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The Relationship between Age and Depression: A Self-Efficacy Model

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Master of Arts in Psychology

University of Richmond

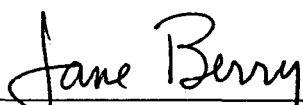
2004

Jane M. Berry, Thesis Director

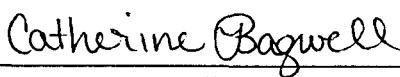
Abstract

From an applied perspective, it is useful for clinicians and researchers to know what variables are more likely to be related to depressive symptoms for some groups than for others. From the social-cognitive perspective, symptoms of depression are linked to people's beliefs that they are unable to regulate or control their own functioning. The purpose of the present study was to test social cognitive theory and its claims about self-efficacy by examining whether age and sex differences in depression are a function of emotion regulation, emotional self-efficacy and response styles to depression. The results indicated that females had a higher sense of self-efficacy for managing positive emotions and lower self-efficacy for managing negative emotions than did males. Older cohorts had significantly lower depression and rumination scores than college-aged adults and were more efficacious in managing negative emotions. Only emotional self-efficacy for negative emotions, rumination, and distraction explained unique variance in depressive symptoms. The findings from this study offer insight into possible areas for intervention and future research.

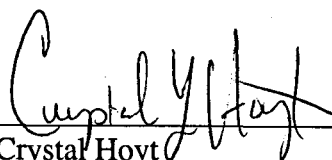
I certify that I have read this thesis and find that, in scope and quality, it satisfies the requirements for the degree of Master of Arts/Science.



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The Relationship between Age and Depression: A Self-Efficacy Model

By

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A Thesis

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The Relationship between Age and Depression: A Self-Efficacy Mediation Model

As the common cold of psychological disorders, depression is the number one reason people seek mental health services (Myers, 2004). As many as 5 to 10 percent of adults in the United States suffer from a severe pattern of depression in any given year, while another 3 to 5 percent suffer from mild forms of the disorder (Kessler, McConagle, Swartz, & Nelson, 1993). Unlike a normal mood swing, depression is a serious psychological disturbance often accompanied by emotional, motivational, behavioral, cognitive, and physical symptoms that prevent people from carrying out the simplest of life's activities.

The influence of aging on the magnitude of depression has received attention in several studies with apparently conflicting results. In a cross-sectional study of adults age 18-87, Lawton, Kleban, and Dean (1993) reported a negative linear relationship between age and depressive symptoms. However, other investigators (e.g., Rothermund & Brandtstädter, 2003) concluded that depressive symptoms increase with age. For example, in an 8-year longitudinal assessment of depression among adults age 54-77, Rothermund and Brandtstädter (2003) found significant increases in depression for older groups (66 years and above). It has also been suggested that the relationship between age and depression is U-shaped. Analyzing data from two large national surveys, Kessler and colleagues (1992) reported that depressive symptoms decline from young adulthood to midlife and then begin to rise again with increasing age (Kessler, Foster, Webster, & House, 1992). In short, the available evidence has failed to establish definitive age patterns of depressive symptom levels.

The prevalence of depression is much higher among women than men (Nolen-Hoeksema, 1995). This sex difference emerges in early adolescence and generally remains throughout adulthood (Nolen-Hoeksema, Larson, & Grayson, 1999). Not only have studies suggested that the prevalence of depressive symptoms is higher among females than males, but there is also evidence showing developmental differences in depressive symptoms. It has been proposed that the timing and magnitude of sex differences in depressive symptoms may vary as a function of age (Mirowsky, 1996; Nolen-Hoeksema, 1991). For instance, Mirowsky reported that the magnitude and significance of the sex difference in depression rises in adulthood. In contrast, Nolen-Hoeksema (1991) reported that although sex differences in depression are apparent in both adolescence and in adulthood, these differences are not typically found among young people currently attending college. Hence, sex differences and age trends in depressive symptoms merit further investigation.

Several reasons for gender differences in depression have been offered. They include role overload, hormonal fluctuations, and chronic negative events (McGrath, Keita, Strickland, & Russo, 1990; Nolen-Hoeksema, 1995). Other reasons can be found in a social cognitive perspective, including psychological variables of emotion regulation, emotional self-efficacy, and response styles to depression. The present study focused on these social cognitive variables as mediators of age and sex differences on depressive symptoms.

Theoretical Considerations

Self-efficacy

Although most theories of depression (e.g. sociocultural, psychoanalytic, and cognitive behavioral) subscribe to the view that risk factors act on an individual's vulnerabilities to ignite a depressive episode, the social cognitive perspective views the individual as a protagonist in the drama of life (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999). From this perspective, people are equipped with competencies that enable them to choose and arrange the course for their lives; and "among the mechanisms of human agency, none is more central or pervasive than...beliefs of personal efficacy" (Bandura, 1997 p. 258). Perceived self-efficacy refers to beliefs about one's capabilities to effectively perform a given action; and according to the social-cognitive perspective, symptoms of depression are linked to low self-efficacy—people's beliefs that they are unable to regulate their own functioning (emotions, cognitions, mobility, etc) and to exercise control over events in their lives (Bandura, 1986; Bandura, 1977; Seligman, 1975).

Efficacy beliefs are domain specific rather than generalized expectations (i.e., that the world is controllable) (Bandura, 1997). Hence, self-efficacy is multidimensional, extending to many areas of one's life -- academic, social and emotional, to name a few. Academic self-efficacy involves one's perceived ability to manage learning activities and to fulfill academic demands (Bandura et al., 1999). Social efficacy centers on perceived capabilities to develop and maintain social relationships and to manage socially stressful conditions. Emotional self-efficacy, the facet of perceived efficacy being investigated in

the current study, is the perceived ability to regulate one's own positive and negative affect (Bandura et al., 1999; Caprara, Scabini, Barbaranelli, Pastorelli, Regalia, & Bandura, 2000).

Studies of academic, social, and emotional self-efficacy have generated consistent findings regarding sex differences and psychological adjustment. Females are more depressed over their beliefs of academic inefficacy than males (Bandura et al., 1999). Perceived social inefficacy has been demonstrated to have a heavier impact on depression in females than in males; and a low sense of efficacy to manage negative emotions is highly depressing for females but not for males (Bandura et al., 1999; Caprara et al., 2000; Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003). These studies suggest that women's greater experience with perceived self-inefficacy in regulating their own learning, maintaining social relationships, and controlling their affective lives relative to men may contribute to their higher rates of depression.

No empirical tests of the contribution of perceived emotional self-efficacy to depression across the life span have been conducted. However, some research has reported that changes in depression scores among adolescents depend on their emotional self-efficacy (Bandura et al., 2003; Muris, 2002). Muris (2002) administered the Self-Efficacy Questionnaire for Children, which included a scale to assess children's sense of self-efficacy to manage negative emotions, and scales measuring trait anxiety/neuroticism, anxiety disorders symptoms, and depressive symptoms to a sample of adolescents ranging in age from 12-19 years. Results indicated that low levels of emotional self-efficacy were associated with high levels of depressive symptoms. In

research using a large sample of adolescents, the effect of perceived self-efficacy for affect regulation on depression was mediated by perceived academic self-efficacy, self-efficacy to resist peer pressure, and empathic self-efficacy (Bandura et al., 2003). The available evidence suggests that emotional self-efficacy may be predictive of depressive symptoms among adolescents.

Although studies have reported changes in depression scores among adolescents partly depend on their emotional self-efficacy, there appear to be no studies exploring the domain of emotional self-efficacy among older adults. In a review, Lachman (1986) provided some evidence about sense of control, a related construct, and the elderly, reporting that about one-third of studies found low levels of perceived control among the elderly, one-third found high levels, and one-third found no relationship between age and control beliefs. Generalized control is a global evaluation of how much control one has over one's life; whereas, self-efficacy beliefs focus on specific domains such as emotions and health (Lachman & Weaver, 1998). Additionally, most of the research in this area reports a negative relationship between self-efficacy and depression among older adults (Adelmann, 1994; Bandura, 1997; Rodin & McAvay, 1992). Rodin and McAvay found that among men and women aged 62 years and older, those who believed in their ability to maintain control over their lives reported a decline in depression as compared to those with low levels of self-efficacy. Bandura (1997) has also suggested that among older adults a belief in memory as a controllable skill is accompanied by low depression. Nevertheless, little empirical attention has been paid to age differences in self-efficacy and depression.

Emotion regulation

Where does self-efficacy originate? The findings of diverse lines of research show that there are four sources of efficacy beliefs: mastery experiences, vicarious experiences, verbal persuasion, and physiological arousal (Bandura, 1997). Vicarious experiences involve seeing or visualizing people similar to oneself successfully perform a given action. Verbal persuasion entails significant others expressing positive appraisals of one's capabilities. Physiological arousal includes fatigue, aches, and other stress reactions in domains of functioning in which one distrusts one's capabilities. These processes are all capable of influencing efficacy appraisals; but the most influential self-efficacy source is mastery experiences. Mastery experiences provide people with tangible evidence of coping effectively with difficulties; thereby, counteracting their expectancies of failure and enhancing their self-efficacy beliefs (Maddux, 2002). For example, in a study exploring the antecedents of mathematics self-efficacy beliefs, Lent et al. (1991) found that although vicarious learning, social persuasion, and emotional arousal produced a significant correlation with self-efficacy, only personal performance accomplishments (i.e. Mathematics ACT-American College Test) explained unique variance in self-efficacy, constituting the most influential source of efficacy information. The present study will test how mastery experiences with emotion regulation relate to present levels of emotional self-efficacy.

Emotion regulation is often conceived as the process of eliminating, maintaining, or changing emotional states (Carstensen, Pasupathi, Mayr, & Nesselroade, 2000; Gross, 1998; Morris & Reilly, 1987; Rusting & Nolen-Hoeksema, 1998). Failures at emotional

regulation can be called dysregulation and, if chronic, are evident in depression (Dodge & Garber, 1991; Gross & Munoz, 1995; Magai, Kerns, Consedine, & Fyffe, 2003; Sheeber, Allen, Davis, & Sorensen, 2000). McConatha and Huba (1999) found that women reported a greater ability to regulate their emotions. On the other hand, Carstensen (2000) failed to find significant differences between men and women in regulating emotions. The data are sparse regarding sex differences in emotion regulation that may be related to depression. Even so, a growing body of evidence indicates that emotion regulation is an essential feature of mental health. For example, research suggests that mutual emotion regulation exchanges of anger between mothers and preschoolers are predictive of persistent conduct problems (Cole, Teti, & Zahn-Waxler, 2003). Also, resilient youths living in poverty have greater emotional regulatory skills than their nonresilient counterparts (Buckner, Mezzacappa, & Beardslee, 2003).

Emotion regulation is a developmentally acquired process (Calkins, 1994; Dodge & Garber, 1991; Kopp, 1989; Meerum, Twerwogt & Olthof, 1989). It is likely that emotion regulation skills are not yet fully developed in youth, and mature regulation requires time and experience to achieve. Research has shown that emotion regulation improves with age, such that older adults are more likely to maintain high positive states and the absence of negative states than are younger adults (Carstensen et al., 2000; Gross, Carstensen, Pasupathi, Tsai, Skorpen, & Hsu, 1997; McConatha & Huba, 1999).

Response styles

In addition to the direct effect of efficacy beliefs on depression, this study will investigate the mediated or indirect impact of emotional self-efficacy on depression.

Efficacy beliefs regulate emotional well-being through four major processes: cognitive, motivational, affective, and selective processes (Bandura, 1997). With respect to selective processes, Bandura (1997) has reported that efficacy beliefs affect what activities are chosen such that people with low self-efficacy avoid activities they feel incapable of handling. Thus, it follows that self-efficacy beliefs can influence choices regarding how to deal with stress or problems. Sometimes, a maladaptive strategy for responding to distress (i.e. ruminating) may be selected even when other, adaptive alternatives (i.e. distracting response to distress) are available. For example, if a dysphoric woman thought doing something fun with a friend was the best solution for getting out of her depressed mood state, and that it was within her capabilities (high self-efficacy), she would be more likely to choose this option than if she considered it as exceeding her capabilities. In this latter instance she might choose to ruminate, even if she judged it as less optimal for bringing about the desired outcome, i.e., feeling less depressed. Consistent with this argument, in a study of independently living older persons, Slangen-De Kort and colleagues (2001) found that those with high self-efficacy to resolve everyday dilemmas selected the optimal (i.e., problem-focused, instrumental) strategies more often than did those with low self-efficacy. This study suggests that when a person considers a certain strategy as optimal, it may only be employed if this person perceives that the required efforts do not exceed his or her abilities.

In a series of laboratory and field experiments, Nolen-Hoeksema (1991) has demonstrated that people who choose to ruminate in response to adversity and negative mood, rather than to engage in a distracting activity, experience longer and more severe

depressive episodes. According to her theory of response styles to depression, a distracting response to distress is the most optimal strategy. Morris (1987) found that although people report being aware that distracting activities improve mood, they do not always initiate these activities. It may be that instead of engaging in such behaviors like spending time with friends, participating in a favorite sport, catching up on work—behaviors that should (Nolen-Hoeksema, 1991) lead to fewer and less severe depressive symptoms, inefficacious people favor cognitive processes like ruminating because such processes require less effort and, thus, do not exceed their capabilities (Morris, 1987). Consequently, an appropriate next phase of research is to investigate the link between emotional efficacy and depressive symptoms and whether response style choice mediates this relationship.

Nolen-Hoeksema (1991) has demonstrated that college-aged males are more likely than college-aged females to respond to their symptoms of depression by engaging in activities that distract them from their problems – the distracting response style. Females, on the other hand, are prone to focus their attention on their depressive symptoms and on the implications of these symptoms – the ruminative response style. As mentioned above, this ruminative response style is linked to longer and more severe depressive episodes (Just & Alloy, 1997; Nolen-Hoeksema, 1991). Nolen-Hoeksema further suggests that women may ruminate more in the hopes of finding ways to control their environment and their despondency, but “do not feel efficacious in exerting that control” (Nolen-Hoeksema et al., 1999 p. 1062). In fact, not only are ruminators less likely to engage in activities that provide a sense of control, but the content of their

ruminations often entail not being able to manage or control situations (Lyubomirsky & Nolen-Hoeksema, 1993; Lyubomirsky, Tucker, Caldwell, & Berg, 1999).

Relatively little research has looked at developmental variation in rumination and distraction. A few recent investigations, however, have found evidence of age effects (Knight, Gatz, Heller, & Bengtson, 2000; McConatha and Huba, 1999). For example, McConatha and Huba (1999) found that among a sample aged 19-92 years the tendency to ruminate decreased with age. Moreover, research investigating age differences in earthquake-specific ruminations regarding the 1994 Northridge earthquake found that compared to middle aged adults (ages 30-54) and young-old adults (ages 55-75), the old-old (ages 76 and above) showed the lowest levels of rumination (Knight et al., 2000). Although current studies support the notion that older adults endorse fewer emotion-focused strategies, like rumination, given the paucity of evidence, this relationship deserves further attention.

Conceptual model

Several hypotheses derived from self-efficacy theory were developed for this study. Figure 1 is a depiction of the model being tested in the study (Bandura, 1997). The subsequent discussion provides the rationale for direct and indirect paths of influence in a model through which mastery experiences of emotion regulation operating in concert with emotional self-efficacy and response styles to depression influence symptoms of depression. Figure 2 illustrates this hypothesized model.

The first path specifies the impact of age on emotion regulation experiences. As one ages, their emotion regulation abilities improve. The second path of influence

specifies the impact of emotion regulation experiences on the appraisal of one's own emotion management capabilities. Mastery experiences are the most influential source of efficacy information because they provide authentic evidence of success or failure. It is predicted that emotion regulation success will enhance a person's sense of emotional self-efficacy.

The third path specifies how emotional self-efficacy affects depressive symptoms through response styles to depression. This prediction is based on work by Nolen-Hoeksema (1991), who has found two types of responses to depression: distraction and rumination. Distracting responses involve using pleasant activities to divert one's attention from one's mood; whereas, ruminative reactions involve thinking about one's depressive condition. A resilient sense of emotional self-efficacy will promote a distracting response to depression, an agentic proactive style of coping, which will result in fewer depressive symptoms. A low sense of emotional self-efficacy to manage emotions will increase one's vulnerability to depression by promoting a ruminative response to sad moods.

To summarize, the study was conducted to test the hypothesis that people who are poor at regulating emotional responses have a lower sense of emotional self-efficacy and find it more difficult to engage in efficacious behavioral responses to distress, raising the likelihood that they experience a depressive episode. Moreover, emotional regulation, emotional self-efficacy, response style, and depressive symptoms are differentially related to sex and age.

Hypotheses and Research Question

1. Older as compared to younger participants report better emotional regulation, higher perceived emotional self-efficacy, a less ruminative response style, and fewer depressive symptoms.
2. Male participants have better emotion regulation, higher perceived emotional self-efficacy, a less ruminative response style, and fewer depressive symptoms.
3. Emotion regulation has a direct relationship to depressive symptoms, and emotional self-efficacy and response styles to depression mediate this relationship.
4. Are emotional regulation, emotional self-efficacy, response style, and depressive symptoms differentially related to sex and age?

Method

Participants

The participants were community-dwelling adults living in the greater Richmond area, who had participated in the Memory and Cognitive Aging Project (MCAP) carried out in 1998, and University of Richmond introductory psychology students. The community-dwelling adults' residential phone numbers were chosen randomly from a participant list and then called. The person answering the phone was reminded of their participation in previous research and asked whether they would complete some questionnaires on emotions. Recruited participants were mailed an informed consent

form, questionnaire packet, and stamped return envelope. University of Richmond students came to a lab on campus and were tested in groups of 10 to 15 to fulfill course requirements.

Participants were divided into four age groups: college aged adults ($n = 43$; M age = 19.0; $SD = 1.1$; 58% female, 42% male), young adults ($n = 29$; M age = 29.8; $SD = 4.6$; 59% female, 41% male), middle-aged adults ($n = 44$; M age = 50.77; $SD = 5.7$; 55% female, 45% male), and older adults ($n = 36$; M age = 69.9; $SD = 7.3$; 56% female, 44% male). Additional sample characteristics are shown in Table 1.

Measures

Emotion Regulation Experience. The assessment of perceived emotional control focused on four content areas: anger, positive emotion, depression, and anxiety. The Affective Control Scale (ACS; Williams, Chambless, & Ahrens, 1997) contains 42 items about controlling one's emotions and of one's behavioral reactions to emotion, such as getting too carried away when happy, hurting someone when furious, and preventing oneself from becoming overly anxious. Participants rate items on a 7-point scale ranging from 1 (very strongly agree) to 7 (very strongly disagree). To obtain the overall scale score, the mean of all 42 responses is computed, with higher scores indicating greater emotional control. In the current sample, the coefficient alpha was .71.

Emotional Self-Efficacy. Participants' perceived capability to regulate their positive and negative affect was measured by 16 items using a questionnaire developed by Bandura et al. (2003). Each item is scored on a five-point scale, ranging from 1 (not at all capable) to 5 (totally capable). The measure contains two subscales: perceived self-

efficacy to manage positive affect and perceived self-efficacy to manage negative affect. Scores were obtained by computing the mean across relevant items. Internal consistency reliability for the scale was .85.

Perceived self-efficacy to regulate positive affect (ESE-P) was assessed by seven items. This subscale measures perceived efficacy to express joy, to feel gratification over achievements, and to express liking for others. "I can rejoice over my successes" is a sample item.

Perceived self-efficacy to regulate negative emotions (ESE-N) was assessed by nine items. This subscale measures perceived efficacy to manage irritation, discouragement, and anxiety. "I can keep from getting discouraged by strong criticism" is a sample item.

Ruminative and Distractive Coping. The Response Style Questionnaire (RSQ) is designed to assess responses to depression by asking participants what they generally do when they feel sad, down, or depressed (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). The items are scored on a 4-point Likert scale, ranging from 1 (almost never) to 4 (almost always). The RSQ contains two subscales: the Ruminative Response Scale (RRS) and the Distractive Response Scale (DRS). The 22 items on the RRS address responses to depression that are symptom focused (e.g. "I think about how hard it is to concentrate") and focused on the consequences or causes of their mood (e.g. "I think, 'I won't be able to do my job if I don't snap out of this'"). Internal consistency reliability for the RRS was .93. The DRS includes 13 items that address how often participants

engage in distracting, nondangerous activities in response to depression (e.g. “I do something I enjoy”). Internal consistency reliability for the DRS was .71.

Symptoms of Depression. The Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977) is a 20-item questionnaire that assesses the intensity of depression in clinical and normal patients. The CES-D has high internal consistency ($\alpha = .85$ to $.90$). It contains items such as “I was bothered by things that usually don’t bother me” and “I felt lonely.” Respondents indicate the frequency with which they experienced each symptom during the past month. Depression scores for each item range from 0 (rarely or none of the time) to 3 (most or all of the time). A total score ranging from 0 to 60 is derived by summing the item scores, with scores of 16 or above indicating possible clinical depression. In the current sample, the coefficient alpha was .89.

Procedure

Participants were informed that the purpose of the study is to examine whether people differ in how they manage their emotions. After obtaining informed consent and background information, participants were provided with detailed instructions about the experimental procedures and completed the following measures: Affect Control Scale, Emotional Self-Efficacy Scale, Response Style Questionnaire, and the Center for Epidemiological Studies-Depression Scale. The order of administration was counterbalanced to avoid confounding among variables.

After finishing the questionnaires, the subjects had the option of requesting a summary of the study’s results. Once the sessions were concluded, participants received a document containing the following debriefing statement:

This study investigated the relationship between one's ability to manage his or her emotions and one's attitudes towards the ups and downs of life. Your involvement will help further knowledge regarding how people's responses to their emotions impact their social functioning. Thank you for your participation.

Data Analysis

The internal consistency of each instrument was determined by calculating coefficient alpha reliabilities. Descriptive statistics were calculated on relevant variables to examine the characteristics of the sample. Basic relationships among demographic variables, emotion regulation, emotional self-efficacy, response style variables, and depressive symptoms were examined with bivariate Pearson product-moment correlations. Multivariate analyses were conducted using a 4 (Age: college aged, young adult, middle-aged adult, and older adult) X 2 (Sex: male, female) between groups MANOVA design with six dependent variables (emotion regulation, emotional self-efficacy for positive emotions, emotional self-efficacy for negative emotions, rumination, distraction, and depression) and age and sex as independent variables. Post-hoc comparisons were used to examine mean differences between age groups. A hierarchical regression analysis with age, emotion regulation, emotional self-efficacy, and response style as predictor variables and depression as the criterion variable was conducted. Age was entered in the first step, followed by Affective Control Scale (ACS) scores. In the third step, the Emotional Self-efficacy (ESE) subscale scores were entered and in the last step, two response style dimensions were entered. In each successive step of the

regression analysis, the unique effect of a predictor variable on the criterion variable can be assessed. In the final step of the analysis, the separate effects of all predictors can be assessed when controlling for all other predictors in the equation.

Results

Demographic Variables

As hypothesized, age ($r = -.37, p < .01$) was significantly correlated with depressive symptoms. Closer inspection of the scatterplot, however, suggested that the relationship between age and the CES-D followed a curvilinear pattern (see Figure 4). To examine the curvilinear pattern between the CES-D and age, a multiple regression was performed in which CES-D was regressed on age and age-squared in order to model the curvilinear relationships. This analysis showed that the quadratic age term was significant ($[beta] = .95, p < .05$) above and beyond the linear age term ($[beta] = -1.31, p < .01$), providing support for the curvilinear relationship between age and depression. Sex ($r = -.06, ns$), however, was not associated with depression.

Emotion Regulation

The possible range of scores for the ACS was 1-7, and the mean in the current sample was 4.35 ($SD = .34, range = 3.27-5.83$). The bivariate correlation between emotion regulation and depressive symptoms was significant ($r = -.35, p < .01$). Correlations among emotion regulation and the self-efficacy and response style variables appear in Table 2. Higher emotion regulation scores were significantly positively correlated with emotional self-efficacy for negative emotions and significantly negatively correlated with self-ratings on ruminative responding.

Emotional Self-Efficacy

ESE-P scores ranged from 2.29-5.00 and the mean in the current sample was 4.22 (SD= .54). Higher emotional self-efficacy for positive emotions was associated with lower depressive symptoms, less ruminative responding, and more distracting responding. ESE-N scores ranged from 1.25-4.88 and the mean in the current sample was 3.43 (SD= .61). Higher emotional self-efficacy for negative emotions was associated with lower depressive symptoms, less ruminative responding, more distracting responding, and greater emotion regulation.

Response Styles

Ruminative responding correlated positively with depressive symptoms ($r = .66, p < .01$), i.e. the more one used this response strategy, the more often he or she reported depressive symptoms. Distraction, on the other hand, was negatively associated with scores of depressive symptoms ($r = -.19, p < .01$).

Age and Sex Differences on All Variables

Table 3 provides the means, standard deviations, and age and sex comparisons for the total sample ($N = 148$) for emotion regulation, emotional self-efficacy, response style, and depression. A two-way between groups MANOVA indicated significant sex differences on both subscales of emotional self-efficacy. Compared to males, females had a higher sense of emotional self-efficacy for positive emotions, $F(1, 140) = 9.45, p < .01$, but lower emotional self-efficacy for negative emotions, $F(1, 140) = 5.40, p < .05$. Females and males did not differ on emotion regulation, response style, and depression.

Significant age differences were evident on measures of depression, $F(3, 140) = 8.67, p < .01$; rumination, $F(3, 140) = 11.36, p < .01$; and emotional self-efficacy for negative emotions $F(3, 140) = 3.56, p < .05$. Post hoc comparisons of groups indicated that the older and middle-aged adults had significantly lower depression scores than the college-aged adults. The college-aged group reported significantly higher rumination scores than the three older age groups, and was less efficacious in managing negative emotions than the middle age group. The interaction of age and sex did not attain significance.

Path Analysis

Because no significant sex differences in depression were obtained, relationships for the total group are reported in the next set of analyses using hierarchical linear regression to explore the direct and indirect effects of age on psychological adjustment (depressive symptoms). Examination of the scatterplot led to a squared transformation of the age variable to improve the predictive utility of age. Table 4 displays R^2 , ΔF , and the standardized regression coefficients (β) after entry of all independent variables. After step 4, with all independent variables in the equation, $R^2 = .63, F(7, 140) = 35.38, p < .001$. Thus, 63% of the variance in depressive symptoms was accounted for by age, emotional regulation, emotional self-efficacy, and response style variables.

Age and age-squared were entered in the first step and were significant predictors of depression, $R^2 = .17, F(2, 145) = 15.79, p < .001$. In the second step, emotion regulation was a significant predictor and accounted for 10% of the variance beyond age and age-squared, $\Delta F(1, 144) = 20.02, p < .001$. In the third step, emotional self-efficacy

for positive emotions ($p < .01$) and negative emotions ($p < .001$) accounted uniquely for 24% of the variance in depressive symptoms, $\Delta F(2, 142) = 34.47, p < .001$. In the final step, when the response style dimensions were added, both ruminative response style ($p < .001$) and distracting response style ($p < .05$) added significantly to the explanation of depression variance, $\Delta R^2 = .12, \Delta F(2, 140) = 24.06, p < .001$. The independent variables that were significant at this final step were emotional self-efficacy for negative emotions (ESE-N), rumination, and distraction.

To summarize the interpretation of this regression, no claims for mediation can be made. However, in the prediction of depressive symptoms, emotional self-efficacy for negative emotions, rumination, and distraction explained unique variance in depression after controlling for age, emotion regulation, and emotional self-efficacy for positive emotions. Lower scores on the negative dimension of emotional self-efficacy were associated with more depressive symptoms. Higher scores on the ruminative dimension were associated with more depressive symptoms, and higher scores on the distracting dimension were associated with fewer depressive symptoms. Table 4 summarizes the regression results upon which these conclusions are based.

Discussion

The central issue addressed by this study was how emotional self-regulatory processes affect age and sex differences in depressive symptoms, that is, the extent to which such differences are a function of emotion management, emotional self-efficacy, and response style.

The results of the present study showed that younger adults experienced significantly more depressive symptoms than did their older counterparts. More specifically, post hoc comparisons of groups indicated that the older and middle-aged adults had significantly lower depression scores than the college-aged adults; and scatterplots and correlation coefficients revealed both linear and nonlinear relationships between depression and participants' age. From college age to middle age, depression steadily decreased and reached its lowest level in middle adulthood. At this point, depression levels stabilized. This finding is consistent with nontraditional views of aging—which focus more strongly on the resilience of elderly persons and the reduced prevalence of depression in old age (Lawton, Kleban, and Dean, 1993). It is inconsistent, however, with findings from many longitudinal studies reporting an age-related increase in depressive symptoms (Rothermund & Brandtstädter, 2003; Wallace & O'Hara, 1992).

Possible explanations for the contradictory results are that the present study used a cross-sectional design, whereas Rothermund & Brandtstädter (2003) and Wallace & O'Hara (1992) used longitudinal methods. Furthermore, this study measured level of depressive symptoms rather than clinical diagnoses of depression. In a cross-sectional design, there is a higher tendency for older adults to underreport symptoms (Lyness et al., 1995); and it has been shown that clinical diagnoses of depression are less sensitive to age-related changes than are depressive symptoms (Newman, 1989). One should also keep in mind that the observed age-related changes were not across a limited age range, but across the whole adult life span (18-87 years), enabling an analysis of age trends in the transition from one cohort to another. In studies that do not allow for analysis of

generational effects across the entire life span (i.e. covered age range is 54-77 years), curvilinear relationships often go undetected (Rothermund & Brandstädter, 2003).

In contrast to studies of sex differences in depression (Kornstein et al., 1995; Scheibe, Preuschhof, Cristi, & Bagby, 2003), no significant relationship between depressive symptoms and sex was obtained. In this study, sex differences, however, are sensitive to may have been affected by a number of influences including passage of time effects, assessment procedures, and sample selection. Findings suggest that higher rates of depression in females may be created or inflated by a sex difference in forgetting. Wilhelm and Parker (1994) reported a 'passage of time' explanation for sex differences in depression, whereby more distant episodes of depression were forgotten more by males than by females. Angst and Dobler-Mikola (1984) found rates of depression were greater for females than males only for more distant episodes of 3-12 months prior to a depression assessment. In the current study, participants were asked to recall the frequency with which they experienced various symptoms during the past month. Perhaps asking participants to recall depressive related information only from the past month, rather than from more distant episodes influenced the participants' responses in such a way that sex differences were not obtained.

Furthermore, the use of different depression assessment procedures may account for differences in findings. The DSM-III and Research Diagnostic Criteria for major depressive disorder require the presence of a number of symptoms associated with depressed mood (e.g. sleep disturbance, appetite or weight change, self-reproach) and almost universally yield different rates of depression in men and women (Lucht et al.,

2003; Scheibe et al., 2003; Silverstein, 1999). However, when the diagnostic criteria require only a depressed mood of sufficient duration and functional impairment, the measurement approach taken in this study, the symptoms count in women and men is equal (Lewinsohn, Seeley, Roberts, & Allen, 1997; McBride & Abeles, 2000; Salokangas, Vaahtera, Pacriev, Sohlman, & Lehtinen, 2002; Young et al., 1990; Wilhelm & Parker, 1994). Additionally, sex differences in depression are most apparent with respect to the recurrence rather than the first episode of depression. That is, most studies showing sex differences in depression examine lifetime prevalence of depression rather than point prevalence, the perspective taken in the current study (Kessler et al., 1993; Weissman, Leaf, Florio, & Holzer, 1991).

Additionally, failure to find sex differences not only in depression, but also in emotion management and response style may in part be a function of the special characteristics of the cohort. Cohort members were voluntary, demonstrated a high compliance rate, and the great majority of females maintained at least part-time employment. The absence of sex differences among these variables might suggest that insufficient role diversity had occurred or that sample members were protected by their socio-economic status (Wilhelm & Parker, 1994).

The one area in which sex differences were evident was on the measure of emotional self-efficacy. Compared to males, the females reported significantly higher efficacy beliefs in their ability to manage positive emotions, but lower perceived efficacy to manage negative emotions. These findings are consistent with Caprara and colleagues' (2000) emotional self-regulatory research among early adolescents. They

found that females showed stronger efficacy to express positive affect but weaker efficacy to manage negative affect. Further, the results suggest that females may be reluctant to express negative emotions (Cole, 1984; Jones, Eisenberg, Fabes & MacKinnon, 2002) not only because of cultural expectations which suggest that expressions of anger and other negative emotions are less acceptable in females than in males (Davis, 1995), but also because of their inefficaciousness to manage them.

The path analyses in this paper were conducted to test the tenets of social cognitive theory and its claims about self-efficacy. In the prediction of depressive symptoms, age emerged as a significant predictor; younger participants had greater depressive symptoms. However, the analyses showed that the effect of age on depression was largely indirect as age failed to contribute unique variance to the level of depressive symptoms after the other independent variables were entered: emotion regulation, emotional self-efficacy, and response styles to depression. Presumably, the greater number of depressive symptoms among younger cohorts was largely due to decreased ability to manage emotions, lower judgments of their capability to manage emotions, and greater use of ruminative responding rather than distracting responding.

The relation between emotion regulation and self-efficacy for managing negative emotions was positive and significant, lending support to self-efficacy theory's prediction that self-efficacy beliefs are based to some degree on mastery experiences. Individuals' beliefs that they can manage their negative emotions rest partly on their past successes in producing desired effects through their actions. In contrast, individuals who are beset by doubts about their emotion management

capabilities have few, if any, past experiences of feeling comfortable expressing angry feelings or preventing themselves from becoming overly saddened. They lack evidence that counteracts their expectancies of failure.

The effect of emotion regulation on self-efficacy for managing positive emotions was not significant. This was surprising given its strong effect on emotional self-efficacy for negative emotions. Previous studies, however, have reported that emotion regulation has a differential impact on positive and negative emotions. For example, Gross and Levenson (1997) found that suppression strategies had no impact on decreasing negative emotions, whereas suppressing positive emotions decreased the experiences of these emotions. In addition, several models of emotion have proposed that positive and negative emotion are separable and hence have unique relations to behavior (Larsen, McGraw, & Cacioppo, 2001; Russell, 1980; Watson & Tellegen, 1995). Current findings are quite consistent with these models which emphasize the separability of positive and negative valenced processes and the importance of analyzing their independent contributions.

The self-efficacy model also posits that selective processes should follow from self-efficacy, which then lead to positive outcomes—psychological adjustment in this study. These propositions were supported with respect to the relationships between emotional self-efficacy for positive emotions, but were not supported with respect to emotional self-efficacy for negative emotions. After response styles entry, the contribution of emotional self-efficacy for positive emotions no longer

contributed uniquely to the prediction of depressive symptoms. High self-efficacy to manage negative emotions, however, retained its significance as a predictor of depressive symptoms. These findings add to a growing body of evidence that individuals who have a high sense of efficacy select environments and strategies conducive to their well-being. Further, when individuals are in the midst of a stressful situation, those who have a firm belief in their positive emotion management capabilities are resourceful in promoting or diminishing engagement in activities that reduce their risk of despondency.

Although the results of the present study are theoretically compelling and have implications for interventions that could reduce depressive symptoms, limitations of the study must be acknowledged. First, the cross-sectional nature of the study confounds participants' age with their cohort membership. Thus, the question of whether depressive symptomatology and the use of ruminative responding is a function of age or a function of cohort-specific socialization and experiences cannot be answered definitively. Indeed, the fact that older adults make less use of ruminative responding may indicate a cohort-specific rather than a maturational effect, given that in recent decades the "I-we" balance has shifted and "victimology" has become our national ideology ("Depression," 1998). Older cohorts were socialized to develop relationships with their families, their communities, and their nation ("Depression," 1998). Their experiences promoted a small "I" and a big "we"—less focus on internal processes and a greater focus on the external world. Consequently, when faced with distressing situations, they were not inclined to ruminate about themselves or their failures. Conversely, younger cohorts have been

raised in an environment where the measures of individualism have been emphasized. Their experiences have promoted a big “I” and a small “we”—a high risk combination for ruminative responding and depression. Patterns of mental health service lend support to these assertions, as the use of primary care and specialty mental health services among older adults (age 65 and older) is significantly less than younger (18-29) and middle-aged adults (30-64) (Klap, Unroe, & Unutzer, 2003).

Second, although direct observation of emotion regulation and response strategies in real-life situations seems to be the most desirable assessment approach, this study used self-report measures. This represents an indirect assessment approach and the possibility that some of the findings may be method artifacts cannot be completely ruled out. Future studies might be designed to explore emotion regulation and response styles through diary and experience sampling methods. Such methods would enable researchers to examine when and where individuals experience specific emotions and attempt to use ruminative and distracting responding.

Third, life-span developmentalists have raised the question of whether the same tests or tasks assess the same dimensions or constructs across different age groups (Schaie, Willis, Jay, & Chipuer, 1989). However, there are no empirical studies that have assessed whether the ACS, ESE, and RSQ measure the same construct across different age groups. Thus, all age-comparative work employing these measures rests on the implicit assumption of measurement invariance across age groups, and future work is needed to determine whether this assumption is justified.

Further, hierarchical regression techniques do not prove either the existence or the direction of causal relationships. There may be other models that could explain the same data. The model was derived from theoretical considerations and the work of Bandura (1997), but there may be other models that could be tested by other researchers.

Furthermore, research investigating how self-efficacy for other domains of behavior interacts with emotional self-efficacy would serve as an important next step. Social and career decision self-efficacy have been shown to contribute to depression among college-aged persons (Smith & Betz, 2002) and perceived self-efficacy in the domain of memory becomes more salient to one's sense of successful adaptation to life events as one ages (Berry, 1999). Additional variance in depression may be accounted for by extending research efforts to explore how emotional self-efficacy acts in concert with other efficacy beliefs.

Moreover, broadening the self-efficacy analysis to explore intermediate variables other than response styles to depression represents another important future contribution to the literature. Bandura (1997) suggests that cognitive, affective, and motivational processes also play a mediating role in the impact of self-efficacy on depression. Future studies need to test these theoretical considerations by exploring other processes such as perceived difficulty to manage emotions, causal appraisals for successes and failures in managing emotions, and outcome expectancies that emotion management will produce valued outcomes.

Findings of the current study strengthen Bandura's claim that self-efficacy beliefs are key contributors to psychological adjustment and also lend support to researchers who

contend that the impact of age on well-being is positive and explained by a growth or maturity hypothesis rather than negative and explained by terms of decline and regression (Carstensen et al., 2000). Social cognitive theory offers a promising avenue through which to better understand depressive symptomatology, an avenue that can inform researchers and therapists about how they might pursue the work of building confidence and enhancing the emotional lives of individuals.

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Table 1

Demographic Characteristics by Age Group

| Variable | Age group | | | |
|------------------------------------|----------------|----------------|----------------|--------------|
| | 18-23 years | 24-39 years | 49-59 years | 60+ years |
| Sex (%) | | | | |
| Female | 58 | 58 | 55 | 55 |
| Male | 42 | 42 | 45 | 45 |
| Ethnicity (%) | | | | |
| European American | 90.8 | 72.4 | 86.3 | 86.1 |
| African American | 2.3 | 24.1 | 9.1 | 11.1 |
| Biracial | 2.3 | -- | -- | 2.8 |
| Asian American | 2.3 | 3.5 | 2.3 | -- |
| Latino | 2.3 | -- | 2.3 | -- |
| Education level (%) | | | | |
| High school or less | 9.3 | 10.3 | 9.1 | 30.5 |
| Some college | 86.0 | 17.2 | 22.7 | 13.9 |
| College degree | 4.7 | 44.8 | 34.1 | 27.7 |
| Some postgraduate | -- | 4.5 | 4.5 | 11.1 |
| Graduate or professional degree | -- | 17.2 | 29.6 | 16.8 |

Table 2

Overall Correlations Among Measures of Emotion Regulation, Emotional Self-Efficacy, Response Style, and Depression

| Variables | Age | Emotion Regulation | ESE-P | ESE-N | Rumination | Distraction | Depression |
|---|-----|-----------------------|-------|--------|------------|-------------|------------|
| 1. Age | -- | .04 | .02 | .15 | -.47*** | -.05 | -.37*** |
| 2. Emotion Regulation | | -- | .08 | .30*** | -.32*** | -.01 | -.35*** |
| 3. Emotional Efficacy Positive (ESE-P) | | | -- | .33*** | -.17* | .38*** | -.33*** |
| 4. Emotional Efficacy Negative (ESE-N) | | | | -- | -.37*** | .23*** | -.60*** |
| 5. Rumination | | | | | -- | .07 | .66*** |
| 6. Distraction | | | | | | -- | -.19* |
| 7. Depression | | | | | | | -- |

*p < .05, *** p < .01

Table 3

Means, Standard Deviations, Age and Gender Comparisons for Measures of Emotion Regulation,

Emotional Self-Efficacy, Response Style, and Depression

| Scale | Age Group | Females | | Males | | Total | | F-value | |
|-----------------------------|-------------|---------|--------|-------|--------|-------|--------|----------|--------|
| | | M | (SD) | M | (SD) | M | (SD) | Age | Sex |
| Emotion Regulation | 18-23 years | 4.20 | (.40) | 4.33 | (.24) | 4.35 | (.34) | 1.74 | .38 |
| | 24-39 years | 4.46 | (.38) | 4.43 | (.47) | | | | |
| | 40-59 years | 4.39 | (.31) | 4.39 | (.24) | | | | |
| | 60+ years | 4.32 | (.41) | 4.36 | (.35) | | | | |
| Emotional Efficacy Positive | 18-23 years | 4.28 | (.46) | 4.21 | (.62) | 4.22 | (.54) | .37 | 9.45** |
| | 24-39 years | 4.25 | (.37) | 4.02 | (.43) | | | | F>M |
| | 40-59 years | 4.45 | (.58) | 4.07 | (.49) | | | | |
| | 60+ years | 4.39 | (.50) | 3.99 | (.66) | | | | |
| Emotional Efficacy Negative | 18-23 years | 3.08 | (.66) | 3.55 | (.59) | 3.43 | (.61) | 3.56* | 5.40* |
| | 24-39 years | 3.13 | (.63) | 3.51 | (.59) | | | CA<MA | F<M |
| | 40-59 years | 3.68 | (.56) | 3.69 | (.47) | | | | |
| | 60+ years | 3.37 | (.63) | 3.43 | (.52) | | | | |
| Rumination | 18-23 years | 2.35 | (.62) | 1.89 | (.52) | 1.76 | (.56) | 11.36*** | 2.27 |
| | 24-39 years | 1.86 | (.60) | 1.71 | (.53) | | | C>YA | |
| | 40-59 years | 1.60 | (.32) | 1.61 | (.55) | | | C>MA | |
| | 60+ years | 1.45 | (.25) | 1.53 | (.51) | | | C>OA | |
| Distraction | 18-23 years | 2.59 | (.54) | 2.59 | (.48) | 2.50 | (.53) | 1.20 | 3.65 |
| | 24-39 years | 2.44 | (.58) | 2.32 | (.51) | | | | |
| | 40-59 years | 2.65 | (.43) | 2.40 | (.58) | | | | |
| | 60+ years | 2.56 | (.49) | 2.25 | (.62) | | | | |
| Depression | 18-23 years | 20.25 | (9.59) | 14.70 | (6.64) | 12.58 | (8.82) | 8.67 *** | .42 |
| | 24-39 years | 14.43 | (9.99) | 14.00 | (5.04) | | | OA<CA | |
| | 40-59 years | 8.33 | (5.75) | 10.35 | (7.28) | | | MA<CA | |
| | 60+ years | 9.84 | (7.81) | 10.25 | (7.89) | | | | |

Notes: F = female group, M = male group; CA = college-age group, YA = young adult group, MA = middle-age group, O = Older-age group

* p < .05. ** p < .01. *** p < .001.

Table 4

Summary of Hierarchical Regression Analysis for Variables Predicting Depression (N = 148)

| Variable | R^2 | ΔF | β |
|-----------------------------|--------|------------|---------|
| Step 1 | | | |
| Age | .17*** | 15.79*** | -1.31** |
| Age ² | | | .95* |
| Step 2 | | | |
| Age | .27*** | 20.02*** | -1.11** |
| Age ² | | | .75 |
| Emotion Regulation | | | -.31*** |
| Step 3 | | | |
| Age | .51*** | 34.47*** | -.78* |
| Age ² | | | .49 |
| Emotion Regulation | | | -.18** |
| Emotional Efficacy Negative | | | -.42*** |
| Emotional Efficacy Positive | | | -.18** |
| Step 4 | | | |
| Age | .63*** | 24.06*** | -.47 |
| Age ² | | | .35 |
| Emotion Regulation | | | -.09 |
| Emotional Efficacy Negative | | | -.30*** |
| Emotional Efficacy Positive | | | -.10 |
| Rumination | | | .44*** |
| Distraction | | | -.12* |

* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure Captions

Figure 1. Model of Self-Efficacy Theory

Figure 2. Conceptual model of Emotion Regulation, Emotional Self-efficacy and Response Styles impacting Depression

Figure 3. Path analysis of Emotion Regulation, Emotional Self-efficacy and Response Styles impacting Depression

Figure 4. Scatterplot of Age and Depressive Symptoms

Figure 5: Mean Depression Scores by Group

Figure Caption 1:
Model of Self-Efficacy Theory

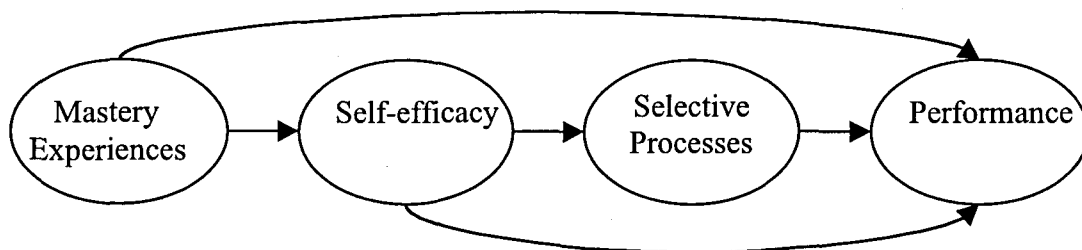


Figure Caption 2:

Conceptual model of Emotion Regulation acting in concert with Emotional Self-efficacy and Response Styles to affect Depression

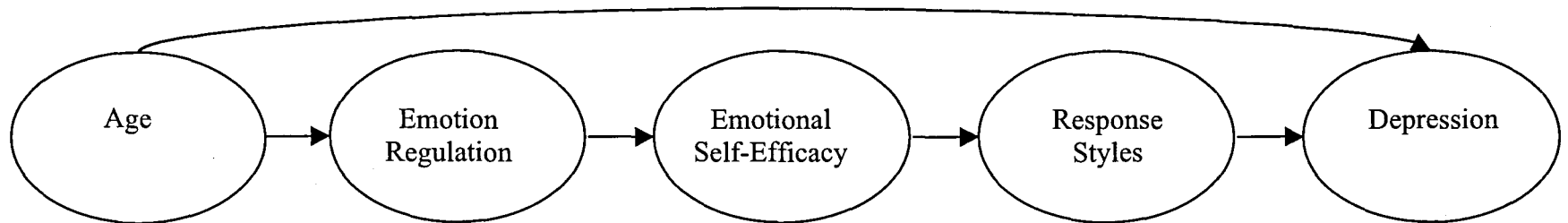


Figure Caption 3:

Path analysis of Emotion Regulation acting in concert with Emotional Self-efficacy and Response Styles to affect Depression

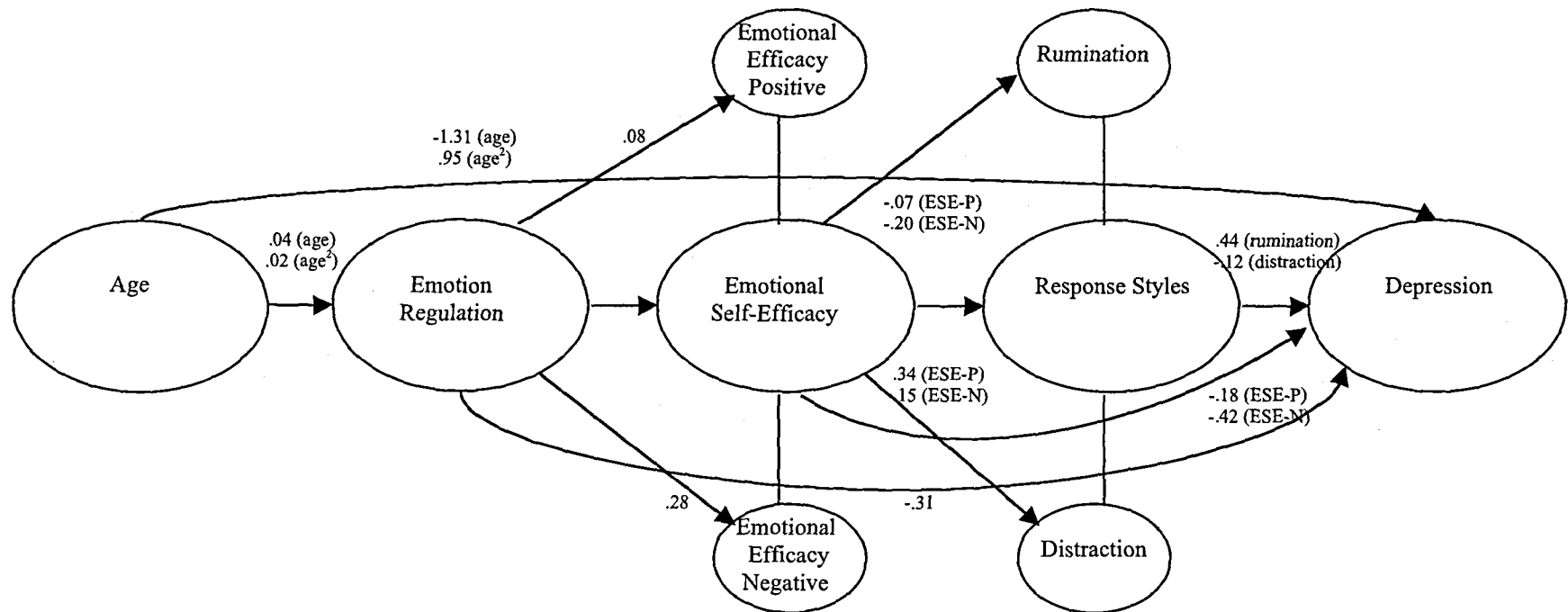


Figure Caption 4:

Scatterplot of Age and Depressive Symptoms

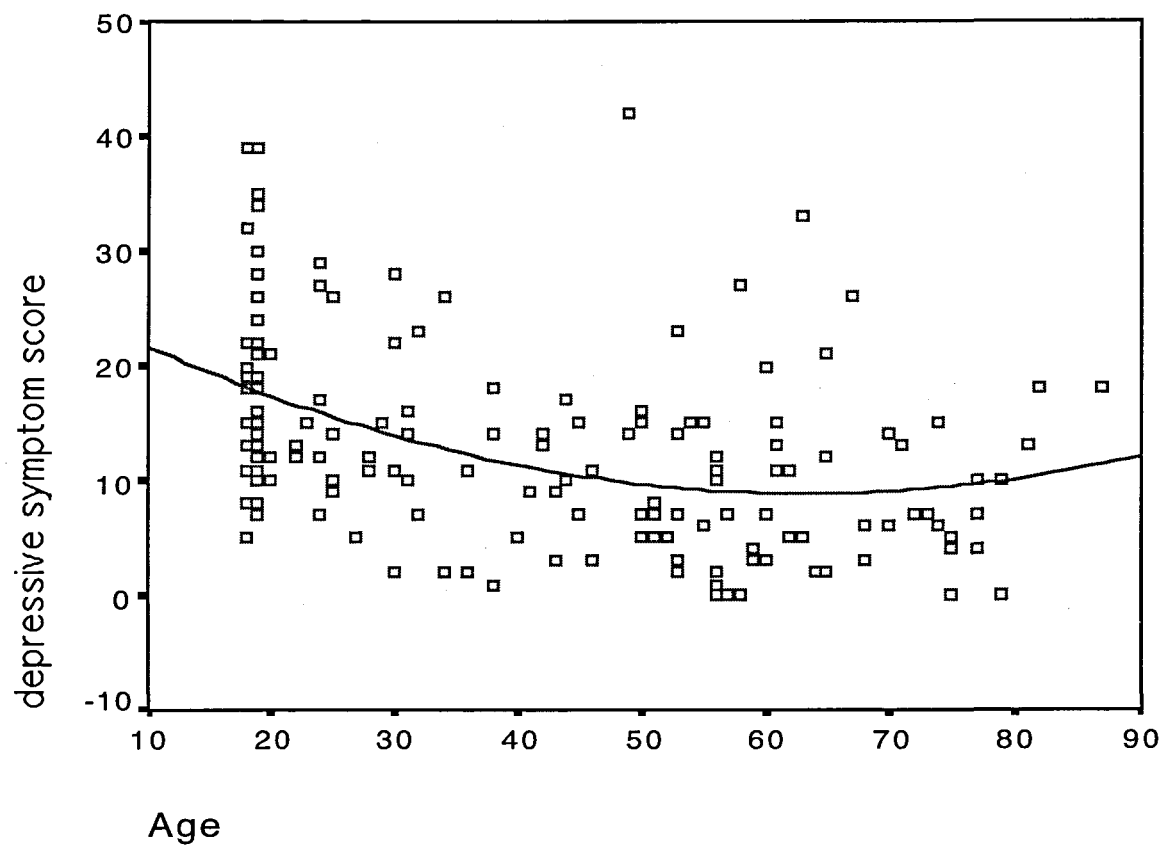
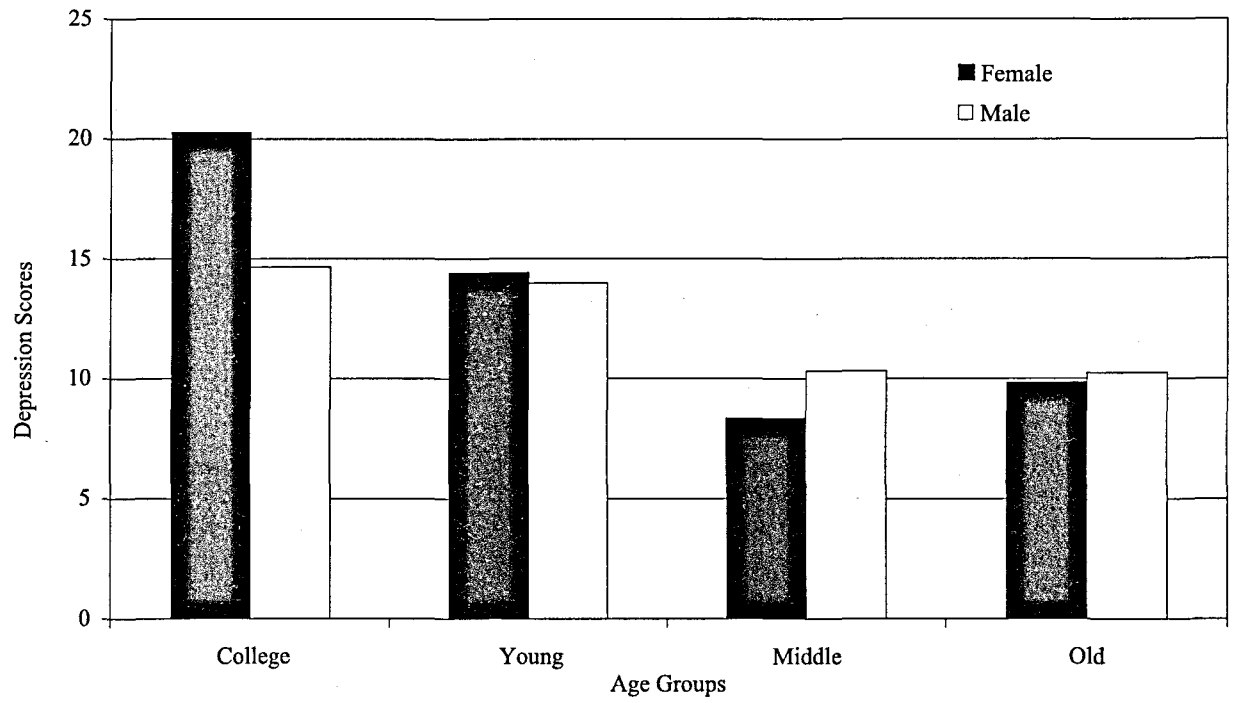


Figure Caption 5:
Mean Depression Scores by Group



Appendix A:

Participant Consent

Title of Investigation: Emotion

Please read the following statements and sign this form to signify that you have consented to participate in this study.

I _____ agree to participate in the research titled, "Emotion." I understand that my participation is entirely voluntary, and I can withdraw my consent at any time without penalty and have the results of the participation, to the extent that it can be identified as mine, returned to me, removed from the research records, or destroyed.

The following points have been explained to me: The reason for this research is to determine whether people differ in how they manage their emotions. The principal investigator is Brandyn Street, under the supervision of Dr. Jane Berry. The benefits that I may expect from it are the educational benefits of learning how scientific research is conducted. No risks or discomforts are foreseen.

If I have any questions concerning my rights as a research subject, I may contact the Chair of the University of Richmond's Institutional Review Board for the Protection of Research Participants at 804/289-8417. Furthermore, the principal investigator Brandyn Street can be reached at 804/287-6851.

I understand that any data or answers to questions will be aggregated and reported on a group level. **My name, however, will not be used;** therefore my survey responses will remain anonymous. The experimenter will answer any further questions about the research, now, during the course of the experiment, or at a later time. If I would like a copy of the completed research report stemming from this study, I may request one from Brandyn Street (brandyn.street@richmond.edu).

The **procedures** are as follows: You will be presented with a series of questionnaires. You should read the directions very carefully and complete all questions. Then, return the packet to the researcher.

Signature of investigator

Signature of Participant Date

Appendix B:

Demographics

Gender: ___ Female ___ Male

Age ___

Highest level of education:

___ High School Degree or less ___ Some college ___ College Degree

___ Some postgraduate education ___ Graduate or Professional Degree

Marital Status: ___ Single ___ Married ___ Divorced/Separated ___ Cohabiting

Ethnicity:

___ American Indian/Alaska Native

___ African American/Black

___ Mexican American/Chicano

___ Puerto Rican

___ Other Latino

___ Asian American/Asian

___ Native Hawaiian/Pacific Islander

___ White/Caucasian

___ Bi-racial

___ Other

What is your employment status?

___ Full-time ___ Part-time ___ Not employed ___ Retired

Please rate your current health compared to the general population

0 1 2 3 4 5 6 7 8 9 10
 Poor Average Excellent

Appendix C:

Center for Epidemiological Studies-Depression Scale

INSTRUCTIONS:

Below is a list of the ways you might have felt or behaved. Please indicate how often you have felt this way **during the past month** by circling your answer. Choose only one of the proposed options. To answer, use the following response scale:

- 0 = Rarely or none of the time
- 1 = Some or little of the time
- 2 = Occasionally or a moderate amount of the time
- 3 = Most or all of the time

During the Past Month:

1. I was bothered by things that usually don't bother me.

- 0 = Rarely or none of the time
- 1 = Some or little of the time
- 2 = Occasionally or a moderate amount of the time
- 3 = Most or all of the time

2. I did not feel like eating; my appetite was poor.

- 0 = Rarely or none of the time
- 1 = Some or little of the time
- 2 = Occasionally or a moderate amount of the time
- 3 = Most or all of the time

3. I felt that I could not shake off the blues even with help from my family or friends.

- 0 = Rarely or none of the time
- 1 = Some or little of the time
- 2 = Occasionally or a moderate amount of the time
- 3 = Most or all of the time

4. I felt that I was just as good as other people.

- 0 = Rarely or none of the time
- 1 = Some or little of the time
- 2 = Occasionally or a moderate amount of the time
- 3 = Most or all of the time

5. I had trouble keeping my mind on what I was doing.

- 0 = Rarely or none of the time
- 1 = Some or little of the time
- 2 = Occasionally or a moderate amount of the time
- 3 = Most or all of the time

6. I felt depressed.
- 0 = Rarely or none of the time
 - 1 = Some or little of the time
 - 2 = Occasionally or a moderate amount of the time
 - 3 = Most or all of the time
7. I felt that everything I did was an effort.
- 0 = Rarely or none of the time
 - 1 = Some or little of the time
 - 2 = Occasionally or a moderate amount of the time
 - 3 = Most or all of the time
8. I felt hopeful about the future.
- 0 = Rarely or none of the time
 - 1 = Some or little of the time
 - 2 = Occasionally or a moderate amount of the time
 - 3 = Most or all of the time
9. I thought my life had been a failure.
- 0 = Rarely or none of the time
 - 1 = Some or little of the time
 - 2 = Occasionally or a moderate amount of the time
 - 3 = Most or all of the time
10. I felt fearful.
- 0 = Rarely or none of the time
 - 1 = Some or little of the time
 - 2 = Occasionally or a moderate amount of the time
 - 3 = Most or all of the time
11. My sleep was restless.
- 0 = Rarely or none of the time
 - 1 = Some or little of the time
 - 2 = Occasionally or a moderate amount of the time
 - 3 = Most or all of the time
12. I was happy.
- 0 = Rarely or none of the time
 - 1 = Some or little of the time
 - 2 = Occasionally or a moderate amount of the time
 - 3 = Most or all of the time

13. I talked less than usual.
- 0 = Rarely or none of the time
 - 1 = Some or little of the time
 - 2 = Occasionally or a moderate amount of the time
 - 3 = Most or all of the time
14. I felt lonely.
- 0 = Rarely or none of the time
 - 1 = Some or little of the time
 - 2 = Occasionally or a moderate amount of the time
 - 3 = Most or all of the time
15. People were unfriendly.
- 0 = Rarely or none of the time
 - 1 = Some or little of the time
 - 2 = Occasionally or a moderate amount of the time
 - 3 = Most or all of the time
16. I enjoyed life.
- 0 = Rarely or none of the time
 - 1 = Some or little of the time
 - 2 = Occasionally or a moderate amount of the time
 - 3 = Most or all of the time
17. I had crying spells.
- 0 = Rarely or none of the time
 - 1 = Some or little of the time
 - 2 = Occasionally or a moderate amount of the time
 - 3 = Most or all of the time
18. I felt sad.
- 0 = Rarely or none of the time
 - 1 = Some or little of the time
 - 2 = Occasionally or a moderate amount of the time
 - 3 = Most or all of the time
19. I felt people disliked me.
- 0 = Rarely or none of the time
 - 1 = Some or little of the time
 - 2 = Occasionally or a moderate amount of the time
 - 3 = Most or all of the time
20. I could not get "going".
- 0 = Rarely or none of the time
 - 1 = Some or little of the time

Appendix D:
Response Style Questionnaire

INSTRUCTIONS

People think and do many different things when they feel depressed. Please read each of the items below and indicate whether you never, sometimes, often, or always think or do each one when you feel down, sad, or depressed. Please indicate what you *generally* do, not what you think you should do.

| Almost Never | Sometimes | Often | Almost Always | |
|--------------------------|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. think about how alone you feel |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. think "I won't be able to do my job/work because I feel so badly |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. think about your feelings of fatigue and achiness |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4. think about how hard it is to concentrate |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5. try to find something positive in the situation or something you learned |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. think "I'm going to do something to make myself feel better" |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7. help someone else with something in order to distract yourself |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8. think about how passive and unmotivated you feel |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9. remind yourself that these feelings won't last |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 10. analyze recent events to try to understand why you are depressed |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 11. think about how you don't seem to feel anything anymore |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 12. think "Why can't I get going?" |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 13. think "Why do I always react this way?" |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 14. go to a favorite place to get your mind off your feelings |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 15. go away by yourself and think about why you feel this way |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 16. think "I'll concentrate on something other than how I feel" |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 17. write down what you are thinking about and analyze it |

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 18. do something that has made you feel better in the past |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 19. think about a recent situation, wishing it would have gone better |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 20. think "I'm going to go out and have some fun" |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 21. concentrate on your work |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 22. think "Why do I have problems other people don't have?" |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 23. think about how sad you feel |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 24. think about all your shortcomings, failings, faults, mistakes |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 25. do something you enjoy |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 26. think about how you don't feel up to doing anything |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 27. do something fun with a friend |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 28. analyze your personality to try to understand why you are depressed |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 29. go someplace alone to think about your feelings |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 30. think about how angry you are with yourself |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 31. listen to sad music |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 32. isolate yourself and think about the reasons why you feel sad |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 33. try to understand yourself by focusing on your depressed feelings |

Appendix E:

Emotional Self-Efficacy Scale

INSTRUCTIONS

The following statements describe some common experiences. Please indicate how capable you feel you are in putting the specific behaviors into action by circling your answer. There are no "right" or "wrong" answers; the best answer is the immediate, spontaneous one. It is important to answer all questions by choosing only one of the proposed alternatives. To answer use the following response scale:

| 1 | 2 | 3 | 4 | 5 |
|---------------------------|-------------------------|-------------------------|---------------------|------------------------|
| Not at all capable | Not very capable | Somewhat capable | Very capable | Totally capable |

How well are you able to:**1. Rejoice over your successes**

| | | | | |
|--------------------|---|---|---|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| Not at all capable | | | | Totally capable |

2. Feel happy over a friend's success

| | | | | |
|--------------------|---|---|---|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| Not at all capable | | | | Totally capable |

3. Feel gratified over achieving what you set out to do

| | | | | |
|--------------------|---|---|---|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| Not at all capable | | | | Totally capable |

4. Avoid getting upset when others keep giving you a hard time

| | | | | |
|--------------------|---|---|---|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| Not at all capable | | | | Totally capable |

5. Get over irritation quickly for wrongs you have experienced

| | | | | |
|--------------------|---|---|---|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| Not at all capable | | | | Totally capable |

Page 2

6. Keep from getting discouraged by strong criticism

| | | | | |
|--------------------|---|---|---|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| Not at all capable | | | | Totally capable |

7. Express joy when good things happen to you

| | | | | |
|--------------------|---|---|---|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| Not at all capable | | | | Totally capable |

8. Reduce your upsetness when you don't get the appreciation you feel you deserve

| | | | | |
|--------------------|---|---|---|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| Not at all capable | | | | Totally capable |

9. Manage negative feelings when reprimanded by someone in authority

| | | | | |
|--------------------|---|---|---|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| Not at all capable | | | | Totally capable |

10. Have fun with casual acquaintances

| | | | | |
|--------------------|---|---|---|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| Not at all capable | | | | Totally capable |

11. Express enjoyment freely at parties

| | | | | |
|--------------------|---|---|---|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| Not at all capable | | | | Totally capable |

12. Stay calm in stressful situations

| | | | | |
|--------------------|---|---|---|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| Not at all capable | | | | Totally capable |

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13. Become enthusiastic when you listen to music that you like

| | | | | |
|--------------------|---|---|---|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| Not at all capable | | | | Totally capable |

14. Calm yourself in stressful situations.

| | | | | |
|--------------------|---|---|---|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| Not at all capable | | | | Totally capable |

15. Keep from getting discouraged in the face of difficulties

| | | | | |
|--------------------|---|---|---|-----------------|
| 1 | 2 | 3 | 4 | 5 |
| Not at all capable | | | | Totally capable |

CURRICULUM VITAE

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EDUCATION:

M.A., candidate, Psychology, University of Richmond, Richmond, Virginia

B.A., 2001, Psychology, Graduated Magna Cum Laude, Wake Forest University, Winston-Salem, North Carolina

RESEARCH EXPERIENCE:

Second Year Graduate Research 2003 - present: Jane Berry, Ph.D. at the University of Richmond, Age and Sex Differences in Emotional Regulation, Emotional Self-Efficacy, and Depression

First Year Graduate Research 2002 - 2003: Jane Berry, Ph.D. at the University of Richmond, Impact of Perceived Emotional Self-Efficacy on Depressive Symptoms; How Self-Efficacy and Response Styles Mediate the Effect of Optimism on Depressive Symptoms; Self-efficacy and task evaluation mediate age differences in word recall memory

Research Assistant 2000-2001: Julie Wayne, Ph.D. at Wake Forest University, Effect of Work Family Leave on Perceptions of Organizational Citizenship Behavior

Undergraduate Research 1999-2000: Catherine Seta, Ph.D. at Wake Forest University, Timing Effects and the Generation of Compensatory and Noncompensatory Expectancies

TEACHING EXPERIENCE:

Teaching Assistant: Adult Development Lab, University of Richmond, Fall 2003.

Instructor: Child Development, Richmond Montessori School, Summer 2003.

Teaching Assistant: Behavioral and Social Bases: Methods and Analyses, University of Richmond, Spring 2003.

Teaching Assistant: Introduction to Methods and Analyses, University of Richmond, Spring 2003.

Teaching Assistant: Adult Development, University of Richmond, Fall 2002.

CONFERENCE PRESENTATIONS:

Street, B. M. (2003, May). Impact of Perceived Emotional Self-Efficacy on Depressive Symptoms. Paper presented at the meeting of the American Psychological Society, Atlanta, Georgia.

Street, B. M., Guy, B. S., & Berry, J. M. (2003, March). Self-efficacy and task evaluation mediate age differences in word recall memory. Paper presented at the meeting of the Southeastern Psychological Association, New Orleans, Louisiana.

HONORS, AWARDS, GRANTS

Robert J. Filer Award - University of Richmond, 2004.

Austin E. Grigg and Helen W. Grigg Award - University of Richmond, 2004.

Outstanding First-year Graduate Student - University of Richmond, 2003

Thesis Research Grant - University of Richmond, 2003

Travel Grant: Awarded for travel to the APS annual meeting, 2003 - University of Richmond, 2003

Travel Grant: Awarded for travel to the SEPA annual meeting, 2003 - University of Richmond, 2003

First Year Research Grant – University of Richmond, 2002

PUBLICATIONS AND MANUSCRIPTS

Berry, J.M., & **Street, B.M.** (in press). Review of *Personal control in social and life course contexts*, (S. H. Zarit, L. I. Pearlin, & K. W. Schaie, Eds.), *Contemporary Gerontology*, New York, NY: Springer Publishing Company, Inc.

PROFESSIONAL AFFILIATIONS:

American Psychological Association
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Intern, Center for Creative Leadership, Greensboro, North Carolina, January 2000 - April 2000. Developed Frequently Asked Questions (FAQ's) and user instructions for the Internet based customizable 360-degree feedback instrument called 360 By Design.

Intern, Counseling Psychological Resources, Columbus, Ohio, May 1999 - July 1999. Assisted two psychologists with domestic violence therapy sessions.