COGNITION AND EMOTION, 2004, *18* (8), 1121–1133

Language use of depressed and depression-vulnerable college students

Stephanie S. Rude, Eva-Maria Gortner, and James W. Pennebaker

University of Texas at Austin, USA

Essays written by currently-depressed, formerly-depressed, and never-depressed college students were examined for differences in language that might shed light on the cognitive operations associated with depression and depression-vulnerability. A text analysis program computed the incidence of words in pre-designated categories. Consistent with Beck's cognitive model and with Pyczsinski and Greenberg's self-focus model of depression, depressed participants used more negatively valenced words and used the word, ''I'' more than did never-depressed participants. Formerly-depressed (presumably depression-vulnerable) participants did not differ from never-depressed participants on these indices of depressive processing. However, consistent with prediction, formerly-depressed participants' use of the word ''I'' increased across the essays and was significantly greater than that of never-depressed writers in the final portion of the essays.

Aaron Beck's (e.g., 1967) cognitive theory of depression posits that depression-prone individuals possess deep level knowledge structures—depressive schemas—that lead these individuals to see themselves and the world in pervasively negative terms. Depressive schemas are conceptualised as relatively enduring structures which, when activated, give rise to consciously accessible depressive thinking (''automatic thoughts''). It is empirically well-established that depressed individuals have relatively negative perspectives (e.g., Hamilton & Abramson, 1983; Hollon, Kendall, & Lumry, 1986; Krantz & Rude, 1984; Rude, Krantz, & Rosenhan, 1988).

The recurring nature of depression (50–60% of those who have suffered one episode will suffer another) is accounted for in Beck's model by the notion that depressive schemas may be ''latent''. An episode of depression may come about when losses or other stressful events trigger the activation of depressive schemas, leading the individual to begin perceiving events in negative ways.

Correspondence should be addressed to Stephanie S. Rude, SZB504, University of Texas, Austin, TX 78712, USA; e-mail: Stephanie.Rude@mail.utexas.edu

Portions of this project were supported by a grant from the National Institutes of Health (MH52391).

http://www.tandf.co.uk/journals/pp/02699931.html DOI:10.1080/02699930441000030

Whereas Beck's cognitive model of depression has emphasised the role of negatively valenced biases in the thinking processes of depressed individuals, Pyszcynski and Greenberg (1987) have speculated, in addition, that depressed individuals think a great deal about themselves. In an integrative model of depression that applies a self-regulatory control framework (Carver & Scheier, 1981) to the understanding of depression, Pyszcynski and Greenberg have stressed the role of self-focused attention. Pyszcynski and Greenberg speculated that after the loss of a central source of self-worth, individuals may find themselves unable to exit a self-regulatory cycle concerned with efforts to regain what was lost. This results in self-focus which in turn is thought to magnify negative emotion and self-blame and to interfere with productive control efforts by absorbing attentional resources. A number of studies support the association between depression and self-reports of self-focused attention (e.g., Ingram Lumry, Cruet, & Sieber, 1988; Smith & Greenberg, 1981).

A third perspective that may shed light on the cognitive operations associated with depression is Emil Durkheim's (1951) social integration/disengagement model of suicide. This model posits that the perception of oneself as not integrated into society—as detached from social life—is key to suicidality. It may also be relevant to the depressed persons perceptions of self.

Recently, Stirman and Pennebaker (2001) provided evidence consistent with both the self-focus and the social integration perspectives. Their study examined word usage in suicidal as compared to nonsuicidal poets. (Although depression was not measured directly in this study, it seems reasonable to infer that the suicidal poets were more depressed than the non suicidal poets.) These authors compared approximately 300 poems from the early, middle, and late periods of nine poets who later committed suicide and nine who did not, using the computerised text analysis program, Linguistic Inquiry and Word Count (LIWC; Pennebaker, Francis, & Booth, 2001). Suicidal poets used more first-person singular (I, me, my) words, and fewer words pertaining to the social collective (we, us, our). Somewhat surprisingly, the groups did not differ in their use of negative or positive emotion words.

It is not clear whether the findings of Stirman and Pennebaker's study were due to the poets' suicidality or depression, or both, since many of the poets in both groups were likely depressed. However, elevated use of first person singular pronouns by depressed persons was found by Bucci and Freedman (1981) and by Weintraub (1981).

In contrast to the substantial body of information that has accumulated regarding the cognitive processes of depressed persons, less is known about how depression-prone individuals (those with a history of depression) think during times when they are not experiencing an episode of depression. Understanding the thinking processes of this group is of interest because it bears on the question of what makes certain individuals vulnerable to depression. Cognitive models, such as that of Aaron Beck, claim that the cognitive biases that are observed in

depressed individuals *precede* and *play a role* in bringing about episodes of depression.

Whereas depressive thinking patterns have been observed with striking consistency in depressed samples, in *recovered* depressed samples depressive thinking has typically been observed only under particular measurement conditions. One group of studies indicates that the induction of sad mood facilitates observation of negative information processing among formerly-depressed but not among never-depressed individuals (Ingram, Bernet, & McLaughlin, 1994; Ingram, Miranda, & Segal, 1998; Miranda, Gross, Persons, & Hahn, 1998; Miranda & Persons, 1988; Miranda, Persons, & Byers, 1990).

Another line of research indicates that reducing volitional control over responding—either by having participants complete a demanding concurrent task (cognitive ''load''), or by using tasks that minimise participants' attention to the valence of their responses (''information-processing'' tasks)—may unveil negative thinking among formerly-depressed college students (Wenzlaff, 1988, 1993; Wenzlaff, Rude, Taylor, Stultz, & Sweatt, 2001; Wenzlaff, Rude, & West, 2002), and among formerly-depressed community volunteers (Hedlund & Rude, 1995; Rude, Covich, Jarrold, Hedlund, & Zentner, 2001). Further, cognitive biases revealed using such measurement strategies have been shown to predict subsequent depression in prospective studies where depression is measured by clinical interview (Rude, Valdez, Odom, & Ebrahimi, 2003), as well as by self-reported symptoms (Rude, Wenzlaff, Gibbs, Vane, & Whitney, 2002).

If our understanding of negative cognitive biases in depression-vulnerability is incomplete, the role that self-focus or lack of social integration may play in vulnerability to depression is even less well understood. It is particularly striking that the tendency to engage in self-focus has not been examined in depression-prone individuals. The self-focus model put forth by Pyszcynski and Greenberg clearly posits that self-focus plays a causal role in bringing about depression, and extrapolating from Pyszcynski and Greenberg's (1987) model, one might speculate that self-focus constitutes a dispositional vulnerability to depression. In other words, individuals who have a tendency to interpret events and situations in terms of themselves (e.g., to focus on their own roles in situations and/or what events say about themselves) may be more likely to become depressed.

The present study examined linguistic patterns of depressed and depression-prone persons in the context of an essay task (''write about your deepest thoughts and feelings about coming to college''). Regarding the linguistic behaviours of depressed persons, we were interested in replicating prior studies that showed increased use of first person singular pronouns by depressed persons. In addition, we were interested in exploring whether our depressed participants would show linguistic indicators of the social disengagement posited by Durkheim for suicidality, as well as the negative emotional tone predicted by Beck's model.

Regarding the linguistic behaviours of depression-*prone* individuals, we were interested in whether patterns similar to those observed for depressed individuals might emerge toward the end of the essays. We speculated that depression-vulnerable individuals would have a greater tendency to self-focus; but we also expected that they would work to inhibit this tendency (cf. Rude et al., 2003; Wenzlaff, 1993). Therefore, we predicted that formerly-depressed students would show a pattern of word usage that was increasingly similar to that of depressives as they progressed through the essays. We expected them to differ from never-depressed students only during the latter portion of the essays; our reasoning was that they would become progressively more ensnared in thoughts about themselves as they wrote. Specifically, we predicted that use of first person singular (e.g., ''I'') pronouns and negatively valenced words would increase and that positively valenced words, references to people, and use of plural first person pronouns (e.g., ''we''), would decrease across the essays.

In the study described below, a large sample of undergraduates was asked to write for 20 minutes about their ''deepest thoughts and feelings about coming to college''. Essays were transcribed and subjected to analysis using the LIWC text analysis program (Linguistic Inquiry and Word Count; for a complete description, see Pennebaker et al., 2001). Groups of currently-, formerly-, and never-depressed participants were defined post hoc using the Beck Depression Inventory (BDI) on which they reported concurrent depressive symptoms, and the Inventory to Diagnose Depression-Lifetime (IDD-L), on which they reported symptoms of their worst lifetime depression experience.

METHOD

Participants

The present sample was comprised of 31 (29 women) currently-depressed, 26 (20 women) formerly-depressed, and 67 (47 women) never-depressed participants with complete data. The groups were defined according to procedures described below.

Undergraduates from introductory psychology classes at the University of Texas at Austin completed packets of questionnaires that included the essays and measures used in the present analyses as part of their participation in a larger study (see Rude et al., 2002). For the larger study, 339 students (253 women and 86 men) completed questionnaire packets in groups. Their average age was 18.34 years (SD = 2.09 years). Criteria for selection of the present sample were similar to those used to select participants from the original dataset by Rude and McCarthy (2003); hence the current sample overlapped to a considerable extent with the sample used in that prior study.

Participants were selected for the present study according to their scores on self-report measures of current depression symptoms, Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) and past

depression symptoms, Inventory to Diagnose Depression-Lifetime (IDD-L; Zimmerman & Coryell, 1987). BDI criteria for the groups were as follows: The currently-depressed group was defined by a score of 14 or higher on the BDI. This specific number was chosen because Beck (1967) has suggested a score of 14 on the BDI as a cut-off for mild depression. A criterion for placement in the never- and formerly-depressed groups was a BDI score less than 7. In addition, all participants scoring 0 or 1 were excluded from the study. This procedure has been suggested based on findings that participants with extremely low scores on the BDI show elevated social desirability (Clark, Crewdson, & Purdon, 1998) and ''fake good'' tendencies, as measured by Minnesota Multiphasic Personality Inventory (MMPI) validity scales (e.g., Joiner, Schmidt, & Metalsky, 1994).

The formerly- and never-depressed groups were further defined by their scores on the IDD-L, a measure of past depression symptoms: A score above 25 on the IDD-L defined the formerly-depressed group and a score below 9 defined the never-depressed group. Established norms for the IDD-L have not been reported, but within the larger sample from which these participants were drawn, 45% fell below an IDD-L score of 9 and 25% fell above an IDD-L score of 25.

Measures

The Beck Depression Inventory (BDI; Beck et al., 1961) was used to measure participants' level of depression. The BDI is a widely used self-report inventory of depressive symptoms with good internal consistency and test-retest reliability. BDI scores have been shown to correlate highly with psychiatrist ratings of depression (Bumberry, Oliver, & McClure, 1978) and with the interviewer-administered Hamilton Rating Scale for Depression in a college sample (Hammen, 1980).

The Inventory to Diagnose Depression (IDD-L; Zimmerman & Coryell, 1987) was used to assess prior episodes of depression. The IDD-L is a 22-item self-report inventory designed to assess the extent and duration of prior depressive symptoms. Total scores range from 0 to 88. Respondents are asked to recall a week in their lives when they felt most depressed, select a statement best describing how they felt, and indicate whether they felt that way for more or less than two weeks. The IDD-L has been shown to have good discriminant validity (Sakado, Sata, Uehara, Sato, & Kameda, 1996) and test-retest reliability (Sato et al., 1996). It is also comparable to the Diagnostic Interview Schedule (Zimmerman & Coryell, 1987) with regard to sensitivity and specificity.

Linguistic analysis. To obtain a picture of the linguistic dimensions of the writings, all essays were subjected to the computer-based text analysis program Linguistic Inquiry and Word Count (LIWC; Pennebaker et al., 2001). This program analyses texts on a probabilistic basis by comparing files on a word-by-

word basis to a dictionary of 2290 words and word stems. These are organised into over 70 language categories, including linguistic dimensions (words per sentence, articles, etc.), psychological processes (e.g., emotional and cognitive), relativity (e.g., in time and space), and personal concerns (sports, religion, death, etc.). The text analysis produces the analysed text as the percentage of total words found along these language categories.

For one of the analyses presented here, we instructed the LIWC program to divide each participant's essay into three segments in such a way that each segment contained roughly the same number of words, dividing the essays mid-sentence in many cases. The segments in this study contained a mean number of 126.3 words.

The following linguistic dimensions were the focus of the present analyses: first person singular (I, me, my); first person plural (we, us, our); social references (e.g., mention of friends, family, or communication); negatively valenced (e.g., gloom, fight, sad, homesick, inadequate); and positively valenced (e.g., joyful, accept, best, play, share) words. Overall usage level for these word categories, as well as changes across first, second, and third segments of the essays as a function of depression group were examined.

Procedures

For the purposes of the main study from which these data were drawn (Rude et al., 2002), there were two data collection sessions spaced 4–6 weeks apart. During the first session participants completed packets of questionnaires that included the IDD-L. During the second session participants completed the BDI and were asked to write an essay. Instructions for the essays followed the procedures previously employed by Pennebaker (e.g., 1989). The instructions were as follows:

> Starting college involves many significant changes, including moving to a new place, being separated from important people, taking on new challenges, and meeting new people. In the 20-minute writing task that follows, please describe your deepest thoughts and feelings about being in college. Once the experimenter asks you to begin writing, we would like you to write continuously off the top of your head. Don't worry about grammar or spelling. Just write continuously.

RESULTS

Description of sample

Table 1 shows means and standard deviations for each of the three groups on age in years, BDI score, IDD-L score, and each of the linguistic dimensions examined in the present study. Group comparisons using one-way ANOVAs with post-hoc comparisons yielded no significant age differences between the groups: $F(2, 121) = 0.85$, $p = .43$. A priori orthogonal contrast comparison of

TABLE 1
Means and (standard deviations) on depression measures and linguistic dimensions for the three diagnostic groups

	Currently-depressed (n = 31)	*Formerly-depressed* (n = 26)	*Never-depressed* (n = 67)
	Mean (SD)	*Mean (SD)*	*Mean (SD)*
Age	17.97 (0.41)	18.96 (2.82)	18.78 (4.03)
BDI	20.05 (6.39)	4.17 (1.36)	3.58 (1.37)
IDD-L	25.60 (17.21)	40.59 (13.14)	1.18 (2.21)
Linguistic dimensions			
First person singular (I, me, my)	12.17 (2.91)	10.76 (3.10)	10.76 (2.51)
''I'' only	8.50 (2.22)	7.88 (2.15)	7.27 (2.02)
Negatively valenced words	2.92 (1.26)	1.70 (0.80)	1.63 (0.91)
Positively valenced words	2.64 (1.28)	3.49 (1.30)	3.12 (1.45)
Social words	6.32 (2.17)	5.89 (2.53)	5.78 (2.83)

Note: Linguistic dimensions are shown as mean percentage of words in a given linguistic category out of the total number of words used in the essay. BDI = Beck Depression Inventory; IDD-L = Inventory to Diagnose Depression-Lifetime.

the groups on BDI score confirmed that the currently-depressed group scored higher than the never- and formerly-depressed groups: $t(121) = 23.4$, $p < .0001$, and that the never- and formerly-depressed groups did not differ on BDI score: $t(121) = 0.76$, $p = .45$. Comparison of the never- and formerly-depressed groups on IDD-L score confirmed that they differed significantly: $t(121) = 16.36$, $p < .0001$.

Unexpectedly, the formerly-depressed group reported greater past depressive symptomatology than the currently-depressed group: $t(121) = 4.88$, $p < .001$. The relative youth of the present sample may have contributed to this occurrence in that many of those in the currently-depressed group were apparently experiencing first depression. This confound between the relatively lower incidence of past depression symptoms and current depression symptoms and must be kept in mind in interpreting comparisons between the formerly- and currently-depressed groups. Fortunately, these comparisons are not of central interest in the present study.

Unfortunately, base rates for use of first person plural words pertaining to the collective (we, us, our) were lower than is typically found and were too low to allow valid inference, and so we did not analyse this word category. It may be that this occurred because the writing instructions (write about the experience of coming to college) biased respondents somewhat against reporting their experiences as part of a group.

Predicted differences between groups

Predicted differences between currently- and never-depressed and between formerly- and never-depressed individuals were explored using *t*-test contrasts,[1] evaluated within the full three-group design.

Currently- vs. never-depressed comparisons. As we predicted based on Pyszcynski and Greenberg's model, depressed individuals used significantly more first person singular words (I, me, my) than did never-depressed individuals $t(121) = 2.37$, $p < .02$. A follow-up analysis of each separate first person singular pronoun revealed that the first person singular effect was completely carried by the use of the pronoun ''I'': $t(121) = 2.70$, $p < .01$. There was no significant difference in the use of ''me'' or ''my,'' ps > .2 between the currently-depressed and never-depressed groups.

As expected, depressed individuals used significantly more negative emotion words: $t(121) = 5.86$, $p < .001$, than did never-depressed individuals. Depressed students also used marginally fewer positive emotion words than did non-depressed students: $t(121) = -1.78$, $p = .08$. In the analysis of social references, we found no significant differences between the depressed and never-depressed groups: $p > .3$.

Formerly- vs. never-depressed comparisons. The formerly-depressed and never-depressed groups did not differ with regard to use of first person pronouns, negative or positive emotion words, or social references (ps > .4).

Predicted group by segment interactions

In the next series of analyses, we examined the interactions between the three groups and essay segments (1st, 2nd, 3rd) in multivariate ANOVAs. In this case, our interest focused on the hypothesised interaction between segment and the formerly-depressed versus never-depressed contrast. As predicted, the multivariate interaction between segment (1st, 2nd, 3rd) and groups (formerly- and never-depressed) was statistically significant: $F(2, 121) = 3.50$, $p = .03$. The pattern was as predicted in that the formerly-depressed group used slightly (though not significantly) fewer first person singular pronouns than the never-

[1] We considered creating an orthogonal set of contrasts by comparing the currently-depressed group against the other two groups, combined, and comparing the formerly- against the never-depressed group). We chose instead to use the never-depressed group as the comparison point for each of the other groups, even though the resulting contrasts were not orthogonal. Our reasoning was because much is still unknown about the responses of formerly-depressed individuals, combining this group with the never-depressed group would obscure the picture of the currently-depressed group's responses by comparing them with an unknown entity. This concern was strengthened by the fact that formerly-depressed participants' use of ''I'' in the third writing segment was more similar to that of the depressed group than to that of the never-depressed group.

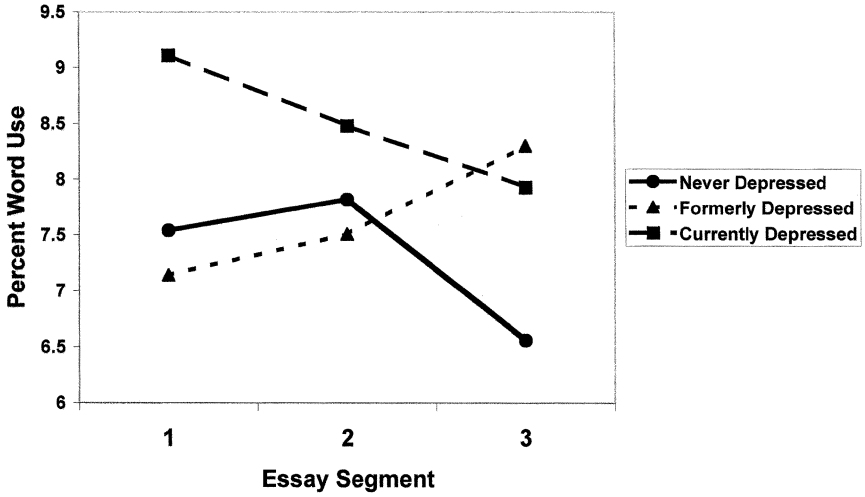

Figure 1. The use of ''I'' only across essays. Formerly-depressed individuals used ''*I*'' significantly more frequently than never-depressed individuals.

depressed group during the first and second segments but used slightly more during the third segment: $t(121) = 1.64$, $p = .10$. When only *I* (not *me, my,* or *myself*) was used as the dependent variable, the interaction between time and groups remained statistically significant: $F(2, 121) = 4.88$, $p = .01$, and in the third segment of the essays formerly-depressed individuals used ''I'' significantly more often than did never-depressed individuals: $t(121) = 2.14$, $p = .03$ (see Figure 1). Contrary to prediction, the pattern of differential change across time did not occur for the use of social, positive, or negative emotion words ps > 0.3.

DISCUSSION

The present study examined the language use of depressed, formerly-depressed, and never-depressed college students for clues about the cognitive processes and preoccupations associated with depression and vulnerability to depression. Depressed students revealed both the negative focus predicted by Beck's cognitive theory of depression and the self-preoccupation predicted by Pyszcynski and Greenberg's control theory of depression. However, we did not find evidence of social isolation/disengagement as would be predicted by Durkheim's model of suicidality in references to social others among the depressed students. As mentioned earlier, base rates in the present study were lower than is typically found; this may have occurred because the assigned writing topic (deepest thoughts and feelings about being in college) biased respondents somewhat against reporting their experiences as part of a group.

The depressed participants' proclivity for using first person singular pronouns mirrors Stirman and Pennebaker's (2001) finding for suicidal, as compared to nonsuicidal poets, as well as similar findings reported by Bucci and Freedman (1981) and by Weintraub (1981). This finding is consistent with Pyczsinski and Greenberg's control theory analysis of depression, which links self-focus to depression. According to Pyczsinski and Greenberg, attention is pulled toward discrepancies in which perceived performance fails to match personal standards. Such focus is adaptive to the extent that it aids in problem-solving and thereby eliminates the discrepancy; however, when discrepancies are not readily resolved self-focus may tie up attentional resources and generate high levels of negative affect. In extreme cases it may interfere with problem-solving and lead to depression. Hence, in this model, self-focus may function both as a cause and as a consequence of dysphoria.

Pyczsinski and Greenberg's model does not specifically predict our finding that the pronoun, *I* (but not *me*, *myself*, or *my*) would be used more frequently by depressed individuals. And it is not clear to us what this means. It might be argued that references to the self as subject (the *I*) are more likely to be references to the self as a solitary actor/agent (e.g., ''*I* work all the time'') whereas references to the self as object (the ''me'') more typically imply a relation to the world and/or other actors (e.g., ''She told *me* about her plans'').

In keeping with the notion that depression-vulnerable individuals struggle to keep depressive thoughts at bay, formerly-depressed students showed significantly greater use of ''I'' words (compared to the use shown by never-depressed students) only during the third segment of the essays. Our interpretation is that as formerly-depressed students wrote about the self-relevant experience of coming to college they became progressively more ensnared in self-preoccupations, while never-depressed students perhaps became progressively more absorbed by other (nonself) aspects of their narratives.

The essays of participants who showed the pattern of greater use of ''I'' during the last segment were often characterised by apparent conflict about expression of negative emotions, as well as with a focus on self-evaluation. For example, a formerly-depressed participant who had one of the highest percentages of ''I'' usage in the last third of the essay is quoted below. This writer tended to express negative emotion and then ''backpedal'' or apologise for the negativity. For example, the essay began, ''Since I have started college I feel very alone. This is not to say that I am not having a great time, but . . .''. The writer repeated this pattern later in the essay and then followed it with the statement, ''I never tell anyone if I am stressed or upset, I just bottle it up . . .''. This essay ends with the somewhat poignant request, ''Please do not analyse my response and think I am a loony, I am not . . .''. This particular essay is striking in the degree of ambivalence about expressions of negative emotion and in the concern for how these might be judged.

Although participants' essays were not subjected to systematic narrative analyses, they seem to reflect the sort of pattern that we speculate is occurring for many formerly-depressed individuals. Specifically, they seem to have been written by individuals who were experiencing conflict about emotional expression and who were somewhat preoccupied with self-evaluative thoughts.

Overall, the findings for formerly-depressed participants are consistent with recent speculations that individuals susceptible to recurrent depression engage in thought suppression as a mood control strategy (cf. Wenzlaff, 1993) and with evidence that the cognitive processes of depression-vulnerable individuals entail more depressive biases than are revealed by standard self-report questionnaires (e.g., Hedlund & Rude, 1995; Rude et al., 2001). The importance of the evidence that depression-vulnerable individuals actively suppress depressive processing as a strategy for keeping depression at bay is that it deepens our understanding of how some individuals experience continuing vulnerability to depression: Ample evidence suggests that thought suppression is not an effective long-term strategy (cf. Wenzlaff & Wegner, 2000).

The present study has demonstrated the promise of this novel methodology—language usage—for exploring theoretical claims about psychological processes. Results support claims made by cognitive and self-focus theories of depression, suggesting that depressed individuals are preoccupied not only by negative thoughts but by heightened self-awareness. These results also provide support for the notion that inhibition of thoughts and emotions, as displayed in the language of formerly-depressed individuals, plays a role in continuing vulnerability to depression.

Manuscript received 13 June 2002
Revised manuscript received 17 June 2003

REFERENCES

Beck, A. T. (1967). *Depression: Clinical, experimental, and theoretical aspects*. New York: Harper & Row.

Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry*, *4*, 561–571.

Bucci, W., & Freedman, N. (1981). The language of depression. *Bulletin of the Menninger Clinic*, *45*, 34–358.

Bumberry, W., Oliver, J., & McClure, J. (1978). Validation of the Beck Depression Inventory in a university population using psychiatric estimate as the criterion. *Journal of Consulting and Clinical Psychology*, *46*, 150–155.

Carver, C., & Scheier, M. (1981). *Attention and self-regulation*. New York: Springer Verlag.

Clark, D. A., Crewdson, N., & Purdon, C. (1998). No worries, no cares: An investigation into self-reported ''nondistress'' in college students. *Cognitive Therapy and Research*, *22*, 209–224.

Durkheim, E. (1951). *Suicide*. New York: Free Press.

Hamilton, E. W., & Abramson, L. Y. (1983). Cognitive patterns and major depressive disorder: A longitudinal study in a hospital setting. *Journal of Abnormal Psychology*, *92*, 173–184.

Hammen, C. (1980). Depression in college students: Beyond the Beck Depression Inventory. *Journal of Consulting and Clinical Psychology*, *48*, 126–128.

Hedlund, S., & Rude, S. S. (1995). Evidence of latent depressive schemata in formerly depressed individuals. *Journal of Abnormal Psychology*, *104*, 517–525.

Hollon, S. D., Kendall, P. C., & Lumry, A. (1986). Specificity of depressotypic cognitions in clinical depression. *Journal of Abnormal Psychology*, *95*, 52–59.

Ingram, R. E., Bernet, C. Z., & McLaughlin, S. C. (1994). Attention allocation processes in depressed individuals. *Cognitive Therapy and Research*, *18*, 317–332.

Ingram, R. E., Lumry, A. B., Cruet, D., & Sieber, W. (1987). Attentional processes in depressive disorders. *Cognitive Therapy and Research*, *11*, 351–360.

Ingram, R. E., Miranda, J., & Segal, Z. V. (1998). *Cognitive vulnerability to depression*. New York: The Guilford Press.

Joiner, T. E., Schmidt, K. L., & Metalsky, G. I. (1994). Low-end specificity of the Beck Depression Inventory. *Cognitive Therapy and Research*, *18*, 55–68.

Krantz, S. E., & Rude, S. S. (1984). Depressive attributions: Selection of different causes or assignment of dimensional meanings? *Journal of Personality and Social Psychology*, *47*, 193–203.

Metalsky, G. (1982). Attributional styles and life events in the classroom: Vulnerabilty and invulnerability to depressive mood reactions. *Journal of Personality and Social Psychology*, *43*, 612–617.

Miranda, J., Gross, J. J., Persons, J. B., & Hahn, J. (1998). Mood matters: Negative mood induction activates dysfunctional attitudes in women vulnerable to depression. *Cognitive Therapy and Research*, *22*, 363–376.

Miranda, J., & Persons, J. B. (1988). Dysfunctional attitudes are mood-state dependent. *Journal of Abnormal Psychology*, *97*, 76–79.

Miranda, J., & Persons, J. B., & Byers, C. N. (1990). Endorsement of dysfunctional beliefs depends on current mood state. *Journal of Abnormal Psychology*, *99*, 237–241.

Pennebaker, J. W. (1989). Confession, inhibition, and disease. *Advances in Experimental and Social Psychology*, *22*, 211–244.

Pennebaker, J. W., Francis, M. E., & Booth, R. J. (2001). *Linguistic Inquiry and Word Count (LIWC): A computerized text analysis program* (2nd ed.). Mahwah, NJ: Erlbaum.

Pyszcynski, T., & Greenberg, J. (1987). Self-regulatory perseveration and the depressive self-focusing style: A self-awareness theory of depression. *Psychological Bulletin*, *102*, 122–138.

Rude, S. S., Covich, J., Jarrold, W., Hedlund, S., & Zentner, M. (2001). Detecting depressive schemata in vulnerable individuals: Questionnaires versus laboratory tasks. *Cognitive Therapy and Research*, 25, 103–116.

Rude, S. S., Krantz, S. E., & Rosenhan, D. L. (1988). Distinguishing the dimensions of valence and belief consistency in depressive and nondepressive information processing. *Cognitive Therapy and Research*, *12*, 391–407.

Rude, S. S., & McCarthy, C. T. (2003). Emotional functioning in depressed and depression-vulnerable college students. *Cognition and Emotion*, *17*, 799–806.

Rude, S. S., Valdez, C., Odom, S., & Ebrahimi, A. (2003). Negative cognitive bias predicts depression. *Cognitive Therapy and Research*, *27*, 415–429.

Rude, S. S., Wenzlaff, R., Gibbs, B., Vane, J., & Whitney, T. (2002). Negative interpretive biases predict subsequent depression symptoms. *Cognition and Emotion*, *16*, 423–440.

Sakado, K., Sato, T., Uehara, T., Sato, S., & Kameda, K. (1996). Discriminant validity of the Inventory to Diagnose Depression, Lifetime Version. *Acta Psychiatrica Scandinavica*, *93*, 257–260.

Smith, T. W., & Greenberg, J. (1981). Depression and self-focused attention. *Motivation and Emotion*, *5*, 323–331.

Stirman, S. W., & Pennebaker, J. W. (2001). Word use in poetry of suicidal and non-suicidal poets. *Psychosomatic Medicine*, *63*, 517–522.

Weintraub, W. (1981). *Verbal behavior: Adaptation and psychopathology*. New York: Springer.

Wenzlaff, R. M. (1988, May). *Automatic information processing in depression*. Paper presented at the International Conference on Self-Control, Nags Head, NC, USA.

Wenzlaff, R. M. (1993). The mental control of depression: Psychological obstacles to emotional well-being. In D. M. Wegner & J. W. Pennebaker (Eds.), *Handbook of mental control* (pp. 239–257). Englewood Cliffs, NJ: Prentice Hall.

Wenzlaff, R. M., Rude, S. S., Taylor, C. J., Stultz, C. H., & Sweatt, R. A. (2001). Beneath the veil of thought suppression: Attentional bias and depression risk. *Cognition and Emotion*, *15*, 435–452.

Wenzlaff, R. M., Rude, S. S., & West, L. M. (2002). Cognitive vulnerability to depression: The role of thought suppression and attitude certainty. *Cognition and Emotion*, *16*, 533–548.

Wenzlaff, R. M., & Wegner, D. M. (2000). Thought suppression. *Annual Review of Psychology*, *51*, 59–91.

Zimmerman, M., & Coryell, W. (1987). The Inventory to Diagnose Depression, Lifetime Version. *Acta Psychiatrical Scandinavia*, *75*, 495–499.