians, the CBAS showed moderate correlations with depression (as assessed by the BDI-II) and anxiety ($r = .46$ and $.58$ respectively) and that the criterion relationships were consistent in general magnitude across the CBAS subscales. For Asian individuals, it was found that CBAS scores related significantly with depression ($r = .49$) and anxiety scores ($r = .55$) and that the Cognitive Nonsocial subscale showed a stronger relationship with depression ($r = .52$) than the remaining subscales (which ranged from $r = .29$ to $.38$). This finding suggests that Cognitive Nonsocial avoidance has a particularly strong association with depression for Asian individuals.

The pattern of criterion correlations for East Indian individuals was noteworthy. In contrast to the other racial groups, it was found that the correlation between CBAS scores and depression ($r = .47$) was higher than the correlation between CBAS scores and anxiety ($r = .24$) for East Indian individuals. In addition, it was found that the Cognitive Nonsocial and Cognitive Social avoidance subscales showed substantive correlations with depression ($r = .73$ and $.55$ respectively). In contrast, the relationships between Behavioral Social and Behavioral Nonsocial avoidance with depression were nonsignificant for this group. Thus, these findings suggest that for East Indian persons, cognitive and behavioral types of avoidance are associated with very different adjustment patterns.

Discussion

The primary goals of this study were to develop and validate a multidimensional scale of avoidance called the “Cognitive Behavioral Avoidance Scale” and to determine

how avoidance, as measured by this scale, is related to criterion measures of depression and anxiety. In line with hypotheses, it was found that cognitive versus behavioral and social versus nonsocial dimensions emerged in empirical analysis as important dimensions of avoidance. However, the hypothesized active versus passive dimension of avoidance did not emerge in this analysis. The final resulting factors, which included Behavioral Social, Cognitive Nonsocial, Cognitive Social and Behavioral Nonsocial avoidance, and the total avoidance scale score all showed adequate internal consistency and 3-week test-retest reliability.

The CBAS total scale and subscales showed good convergent and divergent validity. It was found that the CBAS correlated more strongly with the convergent measure of avoidance which reflected a trait measure, as opposed to the convergent measures assessing situational coping. The CBAS also showed moderate correlations with the depression and anxiety criterion measures. The Cognitive Nonsocial subscale was found to demonstrate the highest correlation with BDI-II scores across gender. Although not a primary focus of this study, gender and racial differences were found to emerge in the use of avoidance strategies and the strength and/or pattern of the relationships between CBAS scores and the criterion depression and anxiety measures.

Dimensions of Avoidance

The finding of the emergence of the cognitive versus behavioral dimension as an important dimension of the construct of avoidance is consistent with the findings of Blalock and Joiner (2000). These authors employed confirmatory factor analysis to test their hypothesis that the factors of cognitive and behavioral avoidance coping would better capture variability in university students' responses to the 4 heterogeneous

avoidance scales of the CRI, which included Cognitive Avoidance, Acceptance/Resignation, Seeking Alternative Rewards, and Emotional Discharge, than would a single avoidance factor. Consistent with their hypothesis, the authors found that this two-factor model of avoidance provided a superior fit to the data compared to the single avoidance factor model in a sample of 72 male and 107 female students.

Thus, it seems clear that cognitive and behavioral methods of avoiding situations and problems delineate the construct of avoidance. Avoidance then encompasses not just what one does behaviorally to refrain from or escape from situations, but also cognitive measures one may take to attempt to avoid or escape thinking about situations or problems. This finding implies that measures assessing the broad domain of avoidance must attempt to quantify cognitive avoidance in addition to behavioral avoidance in order to sample the domain of the avoidance construct. Given that cognitive avoidance reflects an internal, covert event, it should be noted that strictly behavioral measures of avoidance would render inaccessible the cognitive methods of avoidance that individuals may employ to deal with problems and situations.

The empirical emergence of the social versus nonsocial dimension in characterizing the avoidance construct conveys special significance, given that coping research up to this point has generally failed to distinguish between coping which occurs within a social versus nonsocial domain. This finding indicates that the domain in which a problem or situation presents to an individual is important in determining the individual's coping response. These results are in line with the literature on the salience of social versus achievement domains characterizing life events in the prediction of the interaction between the personality vulnerability characteristics of sociotropy and

autonomy and life events in depression onset and relapse (Coyne & Whiffen, 1995). The present study suggests that measures of avoidance should delineate the social or nonsocial nature of the situation or problem with which individuals cope in order to convey important information about the individual's manner of dealing with situations and problems.

Contrary to hypotheses, it was found that the active versus passive dimension did not emerge as an important dimension of avoidance in empirical analysis. This finding is interesting in light of the initial hurdle involved in the content validation of the items written to assess this dimension, suggesting the difficulty in conceptualizing this dimension. As easy as the dimension appears to be in reflecting initiating some action as an active form of avoidance versus not doing something in order to avoid a situation or problem, it is clear that active and passive avoidance could not be distinguished on the basis of participant responding to the CBAS. It is conceivable that the active versus passive dimension was not distinguished in this analysis given that avoidance is generally a passive strategy whereby a person fails to invoke a course of action in which the problem is dealt with directly. Thus, it may be that this level of passivity characterizing avoidance makes it difficult to distinguish between passive and active strategies of avoidance at the item level.

Stability and Construct Validity of the CBAS

The stability of CBAS scores over a 3-week period suggests support for the hypothesized trait conceptualization of avoidance. This finding is consistent with research in the coping literature that has typically shown significant, low to moderate correlations between dispositional coping styles and situational coping responses (Carver

& Scheier, 1994; Carver, et al., 1989). It should be noted that the demonstration of the stability of CBAS scores over a longer time frame, perhaps in the range of 6 to 12 months, would have provided more convincing support for a trait conceptualization of avoidance. Additional support for the trait conceptualization of avoidance in this study is reflected in the finding that, of the 3 measures used to assess the convergent validity of the CBAS, the trait measure of avoidance showed the strongest correlation with the CBAS. These findings are also important in the sense that employment of a dispositional measure of avoidance conveys particular advantage over a situational measure for researchers who may desire to examine avoidance in a longitudinal manner as a potential risk factor for depression.

The CBAS showed good convergent validity with the other avoidance measures and good divergent validity with the approach coping measures. The divergent validity of the CBAS with the approach coping measures suggests that avoidance and approach are separate constructs, as opposed to being opposite poles of a single construct. This means that the employment of avoidance coping strategies does not preclude the employment of approach coping strategies, leaving open the possibility that the relative proportion of avoidance strategies to approach coping strategies, as opposed to the mere level of avoidance strategies, may be important in the relationship between avoidance and depression.

Criterion Relationships of Avoidance with Depression and Anxiety

Of primary importance in this study are the findings of moderate correlations between avoidance strategies assessed by the CBAS and depression. These results indicate that the employment of higher levels of both behavioral and cognitive avoidance

are associated with higher levels of depressive symptoms. The cross-sectional nature of this study, however, does not allow for any inferences as to the causal nature of the relationship between avoidance and depression. However, the magnitude of the correlations shown between various forms of avoidance and depression suggests that longitudinal research to examine the nature of the relationship between avoidance and depression is warranted.

It should also be noted that the magnitude of the relationship between avoidance and depression approaches that of the relationship between avoidance and anxiety in this study. This finding is significant for two reasons. First of all, given the prominent role that avoidance occupies in the conceptualization of anxiety disorders (Barlow, 2002), this finding suggests that the construct of avoidance may deserve more consideration in the conceptualization of depressive disorders. Secondly, the strong relationship between avoidance and both depression and anxiety suggests the possibility that avoidance may be a common factor accounting for the high level of covariation in depressive and anxious symptoms and comorbidity at the disorder level (Mazer & Cloninger, 1990). These theories reflect mere speculation at this point. However, the potential implications of these theories, should they be supported in future research, provide the rationale for their investigation.

Gender and Racial Differences in Avoidance Employment and Relationships

Ancillary analyses showed that gender and racial differences were found in both the employment of avoidance strategies and the relationship between avoidance and criterion measures of depression and anxiety. It was found that males generally employed higher levels of avoidance strategies, as assessed by the CBAS, than females.

This finding is not in line with socialization theory, which would postulate greater use of avoidance-type strategies for females than males given socialization practices reinforcing passive and emotion-focused methods of coping for females, compared to socialization practices reinforcing active, problem-focused coping for males (Ben-Zur & Zeidner, 1996; Pearlin & Schooler, 1978). However, other research has failed to provide either clear support or challenge for this theory, as findings of gender differences in the employment of avoidance strategies have generally been mixed (Ben-Zur & Zeidner, 1996; Carver, et al., 1989).

This study indicated gender differences in the strength of the relationship between avoidance and the criterion measures of depression and anxiety. It was found that the employment of behavioral nonsocial avoidance strategies was associated more strongly with depression and anxiety for females compared to males. Thus, it seems that this type of avoidance may be particularly maladaptive for females.

The results also showed that Asian individuals employed avoidance strategies to a greater extent than Caucasian individuals. Other research has produced similar findings (Bjorck, Cuthbertson, Thurman, & Soon Lee, 2001). Different patterns of associations between types of avoidance and depression and anxiety were also found across racial groups. However, given that level of acculturation is an important variable to be considered in the examination of racial or ethnic differences across variables of interest (Dana, 1996) and that this variable was not assessed, results pertaining to racial differences are presented in descriptive form only and are not interpreted. The patterns of racial differences in the employment of avoidance strategies and relationships between

types of avoidance and depression found in this study, however, suggest that further research in this area, considering level of acculturation, should be conducted.

Limitations and Directions for Future Research

The primary limitations of this research include the employment of a student sample, as opposed to a sample of clinically depressed individuals, to examine important phenomena pertaining to depression and the exclusive use of self-report measures to assess variables of interest. The use of student samples to inform depression theory has been criticized by Coyne (1994) on the basis that depression seen in student samples is qualitatively different than depression seen in clinical samples, that self-reported distress and clinical depression have different psychosocial correlates and that the utilization of student samples to draw conclusions about depression trivializes the nature of clinical depression. However, it should be noted that scarce research existed comparing student and clinical depression at the time that this critique emerged.

Subsequent research, however, examining student and clinical depression in a comparative fashion (Cox, Enns, Borger, & Parker, 1998; Flett, Vredenburg, & Krames, 1997) has shown that more evidence exists to support, rather than disconfirm, that differences between student and clinical depression are more quantitative than qualitative in nature. Thus, it seems that there is support for the phenomenological continuity between student and clinical depression. However, this research does not suggest that conclusions based on student samples such as those in the present study can be generalized directly to clinically depressed or community samples, but rather that findings unveiled using student samples may suggest that further investigation using a clinical and/or community sample is warranted.

The use of self-report measures to assess all variables of interest in this study reflects a limitation in that common-method variance may be inflating the relationships between variables. However, it should be noted that the nature of a number of the variables under investigation in this study precludes the use of alternative behavioral or other-reported measures to quantify these variables of interest. For example, while a behavioral task could be used to obtain a measure of behavioral avoidance, cognitive avoidance reflects a covert event and thus cannot be observed or reported by others. In addition, as argued by Lonigan, Hooe, David, & Kistner (1999), affective states, such as depression or anxiety, are unique internal states that are really only accessible to the individual and communicable through self-report.

An additional limitation reflects the cross-sectional design of this study. As is the case with all cross-sectional research, temporal precedence as a necessary condition to infer causality cannot be established. Thus, no conclusions about the existence or direction of causality between avoidance and depression can be discerned.

In consideration of the above limitations, a number of directions for future research are suggested. One of the first logical areas of research extension would be the cross-validation of the CBAS using a community and/or clinical sample. Cross-validation of the scale using community and/or clinical participants would allow for the examination of whether the factor structure and reliability and validity of the CBAS is such that this new instrument can be used appropriately with these populations. Another logical extension of this research would involve the longitudinal examination of the relationship between avoidance and depression. This type of research would allow the examination of the nature of the relationship between avoidance and depression, such that

it could be determined if avoidance seems to function as a risk factor for depression or a consequence or mere correlate of depression. In the effort of construct validation, it would also be useful to devise a behavioral avoidance task that could be compared to individuals' self-report of avoidance in order to determine if self-reported avoidance corresponds to the in vivo employment of avoidance strategies.

In conclusion, this study involved the construction of a multidimensional avoidance scale called the "Cognitive Behavioral Avoidance Scale" which has potential utility for researchers in the area of depression. It was found that the following types of avoidance emerged in empirical analysis: Behavioral Social, Cognitive Nonsocial, Cognitive Social and Behavioral Nonsocial avoidance. All of these scales, along with the total avoidance scale, showed moderate relationships with depression. It will thus be important to pursue longitudinal investigation of the relationship between avoidance and depression for the purpose of determining if avoidance is a risk factor for depression. Should avoidance be found to be a risk factor for depression, it would follow that the construct of avoidance would warrant address in the conceptualization and treatment of depression.

Endnotes

¹Although negatively keyed items were developed to control for response biases, it should be noted that even the process of writing these items to reflect the converse of avoidance across the various dimensions of avoidance proved to be difficult. Preliminary analysis using these items further showed that the negatively keyed items loaded primarily on a single factor, indicating that participants were unable to differentiate item content for these items. Thus, the negatively keyed items were dropped from all further analyses.

²Prior to Varimax rotation, an oblique rotation was conducted such that the correlations among factors in the original item pool could be examined. The magnitudes of the correlations between factors, with the exception of one correlation (.33), were all below .30, suggesting that Varimax rotation was appropriate for this analysis.

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Table 1

Factor Loadings for CBAS Items

Item	Behavioral Social	Cognitive Nonsocial	Cognitive Social	Behavioral Nonsocial
1 (4)	.65	.15	-	.15
2 (12)	-	.37	.22	.31
3 (13)	-	-	-	.34
4 (14)	-	.63	.18	.26
5 (18)	-	.39	.17	.12
6 (19)	.29	.17	-	.54
7 (25)	.16	.35	-	-
8 (27)	.46	-	.25	.19
9 (28)	.25	.13	.15	.54
10 (30)	.16	-	.41	-
11 (33)	.13	.32	.14	.49
12 (34)	.32	.23	.16	.41
13 (35)	.27	.16	.17	.64
14 (39)	.60	-	.14	.29
15 (40)	.58	.21	.30	-
16 (41)	.16	.21	.45	.15
17 (42)	.72	.12	-	.13
18 (45)	-	.35	.16	.14
19 (47)	.10	.42	-	-
20 (48)	.17	-	.80	.15
21 (49)	.73	.11	.18	.30
22 (50)	.24	.29	.35	-
23 (51)	.55	.22	.21	.16
24 (52)	.52	.10	.16	.18
25 (53)	-	.57	.18	.18
26 (55)	.20	.24	.47	.11
27 (57)	.18	.23	.37	.13
28 (58)	.22	.20	.63	.16
29 (59)	.15	.44	.20	.23
30 (60)	-	.63	.14	-
31 (63)	.12	.54	.12	.14
Eigenvalue	8.54	2.44	1.64	1.32
% Variance	27.54	7.87	5.30	4.24

Note. Items loading substantively on factors are presented in bold-face type. Loadings less than .10 were suppressed. Item content corresponding to the bracketed item numbers presented in this table can be found in Appendix E (Final Item Set for the CBAS).

Table 2

Subscale Intercorrelations for the CBAS (Total Sample)

Subscale	Behavioral Social	Cognitive Nonsocial	Cognitive Social	Behavioral Nonsocial
Behavioral Social	-			
Cognitive Nonsocial	.39	-		
Cognitive Social	.53	.53	-	
Behavioral Nonsocial	.57	.52	.45	-

Note. All correlations are significant at the $p < .01$ level.

Table 3

Convergent and Divergent Correlations

	Behavioral Social	Cognitive Nonsocial	Cognitive Social	Behavioral Nonsocial	Total CBAS
Convergent					
Females					
CRI (Avoidance)	.22	.34	.29	.28	.34
(Cognitive Avoidance)	.22	.41	.37	.37	.41
(Behavioral Avoidance)	.12*	.10**	.07**	.05**	.11*
Escape/Avoidance scale	.32	.34	.32	.37	.41
Harm Avoidance scale	.56	.38	.34	.55	.56
Males					
CRI (Avoidance)	.12**	.29	.41	.06**	.30
(Cognitive Avoidance)	.13**	.31	.47	.13**	.35
(Behavioral Avoidance)	.05**	.14*	.15*	.05**	.11**
Escape/Avoidance scale	.31	.32	.49	.41	.50
Harm Avoidance scale	.62	.32	.38	.56	.63
Divergent					
Females					
CRI (Approach)	-.05**	-.13*	-.17	-.16	-.15
(Cognitive Approach)	-.01**	-.02**	-.08**	-.07**	-.05**
(Behavioral Approach)	-.08**	-.21	-.22	-.21	-.21
Males					
CRI (Approach)	-.15*	-.18*	-.21	-.12**	-.22
(Cognitive Approach)	-.04**	-.06**	-.08**	-.08**	-.08**
(Behavioral Approach)	-.22	-.24	-.28	-.14*	-.30

Note. Unmarked correlations are significant at the $p < .01$ level. Correlations marked with one * indicate that correlation was not significant at the $p < .01$ level. Correlations marked with two ** indicate that correlation was not significant at the $p < .05$ level.

Table 4

Criterion Correlations

	Behavioral Social	Cognitive Nonsocial	Cognitive Social	Behavioral Nonsocial	Total CBAS
Females					
BDI-II	.36	.45	.36	.41	.48
DACL	.33	.35	.24	.38	.40
STAI	.48	.49	.40	.53	.58
Males					
BDI-II	.30	.41	.39	.34	.48
DACL	.43	.31	.26	.29	.44
STAI	.46	.46	.38	.45	.59

Note. All correlations are significant at the $p < .01$ level.

Appendix A

THE COGNITIVE-BEHAVIORAL AVOIDANCE SCALE (ITEM POOL)

Instructions: Different people use different strategies to deal with situations and problems in their life. Below are a number of strategies that people may use to deal with situations and problems. Please read each statement carefully and indicate how true, *in general*, each of these statements is for you.

Please record your responses on the answer sheet provided. Fill in the circle under the letter that corresponds with your answer using the following key:

- A = *not at all* true for me
- B = *somewhat* true for me
- C = *moderately* true for me
- D = *very much* true for me
- E = *extremely* true for me

Cognitive active avoidance (social):

- 1) I try not to think about problems in my personal relationships.
- 2) I purposely think to myself that other people have worse relationship problems than I have.
- 3) I attempt to think about something else when I've had a fight with someone I care about.
- 4) I try not to think about problems in my family by distracting myself with other thoughts.
- 5) Instead of thinking about problems in my social life, I try to tell myself that I prefer to be alone.
- 6) I distract myself when I think about sad things that have happened to others.
- 7) I try to forget about social upsets or disappointments.
- 8) I try to avoid evaluating my friendships and personal relationships.

Cognitive active avoidance (non-social):

- 1) I distract myself when I start to think about my work/school performance.
- 2) I avoid thinking about all of the things that I have to do by thinking of something else.
- 3) I try to tell myself that other people have more school/work troubles than I have.
- 4) After I write a test, I try not to think about how well I did by focussing my thoughts on something else.
- 5) In order to avoid feelings of disappointment, I just try not to get too serious about work/school.

- 6) Even when it is not true, I try to tell myself that I do not have any work/school problems.
- 7) I try not to think about my future and what I will do with my life.
- 8) When school/work gets to me, I purposely dream about taking a trip or getting away.

Cognitive passive avoidance (social):

- 1) There is nothing I can do to improve problems in my personal relationships.
- 2) I feel helpless when I get into a conflict with someone.
- 3) I do not bother thinking about how to solve problems in my family – it is useless.
- 4) While I would like to be more outgoing, there is nothing I can do to change how I am.
- 5) When I experience confusion in my relationships, I do not try to figure things out.
- 6) While I know that I should make decisions about my personal relationships, I just let things go on as they are.
- 7) I just wait out tension in my relationships hoping that it will go away.
- 8) I put off making important decisions about family issues and concerns.

Cognitive passive avoidance (non-social):

- 1) I do not try to think about ways to improve my work/school performance.
- 2) I think to myself that I will not be able to complete really challenging tasks.
- 3) I just accept fate because I know that I do not have control over things.
- 4) While I know that I have to make some important choices about school/work, I just do not get down to it.
- 5) I just wait it out when things at work/school are too demanding.
- 6) I would like to achieve things at school/work, but I have to accept my limits.
- 7) When uncertain about my future, I fail to sit down and think about what I really want.
- 8) I avoid making decisions about my future.

Behavioral active avoidance (social):

- 1) I find that I often want to leave social gatherings or activities.
- 2) In order to avoid conflict with certain people, I leave the situation.
- 3) I tend to leave situations where people might judge me.
- 4) I tend to make up excuses to get out of social activities.
- 5) When I have a fight with someone, I like to go out and drink alcohol.
- 6) Rather than dealing with social responsibilities I have, I choose to watch TV.
- 7) I get myself out of situations where I would have to talk to people in positions of authority.
- 8) I turn down opportunities to socialize with the opposite sex.

Behavioral active avoidance (non-social):

- 1) I choose to turn down opportunities to further my education/career.
- 2) I go to bed when I feel like I have too much work/school pressure on me.
- 3) I clean a lot in order to avoid doing my work/homework.
- 4) I quit activities that challenge me too much.
- 5) I go shopping when I am feeling stressed out.
- 6) I drink more alcohol when demands in my life are great.
- 7) When an upcoming work/school event has me somewhat nervous, I turn to food for comfort.
- 8) I tend to make up excuses to get out of further school/work responsibility.

Behavioral passive avoidance (social):

- 1) I avoid attending social activities.
- 2) I do not voice my opinion when somebody says something I do not agree with.
- 3) I do not try to defend myself when somebody says something that offends me.
- 4) I tend to remain to myself during social gatherings or parties.
- 5) I do not go out to events when I know that there will be a lot of people that I do not know.
- 6) I do not participate in class/work discussions.
- 7) I do not answer the phone in case people are calling with social invitations.
- 8) I fail to address/discuss tension that builds in a friendship.

Behavioral passive avoidance (non-social):

- 1) I fail to do what is needed to follow through with achievement goals I have set for myself.
- 2) I avoid trying new activities that hold the potential for failure.
- 3) I do not look in the mirror when I feel poorly about myself.
- 4) I find myself avoiding tasks or assignments that are really important.
- 5) Rather than try new activities, I tend to stick with the things I know.
- 6) Rather than getting out and doing things, I just sit at home and watch TV
- 7) Rather than acting, I leave important decisions in my life to fate.
- 8) I fail to seek out opportunities for personal development.

Note: The items comprising the item pool were presented to participants in a random order. They are presented here grouped with their respective hypothesized subscale for the purpose of conceptual clarity.

Appendix B

**THE CONSTRUCTION OF THE “COGNITIVE-BEHAVIORAL
AVOIDANCE SCALE”**

Investigator: Nicki Ottenbreit

Brief description of the study: This study involves the development of a new questionnaire designed to measure avoidance strategies that people use when dealing with situations in their life. For the purposes of test development, a large number of participants will complete the new questionnaire as well as other measures expected to relate to this measure. Testing will be conducted in groups and each participant's responses will be kept confidential.

Time required: 1 hour

Bonus credits earned: 1

Location and Date: Please choose the date and time that best suits your schedule. Fill in your first name on that location on the sign-out sheet below and take the reminder slip beside the location with you. Remember that in taking this form you are making a commitment to attend the time you indicate. As testing is conducted in groups, each session will start precisely at the time indicated.

Sample:

Date and time:	Psychology Experiment Time:
Name:	Location:

Note: The above notice was posted on the Department of Psychology Bonus Credit Program bulletin board. A similar description of the study was provided to prospective participants in an internet posting through the same program.

Appendix C

Research Project Title: The Construction of the “Cognitive-Behavioral Avoidance Scale”

Investigator: Nicki Ottenbreit

This consent form, a copy of which has been given to you, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The purpose of this study is to develop a new questionnaire tentatively called the “Cognitive-Behavioral Avoidance Scale” that is designed to measure types of avoidance strategies that people use to deal with situations in their life. We are interested in examining what kind of avoidance strategies people employ to deal with problems and situations they encounter and how these strategies may be related to problems such as depression and anxiety. In this study, a total of seven questionnaires will be administered to a large group of participants. Statistical analyses and item analyses will then be conducted to allow the researcher to refine the questionnaire by deleting items that do appear to be adequately measuring avoidance strategies.

Completing the set of seven questionnaires will take approximately 55 minutes, and in return for your participation, you will receive one credit in the Department of Psychology Bonus Credit System. All of the information that you provide will be kept anonymous and confidential. This consent form will be kept separate from the questionnaires that you complete and the questionnaires will be identified with only a code number. The information contained on the questionnaires will be analysed by group and you will not be identified by name. All information and data from this investigation will be kept in a locked, secure area under the control of the investigator for a period of five years after publication. Following this period, the data will be destroyed.

You should suffer no discomforts or inconveniences as a result of participating in this study with the exception of the time involved for your participation. We recognize, however, that some items on the questionnaires you will be completing ask you about personal experiences that may indicate that you are experiencing negative thoughts or emotional problems. If, as a result of your participation in this study, you decide that you would like to talk to someone about these experiences, we advise you that the university offers a free, confidential counselling service for all students. The Counselling and Student Development Centre is located in the MacEwan Student Centre and will accept either walk-in appointments or telephone calls at 220-5893 to make an appointment with a counsellor.

In signing this form I fully understand that I am participating in this study as part of my educational experience in the Psychology Department. In exchange for my time I expect

to gain some understanding of research and some of the ideas currently being explored in psychology. If, after the study, I feel I have not gained sufficient educational benefit, or have other concerns regarding this experience, I may register my concerns with Dr. S. D. Boon, Chair: Psychology Department Ethics Committee (Human Participants). She will insure that my comments are acted upon with no fear that I will be identified personally. Dr. Boon can be reached at: A231B, 220-5564, sdboon@ucalgary.ca.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does it waive your legal rights nor release the investigators, sponsors or involved institutions from their legal and professional responsibilities. You are free to refuse to answer any item you choose, or to withdraw from the study at any time. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation. If you have further questions concerning matters related to this research, please contact Nicki Ottenbreit at 220-3697 or Dr. Keith Dobson at 220-5096. If you have any questions or issues concerning this project that are not related to the specifics of the research, you may also contact the Research Services Office at 220-3782 and ask for Mrs. Patricia Evans.

Participant's Signature: _____ Date: _____

Investigator's Signature: _____ Date: _____

A copy of this form has been given to you to keep for your records and your reference.

Appendix D

Factor Loadings for CBAS Item Pool

Item	Behavioral Social	Cognitive Nonsocial	Behavioral Nonsocial	Cognitive Social
1	-	-	-	.27
2	.13	.20	.16	.21
3	-	.33	-	.26
4	.68	.12	-	-
5	-	-	-	-
6	-	-	-	-
7	-	.28	.12	-
8	.16	.20	-	-
9	.25	.10	-	.11
10	-	.18	-	-
11	-	.12	.15	-
12	-	.45	.28	.18
13	.13	.12	.35	-
14	.11	.55	.26	.12
15	.28	-	.32	-
16	-	.29	-	.24
17	-	.13	-	-
18	-	.43	-	.16
19	.32	.12	.50	-
20	.15	-	.22	-
21	.11	.40	.31	-
22	-	-	.19	-
23	-	-	.32	-
24	.22	.26	.32	.21
25	.19	.39	-	-
26	.12	-	.30	.25
27	.48	-	.18	.23
28	.28	.17	.51	.14
29	-	.11	.10	.16
30	.16	-	-	.39
31	-	-	.10	-
32	.31	.11	.32	.21
33	.16	.32	.49	.11
34	.30	.25	.30	.13
35	.31	.13	.56	.13
36	.20	.39	.33	.20
37	.28	-	.35	-
38	-	-	-	-
39	.59	-	.26	.11
40	.58	.18	-	.28
41	.18	.23	.14	.44
42	.73	-	-	-

Item	Behavioral Social	Cognitive Nonsocial	Cognitive Social	Behavioral Nonsocial
43	.14	.13	-	.21
44	-	-	-	-
45	-	.44	.19	.15
46	.25	.21	.16	.13
47	.12	.46	-	-
48	.20	-	.12	.74
49	.76	-	.23	.14
50	.27	.33	-	.34
51	.57	.18	.17	.17
52	.54	.10	.12	-
53	.12	.59	.12	.11
54	.39	.15	.27	.11
55	.23	.27	.13	.45
56	.14	.24	.24	.17
57	.18	.19	.15	.33
58	.25	.17	.13	.59
59	.15	.39	.20	.15
60	-	.49	-	-
61	.23	.11	.27	.20
62	.26	.17	-	.16
63	.14	.51	-	-
64	.12	-	.11	.10
Eigenvalue	13.14	3.29	2.21	2.03
% Variance	20.54	5.14	3.45	3.17

Note. Loadings .30 or greater are presented in bold-face type. Loadings less than .10 were suppressed.

Appendix E

Final Item Set for the CBAS**Factor 1: Behavioral Social Avoidance** - 8 items

- 1) #4 – I avoid attending social activities. (.65)
- 2) #27 – I do not answer the phone in case people are calling with social invitations. (.46)
- 3) #39 – I do not go out to events when I know there will be a lot of people I do not know. (.60)
- 4) #40 – Instead of thinking about problems in my social life, I tell myself that I prefer to be alone. (.58)
- 5) #42 – I find that I often want to leave social gatherings. (.72)
- 6) #49 – I tend to make up excuses to get out of social activities. (.73)
- 7) #51 – I turn down opportunities to socialize with the opposite sex. (.55)
- 8) #52 – I tend to remain to myself during social gatherings or activities. (.52)

Factor 2: Cognitive Nonsocial Avoidance - 10 items

- 1) #12 – When uncertain about my future, I fail to sit down and think about what I really want. (.37)
- 2) #14 – I fail to do what is needed to follow through with achievement goals I have set for myself. (.63)
- 3) #18 – In order to avoid feelings of disappointment, I just try not to get too serious about work/school. (.39)
- 4) #25 – I choose to turn down opportunities to further my education/career. (.35)
- 5) #45 – I do not try to think about ways to improve my work/school performance. (.35)
- 6) #47 – I try not to think about my future and what I will do with my life. (.42)
- 7) #53 – I avoid making decisions about my future. (.57)
- 8) #59 – I distract myself when I start to think about my work/school performance. (.44)
- 9) #60 – While I know that I have to make some important decisions about school/work, I just do not get down to it. (.63)
- 10) #63 – I find myself avoiding tasks and assignments that are really important. (.54)

Factor 3: Cognitive Social Avoidance - 7 items

- 1) #30 – I try not to think about problems in my personal relationships. (.41)
- 2) #41 – I fail to discuss/address tension that builds in a friendship. (.45)
- 3) #48 – I just wait out tension in my relationships hoping that it will go away. (.80)
- 4) #50 – There is nothing I can do to improve problems in my relationships. (.35)

- 5) #55 – When I experience confusion in my relationships, I do not try to figure things out. (.47)
- 6) #57 – I do not bother thinking about how to solve problems in my family – it is useless. (.37)
- 7) #58 – While I know I should make decisions about my personal relationships, I just let things go on as they are. (.63)

Factor 4: Behavioral Nonsocial Avoidance – 6 items

- 1) #13 – I would like to achieve things at work/school, but I have to accept my limits. (.34)
- 2) #19 – Rather than try new activities, I tend to stick with the things I know. (.54)
- 3) #28 – I quit activities that challenge me too much. (.54)
- 4) #33 – I think to myself that I will not be able to complete really challenging tasks (.49)
- 5) #34 – Rather than getting out and doing things, I just sit at home and watch TV. (.41)
- 6) #35 – I avoid trying new activities that hold the potential for failure. (.64)

Appendix F

CBAS Scores: Means and Standard Deviations for Males and Females

Scale	Females		Males	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Behavioral Social	15.82	6.27	17.42	6.23
Cognitive Nonsocial	17.84	6.03	20.18	6.13
Cognitive Social	13.37	4.65	14.42	5.01
Behavioral Nonsocial	13.40	4.38	12.86	4.32
Total CBAS	60.44	17.44	64.88	16.13

Appendix G

CBAS Scores: Means and Standard Deviations for Racial Groups

Scale	Caucasian		Asian		East Indian	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Behavioral Social	15.70	6.23	18.33	6.51	16.64	5.85
Cognitive Nonsocial	18.15	6.17	19.81	6.29	18.95	5.10
Cognitive Social	13.41	4.88	14.65	4.57	13.86	5.15
Behavioral Nonsocial	12.48	4.34	14.61	4.30	13.68	3.91
Total CBAS	59.75	17.04	67.39	17.47	63.14	13.37