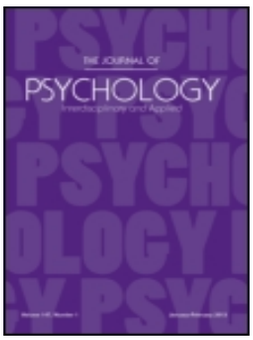

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The Effects of Dysphoria and Personality on Negative Self-Referent Attitudes and Perceptions of the Attitudes of Others

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ABSTRACT. The cognitive model of depression posits that depressed individuals harbor more dysfunctional self-referent attitudes, but little is known about how depressed individuals perceive the attitudes and perceptions of others in their social arena. This study examined whether dysphoric individuals perceive others to hold equally negative attitudes about themselves, and whether such perceptions depend on sociotropic (i.e., highly invested in social approval and relationship success) and autonomous (i.e., highly invested in vocational or academic achievement and goal attainment) personality styles. A sample of undergraduate students ($N = 197$) was recruited, and after the assessment of their depression symptoms and personality style, participants read vignettes that described negative scenarios, and imagined that these scenarios occurred to themselves or the general university student. After reading each vignette, participants also rated their agreement with a number of statements that assessed dysfunctional attitudes. Results indicated that elevated dysphoria (i.e., showing signs of depression) scores were positively associated with dysfunctional self-referent attitudes. Further, moderational analyses examining the interaction of sociotropy and dysphoria did not support the hypothesis that individuals higher on dysphoria *and* sociotropy were less likely to perceive others as harboring negative attitudes about themselves in comparison to those with elevated dysphoria and lower levels of sociotropy. Last, individuals showing elevated dysphoria *and* higher scores on subdomains of autonomy were more likely to perceive others as exhibiting negative attitudes about themselves than those with low levels of the trait. These findings, their implications, and strengths and limitations of the current investigation are further discussed.

Keywords: autonomy, depression, dysfunctional attitudes, false consensus bias, sociotropy

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DEPRESSION IS OFTEN REFERRED TO AS THE COMMON COLD OF PSYCHOPATHOLOGY. This unfortunate analogy tends to minimize the clinically significant impairment associated with the disorder in a variety of domains, including disturbances in psychological functioning and social relationships. Research indicates that depression is ubiquitous, regardless of ethnicity or geographical region, as it has been identified in a number of countries (Simon, Goldberg, Von Korff, & Üstün, 2002). For instance, the lifetime prevalence rates of depression are approximately 17% in the United States and 9% worldwide, while the one-year prevalence of the condition is estimated to be 5–6% worldwide (Kessler, Chiu, Demler, & Walters, 2005; Kessler et al., 2003; Dobson & Dozois, 2008). The cost of depression is not only emotional, but also economical, when healthcare costs as well as work productivity loss, disability claims, and other issues are considered (Stephens & Joubert, 2001). Given the detrimental and pervasive costs of depression, ongoing examination of the constructs that are associated with depressed mood, such as dysfunctional attitudes, biases, and personality styles, is warranted.

Beck's (1967) cognitive model of depression contends that individuals with depression experience a variety of depressogenic schemas (or core beliefs), cognitive biases, dysfunctional attitudes, and negative thoughts. This negative bent in the information processing system of individual sufferers serves to perpetuate or maintain a depressed mood (Beck, 2005). In accordance with Beck's formulation, a number of investigations (Haaga, Dyck, & Ernst, 1991; Dozois & Beck, 2008) have found that depressed individuals report significantly more acute negative thoughts towards the self than nondepressed individuals. Of particular relevance to the present study, multiple researchers (Beshai, Dobson, & Adel, 2012; Dobson, Pusch, Ardo, & Murphy, 1998; Blatt, Quinlan, Chevron, McDonald, & Zuroff, 1982) have also found that dysphoric participants (or those showing elevated depression symptoms without meeting formal diagnostic criteria for clinical depression) harbor significantly more negative self-critical thoughts than nondysphoric individuals.

Similarly, Beck (1967) maintained that dysphoric and depressed individuals hold self-referent dysfunctional attitudes. These attitudes, which Beck believed to manifest as "if – then" statements in the depressive cognitive system, are predominantly rigid and unrealistic. Weissman and Beck (1978) have created the Dysfunctional Attitudes Scale (DAS) to test the validity of this hypothesis. Since its development, the DAS has been widely used in depression and dysphoria studies. Thus far, Beck's hypothesis has consistently been supported among studies that have employed the instrument (e.g., Crandell & Chambless, 1986; Dobson & Shaw, 1986; Goldberg, Gerstein, Wenze, Welker, & Beck, 2008). For instance, Garber, Weiss, and Shanley (1993) found that depressed individuals scored significantly higher than their nondepressed counterparts on the DAS.

The majority of studies in the depression literature have focused on self-referent thoughts and attitudes exhibited by depressed or dysphoric individuals. In contrast, little is known regarding how individuals with depression perceive

the attitudes and thoughts of others. Studies of the extent to which depressed and dysphoric individuals perceive similar negative attitudes in others are needed. For instance, if depressed individuals expect others to either be cool and distant, or even potentially hostile toward them, such perceptions would likely contribute to a lack of willingness to engage in social interactions. Further, depressed individuals may expect social interactions to be negative in tone, and thus their avoidance of these situations could become a self-fulfilling prophecy.

In the arena of social psychology, multiple investigations regarding how individuals perceive others' attitudes have focused on the false consensus bias. The false consensus bias, also termed the self-referent bias, is similar to the availability heuristic, wherein a decision-making "shortcut" is adopted. This shortcut allows decisions to be made based on the greater accessibility of an individual's recent experiences and attitudes that are directly relevant to the situation at hand (Haynes, Smith, & Hunsley, 2011). Since information about the self is most accessible when making judgements about others, individuals tend to think of others as similar to themselves. Individuals who employ the false consensus bias rely on self-referent attitudes and beliefs to judge the frequency of similar attitudes held by others.

As an example of the false consensus bias, Stanford undergraduate students were asked to indicate whether or not they would wear a sandwich board around campus for 30 minutes (L. Ross, Greene, & House, 1977). To increase the generalizability of the findings, two signs were used that stated either "Eat at Joe's" or "Repent." After students indicated whether they would or would not participate, students were also asked to estimate the percentage of students who would agree and who would refuse to carry the sandwich board. L. Ross et al. (1977) found that participants who agreed to wear the sign predicted that 62.2% of peers would also comply with the task. In contrast, students who refused to wear the sign predicted only a 33% compliance rate. This study supports the presence and salience of the false consensus bias, as it appears that participants' prediction of other's behaviors and attitudes were directly related to their own attitudes regarding the board. Moreover, Krueger and Clement (1994) asked participants to indicate their agreement with 40 personality items. After completing an unrelated task, participants were asked to estimate the percentage of students who would agree with each of the personality items. The authors found that even when participants were educated on the false consensus bias and provided with representative data of the phenomenon, their responses still evidenced the bias. These studies lend credence to the robust nature of the false consensus bias.

Although the false consensus bias has been supported by a number of studies with healthy participants, investigations of this phenomenon with depressed individuals have been more equivocal. For instance, depressed individuals believe that negative events, and depressive reactions to such events, occur to others more frequently than do nondepressed individuals (Kuiper & MacDonald, 1983). Other data suggests that depressed individuals judge others' performance as more positive than nondepressed participants (Lobitz & Post, 1979). Thus, it is unclear

whether individuals with depression judge others' experiences and reactions as more or less negative relative to their own experiences. Research that further elucidates the relationship between individuals with depression and their judgments and attitudes toward others is needed.

Research suggests that personality factors play an important role in the development of depression. In a refinement of his cognitive model, Beck postulated the existence of the personality characteristics of sociotropy and autonomy, which result in differential risk for depression, particularly when combined with negative life events (Beck, Rush, Shaw, & Emery, 1979; Beck, 1983). Individuals who are high on sociotropy place considerable value on dependable interpersonal relationships, acceptance by others, and supportive relationships. When relationships fail to meet these criteria, individuals high on sociotropy are at an increased risk for depression (Coyne & Whiffen, 1995). In contrast, individuals who are more autonomous are concerned with the promotion of personal goals and successes and are argued to be self-critical. When these individuals are confronted with personal failures, they are at a greater risk for developing depression (Coyne & Whiffen).

Based on these conceptualizations of personality, individuals are more vulnerable to depression when the theme of a negative life event (i.e., whether the life stressor is predominately characterized by personal failure or the loss of a social relationship) is congruent with their dominant personality trait. For example, individuals who score high on autonomy may be more likely to develop depression when a personal goal is thwarted. In contrast, the deterioration of an intimate relationship may increase the risk for depression in individuals high on sociotropy. The interaction between the theme of a negative life event and personality variable is referred to as the congruency hypothesis (Clark, Beck, & Brown, 1992).

A number of investigations have found support for sociotropy and autonomy as vulnerability factors for depression. Morse and Robins (2005) investigated the role of sociotropy and autonomy in predicting depressive symptoms in a sample of remitted depressed older adults. These authors found strong support for the congruency hypothesis: increases in depressive symptoms were preceded by negative life events with themes, social or achievement, congruent with the individual's personality (i.e., high sociotropy or autonomy). The interaction between sociotropy or autonomy and concordant stressful life events has also been identified as a risk factor for relapse into depression (Segal, Shaw, Vella, & Katz, 1992). It has further been postulated that sociotropic and autonomous personality styles moderate the relationship between dysphoria and cognitive biases. For example, Dobson and colleagues (1998) used priming tasks designed to induce sociotropy and autonomy in individuals showing elevated baseline levels of these traits. They found that when dysphoric students were personally invested in the sociotropy and autonomy priming tasks, they were more likely to exhibit negative distortions. These findings indicate that negative biases are activated when a task challenges the core beliefs associated with an individual's dominant personality style.

In accordance with the congruency hypothesis, and given the hypothesized need of individuals high on sociotropy to preserve social bonds and foster approval, it is likely that individuals high on this trait may perceive fewer negative attitudes in others. In contrast, highly autonomous individuals may benefit from seeing negative attitudes in others, as the generalized other may be perceived as less of a potential threat to their personal success if they are regarded as inferior. Given these ideas, the purpose of the present investigation was to assess the association of personality style on dysphoric individuals' tendency to perceive similar negative attitudes in others. In accordance with Beck's cognitive model of depression (1967; Beck et al., 1979), it was hypothesized that dysphoria, regardless of personality style, would be positively associated with dysfunctional attitudes toward the self. Second, and consistent with Beck's (1983) conceptualization of sociotropy and autonomy, it was predicted that students exhibiting heightened dysphoria *and* sociotropy would be less likely to perceive the generalized other as possessing dysfunctional attitudes. Alternatively, it was predicted that individuals showing high dysphoria *and* autonomy would be more likely to perceive heightened dysfunctional attitudes in the generalized other. As such, personality style (e.g., sociotropy/autonomy) is predicted to moderate the relationship between dysphoria and perceived dysfunctional attitudes in the generalized other. That is, the interaction of personality and depressive symptoms is predicted to account for a significant portion of the variance beyond what is predicted by personality *and/or* dysphoria alone. To the authors' knowledge, there is no previous research that examines the link between the perceptions of attitudes in others and dimensions of personality related to dysphoria.

Research of this nature is important for both theoretical and practical reasons. First, if the hypotheses presented above are supported, then refinements to both the congruency hypothesis and false consensus bias model in depression are in order. Second, and given the social impact of depression, this study may be used to inform the design and tailoring of extant treatments for the disorder. For instance, if individuals high on autonomy are found to see negative attitudes in others more than their nonautonomous counterparts, then the psychoeducational and thought cognitive restructuring portion therapy may be fine-tuned to accommodate such findings.

Method

Participants

A total of 197 undergraduate students were recruited through the University of Calgary, Department of Psychology's Research Participant System. Participants were provided partial course credit for their participation. Following the consent process, participants completed a form to collect basic demographical variables (e.g., age, gender, academic major and year of study, religious affiliation, etc.). Descriptive statistics revealed that the sample consisted of approximately an equal

TABLE 1. Means and Standard Deviations for Demographic Variables

	M	*SD*
Age (years)	21.17	4.52
Education (years of postsecondary)	2.50	1.29
Gender % female	55.80%	n = 110

number of females (55.80%) and males (44.20%), was predominantly Caucasian (98.00%), and most students had completed less than two years of post-secondary education (52.80%). The combined mean age for the entire sample was 21.17 ($SD = 4.52$). A summary of pertinent demographic variables is displayed in Table 1.

Measures

The Center for Epidemiological Studies Depression Scale (CES–D; Radloff, 1977)

The CES-D is a 20-item self-report measure designed to assess current levels of depressive symptomatology in the general population. Participants indicate the extent to which they endorse statements such as "I felt depressed," "I talked less than usual," "I had trouble keeping my mind on what I was doing," and "I thought my life had been a failure" during the past week on a 4-point Likert scale from 0 (or "rarely or none of the time/less than once a day"), to 3 (or "most or all of the time/5–7 days"). Scores on this instrument range from 0–60 with higher scores indicating greater depressive symptomatology. The CES-D has been found to reliably assess symptoms of depression and can accurately discriminate between psychiatric and community samples (Radloff). The CES-D has demonstrated high internal consistency ($\alpha = .85$) and sound concurrent validity in the general population (e.g., C. E. Ross & Mirowsky, 1984). Further, the CES-D has demonstrated high internal consistency ($\alpha = .93$) among university samples (e.g., Devins et al., 1988), and adequate convergent validity (Radloff). In the current sample, the CES-D demonstrated excellent internal consistency ($\alpha = .91$).

Dysfunctional Attitudes Scale (DAS; Weissman & Beck, 1978)

The DAS consists of 40 depressive attitudes, such as "I cannot be happy unless most people I know admire me". Respondents indicate, on a 7-point Likert scale ranging from 1 "totally agree" to 7 "totally disagree," the degree to which they endorse each statement. Scores on this instrument range from 40–280, with higher

scores indicating greater negative attitudes (after the reversal of negatively worded items). Cane, Olinger, Gotlib, and Kuiper (1986) conducted a factor analysis on the DAS using a student population and found a two–factor structure that explained 61% of the variance. These researchers labeled the factors Performance Evaluation and Approval by Others. The two–factor structure of the DAS has generally been accepted in the depression literature (Dozois, Covin, & Brinker, 2003), and closely resembles the sociotropy and autonomy constructs identified by Beck (1983).

The Dysfunctional Attitudes Scale (DAS) was used to create the Self-Other Dysfunctional Scenarios scale (SODS) in the present study. A number of items from the DAS with interpersonal (e.g., "If others dislike you, you cannot be happy."; "Being alone leads to unhappiness.") and academic/ vocational (e.g., "If I fail at my work, then I am a failure as a person."; "If I don't set the highest standards for myself, I am likely to end up a second-rate person.") themes were reworded to create 12 hypothetical scenarios. These 12 scenarios were subdivided into two six-scenario sets. The first set of six scenarios asked participants to imagine the situations as if they are occurring to themselves (SODS-SELF), whereas the second set of six scenarios asked participants to imagine the situations as if they are occurring to "the average university student" (SODS-OTHER). Consistent with the DAS, each of the two six-scenario sets can be further subdivided into two three-scenario segments dealing either with themes of interpersonal or vocational/academic failure.

After each scenario, participants were asked to indicate how much they agree, on a 7-point Likert scale (1 "totally agree" to 7 "totally disagree"), with two statements associated with the scenario. As such, there were two response items for each of the 12 scenarios for a total of 24 items and a range of scores from 24–168. With the reversal of negatively worded items, higher scores were indicative of a higher frequency of dysfunctional attitudes. For example, the second scenario, which was related to the theme of vocational failure, asked respondents to rate their attitudes toward the generalized other if they had experienced the following scenario:

> Situation 2: Imagine that you're walking to class. One of your classmates greets you and begins to express her reactions about her job. She tells you that she's absolutely terrible at what she does, and that she overheard her employer talking about her termination to another supervisor.
> How much do you agree (from 1–7) with the following statements *regarding the average university student* if they have experienced the same situation as the person above?
>
> - They are successful as human beings.
> - They will never be happy in their life.

The SODS-OTHER and SODS-SELF subscales demonstrated adequate to good internal consistency, with alpha coefficients of .83 and .79, respectively. Further,

and as a partial test of the construct validity of the SODS, it was found that total scores on the SODS significantly and positively correlated with scores on the CES–D, $r = .32$, $p < .01$.

The Revised Sociotropy–Autonomy Scale (SAS-R; Clark & Beck, 1991)

The Sociotropy-Autonomy Scale (SAS; Beck, Epstein, Harrison, & Emery, 1983) is a 60-item self-report measure designed to assess two personality factors: sociotropy and autonomy. The SAS consists of two subscales, namely sociotropy and autonomy, and each are comprised of 30 items (e.g., "I am afraid of hurting other people's feelings"', and "It is more important to get a job done than to worry about other people's reactions", for sociotropy and autonomy, respectively). Both the sociotropy and autonomy scales demonstrate high internal consistency, with coefficients of 0.90 and 0.83, respectively (Beck et al., 1983). The SAS-R was created to improve the validity of the autonomy subscales of the SAS. Ten of the original items were removed, and 24 new items were added for a total of 74 items. The SAS-R has four factors: sociotropy, solitude/interpersonal insensitivity, independence, and individualistic achievement. The sociotropy subscale contains 28 items dealing with disapproval, pleasing others, and attachment issues. The other subscales were designed to approximate Beck's (1983) autonomy construct. The solitude/interpersonal insensitivity subscale consists of 16 items assessing preference for solitary activities, or an insensitivity to the needs and wishes of others. The third subscale, independence, includes 16 items measuring independent orientation. Last, the individualistic achievement subscale contains 14 items measuring goal obtainment and other achievement-related concerns.

The SAS-R demonstrates improved psychometric properties compared to the original SAS, and exhibited a stronger association with negative mood states (Clark & Beck, 1991). For this sample, the sociotropy scale demonstrated good internal validity with an alpha of .83. The solitude or interpersonal insensitivity, individualistic achievement, and independence subscales demonstrated adequate internal consistency with alphas of .71, .78, and .71, respectively. The individualistic achievement and independence subscales of the SAS-R were moderately correlated, indicating that they are tapping a similar construct (Clark & Beck, 1991). However, the solitude/interpersonal insensitivity subscale showed minimal correlation with the other two autonomy subscales, indicating that this scale may assess a separate personality construct. For this reason, it has been advised that the autonomy subscales be evaluated separately and not as a single autonomy score (Clark & Beck, 1991).

Procedure

Ethics approval was obtained from the University of Calgary Conjoint Faculties Research Ethics Board. After offering consent, all participants completed a battery of questionnaires including a demographic information form, the CES-D,

TABLE 2. Correlation Coefficients Among Dysphoria, Self-Referent Dysfunctional Attitudes, and Personality Orientation ($N = 197$)

Measure	CES–D	SODS-SELF	Sociotropy	Independence	Solitude
CES–D					
SODS-SELF	.38**				
Sociotropy	.20**	.47**			
Independence	.06	−.04	−.09		
Solitude	.21**	−.03	−.18*	.50**	
Achievement	−.18*	−.36**	−.41**	−.04	.03

Note. CES-D = Center for Epidemiologic Study Depression Scale; SODS-SELF = Self-Other Dysfunctional Scenarios Scale–Self Subscale.
* = Significant at the .05 level. ** = Significant at the .01 level.

the SAS-R, and the SODS. After completing the questionnaires, participants were debriefed and thanked for their participation.

Results

Preliminary Data Analyses

Before the analyses were conducted, the data were reviewed for completeness, and internal consistency coefficients were calculated for the CES-D, all four subscales of the SAS-R, and the SODS-SELF and SODS-OTHER subscales. An *a priori* alpha level of .05 was used to examine planned hypotheses.

Analyses followed several steps. First, a correlational analysis was conducted in order to calculate Pearson's correlation coefficients for the relationships between the various personality styles (as calculated by the four subscales of the SAS), dysphoria (CES-D), and dysfunctional self-referent attitudes (SODS-SELF). Second, a partial correlation analysis was conducted to tease apart the variance accounted for by personality in the relationship between dysfunctional self-referent attitudes and dysphoria. Last, and to test the predicted interaction between personality and dysphoria in predicting perceptions of dysfunctional attitudes in others, moderator analyses were conducted using depressive symptoms and personality as predictors of SODS-OTHER scores.

Relationships Between Dysphoria, Personality, and Self-Referent Attitudes

The mean score for all participants on the CES-D was 12.60 ($SD = 8.85$). As planned, a zero-order correlational analysis was conducted to measure the degree and direction of association between sociotropy, independence, solitude, achievement, dysphoria, and SODS-SELF scores (see Table 2). The analysis revealed a significant and positive relationship between CES-D and SODS-SELF scores,

$r = .38$, $p < .01$. Similarly, there was a significant and positive relationship between CES-D and sociotropy, and CES-D and solitude scores, $r = .20$ and $r = .21$, $p < .01$, respectively. There was a significant, negative relationship between CES-D and achievement scores, $r = –.18$, $p < .05$. Furthermore, there was a significant and positive relationship between SODS-SELF and sociotropy scores, $r = .47$, $p < .01$, whereas there was a significant and negative relationship between SODS-SELF and achievement scores, $r = –.36$, $p < .05$.

Significant correlations were found between scores on the various SAS–R subscales. For instance, sociotropy was significantly and negatively correlated with both solitude and achievement, $r = –.18$, $p < .05$, and $r = –.41$, $p < .01$, respectively. Last, the analysis revealed a significant, positive relationship between independence and solitude, $r = .5$, $p < .01$.

Given the results of the above analyses, wherein significant relationships were found between scores on the CES-D, SODS-SELF, and the subscales of the SAS-R, a partial correlation analysis was conducted to partial out the variance of personality in the relationship between CES-D and SODS-SELF. Specifically, this analysis partialled out the variances of sociotropy, solitude, and achievement to determine the strength of the relationship between dysphoria and self-referent negative attitudes. This analysis revealed that, even after removing the variance of sociotropy, solitude, and achievement, scores on the CES-D and SODS-SELF were still significantly and positively correlated, $r = .29$, $p < .01$.

Moderating Effect of Sociotropy, Achievement, Independence, and Solitude

To investigate whether the association between dysphoria and perceptions of attitudes of the generalized other depends on personality constructs, four moderator regression models were tested using hierarchical multiple regression analyses. That is, independent moderator regression models for sociotropy, achievement, independence, and solitude were tested. To increase the interpretability of the findings, all independent variables were mean-centered before analysis (Dalal & Zickar, 2012). Table 3 summarizes data obtained from the four hierarchical multiple regression analyses. In the first analysis, sociotropy and dysphoria were entered as Step 1, and the interaction term of sociotropy by dysphoria was then entered in the equation as Step 2. This pattern (i.e., personality subfactor and dysphoria scores entered as Step 1, and then interaction term of the personality subfactor × dysphoria as Step 2) was followed for the three subsequent hierarchical regression analyses. The first analysis revealed that the main effects of sociotropy and dysphoria (Step 1) predicted 1.7% of the variance in SODS-OTHER scores, $p > .05$. In Step 2, the interaction of sociotropy by dysphoria accounted for 3.5% of the variance, which represented a non-significant change in variance accounted for ($\Delta R^2 = .02$, $p > .05$).

Results from the second analysis revealed that the main effects of achievement and dysphoria (Step 1) accounted for 3% of the variance in SODS-OTHER scores, $p < .05$. The interaction of achievement by dysphoria entered in Step 2 accounted

TABLE 3. Summary of the Hierarchical Multiple Regression Analyses for the Interaction of Personality Subfactors and Dysphoria in Predicting Perceived Dysfunctional Attitudes in Other

Predictor	*B*	*SE B*	*β*	*R*	R^2	AdjR^2	ΔR^2	ΔF (*df*)
Sociotropy								
Step 1				.131	.017	.007	.017	1.702 (2, 194)
Sociotropy	−.001	.052	−.001					
Dysphoria	.148	.082	.132					
Step 2				.188	.035	.020	.018	3.636 (1, 193)
Sociotropy	−.005	.052	−.007					
Dysphoria	.171	.082	.152*					
Sociotropy × Dysphoria	−.001	.006	−.136					
Achievement								
Step 1				.174	.030	.020	.030	3.032 (2, 194)
Achievement	−.167	.103	−.116					
Dysphoria	.125	.081	.111					
Step 2				.268	.072	.057	.041	8.581** (1, 193)
Achievement	−.195	.102	−.135					
Dysphoria	.160	.080	.142*					
Achievement × Dysphoria	.034	.011	.207**					
Independence								
Step 1				.134	.018	.008	.018	1.776 (2, 194)
Independence	−.038	.100	−.027					
Dysphoria	.149	.080	.133					
Step 2				.268	.072	.057	.058	11.154** (1, 193)
Independence	.010	.098	.007					
Dysphoria	.161	.078	.143*					
Independence × Dysphoria	.038	.012	.234**					
Solitude								
Step 1				.168	.028	.018	.028	2.816 (2, 194)
Solitude	.139	.094	.107					
Dysphoria	.122	.081	.108					
Step 2				.261	.068	.054	.040	8.258** (1, 193)
Solitude	.166	.093	.128					
Dysphoria	.096	.080	.085					
Solitude × Dysphoria	.028	.010	.202**					

Note. * = Significant at the .05 level. ** = Significant at the .01 level.

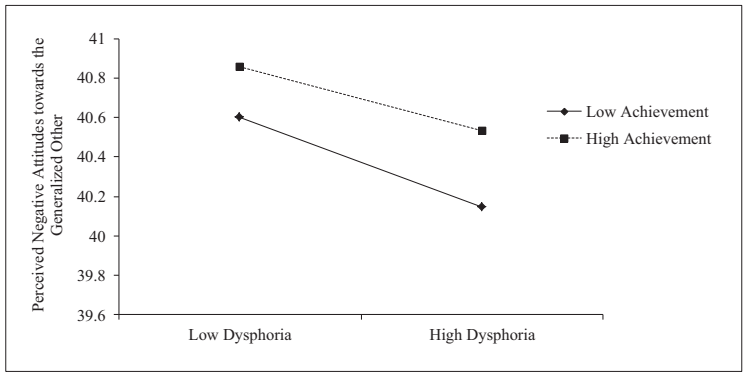

FIGURE 1. Effects of dysphoria by achievement levels on perceived negative attitudes toward the generalized other.

for a significant change in the variance accounted for ($\Delta R^2 = .04$, $p < .05$). The second model which incorporated the interaction term was significant, $F(3, 194) = 4.96$, $p < .01$ (see Figure 1).

Results from the third hierarchical regression analysis revealed that the main effects of independence and dysphoria (Step 1) accounted for 1.8% of the variance in SODS-OTHER scores, $p > .05$. When the interaction term of independence by dysphoria is introduced to the equation in Step 2, this accounted for a significant change in variance ($\Delta R^2 = .07, p < .05$). The second model in the equation which incorporated the interaction term was significant, $F(3, 194) = 4.96$, $p < .01$ (see Figure 2).

Last, results from the fourth hierarchical regression analysis revealed that the main effects of solitude and dysphoria together (Step 1) accounted for 2.8% of the variance in SODS-OTHER scores, $p > .05$. The interaction of solitude by dysphoria entered in Step 2 produced a significant change in variance accounted for in SODS-OTHER scores, $\Delta R^2 = .07$, $p < .05$. Further, the second model, which incorporated the interaction term, was significant, $F(3, 194) = 4.70$, $p < .01$ (see Figure 3).

Discussion

This study investigated the relationship between depressive symptoms and personality orientations in predicting dysfunctional attitudes. Specifically, the false consensus effect was examined in a university student sample. Consistent with a large body of empirical literature (see Clark, Beck, & Alford, 1999, for a review), and in support of our first hypothesis, it appears that depression symptoms were

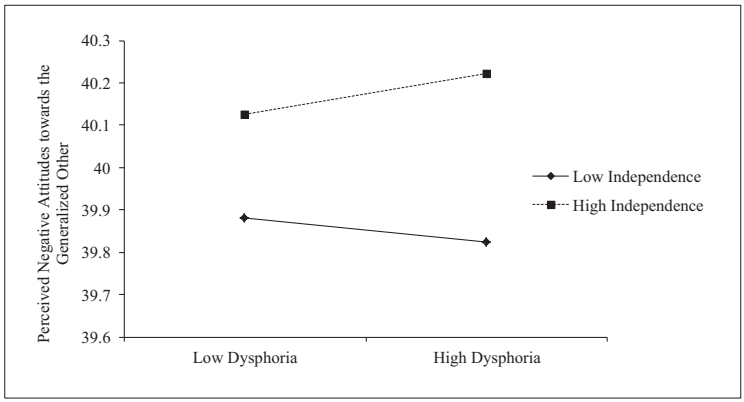

FIGURE 2. Effects of dysphoria by independence levels on perceived negative attitudes toward the generalized other.

significantly and positively correlated with dysfunctional self-referent attitudes. As such, individuals endorsing elevated depression symptoms were more likely to endorse more dysfunctional attitudes related to the self (or vice versa). The significance of this relationship between dysphoria and attitudes was maintained even after partialling out the variances accounted for by personality orientation. Second, no support was found for the hypothesis that individuals showing elevated

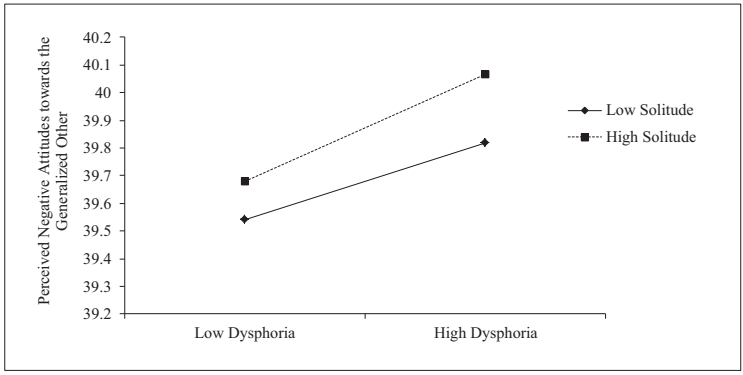

FIGURE 3. Effects of dysphoria by solitude levels on perceived negative attitudes toward the generalized other.

depression scores who also scored high on sociotropy view fewer negative attitudes harbored by the generalized other than dysphoric students low on sociotropy, as the interaction between sociotropy and dysphoria was nonsignificant. The hierarchical analysis revealed that the interaction of sociotropy by dysphoria scores was not able to predict a significant portion of the variance in perceived dysfunctional attitudes toward others over and above what is predicted by sociotropy and dysphoria as separate terms.

Last, and in support of the study predictions, students exhibiting elevated depressive symptoms who were also high on autonomy, as measured by the independence, solitude, and individualistic achievement subscales on the SAS-R, were more likely to view negative attitudes exhibited by the generalized other than students high on depression and low on autonomy. The analysis conducted above revealed that the interaction of autonomy subfactors by dysphoria were able to account for a unique portion of variance in scores on the SODS-OTHER, over and above what can be predicted by the main effects of autonomy subfactors and dysphoria scores taken separately. The results of this study generally support the cognitive model of depression (Beck, 1967; Beck et al., 1979), as it posits that depressed individuals tend to harbor more dysfunctional attitudes about the self. These unrealistic if–then statements are seen to be the product of the individual's core beliefs or schemas. Students who reported elevated depression, as measured by the CES-D, also tended to report more negative attitudes toward the self. This result indicates that Beck's theory applies to dysphoric individuals independently of their dominant personality style.

The moderator analyses revealed that those who reported elevated autonomy (in combination with elevated depressive symptoms) were more likely to report perceived dysfunctional attitudes in the generalized other. There are several possible explanations for this pattern of results. For example, differences in the experience and expression of depression between individuals high on sociotropy and those high on autonomy may moderate the relationship between dysphoria and the views of negative attitudes in others. More specifically, Robins, Hayes, Block, Kramer, and Villena (1995; Robins, Block, & Peselow, 1989) found support for two distinct presentations of depression that may be accounted for by individual differences in sociotropy and autonomy. The researchers suggested that depressed individuals high on sociotropy evidence greater efforts to solicit help from others, and are more optimistic in regards to the positive outcomes that may result from their help-seeking. In contrast, individuals high on autonomy tend to participate in fewer help-seeking behaviors that involve others; fewer requests for help are likely the result of greater pessimism about the likelihood of the aid being beneficial (Robins et al., 1995).

It is conceivable then that differences in the experience of depression may influence an individual's tendency to imagine that others will hold negative attitudes. For instance, Robins and colleagues' (1995) research suggests that individuals

high on autonomy are more likely to view negative attitudes in others compared to individuals who have a high level of sociotropy, given that they are not personally invested in viewing others positively. Highly autonomous individuals are personally invested in maintaining control of their environment, and reliance on others would relinquish this control and ultimately threaten their independence. Furthermore, individuals who are high on autonomy are more often self-critical, and as a result of the false consensus effect may assume that other individuals are equally self-critical and rigid in their evaluations of themselves. Last, judging others as weaker may simultaneously contribute to the individual's perception of themselves as more successful than others, which ultimately contributes to their need for personal achievement.

Similarly, some research of the false consensus bias indicates that the strength and consistency of this bias depend on a number of moderators, one of which is personality (Marks & Miller, 1987). Depression has also been shown to moderate the effects of this bias in previous research (Lobitz & Post, 1979; Tabachnik, Crocker, & Alloy, 1983). To date, there have been no studies that look at both depression and personality conjointly in the moderation of the false consensus effect. The results of the present study revealed that dysphoric individuals may only exhibit the false consensus bias regarding perceptions of attitudes in others when they are high on autonomy.

As there is relatively little research on the predictors of how individuals view negative attitudes in others, the novel results of this experiment represent a significant addition to the literature. The analyses showed that the interaction between dysphoria and facets of autonomy are significant predictors of individuals' tendency to view negative attitudes in others. This finding is in line with previous research that has found that depressed or dysphoric individuals report more dysfunctional attitudes relative to their nondepressed counterparts (Beshai et al., 2012; Dobson et al., 1998; Blatt et al., 1982). These results are further consistent with those found by L. Ross and colleagues (1977), Krueger and Clement (1994) and Kuiper and MacDonald (1983), which support the validity of the false consensus bias. Specifically, our results suggest that dysphoric individuals high on autonomy may primarily rely on their own experiences, attitudes, and beliefs when asked to judge whether other individuals hold similar maladaptive attitudes. Greater reliance on their personal attitudes may then serve as the impetus to view others as holding equally negative views of the self.

This study is the first to examine the relationship among dysphoria, autonomy, and the false consensus bias in regards to perceptions of negative attitudes in others. While there is strong support for the role of sociotropy in dysphoria the literature is more inconsistent in regards to the role of autonomy. However, the present results suggest that dysphoria and autonomy can interact to change the social experience of depression, as evidenced by the frequency of negative attitudes perceived in others. A notable strength of the present study is its use of

the CES-D, rather than the BDI, in the assessment of depression symptoms. Sato and McCann (2000) contend that the BDI's items better represent sociotropy than autonomy. In fact, these researchers suggested investigations examining the association between depression and the personality styles should employ depression measures other than the BDI to address the potential limitations evident in previous studies. Despite the strengths of the current study, several limitations warrant consideration. First, the study's sample was solely comprised of undergraduate students. The demographic profile of the sample was relatively homogenous, as the large majority of participants were Caucasian. However, the experience and presentation of depression varies as a function of culture (e.g., Parker, Cheah, & Roy, 2001). Therefore, the findings in this study may not generalize to culturally diverse populations. Last, and although we have centered the target variables in this study, centering alone may not be sufficient to reduce the threat of multicollinearity (Dalal & Zickar, 2012), and as such the results should be interpreted with caution.

Future research that replicates this study in a sample of clinically depressed participants is needed. A longitudinal study that investigates the predictive power of dysphoria and personality styles on dysfunctional attitudes toward others would elucidate the nature and direction of the relationship among these variables. Specifically, this investigation could ascertain whether dysphoria functions as a risk factor for dysfunctional attitudes, or if dysfunctional attitudes are correlates of depression.

The results of the current study suggest that there is a considerable amount of variation in the extent to which negative attitudes are seen in others, which is not accounted for by the interaction between dysphoria and autonomy or sociotropy. An evaluation of these factors in concert with known risk factors for depression would provide a more comprehensive demonstration of dysphoria, autonomy, and sociotropy as predictors of dysfunctional attitudes seen in others. Last, as the current study suggests that the construct validity of the solitude subscale is questionable, future research is needed to refine the SAS-R, to generate stronger psychometric properties. Whereas the majority of the analyses that involved the solitude subscale produced null findings, analyses of the other two autonomy subscales were significant. This pattern of results supports Clark and Beck's (1991) assertion that the convergent validity of the three autonomy subscales is poor, and likely primarily due to the solitude subscale.

In conclusion, this study investigated the relationship among dysphoria, personality styles, and negative distortions as evidenced by negative attitudes about the self and negative attitudes perceived in others. The findings augment evidence for Beck's cognitive theory. The perception that others hold negative attitudes regarding themselves was stronger for highly autonomous and dysphoric individuals relative to highly sociotropic and dysphoric individuals. While these findings need to be replicated, the present study provides novel insights into the relationship between personality styles and maladaptive attitudes in dysphoria.

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