AMBIVALENCE OVER EMOTIONAL EXPRESSION AND HEALTH:
PROCESS AND TRAIT EFFECTS

by

ILANA M. KATZ

B.A., The University of Winnipeg, 1989

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTERS OF ARTS

in

THE FACULTY OF GRADUATE STUDIES
(DEPARTMENT OF PSYCHOLOGY)

We accept this thesis as conforming
to the required standards

THE UNIVERSITY OF BRITISH COLUMBIA

August 1991

© Ilana M. Katz, 1991
In presenting this thesis in partial fulfilment of the requirements for an advanced
degree at the University of British Columbia, I agree that the Library shall make it
freely available for reference and study. I further agree that permission for extensive
copying of this thesis for scholarly purposes may be granted by the head of my
department or by his or her representatives. It is understood that copying or
publication of this thesis for financial gain shall not be allowed without my written
permission.

Department of Psychology

The University of British Columbia
Vancouver, Canada

Date 09/13/91

DE-6 (2/88)
Abstract

Although the expression of emotion has traditionally been considered necessary and beneficial, research suggests that while some people need to express their emotions and benefit from such expression, others experience emotional expression as distinctly distressing. Pennebaker and his colleagues (Pennebaker & Hoover, 1986; Pennebaker & Klihr Beall, 1986) proposed a framework to reconcile the "healthy vs unhealthy" debate in the expressiveness literature. The key construct in this approach is "conflict" or ambivalence over emotional expression. King and Emmons (1990) recently adopted a trait conception of ambivalence over emotional expression, with an underlying premise that there are certain individuals who regularly experience conflict over their desires to express their feelings. The present investigation examined the relation between ambivalence over emotional expression and measures of psychological and physical well-being at both the between-subject and within-subject level. Analyses were also conducted taking into account the influence of life stress on the ambivalence/health relation. Trait Ambivalence over Emotional Expression (AEQ; King & Emmons, 1990) was examined in a 4-month longitudinal design with an interim diary component. Sixty-six subjects, pretest on AEQ, completed aggregated measures of life events and well-being at Time 1 and 2. They also kept a 2-week diary recording stressful events, emotional expression, ambivalence over expression, health symptoms and mood. At the between-subject level, trait ambivalence was predictive of psychological well-being and also moderated the relation between positive stressful events and psychological well-being. At the within-subject level, feelings of ambivalence were associated with increased negative affect and reports of more stressful events. While the ambivalence results did support the stress-buffering hypothesis at the between-subject level, they were not shown at the within-subject level.
# TABLE OF CONTENTS

Abstract .................................................................................................................. ii
List of Tables ......................................................................................................... v
Acknowledgements ............................................................................................... vi
Introduction ........................................................................................................... 1
  Ambivalence as a Mediator of Emotional Expression and Health ................... 6
  Individual Differences vs. Daily Processes ......................................................... 9
  Present Study ...................................................................................................... 12
Method ................................................................................................................... 14
  Overview ............................................................................................................. 14
  Subjects ............................................................................................................... 14
  Procedures ......................................................................................................... 15
    I. Stage one - Pretest ........................................................................................ 15
    II. Stage two - Diary ......................................................................................... 16
    III. Stage three - Follow-up ............................................................................ 18
Results .................................................................................................................... 19
  Reliabilities ....................................................................................................... 19
  Between-subject analyses .................................................................................. 20
    I. Follow-up variables ..................................................................................... 21
    II. Average diary variables .............................................................................. 25
Summary of between-subject analyses ................................................................. 29
Within-subject analyses ....................................................................................... 30
Summary of within-subject analyses ................................................................... 33
Discussion .............................................................................................................. 33
  Between-subject analyses ................................................................................. 35
  Within-subject analyses ..................................................................................... 36
Stress-Buffering Model: Two Different Approaches

I. Impact of stress: Between-subject level

II. Impact of stress: Within-subject level

General Conclusions and Future Directions

References

Footnote
LIST OF TABLES

1. Correlations among Pretest Individual Difference Variables ..........52

2. Correlations between Pretest Variables and Follow-up Depression ......53

3. Correlations of Life Events with Pretest Variables and Follow-up depression ........................................................................................................54

4. Hierarchical Regression of Follow-up Depression on Pretest Depression, Life Events, Pretest AEQ and Pretest EEQ ........................................55

5. Hierarchical Regression of Follow-up BDI on Pretest BDI, and Pretest AEQ and EEQ by Three Levels of Postive Life Events.......................56

6. Means, Standard Deviations, and Correlations among the Average Diary Variables ..................................................................................................57

7. Correlations between Pretest Traits and Diary Averages.................58

8. Average Within-Subject Correlations of Stressfulness of Event, Mood, Ambivalence, and Expression ...............................................................59

9. Correlations of Pretest Traits with Within-Subject Correlations .......60
Acknowledgments

This study was made possible by the support and assistance of many people. First of all, I would like to thank Jennifer Campbell for providing not only advice and assistance but extensive patience and support over the last two years. I would also like to thank Anita DeLongis and Dan Perlman for their time, insight and suggestions.

A sincere thank you to Loraine Lavallee, my dear friend and colleague, for being "connected" and supportive in situations of both puzzled confusion and critical insight. Also, my deepest thanks to Leslie Reilly for her warmth, compassion, friendship and faith in me at all times.

I am also sincerely indebted to Krista Trobst and Laura Loewen for their support, friendship and at times, necessary "commiseration", and to Paul Trapnell for his abstract and concrete assistance at various stages of this project. Also thanks to my pseudo-family - Larry, Ande, and Jake Axelrod - for the countless ways in which they have been "close at hand" over the past year.

A warm thank you to Jim Hemphill for his "telephone sustenance" and for making the last few months of this project especially bearable.

Lastly, I wish to thank my family for their continual love and support: My father, indirectly a critical player in this project; My mother, for her sincere interest and understanding; My brother Roni, who helped to "put things in perspective" and finally, my brother David, for his patience, humor and "unconditional acceptance".
Emotional Expression and Health

Introduction

Darwin was one of the first theorists to emphasize the importance of emotional expressiveness for human well-being (see Darwin in Friedman, Harris & Hall, 1984). Although not all researchers today would accept Darwin's view of a clear link between expression and well-being, the apparent human need for emotional expression has been frequently researched in the social sciences, particularly, in the areas of social and health psychology. For example, Pennebaker and his colleagues (Pennebaker, Hughes & O’Heeron, 1987) have proposed that there is a general human need to discuss important events and feelings and, that there are potentially unhealthy outcomes of not expressing. Similarly, Baumeister and Tice (1987) proposed that emotion is primarily an expressive act and that "...emotions are meant to be discussed" (p.183). Thus, from a theoretical perspective, the expression of emotion has often been considered as being necessary and beneficial to one's well-being.

This cathartic benefit of expressiveness has also been established on empirical grounds (e.g., see Epstein, 1984; DeLongis, O'Brien, Cohen Silver & Wortman, 1990; Pennebaker, 1989; Pennebaker, Colder, & Sharp, 1990). Evidence has linked the suppression of emotional expression to various indices of physical well-being such as coronary heart disease (Friedman & Booth-Kewley, 1987), blood pressure and skin conductance (Pennebaker & Klihr Beall, 1986). Consider the recently developed notion of a "Type C" personality style. A Type C individual is cooperative and patient, yet is also unassertive, passive and tends to suppress emotions. The Type C personality is now considered as having a number of components, including inexpression, that contribute to disease progression; empirical research has found it to be predictive of several serious health disorders (Temoshok, 1985).
Although these examples illustrate the potential positive relation between emotional expression and well-being, a detailed description of the linkage between emotional expression and well-being has yet to be clearly articulated. Further, it is not even clear whether it is in fact healthier to be expressive or to be repressive with regard to emotions. Both sides of this issue have been empirically defended.

Although there is a substantial theoretical and empirical literature that supports the notion that emotional expression is healthy, there is also a substantial literature that supports the opposite point of view. For example, the findings on Type A personality, an "expressive" personality type, imply it is unhealthy to be emotionally expressive. Type A personality (i.e., active, impatient, in control) is well known for its "coronary-proneness" (Friedman, Hall & Harris, 1984; Temoshok, 1985). Similarly, early work on the repression-sensitization construct (sensitizers are more emotionally expressive than repressors) found greater frequency of illness for sensitizers in comparison to repressors (Gayton, Tavormina, Bassett & Ozman, 1978).

This detrimental view of expression appears to reflect Western cultural and societal norms regarding emotional expression. Western cultures' socialization process encourages the inhibition and suppression of overt emotional expression (Pennebaker & Hoover, 1986). Because individuals frequently internalize the expressivity norms and expectations of their social environment, perceived failure to yield to these expectations often causes psychological distress (Richman, 1988). Baumeister and Tice (1987) acknowledge that, despite the strong inherent motivation to engage in emotional expression, suppression of emotion is learned under a wide range of circumstances. Thus while the expression of emotion might be psychologically and physically beneficial (i.e., the catharsis perspective), failure to adhere to
societal norms which strongly encourage the suppression of emotional expression may cause a person distress.

Other research appears to support both the healthy and the unhealthy view of emotional expression. For example, King and Emmons (1990) reviewed research indicating that both individuals who are expressive and those who are emotionally restrained ("bottle-up" their emotions) may have a higher health risk. Further indirect evidence for this position can be extracted from research showing no clear association between either expression or inexpression and health (Engebretson, Scheier, & Mathews, 1989).

Friedman and his colleagues (Friedman & Booth-Kewley, 1987; Friedman, Hall, & Harris, 1984), in arguing that inhibition as well as expression can be healthy, differentiate four types of individuals. Two types fall into the unhealthy (coronary-prone) category - (1) the hostile expressive (e.g., Type A) and (2) the tense, overcontrolled inexpressive (e.g., Type C). The other two types fall into the healthy camp - (3) the charismatic expressive and (4) the relaxed, "laid-back" inexpressives. Their research results clearly illustrated both the potential beneficial and detrimental aspects of emotional expression.

How then does emotional expression affect health? Because it appears that the idea of an "innate need" for emotional expression certainly requires some modification, researchers have recently directed their attention to the role of various moderator variables in attempting to clarify the expression/well-being relation. It is clear that while some persons may possess the need or desire to express, not all persons are comfortable with or feel any desire for such expression. On the contrary, some individuals may find it distinctly distressing to be expressive.
A study conducted by DeLongis and her colleagues (DeLongis et al., 1990) which dealt in part with the effects of disclosing emotions, found substantial individual differences in the desire to express emotions. A small proportion of subjects in this study had no desire to discuss or talk with anyone about a particular distressing experience (i.e., trauma). Indeed, individuals may appear to have their own "preferred" methods of dealing with emotions and may show less distress when they are allowed to respond in the manner in which they are most comfortable (Engebretson, Scheier, & Mathews, 1989).

Given differences among people in their need and desire to express emotions, Pennebaker (1989) proposed a theoretical framework to reconcile the "healthy vs. unhealthy" debate in the literature. Pennebaker's research has documented the positive effects of talking to others and/or writing down one's feelings and emotions in alleviating distress and promoting psychological and physical well-being. However, Pennebaker points out that conflict over expression is the key variable—in particular, having the desire to talk about an event, yet actively holding back from disclosing. For example, when examining the effect of writing about traumatic topics, individuals who showed greatest health improvements were those who wrote about topics that they had actively held back from telling others prior to the study (Pennebaker, Kiecolt-Glaser & Glaser, 1988). Other researchers have similarly concluded that it is not venting, per se, that is influential, but the psychological issues or conflicts that underlie the motive for emotional expression (e.g., Epstein, 1984).

King and Emmons (1990; in press) have also studied the effect of conflict over emotional expression. The underlying premise to their approach is that there are certain individuals who regularly experience conflict over their goals and desires with regard to expressing their feelings (i.e. their emotional intentions). This conflict is believed to result in feelings of ambivalence, and
these feelings of ambivalence are, in turn, predicted to be the proximal cause of physical and psychological well-being. That is, it is ambivalence over emotional expression that is assumed to be the "crucial component separating a healthy from an unhealthy style" not whether someone is or is not behaviorally expressive of emotion (King & Emmons, in press; p.4).

King and Emmons distinguish between studying behavior and studying the intention behind the behavior. They do not focus on emotional expression (the behavior), but on the intention behind the expression and individual goals with regard to emotional expression. This intentional or motivational theory is based on considerable evidence supporting the negative consequences of goal conflict or what they call "intrapsychic" conflict.

The theory of conflict over goals emerged from earlier work by Emmons (1986) on "personal striving". In this research, Emmons examined the role of individual differences in intentions, what a person was characteristically trying to do, in contrast to the traditional focus of trait research on what people characteristically do. One outcome of this research was the ambivalence construct which implicitly reflects a conflict situation--an individual feeling that he/she has a desire to achieve and not achieve the same goal, and these two desires interfere with one another (King & Emmons, 1990). These personal striving conflicts can be illustrated in the double-edged pressure over expression discussed earlier: the cultural/societal demands to be "cool", unemotional and to refrain from expression, and the presumed "need" to express emotion (King & Emmons, 1990).

Assuming individual differences in the desire to express, King and Emmons (1990) offered a number of interesting hypotheses regarding the role of emotional expression goals and the experiencing of psychological discomfort. For those persons who are "comfortable" repressors (i.e., those
who truly don’t feel the need or desire for emotional expression), conflict will be minimal; departure from societal norms in these cases will be small or nonexistent. However, for those persons who feel a strong desire to express their feelings, the presence of cultural norms inhibiting expression likely results in motivational conflict. An example of this is when an individual experiences conflict between expressing distress or anger versus "doing the right thing" and holding it in (see Pennebaker & Hoover, 1986). It is also possible that some individuals are able to disregard or ignore societal norms and freely express their emotions when they feel it necessary without experiencing any psychological discomfort or conflict over this expression. However, the power of societal norms on individual behavior (Richman, 1988) suggests that few individuals are immune to such influences. Any goal coupled with a desire to inhibit or repress this goal is likely to lead to aversive physical and psychological consequences (Emmons & King, 1988).

Ambivalence as a Mediator of Emotional Expression and Health

Based on the previous work linking personal strivings and well-being, King and Emmons (1990) examined the intentional component of emotional expression. As a first step, they developed the Ambivalence over Emotional Expression Questionnaire (AEQ) as an individual difference measure of this component. The AEQ items sample various types of intention-behavior conflict in the expression of emotions. Emotions include both positive emotions (e.g., love and affection) and negative emotions (e.g., anger and jealousy). Three types of intention-behavior conflict are represented in the scale items: (1) wanting to express but not being able to, (2) expressing but not necessarily wanting to, and (3) expressing and later regretting it. The scale includes 16 positive items and 12 negative items.
Ambivalence over emotional expression is theoretically expected to be more strongly related to health outcomes than behavioral expressiveness alone. However, a measurable distinction between these two constructs is necessary. The items in the AEQ are, on face valid grounds, clearly measuring something beyond expressiveness. The wording of the items illustrate the scale’s "conflict-laden" properties. Face validity alone, however, does not provide sufficient evidence of the unique aspects of ambivalence over emotional expression. With this distinction in mind, King and Emmons (1990) also constructed a 16-items Emotional Expressiveness Questionnaire (EEQ). This measure has been used, along with the AEQ and other related scales, in two studies by King and Emmons to date (1990; in press).

Their first study (King & Emmons, 1990) examined the relation among the newly developed AEQ and EEQ and other expressiveness indices. As predicted, the AEQ exhibited a moderate but significant negative correlation with the EEQ ($r = -.24, p < .01$). This negative correlation was replicated when peer ratings of expressiveness were substituted for the EEQ. These results indicate that the more ambivalent a person is about emotional expression, the less likely it is that the person will be emotionally expressive. This evidence parallels earlier work by Emmons and King (1988) showing that the more a person is in conflict over an issue, the less likely the person is going to act on the issue causing them conflict.

King and Emmons suggested that the negative correlation between the ambivalence measure and the expressiveness measures may in part explain the previous inconsistent research findings relating expressiveness and well-being. Some inexpressive persons may experience conflict with regard to emotional expression while others may simply be inexpressive, and it is the conflict or ambivalence component that is the primary factor in predicting well-being.
King and Emmons (1990) then examined the relation of ambivalence over emotional expression to measures of psychological and physical well-being. Subjects were first measured on various individual difference variables (e.g., ambivalence over emotional expression, emotional expression, depression, negative and positive affect, and self-esteem) and then kept daily diaries for three weeks providing once-a-day mood and physical symptom reports. Both mood ratings and symptom reports were summed over all diary days to create summary indices of affect and symptom/health scores for each subject.

The findings for psychological well-being supported the hypothesis that ambivalence is a better predictor of well-being than expressiveness alone. The AEQ correlated significantly with the self-report measures of psychological well-being in the expected direction and the majority of these correlations retained their significance when controlling for expressiveness (EEQ). Indeed, expressiveness itself was not correlated with most of the measures of psychological well-being.

The relation of the AEQ to physical well-being was less supportive of the hypothesis. AEQ scores (controlling for expressiveness) were significantly correlated with only one somatization scale, but not with any of the other physical health indices.

Although these results appear to support the view that ambivalence, not expressiveness per se, is the key to healthy emotional management, an alternative view is that the AEQ is saturated with "distress" variance, whereas the EEQ is not. The importance of controlling for psychological distress or neuroticism variance in health studies employing self-report measures has been strongly argued (Watson & Pennebaker, 1989). When King and Emmons (1990) partialled out neuroticism, some of the correlations between AEQ and psychological well-being did decrease but a few still remained significant.
King and Emmons (in press) conducted a second study in which they examined the relation between conflict over emotional expression and psychological and physical well-being in a sample of married couples. This study yielded similar findings. Ambivalence over emotional expression was more predictive of psychological well-being than expressiveness alone.

This study also included another "emotion management" variable—Emotional Control (ECQ: see Rogers & Nesshoever, 1987). While there are some similarities between the ambivalence construct and emotional control, there are also some important differences. Ambivalence is directly tied to the expression of emotion. It is meant to include both individuals who would like to express but cannot and those who do express but later regret it. The ambivalence construct is also not limited to negative emotions—it may be felt with regard to negative or positive emotion. Therefore, Emotional Control (the tendency to inhibit the expression of negative emotional responses) while having some overlapping components with ambivalence, refers to mechanisms for managing emotional experience which may or may not pertain to behavioral emotional expression (King & Emmons, in press). Results indicated that ambivalence was an equal or better predictor of the health outcome measures than either the emotional control scales or the index of emotional expressiveness.

Individual differences vs. Daily processes

In the research reviewed above, King and Emmons adopted a trait conception of ambivalence over emotional expression. However, there is an important distinction in the stress literature between focusing on individual differences and focusing on psychological processes or intraindividual changes over time.
An individual difference or trait-oriented approach to health research focuses on stable properties of the individual by examining between-subject differences on a particular variable (Folkman, Lazarus, Dunkel-Schetter, DeLongis & Gruen, 1986). Research from this approach typically involves examining the influence of stable individual differences or traits on summary or aggregate measures of health and health-related variables. Single scores are calculated for each subject for both the trait and health measures (DeLongis, Folkman, & Lazarus, 1988). King and Emmons used an individual difference measure of ambivalence and related scores on this scale to aggregate measures of well-being.

Situational or process-oriented approaches focus on intraindividual changes over time. For example, in the coping research, a change or process-oriented approach examines each individual’s coping responses over situations and times. Coping, from this perspective, is a response to the demands of that particular encounter (Folkman et al., 1986). One of the best examples of a process-oriented approach is that taken by Lazarus and his colleagues in the coping research (see Lazarus, 1990) who refers to psychological stress as a "transaction situation". Lazarus does mention, however, the need to examine "recurrent themes" (i.e., recurrent emotional encounters) and acknowledges that these recurrent themes are, to some extent, a property of not only the situation but the person as well. While Lazarus recognizes the potential need to acknowledge traits, he has chosen to de-emphasize individual difference variables in his own research program.

Methodologically, change or process approaches may be distinguished from individual difference or trait approaches in the former’s use of repeated measurements and analyses of within-subject factors in health outcomes, in contrast to the between-subject analyses used in trait-oriented research.
Emotional Expression and Health (DeLongis et al., 1988). For example, a between-subject analysis may ask if there a relationship between general or average levels of stress and general or average levels of health within a particular population. In contrast, a within-subject analysis looks at whether or not changes in daily stress levels covary with changes in daily health levels. Because each subject serves as his/her own control, individual differences in average levels of health and stress are held constant (DeLongis et al., 1988).

Daily diary methodology is the typical vehicle for attaining data to examine such within-subject variations. Daily diaries contain self-report measures specifically designed to examine the fluctuations in stressful situations and emotional reactions that occur on a day-to-day basis (Bolger, DeLongis, Kessler, & Schillings, 1989; Caspi, Bolger, & Eckenrode, 1987). In addition, daily diaries which contain several measure within each day, can provide a means of assessing processes that occur within a day. However, while daily diaries are often used to examine relations among variables as they unfold over time, diaries can also be used to address between-subject relations. For example, King and Emmons (1990) measures of psychological and physical well-being were created by aggregating daily measures of the variables and treating these summary measures as dispositional indices to conduct their between-subject analyses.

A recent study conducted by Wood et al. (1990) on self-focused attention and mood demonstrates the use of a diary method for collecting and analyzing both between-subject and within-subject relations. One of the goals of the research program was to ascertain whether the association between self-focused attention and mood occurs at the between-subject level, the within-subject level, or both. Subjects completed daily measures which indexed mood and self-focus. These repeated measures allowed examination of whether or
not daily fluctuations in self-focus were associated with daily fluctuations in negative mood (i.e., by calculating within-subject correlations between mood and self-focus over time). Trait or dispositional self-focus and dispositional levels of mood were measured by averaging the daily self-focus and mood scores respectively. The high reliabilities of these daily averages or composites indicated that self-focus and mood were relatively stable characteristics of the individual over time—that is, self-focus and mood exhibited "trait-like" characteristics. The results of the study indicated that the association between self-focused attention and negative mood occurred at the between-subject level, but not at the within-subject level. That is, self-focus, as indexed by the diary composite, was positively related to stable individual differences in negative mood. On the other hand, subjects’ level of self-focus on a particular day was not predictive of mood that day.

Emotional expression may be viewed as: (a) a personality style or disposition, (b) a context-specific coping technique or, (c) a situationally-defined behavior (see Pennebaker, Hughes & O’Heeron, 1987). Although the situational or process approach to coping has exerted an enormous influence on the field, researchers have recently been increasingly critical of the lack of attention to personality variables in the health and coping area (e.g., Costa & McCrae, 1990; Ben Porath & Tellegen, 1990; Krohn, 1990). Given the complementary information provided by between- and within-subject research analyses, a combined approach to emotional expressiveness and health issues would seem desirable.

Present study

The present investigation examined whether ambivalence over emotional expression and measures of psychological and physical well-being are related
at the between-subject level, at the within-subject level, or both. Reliable between-subject level results would indicate that individuals higher in dispositional levels of ambivalence over emotional expression are higher on summary measures of negative well-being. Reliable within-subject level results would indicate that at those times when individuals experience more ambivalence over emotional expression, they exhibit elevated levels of psychological and physical distress.

Between- and within-subject analyses were also conducted taking into account the potential influence of life event stress in the ambivalence/health relation. Life event stress, as indexed by both major life events and daily hassles, has often been considered a critical variable in predicting well-being (DeLongis et al., 1988). Previous research has focused on the "buffering" or moderating effects of various personality traits in the stress-illness relation (e.g., Brown & Smart, 1989; Brown & McGill, 1989). In this study, life events were assessed by summary measures of major life events and by recording stressful events each day. Including indices of stress in this design allowed examination of the potential moderating effects of ambivalence over emotional expression in the stress/illness relation. It was hypothesized that persons who are highly ambivalent over their emotional expression would be more susceptible to the negative effects of stress and exhibit more negative outcomes (e.g., increased illness) than persons not ambivalent over their emotional expression.

The design of this study was similar, in some respects, to the previously described Wood study (Wood et al., 1990), which examined both between- and within-subject associations. However, the between-subject variables in the Wood study were derived solely from the daily diary data (i.e., they were composites of diary ratings). This study consisted of three components: a
pretest, a 2-week diary, and a follow-up assessment. The design of this study allowed the calculation of between-subject diary composites, but also included separate dispositional (trait) indices of AEQ and EEQ in the pretest, and summary measures of psychological and physical health at the pretest and follow-up. An additional benefit of collecting pretest and follow-up data on the dependent variables (i.e., well-being indices) was that initial levels of well-being at the pretest could be controlled for when examining levels of well-being at the follow-up.

Method

Overview

The study was conducted in three stages. In the first stage (Pretest), a sample was measured on several individual difference variables and completed inventories of their psychological well-being, physical well-being and life events encountered in the preceding four-month period. The second stage (2-week diary) was conducted one month later. Here, subjects provided reports of ambivalence, expression, stress, mood, and health twice-a-day over a fourteen-day period. The final stage of the project (Follow-up) took place three months after the diary period. In this phase, subjects completed the pretest well-being and life event inventories again, this time indicating the prevalence of psychological and physical problems and life events they had encountered since the pretest.

Subjects

Subjects were 66 undergraduate students from the University of British Columbia (41 women and 25 men). The age range was 17 to 32 with a mean age of 19.8. Subjects were drawn from a larger sample (N = 604) recruited from first- and second-year psychology courses through class announcements to
complete a pretest battery. Those who participated earned extra credit toward their class grade.

Procedure

Stage one - Pretest

Subjects (N = 604) completed a battery of individual difference measures, administered as a take-home package, during the first few weeks of classes. The battery included the Ambivalence over Emotional Expression questionnaire (AEQ), a 28-item index of conflict over emotional expression, and the 16-item Emotional Expression questionnaire (EEQ), a measure of behavioral emotional expression. As noted in the introduction, both scales have demonstrated reliability and validity (King & Emmons, 1990). Also included in the battery was a measure of trait Neuroticism derived from the Five-Factor Inventory (NEUR; NEO-FFI; Costa & McCrae, 1980). This measure was included because neuroticism has been considered a "nuisance factor" in health research, especially in studies using self-report health indices (Watson & Pennebaker, 1989).

A summary measure of life events in the preceding 4-months was assessed with the Life Experiences Survey (LES; Sarason et al., 1978). The items in this inventory range from general events such as marriage, loss of a job or death of a family member to events more specifically targeting a college-aged sample (e.g., joining a fraternity or failing a course). Subjects indicated which of the 62 events of the LES they had experienced in the preceding 4-month period. For each experienced event, they also rated the "impact" of that event, indicating whether the events occurrence was experienced as positive, negative or neutral (on a 7-point rating scale, ranging from -3 = extremely negative to +3 = extremely positive). A total number of events score was calculated as well as both a positive life event impact score and a negative life event impact
Emotional Expression and Health

score. These latter indices were calculated by summing the positive life event ratings (e.g., +1, +2, & +3) and by summing the negative life event ratings (e.g., -1, -2, & -3) separately. The absolute value of the negative life event rating was used to assess the impact of negative life event so that higher numbers would indicate higher negative impact.

Pretest psychological health was assessed with the Beck Depression Inventory (BDI; Beck, 1967). Physical health was assessed by a questionnaire asking about illnesses’ and doctors’ visits. The physical health measure included three sections. In the first section, subjects indicated if they had made any visits to the doctor or health center for reasons of illness (not check-up or injury) in the past 4 months. If they had, they indicated how many times. In the second section, subjects indicated if they had missed any days of school, work, or any planned activities because of illness in the past 4 months, and again, how many times (days). The final section assessed the frequency and severity of specific illnesses. Subjects indicated if they had experienced any of a number of illnesses in the past 4-month period (e.g., head or chest cold, stomach flu, ulcers, respiratory infections, etc.). They also indicated, for each illness mentioned, the total number of days that they were affected by the illness. This physical health measure was constructed for this research project based on suggestions contained in Pennebaker (1989) and Lazarus (1990).

Stage two - Diary.

Approximately one month after the pretest, a subsample (N = 66) of the pretest subjects was recruited to participate in a two-week diary study. Subjects completed the diary twice each day, once in the mid-afternoon (or approximately 8 hours after waking up), and a second time before going to sleep at night. Completing the diary twice each day (2 rating periods per day) yielded 28-data points for the within-subject analyses, as opposed to only 14-
Emotional Expression and Health

data points. For each diary entry (or rating period), subjects completed the measures of current mood, stress, emotional responses and physical health described below.

**Mood.** Subjects first rated their present mood on the 20-adjectives that comprise the PANAS (Watson, Clark, & Tellegen, 1988). These adjectives, rated on 5-point scales anchored by "not at all" (1) and "a lot" (5), provide scores of state negative affectivity (NA) and state positive affectivity (PA). Some sample items from the PANAS are calm, excited (PA), nervous, and irritable (NA). Subjects also marked their position on a two-dimension affect grid of pleasure/displeasure and arousal/sleepiness (Russell, Weiss, & Mendelsohn, 1989). Positions on the 9x9 grid are converted to two 9-point scales, with low scores indicating either extremely low arousal or extremely low pleasure. For both the PANAS and the affect grid, subjects indicated their mood since they awoke that morning, or since their previous rating period.

**Stress.** At each rating period, subjects provided a description of the most serious problem, tension, or difficulty that they encountered during that period. Emphasis was placed on the fact that while this problem might be a major issue or might seem "trivial", their perception of the event was of interest to the research. After describing the most stressful event, subjects were asked to rate how serious the event was for them, the extent to which the event changed their mood and the extent to which the event represented something that was personally important to them on five-point scales anchored by "not at all" (1) to "a lot" (5).

**Emotional responses.** Subject also indicated whether or not they had talked about the event to anyone, and if yes, to whom? The binary item ("Did you talk to anyone?") served as the index of behavioral emotional expression. Three ambivalence over emotional questions were then asked, the purpose of
which was to capture the process that theoretically underlies the trait measure of ambivalence over emotional expression. These questions, constructed for the present project, were based on the three main types of ambivalence encompassed in the AEQ (King & Emmons, 1990). The three ambivalence questions, rated on 5-point scales, were: "During this situation, to what extent did you feel an impulse to communicate or express certain feelings, but found that you could just not bring yourself to express them?" (inhibited expression); "During this situation, to what extent did you feel that you were caused or pressured to communicate or express certain feelings that you in fact did not want to express?" (reluctant expression); and "During this situation, to what extent did you express or communicate certain feelings that you later wished you had not expressed?" (regretted expression).

Health. Finally, subjects indicated whether they had made any visits to the doctor or health center (for reasons of illness), if they had missed any activities due to illness, and whether they had experienced any of a number of symptoms (e.g., headache, stomach ache, loss of appetite) during the rating period.

Subjects returned seven days of their completed diaries (14-rating periods) at the end of the first week, and again, at the end of the second week. Reminder phone calls were made on the fourth day of each week.

Stage Three - Follow-up.

Subjects who completed the diary were asked, three months later, to return to the laboratory for a final assessment. Of the 66 diary participants, 57 completed the follow-up assessment therefore the analyses that include the follow-up variables are based on 57 cases. This assessment included a re-administration of the summary psychological health index (BDI). They also completed the Life Experiences Survey, and the physical health index, this time
indicating any major life events and illnesses that they had experienced during
the previous 4-month period. Upon completion of these measures, subjects
were thoroughly debriefed as to the hypotheses and purpose of the study.

Results

The results are presented in three sections. First, the reliability and scale
properties of the Ambivalence over Emotional Expression Questionnaire
(AEQ) and the Emotional Expression Questionnaire (EEQ) administered at
the pretest are discussed. The analyses are then divided into two main
sections: between-subject analyses and within-subject analyses. It should be
noted at the outset that the follow-up physical health measures did not show
any significant correlations with any of the other variables. Therefore follow-
up physical health indices will not be presented in the result sections, but
possible reasons for the failure to find associations with follow-up physical
health will be addressed in the discussion.

Reliabilities

The reliability and factor structure of the AEQ and EEQ were examined
in order to determine if the scores from this sample were comparable to those
reported in King and Emmons (1990). The alpha reliability coefficient for the
AEQ in this study was .89. The scale mean for scores on a five-point scale was
87.88 and the standard deviation was 13.48. These statistics are comparable to
those reported by King and Emmons (M = 81.2, SD = 16.24). A principal
components analysis on the factor structure of the AEQ yielded results
comparable to those reported by King and Emmons as well. Although King
and Emmons used a 7-point rating scale for the EEQ, a 5-point scale was used
in this study because the AEQ and the EEQ were imbedded in a larger battery
of questionnaires, all rated on 5-point scales. Allowing for this modification,
the scale statistics in this sample were comparable to those reported by King and Emmons. The alpha reliability coefficient for the EEQ was .74, with a scale mean (on a 5-point scale) of 54.14 and a standard deviation of 6.32. The King and Emmons statistics, converted to a 5-point scale, were a mean of 52.67 and a standard deviation of 8.69. The factor structure of the EEQ in this sample was also comparable to that reported by King and Emmons.

The correlations between the pretest AEQ, EEQ, BDI and neuroticism scores are shown in Table 1.

Insert Table 1 about here

According to King and Emmons, (1990) the nature of the AEQ and EEQ scales are such that they should exhibit a moderate negative correlation with one another. The correlation in this sample was moderate and in the expected direction ($r = -.33, p < .01$), showing that people who tend to be dispositionally ambivalent over their emotional expression also tend to be behaviorally inexpressive. Pretest AEQ was found to be significantly correlated with pretest neuroticism ($r = .37, p < .05$) and pretest BDI scores ($r = .27, p < .05$). Therefore subsequent analyses will examine the extent to which relations between the AEQ scale and measures of well-being are due to its overlap with neuroticism. In addition, analyses examining follow-up BDI scores will control for pretest BDI scores.

**Between-subject analyses**

The first set of between-subject analyses addresses the relation between pretest AEQ, EEQ, and the measure of psychological well-being at the follow-up (BDI-2). This set of analyses also examines (a) the general relation
between stress (as indexed by major life events) and well-being and (b) the moderating effects of pretest AEQ and EEQ on the stress/well-being relation.

The second set of between-subject analyses examines the relations among the average responses to the diary variables, and the relations between these averages and the pretest personality variables.

**Follow-up Variables.** The zero-order and partial correlations between the pretest measures and follow-up BDI scores are presented in Table 2. Pretest AEQ was significantly correlated with BDI scores at the follow-up ($r = .45, p < .01$).

The EEQ scale was not correlated with follow-up depression and the correlation of pretest AEQ with follow-up depression remained significant when controlling for EEQ. Although the pretest neuroticism scale was also significantly correlated with follow-up depression scores, when neuroticism was partialled out of the AEQ/BDI-2 correlation, the correlation was only slightly lower and still remained significant. Similarly, when pretest BDI was partialled out of the AEQ/BDI-2 correlation, the correlation was also only slightly lower and still reliable.

The next set of analyses examined the potential moderating effect of AEQ on the stress/well-being relation (the Stress-Buffering hypothesis). The goal was to examine the extent to which individual differences in ambivalence over emotional expression as measured at the pretest moderated the relation between life events during the pretest/follow-up interval and subsequent levels of well-being at the follow-up (BDI-2). As mentioned earlier, three different life event scores were derived from the Life Experiences Survey: The
total number of life events (LENUM), positive life event impact (LEPOS), and negative life event impact (LENEG). The means and standard deviations of these three measures and the correlations with the pretest traits and follow-up depression are presented in Table 3.

---

Pretest AEQ was significantly correlated with the number of life events ($r = .31, p < .05$), and the negative life event impact score ($r = .35, p < .05$), indicating that persons high on dispositional AEQ tended to report a higher number of life events and a higher negative impact of life events than person low on AEQ. Both pretest neuroticism and pretest BDI were significantly correlated with the positive life event impact scores ($r's = .30$ and $.28, p < .05$). Although the life events scores were positively associated with follow-up depression, none of these correlations reached conventional levels of significance.

To test the importance of the interaction between pretest AEQ and stressful life events on follow-up depression, three sets of hierarchical regressions were conducted, one for each of the three life event indices. The main hypothesis was that pretest ambivalence (AEQ) would interact with life events to predict depression four months later. Persons high on AEQ, who experienced high levels of life event stress, were expected to show poorer psychological health than persons low on AEQ or persons who experienced low levels of stress. The first step in each analysis was to enter pretest depression scores (BDI-1). The relevant life event (LE) scores (e.g., total number of life events) was then entered into the equation, followed by AEQ, and finally, the interaction term of AEQ and LE (the interaction term was the cross product of
these variables, after standardization). The results of these regressions are presented in the top half of Table 4. The $r^2$ presented in this table are taken from each step in the hierarchical regression equation while the beta weights are those from the final equation.

The regression analysis with the total number of life events yielded a significant effect for AEQ ($\beta = .38, p < .01$). Pretest AEQ accounted for 13% of the variance in follow-up depression scores over that accounted for by pretest depression and the number of life events that occurred in the interim between the pretest and follow-up. The addition of the AEQ x LE interaction term was not significant. The regression with the negative life impact scores yielded highly similar results. Pretest AEQ predicted depression at the follow-up ($\beta = .36, p < .01$) after controlling for initial depression and negative LE impact, but the AEQ x LE interaction was not significant. When the analyses were conducted with positive life impact scores, both the AEQ main effect and the AEQ x LE interaction were significant ($\beta = .35, p < .01$ and $\beta = .30, p < .01$—accounting for 14% and 8% of the variance, respectively). For all three regression analyses, the AEQ main effect remained significant when controlling for neuroticism as did the AEQ x LE interaction effect in the equation using positive life event impact scores.

Three similar hierarchical regression were conducted substituting pretest EEQ for AEQ (see bottom half of table 4). The beta weights in each of these analyses were in the expected direction, indicating that lower EEQ scores were associated with higher follow-up BDI scores. However in none of these regression was the EEQ main effect significant. In terms of interaction effects,
in the regression with positive life impact scores, the EEQ x LE interaction was significantly predictive of follow-up depression ($\text{beta} = -.39$, $p < .01$).

To examine the form of the interactions between AEQ and EEQ and the positive life impact scores, subjects were divided into three groups based on their positive life impact scores—low, medium and high positive life impact groups. Hierarchical regression analyses were conducted on the three positive life impact groups separately, first entering pretest BDI, and then pretest AEQ or EEQ. The results of these regression are presented in Table 5.

Insert Table 5 about here

In terms of the AEQ, the analyses indicated that although AEQ was positively associated with follow-up depression in all three groups, it was most predictive of depression scores in the group which had experienced the highest positive life event impact or the high positive "stress" group ($\text{beta} = .64$, $p < .01$). Persons dispositionally high on trait ambivalence, who experienced high amounts of positive life event stress in the preceding months, showed higher follow-up depression scores than person low on AEQ who experienced similar amounts of positive stress. A similar set of regressions for EEQ indicated that pretest EEQ was also most predictive of depression scores in the high positive life event impact (or high stress) group although the beta weight within that group was only marginally significant ($\text{beta} = -.45$, $p < .10$). This negative beta weight for EEQ indicated that among those persons who experienced high positive life event stress, those low on emotional expressiveness showed higher depression scores than person high on emotional expressiveness.

The patterns of the AEQ x LE and EEQ x LE positive stress interactions were similar, indicating that both trait ambivalence and trait inexpressiveness
moderated the stress/well-being relation for positive life stress. Because pretest AEQ and EEQ scores were moderately correlated with one another, a final set of regression analyses were conducted testing the trait x positive life event impact interaction taking into account the other pretest variable. That is, the AEQ main effect and the AEQ x LE interaction were tested after entering EEQ in the equation (and similarly controlling for AEQ in the EEQ analyses). These regressions indicated that the main effects for AEQ and the AEQ x LE interaction were still significant. The EEQ x LE interaction was still only marginally significant after controlling for AEQ.

Average diary variables. The second major set of between-subject analyses examined the relations among subjects’ average responses to the diary variables and the correlations between the averages and the pretest variables. The reliability of the average diary variables was first assessed in order to ascertain the extent to which the diary averages demonstrated stable (trait-like) characteristics across individuals. For example, did subjects who reported feeling higher levels of ambivalence over their emotional expression on one rating occasion also tend to report higher levels of ambivalence on other rating occasions? Only if this was the case would it be appropriate to use average diary ambivalence as an index of dispositional ambivalence in further analyses.

Before presenting the reliabilities of these averages, it should be noted that diary ambivalence was measured with three items for each of the 28-rating periods (i.e., inhibited expression, regretted expression and coerced expression). Preliminary reliability analyses indicated that these three items were highly correlated with one another so they were combined to form an ambivalence index ($\alpha = .87$) for each rating period. There were also three diary items that assessed the stressfulness of the event reported during the...
rating period. That is, subjects rated the "seriousness" of the reported event, how much the event "changed their mood", and how "personally important" the event was to the subject. These three items were also highly intercorrelated and were combined into a stressful event index for each rating period (alpha = .89).

To assess the temporal stability of the diary averages, reliability analyses were conducted in which each time point was treated as if it were an item in a 28-item scale. The alpha reliabilities of the ambivalence and stress indices over the 28-rating occasions were .79, and .90, respectively. The alpha coefficient for the expression item over time was .81. The reliability coefficients for the diary psychological and physical well-being measures were as follows: negative affectivity = .94, positive affectivity = .93, pleasure rating = .83, arousal rating = .80, and physical symptoms = .95. Because the reliability coefficients for all of these variables indicated that subjects' responses to the diary items were quite stable over time, averages (over the 28-rating periods) were calculated for each subject.

Table 6 presents the means, standards deviations, and correlations among the average diary variables.

-------------------------------
Insert Table 6 about here
-------------------------------

In terms of the correlations among the average mood measures, average negative affectivity was negatively correlated with average pleasure (r = -.57, p < .01) and
average arousal ($r = -.29, p < .05$); average positive affectivity was positively correlated with average pleasure ($r = .28, p < .05$), and average arousal ($r = .47, p < .01$), and average pleasure was correlated with average arousal ($r = .50, p < .01$). Therefore, as would be expected, the various measures of mood were intercorrelated with one another.

Average feelings of ambivalence were associated with higher average levels of negative affectivity ($r = .52, p < .01$), and lower levels of pleasure ($r = -.26, p < .05$). These correlations remained significant when individual differences in pretest neuroticism were controlled. Not surprisingly, average diary ambivalence was also related to how stressful, on average, subjects perceived the events that occurred to them ($r = .36, p < .05$). Average diary expression was not significantly correlated with any of the average diary well-being indices.

In order to determine how much of the ambivalence/mood relations were due to the ambivalence/stressful event relation, partial correlations were conducted on average diary ambivalence with the average mood measures, controlling for the average stressful event ratings. The ambivalence/negative affect correlation was still significant after controlling for event ratings ($r = .42, p < .01$), while the ambivalence/pleasure correlation was no longer reliable.

The stress-buffering hypothesis was tested with the average diary variables in a manner comparable to those conducted with follow-up BDI. A hierarchical regression analysis was conducted using average diary negative affectivity as the dependent variable. The average stressfulness of event rating was entered first, followed by the average level of diary ambivalence, and then the ambivalence x stressfulness interaction. Average ambivalence contributed a significant percentage of the variance over average stressful event ($\text{beta} = .38$,
Emotional Expression and Health

p < .01—accounting for 13% of the variance) but the ambivalence x stressful event interaction was not significant. The stress-buffering hypothesis was not tested with the average expression variable because this variable did not exhibit any significant zero-order correlations with the diary well-being averages.

The first six columns of Table 7 provide the correlations between pretest indices of ambivalence (AEQ) and expression (EEQ) and the average diary well-being indices.

Insert Table 7 about here

Although the pattern was similar to the pattern obtained with the average ambivalence measure, the correlations between pretest AEQ and the average well-being indices were not significant. That is, pretest AEQ was positively associated with average negative affectivity and with average stressfulness of event ratings, and negatively associated with average pleasure ratings but these correlations were less pronounced than those with the average ambivalence index.

With respect to symptoms, it was interesting that, although no reliable effects were found with the physical health indices at the follow-up, in the diary, both average negative mood and average stressful event rating were associated with average symptoms (r's = .42, p < .01—see Table 6)). However, average symptoms were not correlated with any measure of dispositional ambivalence or dispositional expression.

The last two columns in Table 7 present the correlations between the pretest individual difference variables and the average diary variables used to reflect the dispositions on a daily basis. These correlations are relevant to the
convergent and divergent validity of the AEQ and the EEQ scales. The average level of diary ambivalence was moderately, but significantly correlated with pretest AEQ ($r = .26, p < .05$), but was not correlated with pretest EEQ. Similarly, the average level of diary expression was moderately but significantly correlated with pretest EEQ ($r = .32, p < .05$), but not with pretest AEQ. Although the convergent validity correlations were not particularly high, they provide some evidence that those who score high on the AEQ scale do tend to report, on average, higher levels of ambivalence on a daily basis. Similarly in terms of expressiveness, those who score high on the EEQ tend to report, on average, more expression on a daily basis. The two scales also exhibit divergent validity—pretest AEQ scores were not associated with average daily levels of expression and EEQ scores were not associated with average daily levels of ambivalence.

**Summary of between-subject effects**

The results of the between-subject analyses can be summarized as follows: With respect to the follow-up measure of psychological well-being, pretest AEQ was significantly predictive of depression four months later, even after controlling for pretest depression and life events in the interim. The relation between AEQ and subsequent depression, coupled with the lack of a relation between EEQ and subsequent depression, is consistent with King and Emmons (1990) conclusions that conflict over emotional expression is more strongly associated with psychological well-being than emotional expression per se. In terms of the between-subject stress-buffering model, both pretest AEQ and pretest EEQ interacted with positive life event stress in predicting follow-up depression such that the traits were more predictive of follow-up depression among subjects who had higher levels of positive life stress.
With respect to the average diary measures of well-being, average levels of diary ambivalence were reliably related to average levels of negative affectivity, average pleasure ratings (negatively) and average "stressfulness" of events, but not with average symptoms. On the other hand, the relations between the pretest trait ambivalence measure (AEQ) and the average diary well-being measures were in the same direction but were not statistically significant. Neither the pretest measure of expression (EEQ) nor the average diary measure of expression correlated with diary measures of average well-being.

**Within-subject analyses**

The next set of analyses examined the within-subject correlations among the diary variables. The aim of these analyses was to assess the extent to which fluctuations in the diary variables covaried with one another over time. While the primary question guiding the between-subject analyses was to determine if persons chronically high on AEQ tended to show lower average levels of psychological well-being, the primary question addressed by the within-subject analyses was whether fluctuations in feelings of ambivalence were associated with fluctuations in mood or symptoms over the 28-rating periods. These analyses hold constant the individual differences in average levels of ambivalence and well-being presented in the between-subject analyses.

Within-subject correlations could potentially be calculated between a large number of pairs of diary variables, for example, there were four different measures of mood. Given that the mood variables were correlated with one another, for the sake of brevity, only the within-subject correlations with the negative affectivity and pleasure ratings are discussed. In addition, the within-
subject correlations with diary symptoms were all very low in magnitude and are therefore also omitted from the results and discussion.

The average within-subject correlations are shown in Table 8.

As shown in the first two rows of this table, occasions on which an event occurred that was perceived as more stressful were occasions associated with more negative affect ($r = .51$) and less pleasure ($r = -.39$). With respect to ambivalence (rows 3-5), feeling ambivalent on a particular occasion was associated with more negative affect ($r = .22$) and reports of more stressful events ($r = .33$). The within-subject correlations between expression, event, and mood (rows 6-8) were quite low.

The next set of analyses tested the stress-buffering model of well-being at the within-subject level. As mentioned earlier, this model assumes that the adverse effects of stressful events will be more pronounced in "vulnerable" individuals (e.g., Brown & Smart, 1989; Brown & McGill, 1989). The main interest here was in testing whether pretest AEQ would moderate the relations between stress and mood as they fluctuated over time.

To test this model, the within-subject correlations between stressful event/negative affectivity, and stressful event/pleasure rating were correlated with the pretest scores of ambivalence over emotional expression, expression, and neuroticism. These correlations are presented in Table 9.
Pretest AEQ was negatively associated with the within-subject correlation between stressful event/negative affect ($r = -.28, p < .01$) and positively associated with the within-subject correlation between stressful event/pleasure ($r = .25, p < .06$). The directions of these correlations are in direct contrast to the stress buffering model and indicate that subjects who were higher on AEQ tended to show a less pronounced positive association between stressful events and negative mood and a less pronounced negative association between stressful events and pleasure ratings than low AEQ persons. Stated in terms of the buffering hypothesis, subjects lower in "vulnerability" (low AEQ) showed more stressful event/mood covariation over time. The same pattern of correlations (although not significant) was found when pretest neuroticism was substituted for pretest AEQ. Persons generally high on neuroticism tended to show less of a pronounced positive association between stressful events and negative mood and a less pronounced negative association between stressful events and pleasurable mood than person low on neuroticism. EEQ was not associated with any of the within-subject correlations.

Because the AEQ correlations were opposite to those predicted by the stress-buffering hypothesis, the possibility that these results may have derived from an association between AEQ scores and the within-subject variability of the stress and the mood variables was examined. That is, perhaps persons higher on AEQ not only report higher average levels of negative affect and stressful events but may also show more uniformity in these variables. While the correlation between AEQ and negative affect variability was in the expected direction ($r = -.15$)--that is, persons high on ambivalence showed less variability in their negative affect ratings-- this correlation and the correlation with stressful event variability was not significant.
Summary of within-subject analyses

The within-subject analyses can be summarized as follows: Events which elicited more ambivalence were events that subjects perceived as being more stressful. Occasions during which subjects reported feeling more ambivalence were also occasions during which subjects reported more negative affect. Individual differences in AEQ moderated the within-subject relations between stress and mood, but not in the direction anticipated by the buffering hypothesis; persons high on ambivalence showed less covariation between diary stressful events and mood than person low on ambivalence.

Discussion

The aim of this project was to provide further understanding of the relations between emotional expression and health. Several questions were raised by the research. The broader questions were as follows: (1) Is trait ambivalence over emotional expression related to average levels of psychological and/or physical well-being?, (2) Does trait ambivalence moderate the relation between average life stress and average well-being such that trait ambivalence is a better predictor of well-being among individuals with higher levels of life stress?, (3) Do fluctuations in ambivalence and well-being covary over time, and (4) Does trait ambivalence moderate the association between stress and well-being over time?

The findings revealed an interesting but also somewhat puzzling pattern of results. With respect to the first question, the trait measures of ambivalence were generally related to summary measures of psychological health, but not to summary measures of physical health. That is, pretest AEQ was predictive of follow-up depression, even after controlling for initial depression and life
events. In addition, average levels of diary ambivalence were associated with average levels of diary negative affect. With respect to the second question, pretest AEQ scores moderated the relation between life stress and well-being but only when stress was operationalized by the positive impact scores of the LES. With respect to the third question, fluctuations in ambivalence and negative well-being covaried over time such that feeling ambivalent at a particular time was associated with increased negative affect during that same time. Finally, individual differences in ambivalence moderated the relation between stress and well-being over time, but in a direction opposite to that predicted by the stress-buffering model. These findings and their implications are discussed in greater detail below. However, before turning to a closer examination of the ambivalence/psychological well-being relation, the fact that AEQ was not associated with any of the physical outcome measures requires some discussion.

Neither the AEQ nor the EEQ was predictive of the follow-up physical health indices and although the average diary symptom index was correlated with average negative affect and average diary stress, it was not correlated with the dispositional measures of ambivalence or expression at either the between- or within-subject levels. There are several possible explanations for why the predicted AEQ/physical health relation was not evident. One possibility for the lack of association is the very low frequency of physical illnesses, doctors visits and missed activities reported in this sample. Few subjects reported any doctors visits, or missed activities either in the 4-month pretest/follow-up interval or in the diary. Therefore, the lack of association may be due to the fact that the present sample was especially healthy and showed little variability on the health measures. A second possibility is that the impact of stress and/or ambivalence on physical health may not be manifested in such a short period of
Emotional Expression and Health

time (4 months). For example, Brown and Smart (1989) assessed illness over a somewhat longer (6-month) interval and reported reliable associations between self-concept stability and physical illness. A final suggested explanation, made by King and Emmons (1990) in attempting to account for the lack of physical health correlates in their own data is that ambivalence is a purely "psychological" variable, and thus has no direct relation to physical indices of health. That is, ambivalence may be primarily manifested in psychological distress. While this latter suggestion is a possibility, there is ample independent evidence demonstrating relations between feelings of "inner conflict" and subsequent levels of physical health (e.g., Emmons, 1986; Pennebaker, Hughes, & O'Heeron, 1987).

Considering all of these facts together, it seems premature to conclude that ambivalence has no impact on physical health. Further investigation of ambivalence and health in more "mature", less homogeneous samples and over longer time periods is warranted.

Between-Subject Analyses

The results of this study provide strong support for a relations between ambivalence and psychological well-being at the between-subject level Pretest AEQ was associated with pretest depression and with follow-up depression. With respect to the latter association, AEQ predicted follow-up depression even after controlling for pretest depression and life stress (regardless of how life event stress was operationalized). The relation between AEQ and follow-up depression also held when individual differences in neuroticism were partialled out of the analyses. Thus, over a four-month interval, trait ambivalence predicted subsequent levels of psychological well-being. Similar to the relation between pretest AEQ and follow-up depression, average diary
ambivalence was associated with average negative affect. Not surprisingly, people who were more ambivalent in general perceived their events as more stressful. It is plausible that feeling ambivalent makes a person feel more stressed, or that feeling stressed causes a person to feel more ambivalent. Nonetheless, after partialling out the stressfulness of event average, the correlation between average ambivalence and average negative affect remained reliable.

Although the pattern of the EEQ relations suggested that inexpression was associated with higher depression scores, the correlations between the EEQ scale and pretest depression and follow-up depression were not reliable. There were no significant correlations between the average diary well-being indices and average diary expression or pretest expression (EEQ). These findings are consistent with King and Emmons' (1990) between-subject results and provide support for the hypothesis that conflict is an important component in the relation between emotional expression and well-being. However, the findings in the present study are even stronger than those reported by King and Emmons for two specific reasons. The present study controlled for pretest well-being, while the King and Emmons study did not. Also, while King and Emmons used only the AEQ as a measure of dispositional ambivalence, the present study also calculated a dispositional index of average ambivalence collected over multiple occasions, not just at one point in time (see Wood et al., 1990).

**Within-Subject Analyses**

According to the within-subject findings from this study, feeling ambivalent on a particular occasion was associated with feelings of negative affect on that same occasion. Regardless of dispositional levels of
ambivalence and dispositional levels of mood, changes in ambivalence covaried with changes in mood on a daily basis. It is also interesting to note that the diary events which elicited more ambivalence were those events that subject also perceived as being more stressful. Since the ambivalence, mood, and stressful event diary measures were all intercorrelated, it is possible that these correlations have to do with "covariation" in general response negativity. That is, when completing the diaries, current mood states may have colored responses to the other diary questions. While this is a concern, the results are still consistent with the hypothesis--the ambivalence/negative affect correlation was still reliable after partialling out stressful event ratings. Whether or not a person expressed their emotions (i.e., talked to someone) on a particular occasion was not associated with concurrent mood. Thus, as with the between-subject findings, it appears that behavioral expression is a less important factor in the emotional expression/health process.

Stress-Buffering Model: Two Different Approaches

The impact of ambivalence was also examined in the context of the stress-buffering model. The potential stress-buffering effects can be examined at both the between- and within-subject levels. There are however differences in the interpretation of the results depending on the level of analyses. In order to explicate these differences, the results of the present study will be contrasted with the results from two different previous studies that examined the stress-buffering effects of self-esteem. Before describing the present results, the methods of these two studies will be briefly outlined.

Brown and McGill (1989) assessed the extent to which stable individual differences in self-esteem moderated or "buffered" the relation between life events (stress) and subsequent levels of physical health using a between-
subject design. At Time 1, they measured self-esteem, major life events and physical well-being. At Time 2, 4-months later, they assessed illness and life events during the Time 1-Time 2 interval. An assumption in this type of design is that the impact of life events will be cumulative in affecting subsequent levels of overall illness and that a person with certain types of dispositions (e.g., low self-esteem) will be more vulnerable to this accumulation of stressful life events. That is, the accumulation of stressful events in combination with a habitual way of reacting to these events will have a long-term negative impact on general levels of health.

DeLongis and her colleagues (DeLongis et al., 1988) examined the stress-buffering model at the within-subject level by focusing on the within-subject relations between daily hassles and daily well-being as they unfolded over time. In this study, subjects were pretested on self-esteem and, during a 6-month period, completed daily diaries for four days each month. The diaries included once-a-day ratings on the Hassles and Uplifts Scale, a measure of daily stressful event, and ratings of daily mood and physical symptoms. The analysis in this study holds individual differences in average stress and health levels constant and asks whether changes in level of stress on a particular day are associated with concurrent (same-day) or subsequent (next-day) changes in level of health (i.e., mood or symptoms) and whether trait self-esteem moderates the extent to which stress and health covary over time. The design assumes that the psychobiological processes through which daily stress affects health occur within the time frame of the diary--that is, within a one- or two-day period.

Impact of stress: Between-subject level. As noted above, the between-subject stress/well-being relation examines whether cumulative levels of stress have an impact on overall levels of well-being. Three life event indices were
used in this study—number of life events, positive life event impact, and negative life event impact. All three life event measures were correlated with follow-up depression in the expected direction—person who experienced more life event stress showed some tendency to be more depressed at the follow-up—but these correlations were not significant. Ambivalence significantly predicted depression after controlling for all three life event indices. However the ambivalence/life stress interaction was reliable only with the positive life stress index. That is, trait ambivalence was a more important predictor of depression for individuals who experienced higher levels of positive life stress. Among those persons with high levels of positive life stress, persons high on trait ambivalence showed higher depression scores than person low on trait ambivalence experiencing comparable amounts of stress. The EEQ measures exhibited a similar interaction. Emotionally inexpressive individuals who experienced high amounts of positive life stress showed higher depression scores than emotionally expressive persons under comparable amounts of stress.

These findings parallel, to some extent, the Brown and McGill results for self-esteem. They found that self-esteem interacted with positive life impact in predicting overall rates of illness. However, the Brown and McGill study obtained only the interaction effect—there was no main effect for self-esteem for positive life impact nor was there a main effect or interaction for negative life impact. Their explanation for this outcome was based on an identity disruption model of stress (Brown & McGill, 1989) which postulates that an accumulation of life events that are inconsistent with a persons self-concept are more detrimental to physical health. Because positive life events are more inconsistent to the self-concepts of low self-esteem persons, an accumulation of such events is presumably more stressful and detrimental for these subjects.
Although the interactions in the present study appear comparable to Brown and McGills findings, their explanation is not applicable to the AEQ and EEQ interactions with positive impact scores. One possible explanation for the ambivalence findings may be tied to the nature of positive life events. Consider the impact of a positive life event, such as a job promotion. Although the event may be generally positive in nature, it also elicits life changes which often require some accommodation and associated stress. For example, a job promotion may mean new status, added responsibilities, changing offices, and also dealing with others who were not promoted and may feel envious of the promotion. While these types of events may elicit some distress, most people also reap positive benefits from the event, such as being able to share the event and the positive aspects of the event with others. However, persons who are ambivalent over their emotional expression may have an especially difficult time dealing with positive life events as these individuals may inhibit their emotional expression regarding the event—they feel uncomfortable telling other and sharing their feelings about the event, and therefore are unable to derive the positive benefits of sharing the experience. While life event research has focused on the impact of primarily negative life events, the findings in this study and the Brown and McGill study suggest the need for further systematic research on the impact of positive life events and distinguishing between positive and negative life events.

**Impact of stress: Within-subject level.** At the within-subject level, the stress-buffering model would suggest that persons who are dispositionally ambivalent over their emotional expression would show a stronger covariation between changes in stress and psychological health over time than persons who are generally less ambivalent over their expression. That is, being low on ambivalence would act to "buffer" or moderate the immediate detrimental
impact of stress on health considered here within the time frame of half-a-day. In contrast to this expectation, the present results indicated that persons high on AEQ actually showed less event/mood covariation than person low on AEQ. These results also contrast those obtained in the DeLongis et al. study (1988) who reported that persons with low self-esteem showed a more pronounced association between daily stress and daily mood. That is, self-esteem moderated the relation between daily stress and daily well-being in the direction of the buffering hypothesis.

There are several differences between the present study and the DeLongis study that might account for the present findings. One difference has to do with the nature of the diary stress index. In this study, diary stress was a composite of three highly subjective diary items—the perceived seriousness of the event, the extent to which the event impacted on mood, and the perceived personal importance of the event. The stressfulness of the dairy event was thus based purely on subjects' perceptions, appraisals and interpretations of how stressful each event was and not on the actual content of the event descriptions. In contrast, DeLongis et al. used a checklist of daily hassles to assess daily stress. While it has been argued that the hassles checklist is not a completely objective index of daily stress, it is more objective than the measures used here.

The potential importance of the contrast between subjective interpretations and objective event ratings was illustrated in a study by Campbell and her colleagues (Campbell, Chew, & Scratchley, in press). In this study, individual differences in self-esteem were strongly associated with subjective interpretations of daily events—low self-esteem subjects perceived their events as more negative and stressful than did high self-esteem subjects. However, naive subjects who read objective descriptions of these events
detected few or no differences in the events reported by high and low self-esteem subjects. As with self-esteem in the Campbell et al. study, trait ambivalence was correlated with, on average, perceptions of event stressfulness and, on average, reports of negative mood. It is possible that since the within-subject analyses in this study were based on only subjective ratings of event "stressfulness", these appraisal differences may have influenced the present results.

A second difference between the present study and the DeLongis et al. study lies with the time frame of the diary assessment. As noted earlier, DeLongis and her colleagues used once-a-day ratings of stress and well-being in contrast to the twice-a-day ratings used in the present study. It is possible that for highly emotionally ambivalent persons, fluctuations in event stressfulness are less well calibrated with fluctuations in mood over a very short time frame (e.g., half a day). Subjects were asked to describe the most stressful event that they had experienced during that rating period (roughly, the past 8-hours) and subjects tended to provide a discrete ("new") stressful event for each rating occasion. However, being ambivalent over emotional expression implies, to some extent, having emotional difficulty dealing with stressful events. Consider the following hypothetical example: On a particular morning, a subject may have reported a terrible fight with a family member as their most stressful event of that rating period. This subject, quite reasonably, reports that this event was highly stressful (very serious, personally important and impacting on their mood), and reports a very negative mood during that period. In the next rating occasion (that afternoon), the subject may not have experienced a particularly stressful event and reports the event as such. Nonetheless, a high AEQ subject in this situation may be more likely to still report a very negative mood state that afternoon. Because they were highly
ambivalent over emotionally expressing about the earlier stressful event, the high AEQ subject may not have resolved or coped with their feelings from the previous rating period. Thus the negative affectivity lags into the next period, whereas a subject less ambivalent would be more likely to have "emotionally" dealt with and resolved the earlier event. Therefore, for highly ambivalent subjects, many of the stressful events described in the diary may not have been fully emotionally resolved within the time frame of each rating occasion, and negative affect from one rating occasion may have lagged into later rating occasions. If trait ambivalence has the effect of elongating the time course of the event/mood relation, it may account for the present within-subject results.

General Conclusions and Future Directions

The present results, at the between-subject level are generally consistent with that of King and Emmons (1990). That is, over fairly long time frames, ambivalence is an important predictor of psychological well-being. Because behavioral expression per se does not appear to exhibit as pronounced an association with well-being, conflict over expression appears to be a more important variable in the expression/psychological health relationship. To some extent, a similar pattern of relations was reflected at the within-subject level of analyses; occasions during which subjects felt more ambivalent were also occasions during which subjects reported more negative affect. Expression did not show any reliable within-subject associations. As King and Emmons (1990) suggest--ambivalence over emotional expression appears to be the "crucial component" in the expression/health relation.

With respect to the stress-buffering hypothesis, the present results suggest that the time frame over which ambivalence is examined is crucial. Over a longer time frame, ambivalence did buffer the positive stress/well-
being relation. The results, however, were quite the opposite when examined over a shorter time frame. These findings suggest that the time course by which ambivalence has a negative impact on well-being may indeed be a long one.

Based on the findings in this study, future research on the relation of ambivalence to health might be improved by attention to three specific issues. First of all, the time frame by which trait ambivalence moderates the impact of stress on well-being seems to be critical and thus warrants more systematic investigation. Second, in terms of life event research, particular attention should be paid to events that presumably have a positive impact. Finally, as the within-subject results in the present study suggest, future research using diary methodology could benefit by including and directly comparing objective daily event check-lists and more subjective, detailed descriptions of daily events.
References


Emotional Expression and Health


Footnote

The interpretations of the within-subject correlations were based on the magnitude of the means of these correlations. There has been some controversy over the appropriate test of significance for within-subject correlations (e.g., see Rehm, 1978). One possible test is to examine whether the within-subject correlations are significantly different from zero (i.e., a one sample t-test). Using this rather lenient test, nearly all the within-subject correlations were significant.

A second method for testing the significance of these correlations is to treat each correlation as if it were a between-subject correlation (with an N of 28). According to this stringent test, only the within-subject correlation between stressful events and negative affectivity was significant.
### Table 1

**Correlations among Pretest Individual Difference Variables**

<table>
<thead>
<tr>
<th></th>
<th>EEQ</th>
<th>NEUR</th>
<th>BDI-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEQ</td>
<td>-.33</td>
<td>.37</td>
<td>.27</td>
</tr>
<tr>
<td>EEQ</td>
<td>--</td>
<td>.05</td>
<td>.10</td>
</tr>
<tr>
<td>NEUR</td>
<td>.05</td>
<td>--</td>
<td>.60</td>
</tr>
</tbody>
</table>

Note: AEQ = Ambivalence over Emotional Expression Questionnaire; EEQ = Emotional Expression Questionnaire; NEUR = NEO-FFI neuroticism; BDI-1 = Pretest Beck depression Inventory.

* *p < .05
** **p < .01
Table 2

Correlations Between Pretest Variables and Follow-up Depression

<table>
<thead>
<tr>
<th></th>
<th>AEQ</th>
<th>EEQ</th>
<th>NEUR</th>
<th>BDI-1</th>
<th>AEQ EEQ</th>
<th>AEQ NEUR</th>
<th>AEQ BDI-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI-2</td>
<td>.45</td>
<td>-.08</td>
<td>.30</td>
<td>.48</td>
<td>.45</td>
<td>.40</td>
<td>.42</td>
</tr>
</tbody>
</table>

Note: AEQ = Ambivalence over Emotional Expression Questionnaire; EEQ = Emotional Expression Questionnaire; NEUR = NEO-FFI neuroticism; BDI-1 = Pretest depression; BDI-2 = Follow-up depression.

*p < .05

**p < .01
Table 3

Correlations Of Life Events With Pretest Variables and Follow-Up Depression

<table>
<thead>
<tr>
<th></th>
<th>LENUM</th>
<th>LEPOS</th>
<th>LENE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEQ</td>
<td>.31</td>
<td>-.02</td>
<td>.35</td>
</tr>
<tr>
<td>EEQ</td>
<td>.08</td>
<td>.03</td>
<td>.22</td>
</tr>
<tr>
<td>NEUR</td>
<td>.22</td>
<td>.30</td>
<td>.07</td>
</tr>
<tr>
<td>BDI-1</td>
<td>.17</td>
<td>.28</td>
<td>.15</td>
</tr>
<tr>
<td>BDI-2</td>
<td>.16</td>
<td>.07</td>
<td>.23</td>
</tr>
</tbody>
</table>

Means  6.05  4.21  5.53
Stdev  3.01  3.52  4.10

Note: AEQ = Ambivalence over Emotional Expression questionnaire; EEQ = Emotional Expression Questionnaire; NEUR = NEO-FFI neuroticism; BDI-1 = Pretest depression; BDI-2 = Follow-up depression; LENUM = total number of life events; LEPOS = positive life event impact; LENE = negative life event impact.

*p < .05
Table 4

Hierarchical Regression Of Follow-Up Depression On Pretest Depression, Life Events, Pretest AEQ(a) and Pretest EEQ(b)

<table>
<thead>
<tr>
<th></th>
<th>LENUM</th>
<th></th>
<th>LENEQ</th>
<th></th>
<th>LEPOS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r²</td>
<td>beta</td>
<td>r²</td>
<td>beta</td>
<td>r²</td>
<td>beta</td>
</tr>
<tr>
<td>(a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BDI-1</td>
<td>.22</td>
<td>.40</td>
<td>.22</td>
<td>.39</td>
<td>.22</td>
<td>.41</td>
</tr>
<tr>
<td>Life Events(LE)</td>
<td>.23</td>
<td>.00</td>
<td>.25</td>
<td>.06</td>
<td>.23</td>
<td>.02</td>
</tr>
<tr>
<td>Pretest AEQ</td>
<td>.36</td>
<td>.38</td>
<td>.37</td>
<td>.36</td>
<td>.36</td>
<td>.35</td>
</tr>
<tr>
<td>AEQ x LE</td>
<td>.37</td>
<td>.05</td>
<td>.37</td>
<td>.04</td>
<td>.45</td>
<td>.30</td>
</tr>
<tr>
<td>(b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BDI-1</td>
<td>.22</td>
<td>.51</td>
<td>.22</td>
<td>.49</td>
<td>.22</td>
<td>.56</td>
</tr>
<tr>
<td>Life Events(LE)</td>
<td>.23</td>
<td>.14</td>
<td>.25</td>
<td>.24</td>
<td>.23</td>
<td>-.02</td>
</tr>
<tr>
<td>Pretest EEQ</td>
<td>.28</td>
<td>-.21</td>
<td>.31</td>
<td>-.25</td>
<td>.27</td>
<td>-.19</td>
</tr>
<tr>
<td>EEQ x LE</td>
<td>.28</td>
<td>-.06</td>
<td>.31</td>
<td>-.02</td>
<td>.41</td>
<td>-.39</td>
</tr>
</tbody>
</table>

Note: AEQ = Ambivalence over Emotional Expression Questionnaire; EEQ = Emotional Expression Questionnaire; BDI-1 = Pretest depression; LENUM = total number of life events; LEPOS = positive life event impact; LENEQ = negative life event impact.

# = increment in $r^2$ of this step was significant at $p < .05$

*= beta $p < .01$
Table 5

Hierarchical Regression of Follow-Up Depression on Pretest BDI, and Pretest AEQ and EEQ by Three Levels of Positive Life Events

<table>
<thead>
<tr>
<th></th>
<th>Low LEPOS n = 19</th>
<th>Med LEPOS n = 22</th>
<th>High LEPOS n = 16</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r²</td>
<td>beta</td>
<td>r²</td>
</tr>
<tr>
<td>BDI-1</td>
<td>.51</td>
<td>.69</td>
<td>.37</td>
</tr>
<tr>
<td>AEQ</td>
<td>.51</td>
<td>.05</td>
<td>.42</td>
</tr>
<tr>
<td>BDI-1</td>
<td>.51</td>
<td>.71</td>
<td>.37</td>
</tr>
<tr>
<td>EEQ</td>
<td>.51</td>
<td>.01</td>
<td>.39</td>
</tr>
</tbody>
</table>

Note: AEQ = Ambivalence over Emotional Expression Questionnaire; EEQ = Emotional Expression Questionnaire; BDI-1 = Pretest depression; LEPOS = positive life event impact.

# = increment in r² of this step was significant at p < .05
* = beta p < .05
Table 6
Means, Standard Deviations, and Correlations among the Average Diary Variables

<table>
<thead>
<tr>
<th></th>
<th>MDAEQ</th>
<th>MDEEQ</th>
<th>MDNA</th>
<th>MDPA</th>
<th>MDPL</th>
<th>MDAR</th>
<th>MDEVENT</th>
<th>MDSYM</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDAEQ</td>
<td>--</td>
<td>-0.03</td>
<td>0.52</td>
<td>0.21</td>
<td>-0.26</td>
<td>0.14</td>
<td>0.36</td>
<td>0.18</td>
</tr>
<tr>
<td>MDEEQ</td>
<td>--</td>
<td>--</td>
<td>0.03</td>
<td>0.11</td>
<td>0.05</td>
<td>0.06</td>
<td>-0.02</td>
<td>0.03</td>
</tr>
<tr>
<td>MDNA</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.08</td>
<td>-0.57</td>
<td>-0.29</td>
<td>0.52</td>
<td>0.42</td>
</tr>
<tr>
<td>MDPA</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.28</td>
<td>0.47</td>
<td>0.08</td>
<td>-0.04</td>
</tr>
<tr>
<td>MDPL</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.50</td>
<td>-0.48</td>
<td>-0.11</td>
</tr>
<tr>
<td>MDAR</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>-0.13</td>
<td>-0.13</td>
</tr>
<tr>
<td>MDEVENT</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.42</td>
</tr>
</tbody>
</table>

Means 1.66 0.45 1.61 2.46 5.62 5.87 3.21 0.89
Stdev 0.38 0.17 0.36 0.45 0.75 0.80 0.52 0.73

Note: MDAEQ = Average diary ambivalence; MDEEQ = Average diary expression; MDNA = Average diary negative affectivity; MDPA = Average diary positive affectivity; MDPL = Average diary pleasure; MDAR = Average diary arousal; MDEVENT = Average diary stressful event; MDSYM = Average diary symptoms.

*p < .05
**p < .01
## Table 7

Correlations between Pretest Traits and Diary Averages

<table>
<thead>
<tr>
<th>AEQ</th>
<th>.19</th>
<th>.09</th>
<th>-.14</th>
<th>.13</th>
<th>.16</th>
<th>.23</th>
<th>.26</th>
<th>-.03</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEQ</td>
<td>.15</td>
<td>.11</td>
<td>-.11</td>
<td>-.05</td>
<td>.16</td>
<td>.21</td>
<td>.13</td>
<td>.32</td>
</tr>
<tr>
<td>NEUR</td>
<td>.20</td>
<td>-.25</td>
<td>-.37</td>
<td>-.18</td>
<td>.18</td>
<td>.25</td>
<td>.03</td>
<td>-.10</td>
</tr>
</tbody>
</table>

Note: AEQ = Ambivalence over Emotional Expression Questionnaire; EEQ = Emotional Expression Questionnaire; NEUR = NEO-FFI neuroticism; MDAEQ = Average diary ambivalence; MDEEQ = Average diary expression; MDNA = Average diary negative affectivity; MDPA = Average diary positive affectivity; MDPL = Average diary pleasure; MDAR = Average diary arousal; MDSYM = Average diary symptoms; MDEVENT = Average diary stressful event.

*p < .05*
Table 8

Average Within-Subject Correlations of Stressfulness of Event, Mood, Ambivalence, and Expression

<table>
<thead>
<tr>
<th></th>
<th>Means</th>
<th>Stdev</th>
</tr>
</thead>
<tbody>
<tr>
<td>STREV-NEGAF</td>
<td>.51</td>
<td>.26</td>
</tr>
<tr>
<td>STREV-PLEAS</td>
<td>-.39</td>
<td>.28</td>
</tr>
<tr>
<td>AMBIV-STREV</td>
<td>.33</td>
<td>.29</td>
</tr>
<tr>
<td>AMBIV-NEGAF</td>
<td>.22</td>
<td>.33</td>
</tr>
<tr>
<td>AMBIV-PLEAS</td>
<td>-.12</td>
<td>.27</td>
</tr>
<tr>
<td>EXPRE-STREV</td>
<td>.16</td>
<td>.24</td>
</tr>
<tr>
<td>EXPRE-NEGAF</td>
<td>.07</td>
<td>.21</td>
</tr>
<tr>
<td>EXPRE-PLEAS</td>
<td>-.06</td>
<td>.24</td>
</tr>
</tbody>
</table>

Note: STREV = Stressful event; NEGAV = Negative affectivity; PLEAS = Pleasure; AMBIV = Ambivalence; EXPRE = Expression.
Table 9

**Correlations of Pretest Traits with Within-Subject Correlations**

<table>
<thead>
<tr>
<th></th>
<th>AEQ</th>
<th>EEQ</th>
<th>NEUR</th>
<th>AEQ. NEUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>STREV-NEGAF</td>
<td>-.28</td>
<td>.03</td>
<td>-.15</td>
<td>-.26</td>
</tr>
<tr>
<td>STREV-PLEAS</td>
<td>.25</td>
<td>-.06</td>
<td>.18</td>
<td>.21</td>
</tr>
</tbody>
</table>

Note: STREV = Stressful event; NEGAF = Negative affectivity; PLEAS = Pleasure; AEQ = Ambivalence over Emotional Expression Questionnaire; EEQ = Emotional Expression Questionnaire; NEUR = NEO-FFI neuroticism; AEQ.neur = partial correlation of AEQ controlling for NEUR.

* p < .06
** p < .01