



# An examination of avoidance in major depression in comparison to social anxiety disorder



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## ABSTRACT

The construct of avoidance has begun to receive attention in theoretical models and empirical investigations of depression. However, little is known about relative levels of avoidance across diagnostic categories or about the relationships between avoidance and other correlates of depression. The present study compared levels of avoidance across groups of depressed women without social anxiety disorder (MDD without SAD), depressed women with social anxiety disorder (MDD with SAD), women with social anxiety disorder (SAD), and nonclinical women, and investigated the relationships among avoidance, and sociotropy and autonomy, rumination, and negative and positive problem orientations within the clinically depressed group. Avoidance was found to be significantly higher in all clinical groups relative to the nonclinical group of women, and highest in the comorbid MDD with SAD group. Avoidance showed significant positive relationships with sociotropy, autonomy, rumination, and negative problem orientation, and a significant negative relationship with positive problem orientation within the overall sample of depressed women. These results suggest that avoidance should be given greater consideration in psychosocial models of depression and point to several important directions for future research.

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The construct of avoidance refers to refraining or escaping from an action, person, or thing. The diagnostic criteria in the *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition* (DSM-5; American Psychiatric Association, 2013) include avoidance of feared situations or stimuli as a key symptom of the anxiety disorders. Accordingly, the construct of avoidance has received considerable attention in the conceptualization and treatment of anxiety disorders (Barlow, 2002). Cognitive behavioral models propose that avoidance contributes to the maintenance of maladaptive beliefs in anxiety disorders because avoidance of feared situations and/or stimuli prevents opportunities for such beliefs to be disconfirmed and for new learning about the true threat value of the feared situation or stimuli to occur (Clark & Wells, 1995; Salkovskis, 1991). Avoidance of anxiety-provoking situations and stimuli reduces anxiety in the short-term, which in turn reinforces and perpetuates avoidance behavior (Mowrer, 1960). Evidence-based treatments for anxiety disorders emphasize exposure to feared situations and stimuli, in order to allow for habituation of anxiety and provide opportunity for corrective learning (Barlow, 2002; Foa & Kozak, 1986).

## Avoidance and depression

In contrast to the anxiety disorders, less is known about the role of avoidance in depression. Ferster (1973) originally posited a central role for avoidance in depression, and suggested that depressed individuals tend to avoid or escape from situations that are perceived to be unpleasant. According to Ferster (1973), frequent avoidance results in fewer opportunities for positively reinforced behaviors and social activities, and promotes passivity and inaction in depressed individuals. Behavioral activation (BA) is an intervention for depression that is based upon Ferster's (1973) theory and conceptualizes avoidance as a key target of treatment (Jacobson, Martell, & Dimidjian, 2001; Martell, Addis, & Jacobson, 2001). BA treatment focuses on the development of problem-solving and coping skills to counter the avoidance and passive coping patterns, and encourages individuals to increase their activities and opportunities to receive positive reinforcement from their environment (Martell et al., 2001). A meta-analysis of BA treatment concluded that it an effective treatment for depression, with effect sizes that are comparable to those of cognitive therapy (Cuijpers, van Straten, & Warmerdam, 2007).

Despite advances in avoidance-focused treatment approaches for depression, relatively few empirical investigations of avoidance in depression have been conducted and there remains a

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lack of an integrative theory of the role of avoidance in depression. Until recently, studies of avoidance in depression have been limited by the use of varying definitions and measures of avoidance. Ottenbreit and Dobson (2004) outlined the studies on avoidance and depression that have variously conceptualized avoidance as a coping strategy, a problem-solving style, and a personality dimension. These studies have supported an association between avoidance and depression (e.g., Blalock & Joiner, 2000; Davila, Hammen, Burge, Paley, & Shannon, 1995; D'Zurilla, Chang, Nottingham, & Faccini, 1998; Hansenne et al., 1997; Kuyken & Brewin, 1994; Spurrell & McFarlane, 1995). However, the lack of an integrative and valid measure of avoidance has made it difficult to compare results across studies. Avoidance measures employed to assess the relationship between avoidance and depression in previous studies were usually one or more scales or subscales of other coping or personality scales, and therefore were not necessarily designed to capture all of the important dimensions that comprise the construct of avoidance. Furthermore, these measures typically assessed avoidant responses to stressful life events and/or life problems, and thus failed to capture avoidance in everyday life situations in the absence of stressful events or problems. Finally, these measures largely focused on behavioral avoidance and neglected to assess cognitive avoidance strategies.

To facilitate research on the relationship between avoidance and depression, Ottenbreit and Dobson (2004) developed and validated the Cognitive Behavioral Avoidance Scale (CBAS), a multidimensional, dispositional self-report measure of avoidance. Through empirical analysis, four factors representing cognitive versus behavioral and social versus nonsocial dimensions emerged as important dimensions of avoidance on the CBAS. This finding suggests that previous measures of avoidance did not fully capture the broad domain of avoidance, and comprehensive measures of avoidance must quantify both behavioral attempts to escape or avoid and cognitive strategies used to avoid thinking about situations or problems, as well as distinguish between avoidance that occurs in response to social and nonsocial situations or problems (see Ottenbreit & Dobson, 2004 for a more detailed discussion). The four factors representing the subscales of the CBAS are: Behavioral Social, Behavioral Nonsocial, Cognitive Social, and Cognitive Nonsocial. Examples of representative items from each of the subscales are as follows: "I avoid attending social activities" (Behavioral Social), "Rather than try new activities, I tend to stick with the things I know" (Behavioral Nonsocial), "I try not to think about problems in my personal relationships" (Cognitive Social), and "I avoid making decisions about my future" (Cognitive Nonsocial). The subscales are moderately intercorrelated, suggesting that the four subscales are related, but distinct, dimensions of avoidance. Ottenbreit and Dobson (2004) found the CBAS demonstrated good internal consistency, test-retest reliability, convergent and discriminant validity, and criterion validity with measures of depression and anxiety.

Several studies have employed the CBAS to examine associations among avoidance dimensions and depression in nonclinical undergraduate samples (e.g., Cribb, Moulds, & Carter, 2006; Moulds, Kandris, Starr, & Wong, 2007; Wong & Moulds, 2011). These studies have found significant positive correlations between depressive symptoms and all of the CBAS avoidance dimensions and the full CBAS scale, confirming the initial results of Ottenbreit and Dobson (2004). While there is preliminary evidence to support the link between avoidance and depression, no study has yet examined CBAS-measured avoidance in a clinical sample of individuals with Major Depressive Disorder (MDD). The primary aim of the present study was to evaluate levels of avoidance, including Behavioral Social, Behavioral Nonsocial, Cognitive Social, and

Cognitive Nonsocial avoidance, in a clinically depressed sample. Given the established role of avoidance in anxiety disorders, a socially anxious clinical comparison group was also included to compare levels of avoidance across depression and social anxiety and to examine the specificity of the various avoidance dimensions to each disorder.

### The relationships between avoidance and other correlates of depression

Little is known about the relationships between avoidance and other correlates of depression. Examination of the associations among avoidance and these psychosocial variables in the context of clinical depression may increase understanding of how avoidance interacts with other correlates of or risk factors for depression to produce depression vulnerability, and ultimately, provide a basis for a comprehensive theory of the role of avoidance in depression. Therefore, a second aim of the present study was to investigate the relationships among avoidance, sociotropy and autonomy, rumination, and negative and positive problem orientations within the clinically depressed sample. Given the paucity of research on avoidance and depression and the lack of a theoretical framework regarding how avoidance may interact with other psychosocial variables to contribute to depression vulnerability, hypotheses regarding the associations between avoidance and sociotropy, autonomy, rumination, and negative and positive problem orientations were somewhat speculative. However, these variables were chosen for examination because of their status as correlates of or risk factors for depression, or their theoretical or empirical link to the construct of avoidance, as discussed below.

The personality characteristics of sociotropy (a tendency to place excessive value on social connection and acceptance) and autonomy (a tendency to place excessive value on achievement and independence) have been theorized to be risk factors for depression (Beck, 1983; Beck, Rush, Shaw, & Emery, 1979; Clark, Beck, & Alford, 1999). According to the event-congruency hypothesis, risk for depression may be highest for sociotropic individuals who experience interpersonal loss events and for autonomous individuals who experience loss events that threaten independence, control, or achievement (Beck, 1983). Empirical investigations have provided some support for the event-congruency hypothesis, particularly for the interaction of sociotropy and negative interpersonal life events in the prediction of distress and depression, although methodological issues and mixed findings limit the conclusions that can be drawn from these investigations (see Coyne & Whiffen, 1995 for a review).

One previous study found that sociotropy was associated with higher levels of avoidance coping and that high avoidance coping amplified the relationship between sociotropy and depressive and anxious symptoms, in a university student sample that had recently experienced at least one adverse social event (Connor-Smith & Compas, 2002). Thus, individuals high in sociotropy may tend to respond to negative social events by engaging in avoidance, which in turn may heighten vulnerability to depression through erosion of social support, exacerbation of interpersonal conflict, and reduction of opportunities for positive social interactions (Joiner, 2002; Segrin, 1998). To our knowledge, no research has yet examined relationships among autonomy, avoidance, and depression, and thus hypotheses regarding these relationships are speculative. However, high levels of autonomy may be related to avoidance of situations that could potentially threaten one's sense of achievement or independence, which in turn may enhance risk for depression among individuals high in autonomy. Further research is thus needed to explore if avoidance is related to sociotropy and/or autonomy in a sample of clinically depressed persons.

Rumination is a response style to negative affect that is characterized by a tendency to focus on one's negative emotions and the meaning of these emotions (Nolen-Hoeksema, 1991). Evidence implicates rumination in the onset, maintenance, and exacerbation of depression (see Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008 for a review). The BA model of depression posits that rumination may be an avoidance or escape behavior, and function in part to avoid engagement with the environment and/or in active problem-solving (Martell et al., 2001). In addition, it has been proposed that rumination may serve a cognitive avoidance function (Watkins & Moulds, 2007). Drawing on the avoidance model of worry (Borkovec, 1994) wherein worry is viewed as a cognitive strategy to escape distressing imagery and avoid activation of the full anxiety response, Watkins and Moulds (2007) suggested that individuals may ruminate to avoid fully engaging with more emotionally aversive cognitive content.

Two types of rumination have been distinguished in the literature (Treyner, Gonzalez, & Nolen-Hoeksema, 2003). The first is reflection, which is considered the adaptive form of rumination and involves cognitive problem-solving to alleviate one's negative mood or situation. The second is brooding, which is considered the maladaptive form of rumination and involves passively focusing on one's negative mood or situation. The brooding type of rumination is most closely linked to depression (Treyner et al., 2003), and conceptually seems more related to avoidance than reflection. Moulds et al. (2007) found that rumination, and brooding in particular, was positively and significantly correlated CBAS-measured avoidance. Furthermore, a 7-day longitudinal study of adolescents found that daily cognitive avoidance predicted increases in daily rumination, and rumination mediated the effect of cognitive avoidance on both sadness and anxiety (Dickson, Ciesla, & Reilly, 2012). Thus, there is preliminary evidence that avoidance may be associated with rumination, and brooding in particular, in the context of depression, but replication in a sample of clinically depressed individuals is warranted.

Problem orientation reflects awareness, attributions, appraisals, perceived control, and general approach in dealing with problems (D'Zurilla & Nezu, 1999). Individuals who make negative attributions for problems they encounter, appraise problems as threatening, and place little value on independent problem-solving, are likely to avoid engaging in efforts to solve their problems. D'Zurilla et al. (1998) found that negative problem orientation, positive problem orientation, and an avoidant problem-solving style all correlated significantly with depressive symptoms, hopelessness and suicidality in samples of students and psychiatric patients and that negative problem orientation showed moderate to strong relationships with an avoidant problem-solving style. As such, it seems that the relationships among avoidance and aspects of problem-solving warrant further investigation in clinical depression.

### The present study

In the present study, levels of avoidance were compared across clinically depressed women without social anxiety disorder (MDD without SAD), clinically depressed women with SAD (MDD with SAD), women with SAD (SAD), and a nonclinical control group of women. It was hypothesized that the clinical groups (MDD without SAD, MDD with SAD, and SAD) would show higher levels of all dimensions of CBAS-measured avoidance compared to the nonclinical group. It was also hypothesized that the group of women with comorbid MDD and SAD would show the highest levels of avoidance across the CBAS scales on the basis that comorbidity of MDD and SAD reflects an index of severity and pervasiveness expected to result in significantly greater levels of

avoidance relative to the other clinical groups. In terms of specificity among the clinical groups, behavioral social avoidance was hypothesized to be greater in the SAD group and the MDD with SAD group compared to the MDD without SAD group, given that behavioral avoidance of social situations is central to the diagnostic criteria and conceptualization of SAD. Because nonsocial forms of avoidance are more relevant to the conceptualization of depression (e.g., Ferster, 1973; Martell et al., 2001) than social anxiety, nonsocial forms of avoidance were expected to be greater in the MDD group without SAD than the SAD group.

It was hypothesized that avoidance dimensions would be positively and significantly correlated with both sociotropy and autonomy within the overall sample of depressed women. Sociotropy was expected to show greater magnitude correlations with social types of avoidance, given the presumed threat for sociotropic individuals invoked by problems and situations in the social domain (Beck, 1983). The measure of sociotropy and autonomy used in this study, the Sociotropy–Autonomy Scale-Revised (SAS-R; Clark & Beck, 1991), consists of two autonomy subscales, autonomy-solitude and autonomy-independence. The autonomy-independence subscale is the more adaptive of the two autonomy subscales and measures a need for independence. As such, no significant relationships between avoidance and autonomy-independence were hypothesized. Autonomy-solitude is considered a maladaptive trait given its association with depressive symptoms (Clark & Beck, 1991), and measures a need for solitude and interpersonal insensitivity. Given the both social and nonsocial content of the autonomy-solitude scale of the SAS-R, it was expected that the autonomy–solitude scale would correlate with both social and nonsocial forms of avoidance.

Avoidance was hypothesized to be associated with rumination within the overall sample of depressed women. Given that rumination has been proposed to promote both behavioral (Martell et al., 2001) and cognitive (Watkins & Moulds, 2007) avoidance, rumination was expected to be positively correlated with both behavioral and social forms of avoidance. In particular, the brooding rather than reflection type of rumination was hypothesized to be related to avoidance. Finally, avoidance dimensions were expected to be positively associated with a negative problem orientation and negatively associated with a positive problem orientation.

The decision to include only women rather than a mixed sample of men and women in the current investigation reflected both theoretical and statistical considerations. Theoretically, it has been well-documented that depression affects women at about twice the rate of men (e.g. Sprock & Yoder, 1997), suggesting gender-specific pathogenic processes. Statistically, a homogeneous group was desired in order to minimize within group differences and thus increase power. Women with SAD were chosen as a clinical comparison group given the central role that avoidance plays in this disorder (Barlow, 2002) and the possibility that the social focus of avoidance in SAD might allow for differential predictions regarding the specificity of social and nonsocial types of avoidance across groups of depressed and socially anxious women.

### Method

#### Participants

The sample consisted of 120 women between the ages of 18 and 65 who fell into three participant groups: a clinically depressed group ( $n = 60$ ); 2) a clinically anxious group ( $n = 30$ ); and 3) a nonclinical control group ( $n = 30$ ). Women in the clinically depressed group met diagnostic criteria for current Major Depressive Disorder (MDD) and women in the clinically anxious group met diagnostic criteria for current Social Anxiety Disorder (SAD).

The nonclinical group consisted of women with no current psychiatric diagnoses and no lifetime history of depression. For the purpose of comparisons across participant groups, the group of depressed women was subdivided on the basis of the presence of SAD (31 women with comorbid SAD; 29 without comorbid SAD).

The Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I; [First, Gibbon, Spitzer, & Williams, 1996](#)) was used to establish eligibility for the study and group allocation. All SCID-I interviews were conducted by the principal investigator (N. D. O.). The reliability of diagnoses based on these interviews was assessed by having a trained diagnostician (K. S. D.) without knowledge of the diagnoses provided by the investigator review audiotapes and score a random sample of 20 tapes. Perfect correspondence between raters was required for primary inclusionary diagnoses. Discrepancies between raters for any primary diagnosis resulted in participant data being deleted from further consideration. Of the 20 reviewed tapes, there was one disagreement between raters on the primary diagnosis and thus this participant was removed from the sample.

### Measures

#### *Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996)*

The BDI-II is a widely used 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. The strong psychometric properties of the BDI-II are well-documented ([Beck et al., 1996](#)).

#### *Cognitive Behavioral Avoidance Scale (CBAS; Ottenbreit & Dobson, 2004)*

The CBAS is a 31-item multidimensional, dispositional self-report measure of avoidance. Respondents indicate how generally true a number of statements pertaining to strategies for dealing with problems and situations are for them on a 5-point scale. The CBAS has four subscales (Behavioral Social, Behavioral Nonsocial, Cognitive Social, and Cognitive Nonsocial avoidance) that can be summed for a total score.

#### *Sociotropy—Autonomy Scale-Revised (SAS-R; Clark & Beck, 1991)*

The SAS-R is a 59-item self-report measure of sociotropy and autonomy, which have been proposed as cognitive diatheses for depression ([Beck, 1983; Clark et al., 1999](#)). Participants rate the degree to which statements reflecting sociotropy and autonomy apply to them on a 5-point scale. The scale yields three scores, reflecting a single Sociotropy factor and two Autonomy factors (Need for Independence and Need for Solitude). The SAS-R demonstrates strong internal reliability, as well as adequate convergent, divergent and factorial validity ([Clark, Steer, Beck, & Ross, 1995](#)).

#### *Ruminative Responses Scale (RRS; Nolen-Hoeksema & Morrow, 1991)*

The RRS consists of 22 items that assess rumination focused on the self, on symptoms, and on possible consequences and causes of symptoms. Each item is rated on a 4-point scale. The RRS has demonstrated strong reliability and validity ([Nolen-Hoeksema & Morrow, 1991](#)). The RRS can be further separated into a 5-item brooding subscale and a 5-item reflection subscale ([Treyner et al., 2003](#)). Both the full rumination scale and the reflection and brooding subscales were used in the present study.

#### *Social Problem-Solving Inventory-Revised (SPSI-R; D’Zurilla, Nezu, & Maydeu-Olivares, 2002)*

The SPSI-R is 52-item measure of problem-solving. Participants rate the degree to which items characterize their feelings and behavior in response to everyday problems, using a 5-point scale.

The 5-item Positive Problem Orientation (PPO) scale measures a constructive problem-solving set reflecting acceptance of change, self-efficacy, commitment, and optimism. The 10-item Negative Problem Orientation (NPO) scale reflects cognitions and emotions inhibitive of problem-solving such as perception of threat, lack of self-efficacy, pessimism and negative affect. The internal consistency of the PPO and NPO subscales has been shown to be adequate ([D’Zurilla et al., 2002](#)).

### Procedure

Participants were recruited through public postings in hospitals and the community, media notices, and public information sessions and mental health promotion activities in the community. Potential participants were screened over the telephone to ensure that they understood the nature of the study, likely met the inclusion criteria, and did not meet exclusionary criteria including a history a psychosis, mania or current alcohol or drug abuse or addiction. Potential participants who continued to express interest in the study were scheduled for a personal interview.

Upon arrival to the laboratory, participants provided informed consent and then were administered the BDI-II, a demographics questionnaire in interview format, and the SCID-I to determine their eligibility for the study. Exclusionary criteria for all of the groups included current substance abuse or dependence, current psychotic symptoms (two or more), or a lifetime psychotic diagnosis, or a current or lifetime manic or hypomanic episode. With the exception of these diagnoses, participants were not excluded on the basis of comorbid mental disorders or medical conditions. Inclusionary criteria for the clinically depressed group were a current diagnosis of MDD made on the basis of the SCID-I and a BDI-II score greater than 13. Inclusionary criteria for the SAD group was an SCID-I diagnosis of SAD and a BDI-II score less than 20. The criteria for inclusion in the nonclinical group were the absence of any current psychiatric diagnosis. Eligible participants were administered the battery of questionnaires in a counterbalanced manner (four different orders). The questionnaire battery included the CBAS, the SAS-R, the RRS, the SPSI-R, and a few other questionnaires not relevant to the hypotheses of the present study. The diagnostic interview and assessment battery were typically completed during a session of approximately 2–2.5 h.

### Results

All statistical tests of study hypotheses were tested with a Type I error rate of .05. All one-way analyses of variance (ANOVAs) conducted to test for questionnaire order effects were not significant.

#### *Demographic characteristics across groups*

Demographic characteristics across groups are presented in [Table 1](#). With the exception of employment status, which showed significant differences across groups, none of the other demographic variables was found to differ significantly across groups, all  $ps > .05$ . The MDD without SAD and the MDD with SAD groups of women demonstrated higher levels of unemployment than the SAD only and nonclinical groups of women. Employment status did not interact with participant group status (MDD without SAD, MDD with SAD, SAD, and nonclinical groups) to significantly affect primary outcome measures on CBAS-measured avoidance, and thus employment status was not included as factor in the between-group comparisons of avoidance.



**Table 1**  
Demographic information and BDI-II and CBAS scores across participant groups.

	Overall MDE (n = 60)	MDE without SAD (n = 29)	MDE with SAD (n = 31)	SAD (n = 30)	Nonclinical (n = 30)
Age					
M	42.05	43.41	40.77	35.60	36.53
(SD)	(13.46)	(13.79)	(13.24)	(10.79)	(12.17)
Ethnicity (%)					
Asian	1.7	3.4	0	6.7	6.7
Caucasian	95.0	93.1	96.8	83.3	80.0
Other	3.3	3.4	3.2	10.0	13.3
Marital status (%)					
Single	33.3	24.1	41.9	43.3	46.7
Married/CL	45.0	50.0	38.7	50.0	53.3
Divorced	18.3	20.7	16.1	6.7	0
Widowed	3.3	3.4	3.2	0	0
Employment status (%)					
Unemployed	46.7	55.2	38.7	20.0	13.3
Employed PT	21.7	10.3	32.3	16.7	23.3
Employed FT	31.7	34.5	29.0	63.3	63.3
BDI-II score					
M	31.78	33.31	30.35	9.80	2.73
(SD)	(10.10)	(10.67)	(9.49)	(5.68)	(2.61)
CBAS total score					
M	87.15	79.59	94.23	77.90	43.87
(SD)	(22.73)	(21.59)	(21.76)	(13.13)	(11.04)
CBAS behavioral social score					
M	23.12	20.17	25.87	24.47	10.87
(SD)	(8.46)	(8.28)	(7.77)	(6.57)	(4.18)
CBAS behavioral nonsocial score					
M	19.35	17.79	20.81	16.00	8.77
(SD)	(5.56)	(5.49)	(5.30)	(4.52)	(2.40)
CBAS cognitive social score					
M	18.12	16.28	19.84	15.60	11.00
(SD)	(6.40)	(6.68)	(5.70)	(4.88)	(4.19)
CBAS cognitive nonsocial score					
M	26.57	25.34	27.71	21.83	13.23
(SD)	(8.72)	(8.38)	(9.02)	(6.44)	(3.22)

Note. MDE = Major Depressive Episode, SAD = Social Anxiety Disorder, CL = common law, PT = part-time, FT = full-time, BDI-II = Beck Depression Inventory-II, CBAS = Cognitive Behavioral Avoidance Scale.

#### Between-group comparisons of CBAS-measured avoidance

Mean scores on the CBAS avoidance scales across the participant groups are displayed in Table 1. Separate one-way ANOVAs were computed to test the hypotheses that levels of avoidance on all CBAS subscales would differ across groups. The ANOVA that examined levels of Behavioral Social avoidance revealed significant differences across participant groups,  $F(3, 116) = 29.24, p < .001$ . Consistent with hypotheses, planned  $t$ -tests showed that all clinical groups, including the MDD without SAD [ $t(41.10) = 5.42, p < .001$ ], MDD with SAD [ $t(46.36) = 9.43, p < .001$ ], and SAD [ $t(49.20) = 9.57, p < .001$ ] groups, showed significantly higher levels of Behavioral Social Avoidance than the nonclinical control group. Also consistent with hypotheses, it was found that women in the MDD with SAD group and the SAD group demonstrated significantly higher levels of Behavioral Social avoidance than the MDD without SAD group,  $t(58) = 2.75, p = .008$  and  $t(57) = 2.21, p = .031$ , respectively. However, the remaining group contrast between levels of Behavioral Social avoidance in the comorbid MDD with SAD and the SAD group was not significant,  $t(59) = .76, p = .45$ .

Levels of Behavioral Nonsocial avoidance also differed significantly across participant groups,  $F(3, 116) = 37.56, p < .001$ . As hypothesized, all clinical groups, including the MDD without SAD [ $t(38.06) = 8.13, p < .001$ ], MDD with SAD [ $t(42.12) = 11.49, p < .001$ ], and SAD [ $t(44.18) = 7.74, p < .001$ ] groups, had significantly higher

levels of Behavioral Nonsocial avoidance than the nonclinical control group. Also as hypothesized, the comorbid MDD with SAD group showed higher levels of Behavioral Nonsocial avoidance than the MDD without SAD group,  $t(58) = 2.16, p = .035$ , and the SAD group,  $t(59) = 3.81, p < .001$ . Contrary to hypothesis, Behavioral Nonsocial avoidance was not found to be higher in the MDD without SAD versus the SAD group,  $t(57) = 1.37, p = .18$ .

The one-way ANOVA on levels of Cognitive Social avoidance showed significant differences across participant groups,  $F(3, 116) = 13.59, p < .001$ . In line with study hypotheses, all clinical groups, including the MDD without SAD [ $t(46.83) = 3.62, p < .001$ ], MDD with SAD [ $t(55.12) = 6.92, p < .001$ ], and SAD [ $t(58) = 3.92, p < .001$ ] groups, showed significantly higher levels of Cognitive Social avoidance than the nonclinical control group. Also as hypothesized, the comorbid MDD with SAD group showed higher levels of Cognitive Social avoidance than both the MDD without SAD group,  $t(58) = 2.23, p = .03$ , and the SAD group,  $t(59) = 3.12, p = .003$ . The remaining contrast between the MDD without SAD and SAD groups on levels of Cognitive Social avoidance was non-significant,  $t(57) = .45, p = .66$ .

There was a significant difference in Cognitive Nonsocial avoidance across participant groups,  $F(3, 116) = 23.83, p < .001$ . Consistent with hypotheses, all clinical groups, including the MDD without SAD [ $t(35.87) = 7.28, p < .001$ ], MDD with SAD [ $t(37.77) = 8.40, p < .001$ ], and SAD [ $t(42.68) = 6.54, p < .001$ ]

groups, had significantly higher levels of Cognitive Nonsocial avoidance than the nonclinical group. Whereas the comorbid MDD with SAD group showed significantly higher levels of Cognitive Nonsocial avoidance than the SAD group,  $t(54.34) = 2.94, p = .005$ , the contrast between the comorbid MDD with SAD group and the MDD without SAD group was non-significant,  $t(58) = 1.05, p = .30$ . The hypothesized difference between the MDD without SAD group and the SAD group on Cognitive Nonsocial avoidance was marginally significant,  $t(57) = 1.81, p = .08$ , with higher levels of avoidance in the MDD without SAD group.

Finally, the one-way ANOVA on total CBAS avoidance scores across the participant groups revealed significant differences,  $F(3, 116) = 44.59, p < .001$ . Consistent with hypotheses, all clinical groups, including the MDD without SAD [ $t(41.39) = 7.96, p < .001$ ], MDD with SAD [ $t(44.80) = 11.45, p < .001$ ], and SAD [ $t(58) = 10.87, p < .001$ ] groups, showed significantly higher levels of total CBAS avoidance than the nonclinical control group. Also consistent with hypotheses, the comorbid MDD group reported significantly higher levels of overall CBAS avoidance than the MDD without SAD group [ $t(58) = 2.61, p = .011$ ] and the SAD group [ $t(49.56) = 3.56, p = .001$ ]. Levels of overall CBAS avoidance were not found to differ significantly across the MDD without SAD and the SAD groups [ $t(45.93) = .36, p = .72$ ].

#### Relationships among avoidance and psychosocial variables in depression

Mean scores in the overall MDD sample ( $n = 60$ ) on the psychosocial measures of sociotropy, autonomy-independence, autonomy-solitude, rumination, including brooding and reflection, and positive and negative problem orientations are presented in Table 2. Within the sample of depressed women, correlational analyses were conducted to examine hypotheses pertaining to the relationships among CBAS-measured dimensions of avoidance and each of the psychosocial variables, and are presented in Table 2.

All of the CBAS scales showed significant positive correlations with sociotropy (range of  $r = .28$  to  $.45$ ), with the exception of the Behavioral Social subscale, which showed a marginally significant correlation with sociotropy of  $r = .25, p = .053$ . All of the CBAS scales showed significant positive correlations with autonomy-solitude (range of  $r = .29$  to  $.55$ ), but no significant correlations with the independence factor of the autonomy construct, as expected. Contrary to the hypothesis that sociotropic individuals would show higher levels of avoidance in social domains, Steiger's  $z$ -test

(Steiger, 1980) showed that correlations between sociotropy and social forms of avoidance were not statistically different in magnitude from correlations between sociotropy and nonsocial forms of avoidance, all  $ps > .05$ .

The hypothesis that both behavioral and cognitive avoidance would show significant positive correlations with rumination was generally supported, as there were significant positive correlations between all CBAS avoidance dimensions, except the Behavioral Social subscale, with the overall RRS rumination construct. When the RRS was subdivided into brooding and reflection factors, Behavioral Nonsocial and Cognitive Nonsocial subscales correlated significantly with the brooding factor of rumination. The correlation between brooding and Behavioural Social avoidance was marginally significant ( $r = .25, p = .058$ ), whereas the correlation between brooding and the Cognitive Social subscales was non-significant ( $r = .12, p = .352$ ). As hypothesized, CBAS-measured avoidance scales were not found to be significantly related to the reflection factor of rumination.

Consistent with hypotheses, all CBAS dimensions showed significant positive correlations with NPO. As predicted, it was found that the CBAS scales generally showed significant negative correlations with PPO. The Behavioral Social avoidance scale, however, was not found to be significantly related to PPO.

#### Discussion

The purposes of the present study were to: 1) compare levels of avoidance across clinically depressed, socially anxious, comorbid depressed and socially anxious, and nonclinical control groups of women; and 2) examine the relationships among avoidance and correlates of and risk factors for depression in clinically depressed women. This study involved the most comprehensive examination of avoidance in relation to established psychosocial risk factors for depression within the literature to date. The results of this study hold significant implications for theoretical models of depression and its treatment, and highlight several important avenues for future investigations of the role of avoidance in depression.

#### Levels of avoidance across major depression and social anxiety disorder

Hypotheses pertaining to differences in levels of avoidance across the participants groups were largely supported. All avoidance dimensions of the Cognitive Behavioral Avoidance Scale (CBAS), as well as total CBAS avoidance, were higher in all clinical

**Table 2**

Mean scores on psychosocial variables and correlations between CBAS scales and psychosocial variables in the overall MDD sample ( $n = 60$ ).

Criterion measure	Mean (SD)	Behavioral social	Behavioral nonsocial	Cognitive social	Cognitive nonsocial	Total CBAS
<b>SAS</b>						
Sociotropy	76.80 (18.54)	.25	.41**	.28*	.45**	.44**
Autonomy-S	21.35 (7.07)	.36**	.29*	.55**	.42**	.52**
Autonomy-I	40.13 (8.98)	-.10	-.19	-.08	-.14	-.16
<b>RSQ</b>						
Rumination	60.53 (11.03)	.19	.39**	.26*	.42**	.40**
Brooding	14.63 (3.28)	.25	.33**	.12	.37**	.35**
Reflection	12.38 (3.66)	.07	.03	-.06	-.07	-.01
<b>SPSI-R</b>						
NPO	23.92 (8.96)	.31*	.69**	.34**	.54**	.59**
PPO	8.60 (3.68)	.01	-.33**	-.28**	-.30*	-.27*

Note. SAS = Sociotropy-Autonomy Scale, Autonomy-S = Autonomy-Solitude, Autonomy-I = Autonomy-Independence, RSQ = Response Styles Questionnaire, SPSI-R = Social Problem-Solving Inventory – Revised, NPO = Negative Problem Orientation, PPO = Positive Problem Orientation.

\*Indicates correlation is significant at the  $p < .05$  level (2-tailed).

\*\*Indicates correlation is significant at the  $p < .01$  level (2-tailed).

groups compared to the nonclinical group of women. Furthermore, in almost all cases the group of women with comorbid Major Depressive Disorder (MDD) and Social Anxiety Disorder (SAD) showed significantly greater levels of avoidance than the MDD without SAD and SAD groups, thus confirming study hypotheses. In exception to this general pattern of results, the comorbid MDD with SAD group did not report greater Behavioral Social avoidance than the SAD group, or greater Cognitive Nonsocial avoidance than the MDD without SAD group.

With regard to specificity of the different avoidance dimensions across the participant groups, the MDD with SAD and SAD groups reported greater Behavioral Social avoidance than the MDD without SAD groups. This finding confirms study hypotheses, and is consistent with diagnostic criteria ([American Psychiatric Association, 2013](#)) and cognitive-behavioral conceptualizations ([Clark & Wells, 1995](#); [Rapee & Heimberg, 1997](#)) of SAD that emphasize behavioral avoidance of feared social situations as a key component of the disorder.

The results demonstrated weaker support for the hypothesis that nonsocial forms of avoidance would be greater in the MDD without SAD group compared to the SAD group of women. This hypothesis was made on the basis that nonsocial avoidance is more relevant to conceptualizations of depression (e.g., [Ferster, 1973](#); [Martell et al., 2001](#)) than social anxiety. However, the present results showed that Behavioral Nonsocial avoidance did not significantly differ across MDD without SAD and SAD groups, and Cognitive Nonsocial avoidance was only marginally higher in the MDD without SAD compared to the SAD group. Thus, individuals with SAD appear to engage in nonsocial avoidance to nearly the same extent as individuals with MDD. Nonsocial demands and situations, at work or school for instance, often have social components such as interaction with other people and the potential for negative evaluation (perceived or actual) by others. Thus, individuals with SAD may engage in avoidance of nonsocial demands and situations in part because of their associated social components. Nonsocial avoidance may have similar deleterious effects in SAD as theorized in MDD, including the exacerbation of problems that are not being addressed and preclusion of opportunities for positive reinforcement and feelings of mastery and achievement ([Martell et al., 2001](#)). These findings suggest that future research on models and treatment of SAD should consider nonsocial avoidance in addition to social avoidance.

Overall, the results of this study show that depression is characterized by high levels of cognitive and behavioral avoidance across both social and nonsocial domains. Levels of avoidance were significantly higher in the MDD groups compared to the nonclinical group of women, and with the exception of Behavioral Social avoidance, levels of avoidance in the MDD without SAD group were at least on par with levels of avoidance in SAD. These results are significant given that avoidance has received far greater attention in the conceptualization of anxiety disorders compared to depression (e.g., [Clark & Wells, 1995](#); [Rapee & Heimberg, 1997](#)). Thus, it seems that the potential role of avoidance in depression has been largely neglected when considering the empirical data suggesting that avoidance may be an important construct to consider in theoretical conceptualizations of depression.

#### *Associations among avoidance and other correlates of depression*

Consistent with hypotheses, avoidance showed significant positive relationships with the purported personality diatheses for depression of sociotropy and autonomy–solitude within the overall sample of depressed women. The more adaptive element of autonomy – the independence factor – was not found to be significantly associated with avoidance. Contrary to the expectation that

sociotropic individuals would be prone to avoid stressors in their domain of importance, there were no significant differences in the correlations between sociotropy and social and nonsocial forms of avoidance. This finding appears to be consistent with a study conducted by [Nelson, Hammen, Daley, Burge, and Davila \(2001\)](#) on late-adolescent women that showed that sociotropy was a risk factor for increases in chronic stress in the achievement domain over an 18 month time frame when combined with either poor problem-solving or low levels of perceived interpersonal competence.

[Nelson et al. \(2001\)](#) speculated two potential mechanisms by which sociotropy might create risk for the generation of chronic achievement-related stress. The first mechanism involved sociotropic individuals' exclusive direction of attention to the development and maintenance of intimate relationships and resultant neglect of school or work responsibilities. The direction of less attention to the domain of less value was also speculated to be associated with less developed skills within the less valued domain. Alternatively, and consistent with the hypothesis in the present study that sociotropic individuals would be prone to social avoidance, the authors speculated that sociotropy may contribute to the generation of achievement-related stress because sociotropic individuals' interpersonal passivity and lack of assertion would be likely to render them less effective at school or work. Thus, sociotropy may contribute to problems and stressful situations in nonsocial domains, which in turn may be avoided by sociotropic individuals. In addition, as previously mentioned, nonsocial problems and situations at work or school often involve social components (e.g., the potential for reprimand by a boss or supervisor). Sociotropy may therefore be associated with higher nonsocial avoidance in part because of the associated social components of nonsocial problems and situations.

As expected, autonomy–solitude correlated significantly with social and nonsocial forms of avoidance. The study by [Nelson et al. \(2001\)](#) also showed that autonomy (need for control factor) was associated directly with risk for future chronic stress in interpersonal domains. These authors speculated that these autonomous individuals may place so much focus on their work that they have little remaining time or patience for other in their lives. It was also speculated that autonomous individuals would create tension and conflict in their relationships as a result of their excessive need to be free of interpersonal constraints. Thus, autonomy may contribute to problems and stress in the social domain, which in turn may be avoided by autonomous individuals. Autonomy–solitude was also associated with nonsocial forms of avoidance in the present study. Nonsocial avoidance may be more critical for autonomous individuals in terms of its association with depression given the presumed increased potential for nonsocial avoidance to contribute to the generation of stressors within their domain of importance – the achievement domain, although this hypothesis remains to be empirically tested.

The hypothesis that avoidance would be positively and significantly associated with rumination constructs, including the overall rumination scale and the Brooding factor of rumination, was generally supported. However, Behavioral Social avoidance failed to show significant positive associations with the overall rumination construct and Brooding, and Cognitive Nonsocial avoidance was not significantly correlated with Brooding. It is unclear whether these null associations are conceptually meaningful or reflect statistical limitations of the study such as insufficient power, and therefore replication is needed. Overall, however, the significant associations between rumination and the cognitive and behavioral avoidance dimensions provide support for the presumed cognitive and behavioral avoidance function of rumination ([Martell et al., 2001](#)).

Consistent with expectations, avoidance was significantly and positively associated with a Negative Problem Orientation (NPO). The hypothesis that avoidance would show significant negative associations with Positive Problem Orientation (PPO) was generally confirmed, although Behavioral Social avoidance was not significantly related to PPO. These results are consistent with the findings of D’Zurilla et al. (1998) that both NPO and PPO were significantly related to avoidant problem-solving behavior. Future research is needed to ascertain whether certain problem orientations lead to avoidant behavior or whether a tendency to avoid problems influences beliefs about problem-solving.

#### *Study limitations and future research directions*

A primary limitation of the present study is that the cross-sectional design precludes any conclusions about the direction of the relationships between variables. Although establishing associations between avoidance, correlates and/or risk factors of depression, and depression is an important first step in model development, determining the direction of these relationships is necessary to more conclusively delineate the mechanisms by which avoidance contributes to depression. Longitudinal investigations of the relationships between avoidance, correlates and/or risk factors of depression, and depression are clearly warranted. Another limitation of this investigation is the use of self-report measures to capture and quantify the construct of avoidance. The degree to which self-reported avoidance reflects the actual strategies that people use in everyday life is unknown. Future research should attempt to determine the relationship between self-reported avoidance and the actual employment of cognitive and behavioral forms of avoidance.

The nature of the sample in the present study limits the generalizability of the study findings. The sample included only women, and thus, the results cannot be generalized to men. Gender may be an important moderator of use of avoidance and/or the relationship between use of avoidance and psychopathology given the influence that gender role socialization may have on the development of coping and emotion regulation strategies (see Tamres, Janicki, & Helgeson, 2002 for a review). Gender socialization theory suggests that men may be more likely to cope with a stressor by avoiding it because men are not encouraged to express or share their emotions (Tamres et al., 2002). Alternatively, it is thought that men are socialized to be direct and assertive and therefore may engage in more active problem-solving in response to stress, whereas women are socialized to use more passive and emotion-focused coping strategies (Tamres et al., 2002). Reviews of the coping and emotion regulation literature conclude that women are generally more likely to engage in avoidance in response to stressors than men (Nolen-Hoeksema, 2012; Tamres et al., 2002). However, men show a greater tendency to use avoidance than women when confronted with a social or relationship stressor (Tamres et al., 2002). The original validation study of the CBAS in a university sample of both men and women showed that men reported greater use of all dimensions of CBAS avoidance except for Behavioral Nonsocial avoidance, and that CBAS avoidance dimensions were significantly and positively related to depressive and anxious symptoms for both men and women, with no significant difference in the strength of association across genders (Ottenbreit & Dobson, 2004). The inclusion of social dimensions of avoidance (Cognitive Social and Behavioral Social subscales) on the CBAS may account for the greater reported use of avoidance among males compared to females in the validation study. Future research with samples that include both men and women is needed to clarify the potential moderating role of gender on use of social versus nonsocial forms of avoidance, the association between

avoidance and depression as well as other forms of psychopathology, and the relationships among avoidance and other psychosocial correlates of depression.

Other limitations of the sample include that the sample was predominantly Caucasian, and so future research should examine the relationships among avoidance and other variables across other racial/ethnic groups. Given the exclusionary criteria for the study, the study results also cannot be assumed to generalize to depressed women with comorbid alcohol or drug abuse or addiction, or a history of mania or psychosis. Similarly, the use of an adult sample of women between the ages of 18 and 65 precludes generalization about the nature of the relationships between avoidance and depression in samples of youth or older adults. Finally, a large number of correlations between the CBAS avoidance dimensions and other psychosocial correlates of depression were examined within the subsample of 60 depressed women. Although these analyses were driven by hypotheses based on the theoretical and empirical literature on depression and avoidance, the results should be interpreted with caution given the large number of analyses conducted within a sample of relatively modest size. Replication of the observed relationships in sufficiently powered designs is warranted.

A number of future research directions are warranted. As the employment of avoidance strategies in this context is presumed to reflect a conscious strategy of addressing problems and situations, the decision process associated with the employment of avoidance strategies deserves consideration. Studies could investigate if avoidance strategies are employed because of the presumed lack of efficacy in one’s problem-solving skills, as suggested by D’Zurilla et al. (1998). Alternatively, and similar in respect to the employment of avoidance in anxious individuals, it may be that individuals choose to avoid situations as a risk management strategy. This hypothesis may play out in the sense that depressed individuals or those prone to depression make conscious decisions to avoid situations that they judge to entail further risk to their sense of esteem. For example, individuals may choose not to engage in a new activity in order to prevent potential failure, or may choose not to attend social events because of the expectation that they will not enjoy the event or may experience some form of rejection.

Another area of investigation would be to test the conditions under which avoidance predicts depression. Is it always the case that avoidance is a maladaptive strategy, or are there situations in which avoidance may be a functional strategy? The problem-solving literature (Nezu, Nezu, & Perri, 1989) suggests that active approaches to solving one’s problems are optimal when stressors are controllable, but that other approaches may be optimal when stressors are not under an individual’s control. As found by Davila (1993), it is likely that avoidance may be associated with positive outcomes in the short-term as a person removes him/herself from demands, but that avoidance is maladaptive in terms of outcomes related to mood in the long-term.

An additional important direction for future research would be to continue to examine avoidance in relation to established risk factors for depression. For instance, Joiner (2002) has speculated that avoidance may be one mechanism by which individuals who are depressed generate stressful events in their lives. Avoidance should be examined in the context of the stress generation literature to determine if this construct might add explanatory value to research in this area. Consistent with the value of this line of investigation, advocates of the BA approach to the treatment of depression (Martell et al., 2001) have theorized that one-way in which avoidance exerts its deleterious effects is by means of compounding problems that are not being addressed. Joiner (2002) also speculated that interpersonal avoidance might lead to depression through the diminution of social support. As social



support has been a robust variable in the prediction of risk for depressive relapse (e.g., Backs-Dermott, Dobson, & Jones, 2010; Paykel & Cooper, 1992), any factors affecting one's access to, or availability of, social support should be examined in relation to social support and depression.

The construct of avoidance to this point has existed implicitly in much of the theory of depression and has been studied empirically on the borders of the depression literature. The present empirical investigation suggests that avoidance may warrant greater consideration in psychosocial models of depression. It is hoped that the present study will stimulate further thought and inquiry into the potential role of avoidance in the conceptualization and treatment of depression.

## References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (DSM-5) (5th ed). Washington, DC: American Psychiatric Association.
- Backs-Dermott, B. J., Dobson, K. S., & Jones, S. L. (2010). An evaluation of an integrated model of relapse in depression. *Journal of Affective Disorders*, 124, 60–67.
- Barlow, D. A. (2002). *Anxiety and its disorders: The nature and treatment of anxiety and panic* (2nd ed.). New York: Guilford Press.
- Beck, A. T. (1983). Cognitive therapy of depression: new perspectives. In P. J. Clayton, & J. E. Barrett (Eds.), *Treatment of depression: Old controversies and new approaches* (pp. 265–290). New York: Raven Press.
- Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive therapy of depression*. New York: Guilford Press.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck depression inventory-II manual*. San Antonio, TX: The Psychological Corporation.
- Blalock, J. A., & Joiner, T. E. (2000). Interaction of cognitive avoidance coping and stress in predicting depression/anxiety. *Cognitive Therapy and Research*, 24, 47–65.
- Borkovec, T. D. (1994). The nature, functions, and origins of worry. In G. C. L. Davey, & F. Tallis (Eds.), *Worrying: Perspectives in theory, assessment, and treatment* (pp. 5–33). England: John Wiley and Sons.
- Clark, D. A., & Beck, A. T. (1991). Personality factors in dysphoria: a psychometric refinement of Beck's sociotropy-autonomy scale. *Journal of Psychopathology and Behavioral Assessment*, 13, 369–388.
- Clark, D. A., Beck, A. T., & Alford, B. A. (1999). *Scientific foundations of cognitive theory and therapy of depression*. New York: John Wiley and Sons, Inc.
- Clark, D. A., Steer, R. A., Beck, A. T., & Ross, L. (1995). Psychometric characteristics of the revised sociotropy-autonomy scales in college students. *Behavioural Research and Therapy*, 33, 325–334.
- Clark, D. M., & Wells, A. (1995). A cognitive model of social phobia. In R. G. Heimberg, M. R. Liebowitz, D. A. Hope, & F. R. Schneier (Eds.), *Social phobia: Diagnosis, assessment, and treatment* (pp. 69–93). New York: The Guilford Press.
- Connor-Smith, J. K., & Compas, B. E. (2002). Vulnerability to social stress: coping as a mediator or moderator of sociotropy and symptoms of anxiety and depression. *Cognitive Therapy and Research*, 26, 39–55.
- Coyne, J. C., & Whiffen, V. E. (1995). Issues in personality as diathesis for depression: the case of sociotropy-dependency and autonomy-self-criticism. *Psychological Bulletin*, 118, 358–378.
- Cribb, G., Moulds, M. L., & Carter, S. (2006). Rumination and experiential avoidance in depression. *Behaviour Change*, 23, 165–176.
- Cuijpers, P., van Straten, A., & Warmerdam, L. (2007). Behavioral activation treatments of depression: a meta-analysis. *Clinical Psychology Review*, 27, 318–326.
- Davila, J. (1993). Attachment, interpersonal problem-solving, and stress in depression: An integrated developmental approach. Doctoral dissertation, University of California, 1993 *Dissertation Abstracts International*, 54, 5383.
- Davila, J., Hammen, C., Burge, D., Paley, B., & Shannon, E. (1995). Poor interpersonal problem solving as a mechanism of stress generation in depression among adolescent women. *Journal of Abnormal Psychology*, 104, 592–600.
- Dickson, K. S., Ciesla, J., & Reilly, L. C. (2012). Rumination, worry, cognitive avoidance, and behavioral avoidance: examination of temporal effects. *Behavior Therapy*, 43, 629–640.
- D'Zurilla, T. J., Chang, E. C., Nottingham, E. J., & Faccini, L. (1998). Social problem-solving deficits and hopelessness, depression, and suicidal risk in college students and psychiatric patients. *Journal of Clinical Psychology*, 54, 1091–1107.
- D'Zurilla, T. J., & Nezu, A. M. (1999). *Problem-solving therapy: A social competence approach to clinical intervention* (2nd ed.). New York: Springer Publishing Co.
- D'Zurilla, T. J., Nezu, A. M., & Maydeu-Olivares, A. (2002). *Manual for the social problem-solving inventory-revised*. North Tonawanda, NY: Multi-Health Systems.
- Ferster, C. B. (1973). A functional analysis of depression. *American Psychologist*, 28, 857–870.
- First, M. B., Gibbon, M., Spitzer, R. L., & Williams, J. B. (1996). *Structured clinical interview for the DSM-IV axis I disorders- research version* (SCID-I, version 2.0, February 1996, final version). New York: Biometrics Research.
- Foa, E. B., & Kozak, M. J. (1986). Emotional processing of fear: exposure to corrective information. *Psychological Bulletin*, 99, 20–35.
- Hansenne, M., Pitchot, W., Gonzalez Moreno, A., Reggers, J., Machurot, P.-Y., & Anseau, M. (1997). Harm avoidance dimension of the tridimensional personality questionnaire and serotonin-1A activity in depressed patients. *Biological Psychiatry*, 42, 959–961.
- Jacobson, N. S., Martell, C. R., & Dimidjian, S. (2001). Behavioral activation treatment for depression: returning to contextual roots. *Clinical Psychology: Science and Practice*, 8, 255–270.
- Joiner, T. E. (2002). Depression in its interpersonal context. In I. H. Gotlib & C. L. Hammen (Eds.), *Handbook of depression* (pp. 295–313). New York: Guilford Press.
- Kuyken, W., & Brewin, C. R. (1994). Stress and coping in depressed women. *Cognitive Therapy and Research*, 18, 403–412.
- Martell, C. R., Addis, M. E., & Jacobson, N. S. (2001). *Depression in context: Strategies for guided action*. New York: W. W. Norton and Company, Inc.
- Moulds, M. L., Kandris, E., Starr, S., & Wong, A. (2007). The relationship between rumination, avoidance and depression in a non-clinical sample. *Behaviour Research and Therapy*, 45, 251–261.
- Mowrer, O. H. (1960). *Learning theory and behavior*. New York: John Wiley & Sons, Inc.
- Nelson, D. R., Hammen, C., Daley, S. E., Burge, D., & Davila, J. (2001). Sociotropic and autonomous personality styles: contributions to chronic life stress. *Cognitive Therapy and Research*, 25, 61–76.
- Nezu, A. M., Nezu, C. M., & Perri, M. G. (1989). *Problem-solving therapy for depression: Theory, research and methods*. New York: John Wiley and Sons, Inc.
- Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology*, 100, 569–582.
- Nolen-Hoeksema, S. (2012). Emotion regulation and psychopathology: the role of gender. *Annual Review of Clinical Psychology*, 8, 161–187.
- Nolen-Hoeksema, S., & Morrow, J. (1991). A prospective study of depression and posttraumatic stress symptoms after a natural disaster: the 1989 Loma Prieta earthquake. *Journal of Personality and Social Psychology*, 61, 115–121.
- Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science*, 3, 400–424.
- Ottenbreit, N. D., & Dobson, K. S. (2004). Avoidance and depression: the construction of the cognitive-behavioral avoidance scale. *Behaviour Research and Therapy*, 42, 292–313.
- Paykel, E. S., & Cooper, Z. (1992). Life events and social stress. In E. S. Paykel (Ed.), *Handbook of affective disorders* (2nd ed.) (pp. 147–170). New York: Guilford Press.
- Rapee, R. M., & Heimberg, R. G. (1997). A cognitive-behavioral model of anxiety in social phobia. *Behaviour Research and Therapy*, 35, 741–756.
- Salkovskis, P. M. (1991). The importance of behaviour in the maintenance of anxiety and panic: a cognitive account. *Behavioural Psychotherapy*, 19, 6–19.
- Segrin, C. (1998). Interpersonal communication problems associated with depression and loneliness. In P. A. Anderson & L. A. Guerrero (Eds.), *The handbook of communication and emotion* (pp. 215–242). New York: Academic Press.
- Sprock, J., & Yoder, C. Y. (1997). Women and depression: an update on the report of the APA task force. *Sex Roles*, 36, 269–303.
- Spurrell, M. T., & McFarlane, A. C. (1995). Life-events and psychiatric symptoms in a general psychiatry clinic: the role of intrusion and avoidance. *British Journal of Medical Psychology*, 68, 333–340.
- Steiger, J. H. (1980). Tests for comparing elements of a correlation matrix. *Psychological Bulletin*, 87, 245–251.
- Tamres, L. K., Janicki, D., & Helgeson, V. S. (2002). Sex differences in coping behavior: a meta-analytic review and an examination of relative coping. *Personality and Social Psychology Review*, 6, 2–30.
- Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: a psychometric analysis. *Cognitive Therapy and Research*, 27, 247–259.
- Watkins, E., & Moulds, M. L. (2007). Reduced concreteness of rumination in depression: a pilot study. *Personality and Individual Differences*, 43, 1386–1395.
- Wong, Q. J. J., & Moulds, M. L. (2011). The relationship between the maladaptive self-beliefs characteristic of social anxiety and avoidance. *Journal of Behavior Therapy and Experimental Psychiatry*, 42, 171–178.