Level and Stability of Day to Day Psychological Well-Being and Vulnerability to Depression

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College of William & Mary - Arts & Sciences

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LEVEL AND STABILITY OF DAY TO DAY PSYCHOLOGICAL
WELL-BEING AND VULNERABILITY TO DEPRESSION

A Thesis
Presented to
The Faculty of the Department of Psychology
The College of William & Mary in Virginia

In Partial Fulfillment of the
Requirements for the Degree of
Master of Arts

by

Shelly L. Gable

1996
APPROVAL SHEET

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Master of Arts

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ABSTRACT

Previous research has suggested that people differ in both their level of self-esteem and the amount their self-esteem fluctuates on a daily basis (Kernis, 1993). The present study examined the level and stability of five psychological constructs thought to be vulnerability factors in depression in 123 undergraduate students for 21 days. In addition, the participants provided four separate risk for depression measures over a period of 2 1/2 months. The results suggested that there was a general factor of instability of daily adjustment. People differed in their average level of daily adjustment and the amount their adjustment fluctuated on a daily basis. Using multiple regression, risk for depression was predicted from Level, Instability, and the interaction between Level and Instability. These analyses suggested that Instability of daily adjustment moderated the relationship between Level of daily adjustment and risk for depression. Level of daily adjustment had a greater effect for people who were more unstable. Also, this relationship was different for participants who were classified as at risk for depression and those who were not, suggesting that there may be a qualitative difference between these two groups of people.
LEVEL AND STABILITY OF DAY TO DAY PSYCHOLOGICAL
WELL-BEING AND VULNERABILITY TO DEPRESSION
Introduction

"O to be self-balanced for contingencies, to confront night, storms, hunger, ridicule, accidents, rebuffs as the trees and animals do."—Walt Whitman, *Me Imperturbe.*

The link between low self-esteem and depression has been noted by clinicians and researchers for decades (Beck, 1972; Brown & Harris, 1978). Research on low self-esteem as a vulnerability factor for depression has largely focused on individuals' overall level of self-esteem as a principal factor in affect, cognition, and behavior. Recently, a line of research has emerged that focused on the stability and instability of self-esteem (Butler, Hokanson, & Flynn, 1994; Kernis, Grannemann, & Mathis, 1991; Roberts & Monroe, 1991).

The belief that individuals differ not only in terms of their level of self-esteem but the amount their self-esteem fluctuates has helped clarify the sometimes contradictory findings of the role self-esteem plays in depressive disorders (Tennen & Affleck, 1993). Preliminary findings concerning the role of self-esteem stability in depression have suggested that unstable self-esteem is a risk factor for individuals with high self-esteem, whereas it is a buffer for those with low self-esteem (Kernis et al, 1991).

The present paper had two purposes. The first was to investigate the possibility that self-esteem stability is only one component of a larger, more general factor of
stability. Researchers to date have taken an important first step in studying the stability factor, but stability of self-esteem may be the quintessential 'tip of the iceberg'.

The second purpose of this paper was to investigate the relationship between stability and psychological well-being. Individuals may differ in terms of their stability, and such differences may have important implications for psychological health, specifically vulnerability to depression. In line with findings of previous research on self-esteem stability, it was expected that level of psychological well-being and the amount that this level fluctuated on a daily basis would vary across individuals. Further, these two factors (level and instability) and their interaction were hypothesized to predict risk for depression.

**Stability as a Construct**

Many studies outline the implications that level of self-esteem has on an individual's interactions with the world (Rosenberg, 1965). Within this perspective individuals possess either a comparably positive self-concept (high self-esteem), or a comparably negative self-concept (low self-esteem). Within this perspective, level of self-esteem is seen as relatively stable and enduring across time. Recent studies have focused on the relative stability of self-esteem (Kernis, Cornell, Sun, Berry, &
Stability of self-esteem is viewed in terms of transitory shifts in an individual's self-concept (Kernis, et al., 1993), and researchers have demonstrated that individuals differ in self-esteem stability. Self-esteem fluctuates over time, and some individuals experience greater fluctuations than others (Kernis, 1993).

Much of the research examining day to day fluctuations in psychological adjustment has examined self-esteem stability (Butler, et al. 1994; Kernis, et al., 1991; Roberts & Monroe, 1991), whereas little research has investigated the stability of other psychological constructs. Assessing both the fluctuations (state) and global levels (trait) of a construct provides a two-dimensional description of an individual's self-concept. Trait focused measures assess the level at which a psychological construct endures in an individual over time. State measures focus on the changes in that level occurring within the individual. For example, individuals' self-esteem may be stable and high, stable and low, unstable and high, or unstable and low. Previous research has found that self-esteem stability moderates the relationship between self-esteem and other psychological constructs.

Individuals with stable high self-esteem have been characterized as possessing a relatively secure positive self concept (Kernis, 1993). Individuals with unstable high self-esteem interact with their social world differently.
than those with stable and high self-esteem. Individuals with unstable high self-esteem show a greater proneness to anger and hostility and show more defensiveness and rejection of negative feedback (Kernis, 1993; Kernis, Grannemann & Barclay, 1989). This research suggests that individuals possessing a relatively positive but unstable self-concept are concerned with protecting the high self-esteem they have (Kernis, 1993).

Compared to individuals with unstable high self-esteem, those with unstable but low self-esteem react less intensely to negative feedback (Kernis, et al., 1993), make more excuses following failures as opposed to successes (Kernis, Grannemann & Barclay, 1992), and show a moderate proneness towards anger and hostility arousal (Kernis, et al., 1989). These individuals can be viewed as seeking to enhance self-esteem rather than as protecting against loss of self-esteem.

Researchers have also linked stability of self-esteem to depression (Roberts & Monroe, 1992). Butler et al. (1994) found that stability of self-esteem was a better predictor of depression than overall level of self-esteem. Specifically, they found that previously depressed participants (at risk for future depressive episodes) showed greater self-esteem lability. In a separate study, Kernis et al. (1991) found that level of self-esteem was related more strongly to depression for individuals with stable
self-esteem than it was for those with unstable self-esteem. Or, conversely, the relationship between overall level of self-esteem and depression was weaker for those with unstable self-esteem. Kernis et al., found that people with low stable self-esteem had the greatest risk for depression.

Despite the growth of research on stability of self-esteem, little research has been done on the day to day fluctuations of other psychological constructs related to mental health. Self-esteem stability may exemplify a larger construct of general stability. The present study focused on the stability of cognitive and affective constructs that have previously been linked to depression at a trait level. A considerable body of research on depression indicates that the way people view and feel about themselves and their environment affects their psychological health. For the most part, the constructs associated with depression are discussed as trait-like features. This study was designed to investigate the stability of these constructs that have been linked to depression.

Many theories regarding the development and maintenance of depression have been proposed, and five constructs that have been linked to depression were investigated in the present study: Beck's Cognitive Triad (Beck, 1972), control over the outcomes of one's behavior (Abramson, Seligman, & Teasdale, 1978; Deci & Ryan, 1985), the ability to detect cause and effect in the social world (Weary, Jordan, & Hill,
Level and Stability 7

1985), anxiety (Greenberg, Vazquez & Alloy, 1988) and finally, self-esteem (Brown & Harris, 1978). These constructs were chosen to represent some of the major theories of depression.

The constructs were viewed as components of the diathesis described by several prominent cognitive theories of depression collectively known as diathesis-stress models (Abramson, Alloy, & Metalsky, 1988). In general, diathesis-stress models consider combinations of life stressors and vulnerability factors within the individual as a possible cause of depression (Abramson, et al, 1988), although the vulnerability factors associated with depression vary in different theoretical models.

In his cognitive triad theory of depression, Beck (1972) suggests that individuals vulnerable to depression have a negative self view, a negative view of the world, and a negative view of the future. Beck's theory asserts that negative life events and negative schemata interact to produce cognitive distortions, which in turn produce the cognitive triad which leads to depressive symptoms (Beck, Rush, Show, & Emery, 1979). Another example of a diathesis stress model of depression is the hopelessness theory of depression (Abramson, et al., 1978). One of the major components of this theory is that individuals who are vulnerable to depression believe that desirable outcomes are unlikely to happen and undesirable outcomes are likely to
happen. More importantly, people believe that their behaviors have no influence on the likelihood of either positive or negative outcomes.

For the present study, the feeling of control over the outcomes of one's own behavior was conceptualized in terms of Deci's self-determination (1980, 1992) theory which identified general orientations toward perceptions of locus of causality. Orientations that entail a high degree of personal choice in behavior initiation are autonomous; orientations that involve a high degree of control (internal or external) in behavior initiation are controlled; and orientations that involve a lack of ability to initiate behaviors that consistently lead to desired outcomes are impersonal (Deci & Ryan, 1985). The last orientation, impersonal, is relevant to the present study. Impersonal orientations have been associated with depression (Deci & Ryan, 1985) and are similar to the central component of the hopelessness model of depression.

Another approach to understanding depression emphasizes how people process social information. Weary and her colleagues have investigated the role of causal uncertainty in depression (Weary, et al., 1985). They have found that uncertainty in one's ability to predict causal relationships in the social world plays a role in depression. Specifically, they have suggested that casual uncertainty leads to more effortful processing of social information.
Causal uncertainty is associated with more vigilant and complex analyses of social information, in mild to moderately depressed individuals (Weary, Marsh, Gleicher, & Edwards, 1993), and scores on the Causal Uncertainty Scale, which measures this construct, have been found to be positively correlated with measures of depression (Weary & Edwards, 1994).

Another common finding in research on depression is the close link between anxiety and depression. Symptoms of anxiety are routinely associated with depression, and often, differential diagnosis can be difficult (Greenberg et al., 1988). It was beyond the scope of the present study to address these issues; however, what is generally agreed upon is that anxiety is an important correlate of depression, and anxiety was measured in the present study.

Finally, level of self-esteem has been linked to depression by several researchers (Brown & Harris, 1978; Tennen, & Herzberger, 1987). Low self-esteem is a risk factor for depression. Feeling badly about one's self is a facet of many theories of depression (Beck, 1972; Rosenberg, 1965).

In sum, there are several constructs that have been identified as vulnerability factors in the onset and maintenance of depression. Five of these constructs were the focus of the present study, and these are referred to collectively as adjustment. It was hypothesized that
peoples' level and stability of daily adjustment would predict their risk for depression. Specifically, higher levels of daily adjustment were assumed to be associated with less vulnerability towards depression, whereas higher instability was assumed to be associated with greater vulnerability towards depression.

Method

Participants

Participants were 128 introductory psychology students attending the College of William & Mary. Eighty-five females and 43 males began the study. All participants received credit in partial fulfillment of class requirements.

Procedure

Prior to the study, participants completed paper and pencil versions of both the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock & Erbaugh, 1961) and the Center for Epidemiologic Studies Depression Scale (CES-D scale; Radloff, 1977) in a mass testing session held during class at the beginning of the semester. The study began seven weeks after the mass testing session, lasted for 21 days, and used computer software for data collection.

At the beginning of the study participants reported to a laboratory to receive instructions and a computer disk to use for the remainder of the study. All measures were programmed onto disks using the Micro-Analytic Experimental
Laboratory software package (MEL; Schneider, 1988). Participants were able to run the programs from any personal computer. There were several advantages to using the MEL system for data collection. The study was unique on campus in that it allowed participants to provide data on their own. This was beneficial because it was an interesting way for participants to fulfill research requirements and contributed to a high compliance rate. Also, MEL accepts only the specified ranges of data. For example, on a 5-point scale, any number other than 1 through 5 is not accepted as a valid response by the computer. The participant can only move onto the next item by entering a valid response (or by pressing the forward arrow key to skip the item).

Participants were given detailed instructions on how to use the programs that collected the data for the study. Each disk contained three separate programs which participants ran on particular days. A summary sheet that listed what to do each day of the study was provided. The three programs were called 'start', 'today', and 'finish'. Participants completed the start program once on the first day of the study. They completed the finish program once on the last day of the study. They completed the today program 21 times once each day of the study. Participants ran the programs by inserting their disk into a drive of any computer and typing the word run followed by the title of
the program required on that day.

Each program administered the measures and recorded the responses of the participants. The start program contained the Beck Depression Inventory (BDI). The finish program contained the CES-D. The today program contained measures designed to assess daily fluctuations in the five target constructs: self-esteem, causal uncertainty, perceptions of control over outcomes of behavior, anxiety, and the cognitive triad.¹ A description of this procedure is presented in Figure 1.

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Insert Figure 1 here.
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The principal investigator maintained regular contact with participants via electronic mail. Participants were also told to contact the experimenters should any problems arise such as disk failure, computer viruses, etc. Problems of these types occurred rarely during the study. When they did occur, participants were given replacement disks within 48 hours and were told to continue the study.

Measures

Risk for Depression. Participants completed the Beck Depression Inventory (BDI; Beck, et al., 1961) and the Center for Epidemiologic Studies Depression Scale (CES-D scale; Radloff, 1977). The BDI is a widely used index of depression. Each of the 21 scale items describes symptoms
of depression that range in intensity from 0, no depressive symptomatology, to 3, severe depressive symptomatology. Total scores on the BDI can range from 0 to 63, with higher scores indicating more depressive symptoms. The CES-D scale is also a widely used index of depressive symptomatology. The CES-D contains 20 statements describing symptoms of depression. Respondents indicated on a four-point scale how often over the past week they experienced these symptoms. Responses range from 0, 'Rarely or None of the Time (less than one day)' to 3, 'Most or All of the Time (5-7 days)'. Total scores on the CES-D can range from 0 to 60.

Although people score across the range on depression measures, those who score above a cutpoint for depression have qualitatively different experiences than those who score below the cutpoint. Depressive symptoms interfere with daily functions only at a point where they are severe enough to do so. Previous research has demonstrated that a cutpoint used to distinguish depressed from non-depressed people is associated with meaningful differences in everyday social interaction (Nezlek, Imbrie, & Shean, 1994).

Researchers have recommended a cutpoint of 10-12 on the BDI and above 17 on the CES-D (Ensel, 1986) to indicate caseness of depression. For individuals scoring below a caseness cutpoint on depression, it was hypothesized that stability would play a different role in predicting vulnerability for depression than for those above the
For the present study, participants completed both the BDI and CES-D twice. As mentioned previously, they completed the initial BDI and CES-D in a mass-testing session. Seven weeks following this, they completed the BDI again, and three weeks after that they completed the CES-D for the second time. In total, over a 2 1/2 month period, participants provided four measures of depression.

Participants who scored above the cutpoints of 12 on the BDI and 20 on the CES-D on at least three out of the four depression scores were classified as depressed. This criterion was adopted to ensure that only those participants who showed high levels of depressive symptoms over an extended period of time were classified as depressed. The sample included 33 depressed and 95 nondepressed participants. The means of the four depression measures for the overall sample and each subgroup are shown in Table 1.

Daily Adjustment Measures. Participants completed the daily adjustment measures once a day for 21 days. Self-esteem was measured with a modified version of the Rosenberg (1965) Self-Esteem Scale, a well validated index of self-esteem. Responses to the 10 scale items were made on a 9 point scale from strongly disagree (1) to strongly agree.
Higher total scores indicated higher self-esteem. Daily self-esteem scores were derived by a mean of the responses from the ten items for each day.

Causal uncertainty was measured using four items from the Causal Uncertainty Scale (CUS; Weary & Edwards, 1994). The CUS is unidimensional and measures people's uncertainty about their capability of understanding cause and effect relationships in their social worlds. The four items used in the present study were chosen based on factor loadings from previous studies (see Weary & Edwards, 1994) and appropriateness for daily assessment. Responses ranged from strongly disagree (1) to strongly disagree (6); higher scores indicated more causal uncertainty. The four CUS items used were: "Thinking back on my day today in terms of the positive interactions I had with others, I did not understand why things happened the way they did". "Thinking back on my day today in terms of the positive non-social events (e.g. school work, sports, etc.) that occurred, I did not understand why things happened the way they did", "Thinking back on my day today in terms of the negative interactions I had with others, I did not understand why things happened the way they did", "Thinking back on my day today in terms of the negative non-social events (e.g. school work, sports, etc.) that occurred, I did not understand why things happened the way they did."

Anxiety was assessed with three items from the Profile
of Mood States (Lorr & McNair, 1971). These three items have been used previously to assess daily anxiety (Bolger, 1990). In the present study, respondents used a 9-point scale ranging from strongly disagree (1) to strongly agree (9). The three anxiety items were "I felt on edge today", "I felt uneasy today", and "I felt nervous today."

Feelings of control over the outcomes of one's behavior were assessed with two items, based on Deci and Ryan's (1985) construct of impersonal causality orientation. Impersonal orientations involve the experience that one is unable to regulate one's own behavior in a way that leads to the desired outcome of that behavior. Responses to these two items were on a 7-point scale ranging from not at all (1) to very much so (7). Higher scores represented a stronger belief that people were able to control the outcomes of their own behaviors. The two items used to assess this construct were "Thinking back on your day today in terms of your relationships with others and the social events that occurred, to what extent were you able to control the outcomes of these events?" and "Thinking back on your day today in terms of non-social areas of performance (e.g. school work, sports, fitness, etc.), to what extent were you able to control the outcomes of these events?".

Other cognitive components of depression were assessed with three items representing the essential elements in
Beck's (1972) theory of depression: 1) negative view of self, 2) negative view of life in general, and 3) negative view of the future. These items are referred to as the cognitive triad. Responses to these items ranged from 1 to 7, with higher numbers indicating a more positive outlook. The items were as follows: "Overall, how positively did you feel about yourself today?", "Thinking of your life in general, how well did things go today?", and "How optimistic are you about how your life (in general) will be tomorrow?" Copies of all measures are contained in Appendix A.

**Level and Stability of Daily Adjustment Measures.** A daily adjustment score for each measure was computed by averaging responses to the items of that scale for each day. A mean level adjustment score for each of the daily measures was calculated by averaging daily adjustment scores across the days of the study. Thus, for each participant, five level of adjustment measures were calculated: self-esteem, causal uncertainty, anxiety, impersonal orientation, and the cognitive triad. Also, for each participant, a measure of instability for each of the five daily adjustment measures was created by calculating the standard deviation of the daily adjustment scores.

**Results**

**Risk for Depression**

As described earlier, participants completed four measures of depression, the BDI and CES-D twice each. Out
of the 128 people who participated in the study, 106 provided scores on all four of the depression scales. These data were analyzed using maximum likelihood factor analysis with an oblique rotation. Results of this analysis suggested a single factor solution, and the factor loadings are shown in Table 2. The internal consistency of this factor was good; Carmine's theta was .85, and this single factor explained 70% of the variance in the data.

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The single factor solution is consistent with the initial conceptualization of these measures as indicators of risk for depression. For each participant, a factor score was computed based on this analysis, and this factor score was used in subsequent analysis and is referred to as Risk for Depression\(^2\). Higher scores indicate greater vulnerability to depression.

**Daily Adjustment Measures**

Of the original 128 participants who began the study, 123 provided usable data on the daily measures. Two participants' data files were unusable due to disk failures, two failed to follow instructions, and one lost the disk on the last day of the study.

The remaining 123 participants' responses were used in all of the remaining analyses. These participants completed
the daily measures an average of 19.6 days. The frequency distribution of the number of days completed is presented in Table 2. As shown in Table 3, 48% of the participants provided daily measures each of the 21 days, 24% provided data for 20 days worth, and 24% provided data for 16-19 days worth of measures. All cases were included in the data analyses, a decision based on previous research which used an index of stability from eight measurements taken over a four day period (Kernis et al., 1993).

Insert Table 3 here.

The means and standard deviations of the level and stability scores for each of the five measures of daily adjustment measures: self-esteem, causal uncertainty, anxiety, impersonal orientation, and the cognitive triad, are presented in Table 4.

Insert Table 4 here.

Participants' five level scores and five stability scores were analyzed using maximum likelihood factor analysis. Two factors with eigenvalues greater than 1 were retained for the final rotation. Past research on the relationship between self-esteem level and self-esteem stability have found them to be negatively correlated (see
Kernis, et al., 1991 and 1992). Therefore, the initial solution was subjected to an oblique rotation (direct quartimin). Variables corresponding to level scores loaded on factor 1, and those corresponding to stability scores loaded on factor 2. The internal consistency of the solution was good; Carmine's theta was .83. The results of this analysis are presented on Table 5.

Insert Table 5 here

To determine if this two factor solution was due primarily to measures of only one or two of the underlying constructs (both level and instability), additional factor analyses were run with individual constructs removed one at a time. Carmine's theta remained relatively unchanged when individual constructs were removed, suggesting that no one construct disproportionately accounted for the internal consistency of the factor structure. These analyses are summarized in Table 6.

Insert Table 6 here.

The two factor model describing the level of adjustment and stability measures were examined further by confirmatory factor analysis using EQS (Bentler, 1989). A model that allowed the two factors to be correlated provided a better
fit of the data than a model that constrained the factors to be orthogonal $\chi^2 (1) = 21.1, p < 01$. This analysis, coupled with findings from previous research suggested that a model that allowed the two factors to be correlated at -.34 was appropriate.

Based on these analyses, two factor scores were computed for each participant. The first factor score is referred to as level of daily adjustment, or Level. The second factor score is referred to as instability of daily adjustment, or Instability. Higher scores on Level indicated more positive daily adjustment, and higher scores on Instability indicated more variability in daily adjustment. The means for the Level and Instability factors, and for Risk for Depression factor are presented in Table 7, separately for the depressed and nondepressed subgroups.

Predicting depression risk from level and stability.

The accuracy with which the general factors of Level and Instability predicted risk for depression was examined using multiple regression. These analyses included the interaction between Level and Instability, which was created by multiplying Level and Instability. Level, Stability, and the Level X Stability interaction were entered.
simultaneously into the equation. The results of this analysis for the full sample are presented in Table 8. For this model $R^2 = .58$, $F(3,119) = 54.8$, $p < .001$. Also, analysis of a model that included only Level and Instability was compared to one that also included the interaction term. The model that included the interaction term provided a significant change in $R^2$, increment = .04.

The results of the regression equation using the general factor scores do not agree completely with the results of previous research using only self-esteem level and stability to predict depression. Similar to previous findings, there was a main effect for Level of daily adjustment, $t(119) = 11.3$, $p < .01$. Level of daily adjustment was inversely related to risk for depression ($B = -.79$). There was no main effect for the general Instability factor $t(119) = 0.3$, $p = n.s$. Also similar to previous research, the Level X Instability interaction term was significant, $t(119) = 3.15$, $p < .01$ ($B = -.20$). However, the present results disagree with Kernis et al. (1991) because in that study the regression coefficient for the interaction was positive, whereas the coefficient in the present study was negative. The present findings suggest that instability of daily adjustment moderates the relationship between Level and depression, although the specific nature of the moderating relationship found in the present study was different from that found in previous
research.

To interpret the meaning of the interaction, predicted values of the Risk for Depression score were generated for participants one standard deviation above and below the group mean on the Level and Instability factors, using weights found in the regression equation. These predicted values are shown on Table 9. For participants with low levels of daily adjustment, high instability was associated with greater risk for depression, whereas, for participants with high levels of daily adjustment, high instability was associated with less risk for depression.

Insert Table 9 here.

To test the hypothesis that the roles Level and Instability play in predicting Risk for Depression were different for those above and below the at risk cutpoint for depression, multiple regression by groups analyses were conducted. The grouping variable was based on the cutpoints described earlier. There were 33 depressed and 90 nondepressed participants. These two regression equations were significantly different, $F(4,115) = 19.9$, $p < .001$. Regression equations for each group are presented in Table 10.
For both the nondepressed and depressed groups, higher level of adjustment scores were negatively related to lower Risk for Depression. There was no main effect for Instability in either group.

For the depressed group, the Level X Instability interaction term was significant, $t(29) = 3.0, p < .02$, whereas it was not significant for the nondepressed group, $t(86) = 1.6, p > .10$. This suggests that for the depressed group Instability moderated the relationship between Level and Risk for Depression, but it did not for the nondepressed group.

To aid in the interpretation of the interaction terms in both groups, scores one standard deviation above and below the mean for each group were used again to generate predicted values of the Risk for Depression score. These predicted scores are presented in Table 11. For the depressed group, greater instability in daily adjustment had different effects on risk for depression depending on the level of daily adjustment. For the nondepressed group, there was no such interaction. Within the depressed group, higher levels of daily adjustment and greater instability were associated with comparatively low risk for depression. However, for those with lower levels of daily adjustment,
more instability was associated with high risk for depression.

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Insert Table 11 here.

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Discussion

The present study supported the initial hypothesis that there is a general factor of temporal stability. Also, for the sample as a whole, stability played a moderating role in the prediction of risk for depression from the daily level of these constructs. Finally, the results suggest that the role of instability is different for those who are at-risk for depression than for those who are not.

The findings from the present study suggest that day to day fluctuations of self referential constructs differ among people. Some personality theorists view variation such as this as an indication of questionable scale reliability, whereas others have postulated that people who vary in a certain trait across time possess less of that trait dimension (Baumeister & Tice, 1988).

The present results do not support either of these interpretations. First, the scales used have been shown to have adequate reliability when administered as trait-type measures. Also, the variability across days for all five of the daily adjustment measures loaded on the general factor of instability. It is unlikely that participants who showed
more instability possessed less of each of these five traits than those who showed less instability. Finally, the construct of a stability factor is meaningful in and of itself, as evidenced by the finding that instability moderated the effect of general level of daily adjustment on the prediction of depression scores.

The present results suggest that daily fluctuations in state measures are related to trait levels but are also a unique construct (Level and Instability were correlated at -.34). In Tellegen's (1988, p. 640) discussion of "temporal variation" he describes states and traits as underlying influences that can operate at the same time. Further, he suggests that viewing the instability of a particular construct as a moderator variable may improve prediction of behavior. The findings of the present study support this belief, at least in the prediction of risk for depression.

The findings indicate that instability moderates the relationship between level of daily adjustment and risk for depression. Considering the sample as a whole, level of daily adjustment had a greater effect for people who were more unstable. Examination of the predicted scores using the regression equation illustrate this point. The combination of relatively poor daily adjustment and high instability led to the highest predicted risk for depression score. Conversely, the combination of relatively good daily adjustment and high instability led to the least predicted
risk for depression score.

To interpret these findings, the essence of fluctuations around a mean level needs to be considered. For a person who has a high mean level of daily adjustment, fluctuations above that mean are experienced as extremely good states of adjustment, and fluctuations below that mean are not so bad in terms of daily adjustment. On the other hand, for people with a low mean level of daily adjustment, fluctuations above that mean are experienced as average states of adjustment (at best), and fluctuations below their low level of adjustment are experienced as extremely poor states of adjustment. Since Level and Instability were moderately negatively correlated, the fluctuations experienced by people with low level of daily adjustment were even more extreme than those with high levels. It may be that these greater dips in daily adjustment are difficult to recover from and increase a person's vulnerability to depression.

The effects of unstable adjustment can also be viewed in terms of offensive versus defensive styles of interacting with the environment. Unstable people with high mean levels of adjustment may interact in a defensive manner. They are primarily concerned with protecting the relatively high level of adjustment they have. In contrast, unstable people with low mean levels of adjustment may interact in an offensive manner. Their primary concern is with enhancing
the relatively low level of adjustment they have. Occasionally, they succeed and have a good day, but they also experience very poor days.

The offensive versus defensive interpretation is consistent with the findings of Kernis et al. (1993). They found that people with unstable high self-esteem reacted more defensively to negative feedback and were more likely to reject that feedback than those with unstable low self-esteem.

Differences in the relationships between the factor scores and risk for depression were expected between the nondepressed and depressed groups. Although the category of depressed does not represent a clinical diagnosis, it does represent a group of people who are, at the very least, at risk for depression. Four different measures of depression taken over a 2 1/2 month period were used to classify participants, an improvement over many previous studies on non-clinical samples which have used one or two measures.

The results also support a discontinuity hypothesis of depressive symptoms by suggesting that there is a qualitative difference between those who score above and below the at-risk cutpoint on these measures. At some point along the continuum of depressive symptoms there is shift. People whose depressive symptoms are above the cutoff experience things differently. More research needs to be done to examine the parameters of these differences. At the
least, researchers who use scales such as the BDI and the CES-D should examine their data with cutpoints in mind.

The present study suggests that for people who are below the cutpoint on depression scales, instability of daily adjustment has little effect on their overall risk for depression. For these people, their mean level of daily adjustment was the only predictor of risk for subsequent depression. High levels of daily adjustment were associated with lower risk for depression.

For people who scored above the cutpoint, instability played an important role in predicting depression. Those with relatively poor and unstable daily adjustment were at the greatest risk for depression. These people may have experienced large dips in their daily adjustment which were difficult to recover from. Those with relatively good and unstable daily adjustment were at the least risk for depression in this subgroup. Their fluctuations above their higher mean level may have buffered them from depression. Risk for depression among this subgroup should be viewed in relative terms because this group was at risk for depression in terms of the four depression measures that were collected.

There are several limitations to the present study. First, the study is correlational. Daily adjustment levels could have been predicted from risk for depression and instability. However, for conceptual reasons, the focus of
the study was on predicting depression risk from day to day reports of adjustment. There is theoretical justification to suggest that individual differences in daily adjustment and instability lead to depressive symptoms.

The diathesis-stress models introduced earlier postulate that individual differences interact with environmental stressors to cause depression. Within this framework, level and stability of daily adjustment are viewed as individual differences in vulnerability factors. However, based on the present study it is not possible to determine for certain if depressive symptoms stemmed from or were the cause of individual differences in daily adjustment and instability. Future research needs to examine the causal relationship between depressive symptoms and instability of daily adjustment by identifying the stressors that interact with these vulnerability factors.

Also, studies that measure these individual differences and then follow people across longer periods of time would address this issue. It would be interesting to see if people showing no initial symptoms of depression but exhibit low and unstable daily adjustment develop depressive disorders over time.

The measures chosen to represent daily adjustment may be another limitation. These measures were chosen because of their identification as vulnerability factors to depression. However, they do not represent all of the
vulnerability factors identified by researchers. Also, the validity of some of the daily measures constructed for the present study (cognitive triad and impersonal) has not been demonstrated. Finally, this study does not address the possibility that the stability of other personality traits moderate the prediction of behaviors other than depression. Future studies should address these issues.

In summary, the present study provided evidence for a general factor of temporal stability. It seems that individuals differ in the amount their adjustment fluctuates day to day. Testing the scope of this general factor of instability would seem to be a fruitful area of research. The present study also provided evidence for the importance of instability of daily adjustment in the prediction of depression. More research is needed to replicate these findings. However, based on the present findings, it seems that consideration of the stability of adjustment may prove useful in the prevention and treatment of depression.
References


Footnotes

1 The start, finish, and today program contained other measures completed by respondents. These measures are not relevant to the present discussion and were not included in any of the data analyses for this study.

2 Eighteen participants could not be included in the factor analysis of the four depression measures. One of the four depression scores (i.e., BDI time 1, CES-D time 1, BDI time 2, or CES-D time 2) was missing for 17 participants, and one participant did not provide two of the four scores. So that these participants could be included in the primary analyses, their risk for depression factor scores were estimated. First, they were classified as depressed or nondepressed based on the depression measures that were available; 13 were classified as nondepressed, and 5 were classified as depressed. Next, missing scores were estimated using a regression procedure in which missing scores were predicted by the scores that were available ($R^2 = .8$), and this was done separately for depressed and nondepressed participants. These estimated factor scores were used in subsequent analyses.
Table 1

Means and Standard Deviations on the Depression Scales

<table>
<thead>
<tr>
<th>Measure</th>
<th>Overall Sample</th>
<th>Depressed</th>
<th>Nondepressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI Time 1</td>
<td>7.7 (7.4)</td>
<td>16.8 (7.3)</td>
<td>4.5 (4.0)</td>
</tr>
<tr>
<td>n=126</td>
<td>n=33</td>
<td>n=93</td>
<td></td>
</tr>
<tr>
<td>CES-D Time 1</td>
<td>18.1 (10.5)</td>
<td>31.0 (7.6)</td>
<td>13.7 (7.3)</td>
</tr>
<tr>
<td>n=128</td>
<td>n=33</td>
<td>n=95</td>
<td></td>
</tr>
<tr>
<td>BDI Time 2</td>
<td>8.5 (8.2)</td>
<td>18.5 (8.7)</td>
<td>5.0 (4.2)</td>
</tr>
<tr>
<td>n=120</td>
<td>n=31</td>
<td>n=89</td>
<td></td>
</tr>
<tr>
<td>CES-D Time 2</td>
<td>14.4 (10.4)</td>
<td>26.6 (11.0)</td>
<td>10.3 (6.0)</td>
</tr>
<tr>
<td>n=114</td>
<td>n=29</td>
<td>n=85</td>
<td></td>
</tr>
</tbody>
</table>

Note. BDI Time 1 and CES-D Time 1 were measured together.
BDI Time 2 was measured seven weeks later, and CES-D Time 2 was measured three weeks the BDI Time 2. Numbers in ( ) are standard deviations.
Table 2

**Factor Loadings for the Depression Measures**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Factor 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI Time 1</td>
<td>.98</td>
</tr>
<tr>
<td>CES-D Time 1</td>
<td>.82</td>
</tr>
<tr>
<td>BDI Time 2</td>
<td>.80</td>
</tr>
<tr>
<td>CES-D Time 2</td>
<td>.72</td>
</tr>
</tbody>
</table>

**Note.** \( n = 105 \).

Carmine's Theta = .85
Table 3

**Frequency Distribution for Number of Daily Measures Completed by Participants**

<table>
<thead>
<tr>
<th>Number of Days Completed</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>59</td>
<td>48.0</td>
<td>48.0</td>
</tr>
<tr>
<td>20</td>
<td>30</td>
<td>24.4</td>
<td>72.4</td>
</tr>
<tr>
<td>19</td>
<td>16</td>
<td>13.0</td>
<td>85.4</td>
</tr>
<tr>
<td>18</td>
<td>8</td>
<td>6.5</td>
<td>91.9</td>
</tr>
<tr>
<td>17</td>
<td>2</td>
<td>1.6</td>
<td>93.5</td>
</tr>
<tr>
<td>16</td>
<td>3</td>
<td>2.4</td>
<td>95.9</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>.8</td>
<td>96.7</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>1.6</td>
<td>98.3</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>.8</td>
<td>99.1</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>.8</td>
<td>99.9</td>
</tr>
</tbody>
</table>

Total 123
Table 4

**Means and Standard Deviations on Daily Adjustment Scales**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Overall Sample</th>
<th>Depressed</th>
<th>Nondepressed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LEVEL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>7.2 (1.1)</td>
<td>6.0 (1.0)</td>
<td>7.7 (0.9)</td>
</tr>
<tr>
<td>Cog. Triad</td>
<td>5.1 (0.9)</td>
<td>4.2 (0.8)</td>
<td>5.5 (0.6)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>3.7 (1.6)</td>
<td>5.2 (1.2)</td>
<td>3.1 (1.4)</td>
</tr>
<tr>
<td>Impersonal</td>
<td>4.7 (0.9)</td>
<td>4.1 (0.7)</td>
<td>5.0 (0.8)</td>
</tr>
<tr>
<td>Causality</td>
<td>2.5 (0.8)</td>
<td>3.0 (0.6)</td>
<td>2.3 (0.8)</td>
</tr>
<tr>
<td>Uncertainty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>STABILITY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>0.8 (0.4)</td>
<td>1.0 (0.5)</td>
<td>0.7 (0.4)</td>
</tr>
<tr>
<td>Cog. Triad</td>
<td>0.9 (0.4)</td>
<td>1.1 (0.4)</td>
<td>0.8 (0.3)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>1.5 (0.6)</td>
<td>1.5 (0.6)</td>
<td>1.5 (0.6)</td>
</tr>
<tr>
<td>Impersonal</td>
<td>0.9 (0.3)</td>
<td>1.0 (0.3)</td>
<td>0.9 (0.3)</td>
</tr>
<tr>
<td>Causality</td>
<td>0.6 (0.3)</td>
<td>0.7 (0.3)</td>
<td>0.5 (0.3)</td>
</tr>
<tr>
<td>Uncertainty</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** For Level scores:
- Self-esteem: Higher scores = more self-esteem.
- Cognitive Triad: Higher scores = more positive triad.
- Anxiety: Higher scores = more anxiety.
- Impersonal: Higher scores = more perceived control over the outcomes of one's behavior.
- Causality Uncertainty: Higher scores = more uncertainty.

For Stability scores: Higher scores = more instability.

\( n = 123 \) for sample overall,
\( n = 33 \) for depressed and \( n = 90 \) for nondepressed subgroup.
Numbers in ( ) are standard deviations.
Table 5

**Factor Loadings for the Daily Adjustment Measures**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Factor 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive triad level</td>
<td>.94</td>
<td>.06</td>
</tr>
<tr>
<td>Self-esteem level</td>
<td>.92</td>
<td>.00</td>
</tr>
<tr>
<td>Causal Uncert. level</td>
<td>-.71</td>
<td>-.04</td>
</tr>
<tr>
<td>Impersonal level</td>
<td>.70</td>
<td>-.06</td>
</tr>
<tr>
<td>Anxiety level</td>
<td>-.59</td>
<td>.10</td>
</tr>
<tr>
<td>Cognitive triad stability</td>
<td>-.18</td>
<td>.86</td>
</tr>
<tr>
<td>Self-esteem stability</td>
<td>-.23</td>
<td>.66</td>
</tr>
<tr>
<td>Causal Uncert. stability</td>
<td>.02</td>
<td>.44</td>
</tr>
<tr>
<td>Impersonal stability</td>
<td>-.06</td>
<td>.57</td>
</tr>
<tr>
<td>Anxiety stability</td>
<td>.13</td>
<td>.51</td>
</tr>
</tbody>
</table>

**Note.** n=123. Factors 1 & 2 correlated at r= -.34.

Carmine's Theta = .83
Table 6

**Carmine's theta with each of the items removed**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Carmine's theta with item removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive triad level</td>
<td>.77</td>
</tr>
<tr>
<td>Self-esteem level</td>
<td>.76</td>
</tr>
<tr>
<td>Causal Uncert. level</td>
<td>.79</td>
</tr>
<tr>
<td>Impersonal level</td>
<td>.79</td>
</tr>
<tr>
<td>Anxiety level</td>
<td>.81</td>
</tr>
<tr>
<td>Cognitive triad stability</td>
<td>.79</td>
</tr>
<tr>
<td>Self-esteem stability</td>
<td>.80</td>
</tr>
<tr>
<td>Causal Uncert. stability</td>
<td>.81</td>
</tr>
<tr>
<td>Impersonal stability</td>
<td>.78</td>
</tr>
<tr>
<td>Anxiety stability</td>
<td>.83</td>
</tr>
</tbody>
</table>

Note. n=123.
Table 7

Means and Standard Deviations on the Factor Scores

<table>
<thead>
<tr>
<th>Factor Score</th>
<th>Depressed</th>
<th>Nondepressed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>Level</td>
<td>-1.03 (0.78)</td>
<td>0.40 (0.72)</td>
</tr>
<tr>
<td>Instability</td>
<td>0.39 (1.23)</td>
<td>-0.14 (0.78)</td>
</tr>
<tr>
<td>Depression Risk</td>
<td>1.39 (0.89)</td>
<td>-0.45 (0.56)</td>
</tr>
</tbody>
</table>

Note. n = 123.
Table 8

**Summary of Regression Analysis for Daily Adjustment Factor Scores**

**Predicting Risk for Depression for Entire Sample. (n = 123).**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
<td>-0.792</td>
<td>0.070</td>
<td>11.3</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Instability</td>
<td>0.021</td>
<td>0.076</td>
<td>0.3</td>
<td>N.S.</td>
</tr>
<tr>
<td>Level X Instability</td>
<td>-0.198</td>
<td>0.063</td>
<td>3.2</td>
<td>&lt;.01</td>
</tr>
</tbody>
</table>

Model $R^2 = .58$, $F (3,119) = 54.8$, $p < .001$.

**Note.** SE B = standard error of B.
Table 9

Predicted Risk for Depression Scores for entire sample.  
n = 123.

<table>
<thead>
<tr>
<th>Instability Factor Score</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Adjustment</td>
<td>Stable</td>
<td>Unstable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level Factor Score</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>0.55</td>
<td>0.95</td>
</tr>
<tr>
<td>High</td>
<td>-0.62</td>
<td>-0.94</td>
</tr>
</tbody>
</table>

Note. Predicted scores are risk for depression factor scores that range from negative to positive. Higher score indicate more risk for depression.
Table 10

Summary of Regression Analysis for Daily Adjustment Factor Scores Predicting Risk for Depression for Nondepressed subgroup. (n = 90).

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
<td>-.388</td>
<td>.079</td>
<td>5.2</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Instability</td>
<td>-.095</td>
<td>.082</td>
<td>1.2</td>
<td>= .25</td>
</tr>
<tr>
<td>Level X Instability</td>
<td>-.152</td>
<td>.095</td>
<td>1.6</td>
<td>= .11</td>
</tr>
</tbody>
</table>

Model $R^2 = .29$, $F (3,86) = 11.5$, $p < .001$.

Summary of Regression Analysis for Daily Adjustment Factor Scores Predicting Risk for Depression for Depressed subgroup. (n = 33).

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
<td>-.416</td>
<td>.156</td>
<td>2.7</td>
<td>&lt; .02</td>
</tr>
<tr>
<td>Instability</td>
<td>-.242</td>
<td>.183</td>
<td>1.3</td>
<td>= .20</td>
</tr>
<tr>
<td>Level X Instability</td>
<td>-.389</td>
<td>.130</td>
<td>3.0</td>
<td>&lt; .02</td>
</tr>
</tbody>
</table>

Model $R^2 = .46$, $F (3,29) = 8.3$, $p < .001$.

Note. SE B = standard error of B.
Table 11

**Predicted Risk for Depression Scores by subgroup.**

<table>
<thead>
<tr>
<th></th>
<th>Instability Factor Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Daily Adjustment</strong></td>
<td>Stable</td>
</tr>
<tr>
<td><strong>Level Factor Score</strong></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>0.00</td>
</tr>
<tr>
<td>High</td>
<td>-0.76</td>
</tr>
</tbody>
</table>

**Nondepressed Group**

**Depressed Group**

**Note.** Depression scores = predicted factor score on risk for depression. Higher Depression scores = greater vulnerability to depression.
Figure Caption

Figure 1. Outline of the procedure and measures used in the study.
<table>
<thead>
<tr>
<th>Level and Stability</th>
<th>50</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>10 (ended)</th>
<th>7 (started)</th>
<th>7</th>
<th>---</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>---</td>
</tr>
<tr>
<td>Anxiety</td>
<td>Interpersonal</td>
<td>Uncert.</td>
<td>Casual</td>
</tr>
<tr>
<td>Cog.</td>
<td>TRAD</td>
<td>CES-D</td>
<td>SELF-Esteem</td>
</tr>
<tr>
<td>BDI</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>MEL</td>
<td>MEL</td>
<td>MEL</td>
<td>---</td>
</tr>
<tr>
<td>Program</td>
<td>Program</td>
<td>Program</td>
<td>Session</td>
</tr>
<tr>
<td>Finish</td>
<td>Today</td>
<td>Start</td>
<td>Mass Testing</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Number of Times done</td>
<td>Number of Weeks From Start</td>
<td>Date</td>
<td>Mass Testing</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
Appendix A

Questionnaires
Beck Depression Inventory (BDI)

On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling the past week, including today! Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

1. 0 I do not feel sad.
   1  I feel sad.
   2  I am sad all the time and I can't snap out of it.
   3  I am so sad or unhappy that I can't stand it.

2. 0 I am not particularly discouraged about the future.
   1  I feel discouraged about the future.
   2  I feel I have nothing to look forward to.
   3  I feel that the future is hopeless and that things cannot improve.

3. 0 I do not feel like a failure.
   1  I feel I have failed more than the average person.
   2  As I look back on my life, all I can see is a lot of failures.
   3  I feel I am a complete failure as a person.

4. 0 I get as much satisfaction out of things as I used to.
   1  I don't enjoy things the way I used to.
   2  I don't get real satisfaction out of anything anymore.
   3  I am dissatisfied or bored with everything.

5. 0 I don't feel particularly guilty.
   1  I feel guilty a good part of the time.
   2  I feel quite guilty most of the time.
   3  I feel guilty all of the time.

6. 0 I don't feel I am being punished.
   1  I feel I may be punished.
   2  I expect to be punished.
   3  I feel I am being punished.

7. 0 I don't feel disappointed in myself.
   1  I am disappointed in myself.
   2  I am disgusted with myself.
   3  I hate myself.
BDI (continued)

8. 0  I don't feel I am any worse than anybody else.
     1  I am critical of myself for my weaknesses or mistakes.
     2  I blame myself all the time for my faults.
     3  I blame myself for everything bad that happens.

9. 0  I don't have any thoughts of killing myself.
     1  I have thoughts of killing myself, but I would not carry them out.
     2  I would like to kill myself.
     3  I would kill myself if I had the chance.

10. 0 I don't cry anymore than usual.
     1  I cry more now than I used to.
     2  I cry all the time now.
     3  I used to be able to cry, but now I can't cry even though I want to.

11. 0 I am no more irritated now than I ever am.
     1  I get annoyed or irritated more easily than I used to.
     2  I feel irritated all the time now.
     3  I don't get irritated at all by the things that used to irritate me.

12. 0 I have not lost interest in other people.
     1  I am less interested in other people than I used to be.
     2  I have lost most of my interest in other people.
     3  I have lost all of my interest in other people.

13. 0 I make decisions about as well as I ever could.
     1  I put off making decisions more than I used to.
     2  I have greater difficulty in making decisions than before.
     3  I can't make decisions at all anymore.

14. 0 I don't feel I look any worse than I used to.
     1  I am worried that I am looking old or unattractive.
     2  I feel that there are permanent changes in my appearance that make me look unattractive.
     3  I believe that I look ugly.

15. 0 I can work about as well as before.
     1  I takes an extra effort to get started at doing something.
     2  I have to push myself very hard to do anything.
     3  I can't do any work at all.
BDI (continued)

16. 0  I can sleep as well as usual.
      1  I don't sleep as well as I used to.
      2  I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
      3  I wake up several hours earlier than I used to and cannot get back to sleep.

17. 0  I don't get more tired than usual.
      1  I get tired more easily than I used to.
      2  I get tired from doing almost anything.
      3  I am too tired to do anything.

18. 0  My appetite is no worse than usual.
      1  My appetite is not as good as it used to be.
      2  My appetite is much worse now.
      3  I have no appetite at all anymore.

19. 0  I haven't lost much weight, if any lately.
      1  I have lost more than 5 pounds.
      2  I have lost more than 10 pounds.
      3  I have lost more than 15 pounds.

20. 0  I am no more worried about my health than usual.
      1  I am worried about physical problems such as aches and pains; or upset stomach; or constipation.
      2  I am very worried about physical problems and it's hard to think of much else.
      3  I am so worried about physical problems, that I cannot think about anything else.

21. 0  I have not noticed any recent change in my interest in sex.
      1  I am less interested in sex than I used to be.
      2  I am much less interested in sex now.
      3  I have lost interest in sex completely.
Center for Epidemiological Studies–Depression Scale (CES-D)

Below is a list of the ways you might have felt or behaved. Please indicate how often you felt this way during the past week.

0 = Rarely or None of the Time (less than one day)
1 = Some or a Little of the Time (1-2 days)
2 = Occasionally or a Moderate Amount of Time (3-4 days)
3 = Most or All of the Time (5-7 days)

1. I was bothered by things that usually don't bother me.
2. I did not feel like eating; my appetite was poor.
3. I felt that I could not shake off the blues even with help from my family or friends.
4. I felt that I was just as good as other people.
5. I had trouble keeping my mind on what I was doing.
6. I felt depressed.
7. I felt that everything I did was an effort.
8. I felt hopeful about the future.
9. I thought my life had been a failure.
10. I felt fearful.
11. My sleep was restless.
12. I was happy.
13. I talked less than usual.
15. People were unfriendly.
16. I enjoyed life.
17. I had crying spells.
18. I felt sad.
19. I felt that people dislike me.
20. I could not get "going."
Modified Rosenberg's Self-Esteem Scale

Listed below are a number of statements concerning personal attitudes and characteristics. Please read each statement and consider the extent to which you agree or disagree AT THIS MOMENT. All responses will be kept confidential, so please answer as honestly as possible. Remember, base your responses on the extent to which you agree or disagree with each statement AT THIS MOMENT.

1. I feel that I am a person of worth, at least on an equal plane with others.

   1......2......3......4......5......6......7......8......9
   Strongly Disagree Neither Agree Strongly Disagree
   Agree nor Disagree

2. I feel like a persona who has a number of good qualities.

   1......2......3......4......5......6......7......8......9
   Strongly Disagree Neither Agree Strongly Disagree
   Agree nor Disagree

3. All in all, I am inclined to feel like a failure.

   1......2......3......4......5......6......7......8......9
   Strongly Disagree Neither Agree Strongly Disagree
   Agree nor Disagree

4. I feel as if I am able to do things as well as most other people.

   1......2......3......4......5......6......7......8......9
   Strongly Disagree Neither Agree Strongly Disagree
   Agree nor Disagree

5. I feel as if I do not have much to be proud of.

   1......2......3......4......5......6......7......8......9
   Strongly Disagree Neither Agree Strongly Disagree
   Agree nor Disagree
6. I take a positive attitude toward myself.


7. On the whole, I am satisfied with myself.


8. I wish that I could have more respect for myself.


9. I certainly feel useless at times.


10. At times I think I am no good at all.

Below you will find a series of questions and statements. Please choose the response that best describes how you feel AT THIS MOMENT.

1. Thinking back on your day today in terms of your relationships with others and the social events that occurred, to what extent were you able to control the outcomes of these events?

1........2........3........4........5........6........7
Not at Somewhat Mostly Very Much
All So

2. Thinking back on your day today in terms of non-social areas of performance (e.g. school work, sports, fitness, etc.), to what extent were you able to control the outcomes of these events?

1........2........3........4........5........6........7
Not at Somewhat Mostly Very Much
All So
## Daily Anxiety Measures

1. I felt on edge today.

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2. I felt uneasy today.

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3. I felt nervous today.

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Modified Daily Version of Causal Uncertainty Scale

1. Thinking back on my day today in terms of the positive interactions I had with others, I did not understand why things happened the way they did.

1 .......... 2 .......... 3 .......... 4 .......... 5 .......... 6
strongly moderately disagree agree moderately strongly
disagree disagree agree agree

2. Thinking back on my day today in terms of the positive non-social events (e.g. school work, sports, etc.) that occurred, I did not understand why things happened the way they did.

1 .......... 2 .......... 3 .......... 4 .......... 5 .......... 6
strongly moderately disagree agree moderately strongly
disagree disagree agree agree

3. Thinking back on my day today in terms of the negative interactions I had with others, I did not understand why things happened the way they did.

1 .......... 2 .......... 3 .......... 4 .......... 5 .......... 6
strongly moderately disagree agree moderately strongly
disagree disagree agree agree

4. Thinking back on my day today in terms of the negative non-social events (e.g. school work, sports, etc.) that occurred, I did not understand why things happened the way they did.

1 .......... 2 .......... 3 .......... 4 .......... 5 .......... 6
strongly moderately disagree agree moderately strongly
disagree disagree agree agree
1. Overall, how positively did you feel about yourself today?

1=very negatively
2=negatively
3=somewhat negatively
4=neither negatively nor positively
5=somewhat positively
6=positively
7=very positively

2. Thinking of your life in general, how well did things go today?

1=very poorly
2=poorly
3=somewhat poorly
4=neither poorly nor well
5=somewhat well
6=well
7=very well

3. How optimistic are you about how your life (in general) will be tomorrow?

1=very pessimistic
2=pessimistic
3=somewhat pessimistic
4=neither pessimistic nor optimistic
5=somewhat optimistic
6=optimistic
7=very optimistic
VITA

Shelly Lyne Gable

The author was born on August 8, 1968 in Allentown, Pennsylvania. She graduated from Emmaus High School in Emmaus, Pennsylvania in June, 1986. She received her Bachelor of Arts with a major in Psychology from Muhlenberg College in May, 1990. She worked for four years in clinical settings and entered the Master of Arts program in Psychology at the College of William and Mary in August, 1994.