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THE RELATIONSHIP BETWEEN ADOLESCENT DEPRESSION AND SOCIAL SKILLS IN YOUNG ADULTHOOD

by

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Abstract

This study investigated the relationships between a history of adolescent depression and social skills in young adulthood. Participants between the ages of 22 and 30 reported past and present experiences with depression and completed assessments of three aspects of social skills: emotional understanding, strength of social relationships, and interpersonal competence. Results indicated an association between current depression and social skills deficits but no main effect of adolescent depression on overall social skills. However, greater emotional understanding was associated with a history of adolescent depression. An earlier age of onset predicted stronger social relationships while length of depressive episode and time since episode showed no significant relationships with social skills. Male participants showed significantly weaker social skills than female participants overall and within depressed participants. Together, these findings suggest that past depression plays a limited role in social skills after recovery and point towards further research on the specific role of emotional understanding during and after depression.

Table of Contents

I Introduction 4

An Interpersonal Interpretation of Depression 9
The Scar Hypothesis and Effects of Past Depression 13
Current Study 18

II Method 21

Participants 21
Measures 22
Procedure 25

III Results 26

Treatment Usage 28
Scale Reliability 30
Adolescent Social Self Efficacy 30
Primary Hypotheses 31
Secondary Hypotheses 35

IV Discussion 37

V References 48

VI Appendices 60

Appendix A: Situational Test of Emotional Understanding 60
Appendix B: Adult Toolbox Social Relationship Scale 65
Appendix C: Interpersonal Competence Questionnaire 67
Appendix D: Adolescent Social Self Efficacy Scale 69
Appendix E: Beck Depression Inventory Revised 70
Appendix F: Adolescent Depression Questionnaire 73
Appendix G: Demographics Questionnaire 74

The Relationship Between Adolescent Depression and Social Skills in Young Adulthood

Approximately 11.2% of adolescents have experienced a depressive disorder by the age of 18, and the risk increases with age, as 7.4% of 13 and 14 year olds, 12.2% of 15 and 16 year olds, and a staggering 15.4% of 17 and 18 year olds have suffered from depression (Merikangas et al., 2010). In emerging adulthood, often the college years of an adolescent's life, the rates remain steady, with 11.1% of college students experiencing an episode of depression and 30% reporting feeling severe enough symptoms of depression to limit their daily functioning at some point during the year (American College Health Association, 2011). In comparison to the adult average depression rate of 16.5%, these numbers demonstrate the detrimental effect depression has on the lives of millions of adolescents in the United States each year (Kessler et al., 2005).

An episode of depression during adolescence will follow an individual through life. Numerous studies have found correlations between adolescent depression and negative adult mental health and social outcomes (Bardone, Moffitt, Caspi, Dickson, & Silva, 1996; Bohman et al., 2010; Franko et al., 2005; Jonsson et al., 2010; Jonsson et al., 2011a; Jonsson et al., 2011b; Keenan-Miller, Hammen, & Brennan, 2007; Paradis, Reinherz, Giaconia, & Fitzmaurice, 2006; Reinherz, Giaconia, Hauf, Wasserman, & Silverman, 1999; Rohde, Lewinsohn, & Seeley, 1994). Past research has focused on the negative outcomes in adulthood of a history of adolescent depression, but has not yet investigated the behavioral and cognitive processes that lead from depression, through remission, to these negative outcomes and behaviors in young adulthood. The present study will attempt to shine a light on one of these behavioral processes by investigating

the relationship between past adolescent depression and social skills deficits in young adulthood.

Depression is a pervasive and debilitating disorder. It is the second leading cause of admissions to mental hospitals, after schizophrenia, and has been estimated to have five times the prevalence outside of hospitals (Beck & Alford, 2009). The disorder is characterized by prolonged depressed mood, diminished interest in activities, significant weight loss or gain, insomnia or over-sleeping, agitation or psychomotor retardation, fatigue, feelings of worthlessness, diminished ability to concentrate, and suicidal thoughts (American Psychiatric Association, 2013). Although these are the diagnostic symptoms of depression, the effects of these symptoms on individuals' lives are equally severe. Social and family relationships can be tested or destroyed, school or work can be strongly adversely affected, and the emotional turmoil for those closest to the depressed person can have significant effects on their own mental health and well-being (Benazon & Coyne, 2000; Bottorff, Oliffe, Kelly, Johnson, & Carey, 2014; Coyne, et al., 1987; Gotlib & Beatty, 1985). Clinical depression affects millions of people worldwide directly, and countless more indirectly through family, friends, and coworkers (Ingram, 2009).

Adolescent depression follows the same diagnostic criteria and presents essentially the same symptoms; however, it is distinct in its manifestation in a few key ways (Bhatia & Bhatia, 2007). Depression in adolescence often follows a chronic, waxing-and-waning course and comes with a strong risk for reoccurrence of depression in adulthood (Pine, Cohen, Cohen & Brook, 1999). Although the symptoms are essentially the same as in adulthood, symptom expression may vary depending on the developmental stage (Bhatia & Bhatia, 2007). For example, many adolescents present

with angry or hostile behavior caused by their irritable mood. Adolescent depression often has comorbidity with another mental disorder, the most common of which are dysthymic disorder, anxiety disorders, attention-deficit/hyperactivity disorder, oppositional defiant disorder, and substance use disorder (Bhatia & Bhatia, 2007). Adolescent depression is also strongly associated with low social self-efficacy (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999; Ehrenberg & Cox, 1991). Social inefficacy in adolescents has been shown to contribute to concurrent and subsequent depression directly and through its impact on academics, pro-social behavior, and problem behavior (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999). Low social self-efficacy was found to accompany high depression both concurrently and one year following remission (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999).

Depression affects all types of people, but it does not strike equally. Women are twice as likely as men to experience depression with a lifetime prevalence rate of 21.3% compared to 12.7% for men (Nolen-Hoeksema, 2001). The cause of this strong gender difference is unknown, but a number of biological and environmental factors have been theorized to affect women more than men. Three possible factors that may be affecting the occurrence of depression in women are low sense of mastery, engagement in ruminative coping, and more frequent experience of chronic negative circumstances (Nolen-Hoeksema, Larson, & Grayson, 1999). A number of studies have focused on the lower societal status of women as a cause, demonstrating that because women experience certain traumas more often than men and face more adversity from society, they are more vulnerable to depression (Nolen-Hoeksema, 2001). Other studies have focused on

biological factors, proposing that women have different biological responses and coping styles to stressors (Nolen-Hoeksema, 2001).

The gender differences in the occurrence of depression begin to occur for girls during puberty and reach the same rate as in adult women by the age of 15 (Nolen-Hoeksema & Girgus, 1994). According to the Substance Abuse and Mental Health Services Administration (SAMHSA), an annual average of 1.4 million adolescent girls from the ages of 12 to 17 experience a major depressive episode (Department of Health and Human Services, 2012). Nolen-Hoeksema and Girgus (1994) proposed three reasons for the absence of this gender difference before adolescence: (1) there are different causes of depression in boys and girls and the causes become more prevalent for girls in early adolescence than for boys, (2) the causes are the same for boys and girls but these causes become more prevalent for girls in adolescence, or (3) girls are more likely than boys to carry risk factors for depression even before adolescence but these risk factors are not manifested into challenges until adolescence. Whatever the factors active in the cause of depression in women may be, they are significantly affecting the mental health capacities of depressed women and thus would be expected to affect how women recover from a depressive episode.

Gender and other qualities of a depressive episode, such as length of episode and age of onset, can affect the manifestation, recovery, and remission of depression. Gender has a significant impact on the manifestation of depression with higher incidence rates and more chronic courses of depression in females (Essau, Lewinsohn, Seeley, & Sasagawa, 2010). However, in a longitudinal study from ages 14 to 18, Derdikman-Eiron and colleagues (2012) found that depressed boys’ functioning was impaired to a larger

extent than girls'. After remission, boys still had more behavior and academic problems, less frequently met friends, and reported lower subjective well-being and self-esteem than boys who had no symptoms at both time points (Essau, Lewinsohn, Seeley, & Sasagawa, 2010). No similar differences were found among female participants. These results imply that remission and recovery is more difficult for males and leaves more lingering symptoms of depression.

Length of depressive episodes also plays a role in recovery. Longer episodes of depression have been shown to respond less to treatment and have significantly longer recovery times (Kelsey, 2004). Shea and colleagues (1996) found an association between the number and length of episodes experienced and increased levels of emotional reliance and introversion. Studies regarding the effects of onset age on the manifestation, recovery, and remission of depression focus on pre-adult versus adult, and young adult versus older adult comparisons. In a comparison of adult and pre-adult participants, Whiteford and colleagues (2012) found that child and adolescent participants were associated with higher probability of remission than adult participants. One study examined young adolescents versus older adolescent or emerging adulthood age of onset. In a sample of 14 to 17 year olds with a follow up at age 30, Essau, Lewinsohn, Seeley, and Sasagawa (2010) found that an earlier age of onset predicts more depressive episodes in both genders and a worse course of depression in females. Together, these studies indicate that although earlier age of onset increases likelihood of remission it also increases likelihood of subsequent episodes. These three characteristics of a depressive episode prove to have significant effects on its recovery and remission.

An Interpersonal Interpretation of Depression

Impairments in social relationships and interactions play a major role in the trajectory of depression as one of the key behavioral deficits associated with the disorder. Two major theories of depression, the Social Skills Deficit Hypothesis and the Interactional Model of Depression, explain the disorder through a social model. Lewinsohn, Weinstein and Shaw first proposed the preliminary ideas of the Social Skills Deficit Hypothesis in a 1969 article. In this article they suggested that social skills were especially important in the development of depression and identified their role as aversive to people in the depressed person's environment, causing avoidance of the that person and thus further development of their depression. In a number of articles in the mid-1970s, Lewinsohn fleshed out the theory with an emphasis on the role of social skills deficits in maintenance of depressive behaviors and as an antecedent to the disorder (Lewinsohn, 1974a, 1974b, 1975). In the 1980s, Lewinsohn, Hoberman, and Hautzinger (1985) made a significant change to the theory by declaring that many of the social skills deficits shown in depressed individuals are a consequence of depression rather than a cause of the disorder.

James C. Coyne proposed his Interactional Model of Depression in 1976 as a counter-theory to the previous assumption that depressed people are impervious to the influence of others. Previous theorists believed that depression limited a person from being responsive to the communication of others. Coyne proposed that depression does come with the ability to engage with others, only in a way that causes them to lose support and increases their depressive thought process. This negative pattern leads to the strengthening of depression and the social behaviors associated with the disorder. Coyne

posits that many of the characteristics of depression are influenced equally by both environmental interaction and cognitive distortions, as opposed to the previous view that these characteristic came solely from the latter. Both Coyne and Lewinsohn's theories illustrate the significance of social skills and interaction in the etiology and maintenance of depression. This significance serves as the rationale for the study of social skills deficits in the present study.

For the purposes of this study, social skills are defined as the ability to accurately perceive and interpret social situations – emotional understanding, maintain strong social relationships – strength of social relationships, and have high self-efficacy in one's ability to positively handle social situations – interpersonal competence. A significant body of research has found a strong association between depression and deficits in interpersonal functioning and social skills. Research focusing on the perception and discrimination of facial expressions in depressed participants has indicated a deficit in interpersonal perception abilities. Specifically, a number of studies found that depressed participants show a negativity bias in the recognition of emotions depicted in facial expressions (Jermann, van der Linden, & D'Argembeau, 2008; Matthews & Antes, 1992; Ridout, Astell, Reid, Glen, & O'Carroll, 2003; Suslow & Junghanns, 2001). Other studies produced data supportive of higher inaccuracy of facial expression recognition in depressed participants (Asthana, Mandal, Khurana & Haque-Nizamie, 1997; Persad & Polivy, 1993; Rubinow & Post, 1992). But, one study found that while depressed patients were equally accurate as non-depressed participants in their recognition of facial expressions, they were significantly slower in detection (Cooley & Nowicki, 1989). These studies demonstrate that abnormal recognition of facial emotions is related to

depression whether that abnormality be a negativity bias, higher inaccuracy, or slower detection. They also demonstrate the inability to accurately perceive social cues, the first facet of social skills.

Other research on social skills deficits in depression has focused on interpersonal problem solving skills. Gotlib and Asarnow (1979) used the Means-Ends Problem-Solving Procedure with depressed and non-depressed college students and found a significant negative correlation between depression and interpersonal problem-solving ability. D'Zurilla, Chang, Nottingham and Faccini (1998) also found a correlation between depression and problem solving deficits by using the Social Problem Solving Inventory-Revised. Two other studies employed observation of face-to-face interactions to assess social skills. Libet and Lewinsohn (1973) assessed both the ability to emit behaviors that are positively reinforced and to not emit behaviors that are punished by others. They found that using this definition of social skills, depressed participants were significantly more impaired than non-depressed controls. Borden and Baum (1987) found that depression was significantly correlated with a number of social behavior deficits including initiating less conversation, discussing personal problems and somatic concerns with a stranger, and abruptly changing topics. Two other facets of social skills are demonstrated to be impaired in depression in the previous studies: social problem solving abilities and the ability to interact with others in a socially accepted manner.

A section of the research has focused on marital problems associated with a history of depression. A sizeable number of studies have found that depression in one or more spouses is significantly related to marital problems (Bouras, Vanger, & Bridges, 1986; Byrne & Carr, 2000; Harper & Sandberg, 2009 ; Mead, 2002; Merikangas, 1984;

Sandberg & Harper, 1999). Two studies demonstrated that this effect is significantly stronger when both spouses are depressed than when only one spouse is depressed (Harper & Sandberg, 2009; Merikangas, 1984). Harper and Sandberg (2009) found depression to specifically affect impairments in affective communication and problem solving processes of marriages. Byrne and Carr (2000) found that this marital discord is influenced by the power dynamic often associated with depression: couples containing a depressed female partner showed less constructive and more problematic power processes than control couples. These studies demonstrate the diminished ability to maintain strong social relationships, the second facet of social skills.

Another aspect of the social skills research utilizes self and other ratings to measure social skills abilities or deficits. Three studies have found that depressed participants are rated significantly more negatively than non-depressed participants in both self-ratings and ratings completed by the other participants (Chau & Milling, 2006; Lewinsohn, Mischel, Chaplin & Barton, 1980; Youngren & Lewinsohn, 1980). Lewinsohn, Mischel, Chaplin and Barton (1980) also found that depressed participants were more realistic in their self-ratings while non-depressed participants tended to over-estimate their social abilities. Gotlib and Meltzer (1987) also found significantly more negative self-ratings in depressed participants than in non-depressed participants but found no significant differences in others' ratings of the participants. As they utilize self-report measures, these studies demonstrate the low social efficacy of depressed persons, the third facet of social skills.

These three groups of studies present evidence supporting the Social Skills Deficit Hypothesis and Interactional Model of Depression by illustrating the strong presence of

social skills deficits in depression. However, they fail to illustrate how social skills deficits affect functioning after depressive symptoms have subsided.

The Scar Hypothesis and Effects of Past Depression

The scar hypothesis was developed in the early 1980s as an alternative explanation to models of depression that proposed that cognitive and behavioral deficits play a role in the cause of depressive episodes (Ingram, 2009). The cognitive and behavioral deficits in depression include negative or distorted thinking, difficulty concentrating, distractibility, forgetfulness, reduced reaction time, memory loss, indecisiveness, and impaired social skills (Hartlage & Clements, 1996). Lewinsohn, Steinmetz, Larson, and Franklin (1981) proposed the Scar Hypothesis in their study on the timeline of depression-related cognitions. The essential idea behind the theory is that an episode of depression acts like a wound on a person's mental health. During the episode, the depression cuts deep and significantly impacts certain cognitive and social abilities. As the wound of depression heals, the deficits decrease. However, the key to the scar hypothesis is that although the deficits caused by depression have decreased in severity, they will never fully return to their previous state, just as a severe wound on the skin may always appear as a scar. In more technical terms, regardless of whether cognitive deficits precede depression, such deficits are a more or less permanent effect of an episode of depression. The scar hypothesis moved away from the previous school of thought that cognitive and behavioral deficits in depression were a cause of the disorder rather than the effects (Ingram, 2009).

The Scar Hypothesis has been supported by a number of studies that examine a broad range of depression's long term effects. Many of these studies demonstrate overall poorer social functioning in participants with a history of depression but no current symptoms than in those who have never experienced depression, and similar or worse social functioning than participants who are currently experiencing depression (Bothwell & Weissman, 1977; Bromberger, et al., 2005; Rohde, Lewinsohn, & Seeley, 1990; Rohde, Lewinsohn, & Seeley, 1990; Tweed, 1993). Bromberger and colleagues (2005) also found lasting physical effects of depression including high body pain and back pain in women with a history of depression. Other studies found evidence of depression leaving scars in mood dysfunction (Abela, Auerbach, Sarin, & Lakdawalla, 2009; Bromberger, et al., 2005; Coffer & Wittenborn, 1980; O'Grady & Tennen, 2010). Coffer and Wittenborn (1980) found that women with a history of depression showed an unhappy outlook, narcissistic vulnerability, and low self-esteem. O'Grady and Tennen (2010) demonstrated that participants with a history of depression showed steeper declines in positive mood during stress than participants with no experience with depression.

A few studies illustrated the presence of scars on participants' abilities to handle problems and stress including increased anxiety sensitivity (Cassin & Neil, 2012), poorer family functioning, (Herr, Hammen, & Brennan, 2007) and higher reactivity to stress (Husky, Mazure, Maciejewski, & Swendsen, 2008). These articles demonstrate the presence of the Scar Hypothesis in previously depressed persons through depression's lasting effects on social functioning, mood, and problem solving. Most importantly to the

present study, they illustrate that poor social functioning, or social skills deficits, can act as a scar on post-depression mental health.

Research supporting the Scar Hypothesis has also identified the phenomenon in adolescence, producing a number of studies focusing on the long term effects and correlations of an episode of adolescent depression. The most significant finding from these studies is that adolescents who experience depression are at a high risk for reoccurrence of depression in young adulthood (Bardone, Moffitt, Caspi, Dickson, & Silva, 1996; Bohman et al., 2010; Franko et al., 2005; Jonsson et al., 2011b; Paradis, Reinherz, Giaconia, & Fitzmaurice, 2006; Reinherz, Giaconia, & Fitzmaurice, 2006; Rohde, Lewinsohn, & Seeley, 1994). Each of these studies also found strong correlations between adolescent depression and other mental health disorders in adulthood, most commonly affective or anxiety disorders, and general poor psychological functioning. Two studies found evidence of significant tobacco dependence in young adults with a history of adolescent depression (Franko et al., 2005; Rohde, Lewinsohn, & Seeley, 1994). Another two found alcohol dependence in the same population, although Bohman and colleagues only found this relationship in male participants (Bardone, Moffitt, Caspi, Dickson, & Silva, 1996; Bohman et al., 2010).

Other studies found significant rates of interpersonal problems in individuals with a history of adolescent depression. A longitudinal study that followed participants from early childhood to early adulthood (Reinherz, Giaconia, & Fitzmaurice, 2006) tracked risk prevalence and functioning. Results indicated that participants who developed depression in late adolescence demonstrated poorer psychosocial functioning, specifically in terms of interpersonal problems and need for social support. In a 15-year longitudinal

study that followed participants from the ages of 15 and 16 to their early thirties, Jonsson and colleagues (2011a) investigated the connection between adolescent depression and intimate relationships and childbearing in adulthood. They found that female participants with a history of adolescent depression were more likely to report abortion, miscarriage, intimate partner violence and sexually transmitted diseases than the female control participants. They also engaged in a higher number of intimate relationships and were more likely to have been divorced. In a longitudinal study investigating young adult functioning in participants with active and past depression, Paradis and colleagues (2006) found significant deficits in psychosocial functioning in individuals with both past and current depression. Specifically, participants with active and past depression had significantly greater interpersonal problems, need for social support, and dissatisfaction with social support compared the healthy controls. Lastly, a few studies found higher rates of school problems, including drop out, in participants with a history of adolescent depression (Bardone, Moffitt, Caspi, Dickson, & Silva, 1996; Franko et al., 2005; Jonsson et al., 2010). The literature on the Scar Hypothesis in adolescence and young adulthood demonstrates the negative outcomes that are correlated with a history of adolescent depression such as subsequent psychological disorders, substance abuse, interpersonal problems and academic issues. However, what these studies do not identify are the cognitive and behavioral deficits that Lewinsohn proposed would be carried over into remission by psychological scars. These cognitive and behavioral scars likely led to the negative outcomes apparent in this body of research but have as yet to be identified empirically.

One possible reason that adolescent depression has such a significant effect on the outcomes of young adulthood could be the critical nature of adolescence in the role of development. Adolescence serves as a transition to adulthood and is one of the most critical junctures in development because of the pervasive contextual and social role changes that define it (Schulenberg, Sameroff, & Cicchetti, 2004). At this time in development, patterns and habits are established that will likely carry into adulthood, affecting the way we work, think, and interact with others. Most importantly to this study, the stressors that occur during this transition period can contribute to the expression or manifestation of psychological disorders that may lay dormant before adolescence (Schulenberg, Sameroff, & Cicchetti, 2004).

The cognitive vulnerability model of depression posits that maladaptive self-schemas of helplessness and lack of lovability become activated by negative life events or negative moods (Beck, 2009). Many cognitive vulnerability models include a vulnerability-stress paradigm where stressors increase the risk for activation of emotional disorders (Beck, 2009). Cognitive vulnerabilities become especially present in adolescence. Alloy, Abramson, Walshaw, Keyser, and Gerstein (2006) suggested that increases in brain maturation and executive functioning paired with enhanced behavioral stress-sensitivity during adolescence work within the cognitive vulnerability-stress model to explain the high-risk for emotional disorders in adolescence. In a review of the empirical evidence of the cognitive vulnerability model in adolescents, Jacobs, Reinecke, Gollan, and Kane (2008) argued that adolescents as a cohort possess the cognitive prerequisites for vulnerabilities to depression, which, in interaction with the stress of the adolescent transition, can result in depressive disorders. Steinberg (2005) brings a

neuropsychological perspective to the issue by arguing that the impact of puberty on adolescents before the maturation of the frontal lobes is complete may create a period of heightened vulnerability which causes the increased potential for adolescent emotional and behavioral problems.

Further research has shown that early pubertal timing in adolescents is associated with the development of depression (Hamilton, Hamalt, Stange, Abramson, & Alloy, 2014; Hamlat, Stange, Abramson, & Alloy, 2013). However, many of these studies have demonstrated the association in female, but not male, adolescents (Copeland et al., 2010; Graber et al., 1997; Hayward et al., 1997). Research suggests that adolescent females are significantly more likely to be depressed in young adulthood than on-time and late maturers (Copeland et al., 2010). Petersen and Taylor (1980) proposed the deviancy hypothesis to explain this phenomenon, positing that the psychological impact stems from the social context of their physical deviance.

In this study, I propose that the critical nature of development in adolescence adds to the lasting nature of the negative effects of depression on future psychological health. Applying the Scar Hypothesis to the evidence of cognitive vulnerabilities in adolescence, we can posit that scars left by depression in adolescence would have a deeper and longer lasting impact than those left on a fully developed adult.

Current Study

The aim of the current study is to investigate whether the occurrence of a depressive episode during adolescence is associated with social skills deficits in young adulthood. In other words, does the experience of depression at such a critical time of

development lead to the persistence of depressive social skills deficits through young adulthood? Past research has focused on the negative outcomes in adulthood of a history of adolescent depression, but has not yet investigated the behavioral and cognitive processes that lead from depression, through remission, to these negative outcomes and behaviors in young adulthood. Understanding these behavioral and cognitive deficits that result from an episode of adolescent depression, and most likely play a role in leading to the negative life outcomes associated with a history of adolescent depression, is vital to developing prevention and treatment programs to help adolescents who have suffered from depression transition to adulthood. The current study will begin to fill this gap in the research by investigating one of these mechanisms, social skills deficits, which was chosen for its importance in the development and maintenance of depression, as illustrated by the Social Skills Deficit Hypothesis and the Interactional Model of Depression.

For the purposes of this study, social skills are defined in terms of three facets: the ability to accurately perceive and interpret social situations – emotional understanding, the skills to maintain strong social relationships – strength of social relationships, and high self-efficacy in one's ability to positively handle social situations – interpersonal competence. Measurements of these three variables will be tested in participants with and without a history of adolescent depression, and with and without current depressive symptoms, leading to four separate test groups. A correlational analysis will be used to look for relationships between social skills deficits and a history of adolescent depression as well as factors of the depressive episode such as age of onset, length of episode, time since episode, and gender.

First, it is predicted that, consistent with past research, social sills will be significantly lower in participants with current depressive symptoms than in participants with no or minimal current depressive symptoms. The primary hypothesis predicts that social skills will be significantly lower in participants with a history of adolescent depression than those without depression past or present. Combining the scar hypothesis and the evidence of adolescence as a critical juncture in development, I propose that the occurrence of depression at this essential time in development will cause a deep scar of social skills deficits from depression that will cause these deficits to carry through to young adulthood. Thus, social skills are expected to be significantly weaker in the adolescent depression/no current symptoms group than in the control group (no adolescent depression/no current symptoms), but not significantly weaker than in currently depressed participants, with or without a history of adolescent depression (adolescent depression/current symptoms and no adolescent depression/current symptoms) and participants who have both a history of depression and current symptoms are expected to have significantly lower social skills than those with current symptoms but no history of adolescent depression. Additionally, social skills are expected to decrease in relation to an earlier age of onset and length of depressive episode, and increase in relation to the length of time since remission of the depressive episode. Although no empirical studies have examined length of time since remission, it is only logical that a psychological scar will heal more with time, as a physical scar would. Lastly, it is predicted that social skills deficits will be more strongly correlated with male depressed and formerly depressed participants than with female depressed and formerly depressed participants based on the evidence from the study by Derdikman-Eiron and

colleagues (2012) that indicated that boys' functioning after depression is more impaired than girls'.

Method

Participants

176 young adult participants from the United States were recruited through Amazon's Mechanical Turk (MTurk) and various online forums including those targeted at discussing depression. MTurk is a crowd-sourcing internet marketplace that enables individuals or businesses to recruit people for tasks including research. Criteria required participants to be between the ages of 22 and 30 and permanently living in the United States. Of the 176 participants who began the study, 105 completed the survey from beginning to end. Those who opted to complete the survey through MTurk were compensated $0.50 for their time. All participants were treated within the APA Ethical Principles of Psychologists.

Participants were distributed somewhat evenly across the age range (M=25.49) with higher frequencies in the early and late twenties: 45.4% of participants were aged 22-24 (n = 50), 22.8 % were aged 25-27 (n = 25), and 31.8% were aged 28-30 (n = 35). Sixty-five women (59.1%) and 45 men (40.9%) participated. The sample was overwhelmingly White (n = 85, 77.3%) with minimal representation of other races (African American n = 10, 9.1%; Hispanic/Latino n = 3, 2.7%; Asian n = 5, 4.5%; Middle Eastern n = 2, 1.8%; mixed race n = 5, 4.5%). The majority of participants were either college educated (n = 46, 41.8%) or currently enrolled in college (n = 37, 33.6%). The rest of the participants either had a high school education (n = 14, 12.7%) or had

pursued master's (n = 9, 8.2%) or doctoral degrees (n = 4, 3.6%). The vast majority of participants were single (n = 84, 76.4%) while a smaller population were married (n = 20, 18.2%), and very few divorced (n = 6, 5.5%).

Measures

Situational Test of Emotional Understanding (STEU). The STEU (Appendix A) is a 42-item task designed to assess emotional understanding or interpersonal perception (MacCann & Roberts, 2008). Participants are asked to choose which of five emotions was most likely to result from a briefly described social situation. Answers are coded as correct (1) or incorrect (0) with only one possible correct answer for each item. Higher composite scores indicate stronger emotional understanding. The Situational Test of Emotional Understanding has demonstrated an average Cronbach's α of .71 (MacCann & Roberts, 2008). The test demonstrated convergent validity, correlating with a measure of emotional management (MacCann & Roberts, 2008). Test scores also predict lower levels of anxiety, depression, and stress (MacCann & Roberts, 2008).

Adult Toolbox Social Relationships Scale. The Adult Toolbox Social Relationships Scale (Appendix B) is a 37-item self-report scale designed to assess aspects of social support, companionship, and social distress (Cyranowski et al., 2013). The scale contains 8 statements regarding emotional support, 8 statements regarding friendship, 5 statements regarding loneliness, 8 statements regarding perceived rejection and 8 statements regarding perceived hostility. Participants are asked to decide how often each statement applied to them in the past month by rating each on a 5-point frequency scale (1 = never, 5 = always). Higher composite scores indicate higher quality of social

relationships. The scale was developed as part of the National Institute of Health (NIH) Toolbox for the Assessment of Neurological and Behavioral Function. Reliability was demonstrated with individual Cronbach's α scores for each of the six subsections ranging from .932 to .969 (emotional support α = .969; instrumental support α =.947; friendship α =.945; loneliness α =.939; perceived rejection α =.932; perceived hostility α =.941) (Cyranowski et al., 2013). Convergent validity was confirmed through cross-correlations with scores from social support, loneliness, and social distress validity scales (Cyranowski et al., 2013). Concurrent validity was demonstrated with correlations between the six subscales and three validation instruments (Cyranowski et al., 2013).

Interpersonal Competence Questionnaire (ICQ). The ICQ (Appendix C) is a 40-item self-report scale designed to asses five domains of interpersonal competence: initiating relationships, self-disclosure, asserting displeasure with others' actions, providing emotional support, and managing interpersonal conflicts (Buhrmester, Furman, Wittenberg, & Reiss, 1988). Participants are asked to rate personal abilities on 40 social actions, 8 in each of the five domains, on a 5-point scale (1 = I'm poor at this, 5 = I'm extremely good at this). Higher composite scores indicate higher interpersonal competence. The five dimensions of the scale demonstrated reliability with Cronbach's α ranging from .77 to .87 (initiating relationships, with friends α =.86, with dates α =.85; self-disclosure with friends and dates α =.82; asserting displeasure with friends' actions α =.85, with dates' actions α =.86; providing emotional support for a friend α =.86, for a date α =.87; managing interpersonal conflicts with friends or dates α =.77) (Buhrmester, Furman, Wittenberg, & Reiss, 1988). Concurrent validity was demonstrated through correlations with Levenson and Gottman's (1978) Dating and Assertiveness

Questionnaire and Jones and Russell's (1982) Social Reticence Scale (Buhrmester, Furman, Wittenberg, & Reiss, 1988). Discriminate validity was demonstrated with a number of scales (Buhrmester, Furman, Wittenberg, & Reiss, 1988).

Adolescent Social Self Efficacy Scale (S-EFF). The S-EFF (Appendix D) is a 25-item self-report scale designed to measure behavioral effectiveness in problematic peer contexts (Connoly, 1989). Each item describes an adolescent social action. Participants were asked to rate each description on a 5-point scale (1 = impossible to do, 5 = extremely easy to do) thinking about how their adolescent/teenage self would have answered. Higher composite scores indicate higher adolescent social self efficacy. The scale was found to be reliable in three sets of teenage participants with an average Cronbach's α = .77 (Connoly, 1989). Pearson correlations were computed between social self-efficacy, the four Perceived Competence Scale scores (Social Acceptance, Self-Worth, Cognitive, and Physical Competence) and the total score of the Self-Esteem Inventory (Connoly, 1989). Construct validity was demonstrated through correlations with self-concept and social adjustment ratings (Connoly, 1989). Additionally, emotionally disturbed adolescents showed significantly lower scores than their matched control group (Connoly, 1989).

Beck Depression Inventory Revised (BDI). The BDI (Appendix E) is a 21-item self-report scale designed to measure behavioral manifestations of depression (Beck et al., 1961). Each item assesses a different symptom of depression (mood, pessimism, sense of failure, lack of satisfaction, guilty feeling, sense of punishment, self-hate, self accusations, self punitive wishes, crying spells, irritability, social withdrawal, indecisiveness, body image, work inhibition, sleep disturbance, fatigability, loss of

appetite, weight loss, somatic preoccupation, loss of libido) by asking participants to chose from one of five descriptions of severity of that symptom. Answers are scored from 0 to 3 based on the statement chosen, with a 0 for no presence of the symptom, a 1 for a slight presence of the symptom, 2 for a consistent presence of the symptom, and 3 for frequent presence of the symptom. A total score of 0-10 indicates normal health, 11-16 mild mood disturbance, 17-20 borderline clinical depression, 21-30 moderate depression, and 31-40 extreme depression. The BDI has demonstrated high internal consistency and reliability with a Cronbach's α range of .73 to .92, M_{α}=.86 (Beck, Steer, & Garbin, 1988). Content, concurrent, discriminate, construct and factorial validity have also been demonstrated for the BDI (Beck, Steer, & Garbin, 1988).

Procedure

Recruitment advertisements on MTurk and online forums linked participants to the online survey. Participants completed an online survey at their own convenience through Survey Monkey, a website that provides software for researchers to create surveys and collect data anonymously online. After giving informed consent, participants were first asked to complete three scales that measure three facets of social skills: emotional understanding (Situational Test of Emotional Understanding), strength of social relationships (Adult Toolbox Social Relationships Scale), and interpersonal competence (Interpersonal Competence Questionnaire). These three social skill sets were used to represent social skills based on their prevalence in past research connecting depression and social skills deficits in these areas. Additionally, they cover all three

major areas of social interaction: how we perceive others, how we perceive ourselves, and how we interact with others.

After completing the three social skills measures participants completed the Adolescent Social Self Efficacy Scale (S-EFF). For this scale, participants were asked to answer retrospectively by thinking about how their adolescent selves would have felt. The last scale in the survey was the Beck Depression Inventory (BDI). After all five scales were completed, participants filled out a brief questionnaire regarding their history with adolescent depression (Appendix F). Specifically, participants were asked to disclose if they were ever diagnosed with depression between the ages of 12 and 22; at what age they were first diagnosed; the treatment they received, if any; and at what age they felt the majority of their symptoms went into remission. Lastly, participants were asked to complete a short demographic questionnaire (Appendix G) before being debriefed and thanked for their time and participation.

A correlational model was used to compare relationships between adolescent depression and social skills in young adulthood in the four groups formed by the 2x2 framework. The no history/no current group served as the comparison for the primary study group, history/no current, and the two secondary study groups, history/current and no history/current.

Results

Participants were coded into four groups based on a 2 (history of adolescent depression vs. no history of adolescent depression) X 2 (current depressive symptoms vs. no or minimal depressive symptoms) framework. Adolescent depression was determined

by participants' reports of a diagnosis. Participants were coded as currently depressed if they indicated a diagnosis and that their symptoms were currently present and/or if they scored 21 or higher on the Beck Depression Inventory. Thirty-four participants (30.9%) fit the targeted study characteristics: a history of adolescent depression and no or minimal current depressive symptoms, while 32 (29.1%) fit the comparison characteristics of no history of adolescent depression and no or minimal current depressive symptoms. The two secondary study groups, participants with a history of adolescent depression and current depressive symptoms and participants with no history of adolescent depression but current depressive symptoms contained 23 (20.9%) and 16 (14.5%) participants, respectively. Five participants had been diagnosed with depression in young adulthood and the majority of their symptoms were in remission. Therefore they did not fit into any of the four categories and were left out of the data analysis.

Figure 1 - *Participant Groups*

		CURRENT DEPRESSION	
		YES	NO
ADOLESCENT DEPRESSION	YES	Adolescent Depression; Current Symptoms	Adolescent Depression; No or Minimal Current Symptoms
	NO	No Adolescent Depression; Current Symptoms	No Adolescent Depression; No or Minimal Current Symptoms

Treatment Usage

Of the 110 participants, 68 (61.8%) indicated that they had been diagnosed with depression between the ages of 12 and 30. Ages of diagnosis were distributed fairly evenly across this age range (Table 2). Of those participants who disclosed a diagnosis, the majority had been treated with therapy (n = 52, 76.5%) and/or antidepressants (n = 56, 82.4%) and over half had used both therapy and antidepressants (n = 44, 64.7%). Data pertaining to less common treatment methods can be found in Table 1. A series of independent ANOVA tests found no significant effects of any treatment, current or past, on overall social skills, emotional understanding, strength of social skills, or interpersonal competence. Lengths of depressive episodes ranged from less than a year to 16 years with a mean of 4.6 years (Table 3). Time since remission in participants who were no longer experiencing depressive symptoms ranged from one year to 13 years with a mean of 1.96 years (Table 4).

Table 1

Treatment Methods of Participants Who Disclosed a Diagnosis of Depression

Treatment Method	%	N
Therapy	76.5	52
Antidepressants	82.4	56
Other Medication	11.7	8
Diet	7.4	5
Electro Convulsive Therapy (ECT)	2.9	2
Transcranial Magnetic Stimulation (TMS)	1.5	1
Exercise Therapy	1.5	1
Intensive Residential Treatment	1.5	1
Herbal Supplements	1.5	1
Yoga	1.5	1

Table 2

Age of Onset of Participants Who Disclosed a Diagnosis of Depression

Age of Onset	%	N
12	5.9	4
13	2.9	2
14	4.4	3
15	10.3	7
16	13.2	9
17	10.3	7
18	7.4	5
19	8.8	6
20	4.4	3
21	10.3	7
22	5.9	4
23	7.4	5
25	1.5	1
26	1.5	1
27	1.5	1
29	2.9	2
30	1.5	1

Table 3

Length of Depressive Episode of Participants Who Disclosed a Diagnosis of Depression

Length (in years)	%	N
Less than 1 year	7.4	5
1	8.8	6
2	19.1	13
3	13.2	9
4	7.4	5
5	11.7	8
6	4.4	3
7	8.8	6
8	5.9	4
9	4.4	3
10	1.5	1
11	2.9	2
12	1.5	1
13	1.5	1
16	1.5	1

Table 4

Time Since Initial Recovery in Participants With a History of Adolescent Depression but No Current Symptoms

Time (in years)	%	N
1	17.6	6
2	20.6	7
3	29.4	10
4	2.9	1
5	5.9	2
6	5.9	2
7	2.9	1
8	2.9	1
9	5.9	2
11	2.9	1
13	2.9	1

Scale Reliability

Cronbach's alphas were calculated to determine the reliability of each scale: Three scales were used to test three facets of participants' social skills: emotional understanding through the Situational Test of Emotional Understanding (STEU) (α = .857), strength of social relationships through the Adult Toolbox Social Relationships Scale (α = .816), and interpersonal competence through the Interpersonal Competence Questionnaire (ICQ) (α = .951). The Adolescent Social Self Efficacy Scale (SEFF) (α = .965) and the Beck Depression Inventory (BDI) (α = .943) were also found to be reliable. Correlations between the three social skills scales showed a significant and positive relationship between the ATRS ($M = 2.826$, $SD = 0.412$) and ICQ ($M = 2.968$, $SD = 0.632$) $r(109) = .270$ $p < 0.05$, a positive but non-significant relationship between the STEU ($M = 23.055$, $SD = 7.316$) and ICQ, and a negative but non-significant relationship between the ATRS and STEU. Because of the lack of correlation between STEU and the other two scales, further analyses were conducted both with a composite of the three and with individual variables. To combine the three social skills scales into one composite, each was standardized by converting the sum of its items into z-scores before summed.

Adolescent Social Self Efficacy

A Pearson's correlational matrix showed that adolescent social self-efficacy (SEFF) is significantly and positively correlated with overall social skills ($\alpha = 0.419$, $p < 0.01$) and interpersonal competence ($\alpha = 0.635$, $p < 0.01$) and significantly and negatively correlated with current depressive symptoms (BDI) ($\alpha = -0.363$, $p < 0.01$). A series of ANOVAs were used to determine the role of adolescent social self-efficacy in the

relationship between condition and social skills. A univariate analysis of variance found a significant effect of condition on social skills $F(3,101) = 3.254$, $MSe = 9.598$, p = 0.025 and a less significant effect of condition on social skills with adolescent social self-efficacy as a covariate, $F(1,103) = 2.852$, $MSe = 6.887$, $p = 0.041$.

Primary Hypotheses

Pearson's Correlations showed significant relationships between level of current depressive symptoms (BDI) and overall social skills (α = -0.333), emotional understanding (α = -0.363), and interpersonal competence (α = -0.437), such that as depressive symptoms increased, social skills and its facets decreased. A Univariate Analysis of Variance was used to test for significant differences of social skills scores between participants with current depressive symptoms and participants with no or minimal current depressive symptoms. A main effect was found of current depression on overall social skills $F(1,103) = 7.782$, $MSe = 2.949$, $p = 0.006$. Consistent with the research hypothesis, the scores of overall social skills were lower for participants with current depressive symptoms ($M = -0.642$, $SD = 1.831$) than for participants with no or minimal current depressive symptoms ($M = 0.325$, $SD = 1.647$). Additionally, there were main effects of current depression on each of the social skills scales. Scores for emotional understanding were significantly lower for currently depressed participants ($M = 8.093$, $SD = 1.296$) than for not currently depressed participants ($M = 6.402$, $SD = 0.788$) $F(1,103) = 10.512$, $MSe = 50.027$, $p = 0.002$. Scores for strength of social relationships were significantly lower for currently depressed participants ($M = 2.768$, $SD = 0.386$) than for not currently depressed participants ($M = 2.937$, $SD = 0.416$) $F(1,103) = 4.403$,

Table 5
Mean Social Skills Scores for Participants With and Without Current and Past Depression

	Current Depression - No				Current Depression - Yes			
	Past Depression No		Past Depression Yes		Past Depression Yes		Past Depression No	
	M	(SD)	M	(SD)	M	(SD)	M	(SD)
Social Skills (T)	0.052	(1.644)	-0.853	(1.827)	-0.496	(1.860)	0.583	(1.633)
Emotional Understanding (STEU)	23.875	(7.115)	14.438	(7.512)	25.294	(5.67)	22.886	(7.389)
Strength of Social Relationships (ATRS)	2.753	(0.418)	2.95	(0.454)	2.928	(0.398)	2.783	(0.359)
Interpersonal Competence (ICQ)	3.043	(0.534)	2.984	(0.49)	2.433	(0.558)	3.21	(0.618)

Table 6
Summary of Intercorrelations, Means, and Standard Deviations for Scores on the BDI, SEFF, STEU, ATRS, ICQ, and Composite Social Skills

Measure	1	2	3	4	5	6	M	SD
1. BDI	---	-.363*	-.276*	.101	-.437*	-.333*	15.727	13.088
2. SEFF		---	-.036	.172	.635*	.419*	3.715	1.292
3. STEU			---	-.171	.095	.502*	23.055	7.316
4. ATRS				---	.270*	.597*	2.826	0.412
5. ICQ					---	.742*	2.968	0.632
6. Composite Social Skills						----	.000	1.841

*p < .01

$MSe = 0.158$, $p = 0.038$. And scores for interpersonal competence were significantly lower for currently depressed participants ($M = 3.129$, $SD = 0.58$) than for not currently depressed participants ($M = 2.659$, $SD = 0.592$) $F(1,103) = 15.821$, $MSe = 0.342$, $p < 0.00$.

Contrary to the hypothesis, a Univariate Analysis of Variance indicated no main effect of past depression on overall social skills. Furthermore, participants with a history of adolescent depression and no current symptoms scored slightly higher than participants with neither past nor present depression on overall social skills. No main effects were found of past depression on the individual social skills scales of strength of social relationships or interpersonal competence. However, a main effect was found of past depression on emotional understanding, $F(1,103) = 8.041$, $MSe = 51.14$, $p = 0.006$. Contrary to the hypothesis, the scores for emotional understanding were significantly higher for participants with a history of adolescent depression ($M = 24.708$, $SD = 5.825$) than for those without a history of adolescent depression ($M = 20.729$, $SD = 8.465$).

A Univariate Analysis of Variance indicated no significant interaction between past depression and current depression on overall social skills. Additionally, no significant interaction was found between past depression and current depression on strength of the social relationships. Analyses did indicate a significant interaction between past depression and current depression on emotional understanding $F(1,104) = 8.978$, $MSe = 381.136$, $p = 0.003$. Consistent with the hypothesis, participants with no past depression and no current depression had higher emotional understanding scores ($M = 23.875$, $SD = 7.115$) than participants with no past depression but current depression ($M = 14.438$, $SD = 7.519$). However contrary to the hypothesis, participants with past

depression but with no current depression had higher emotional understanding scores (*M* = 25.294, *SD* = 5.670) than participants with both past depression and current depression (*M* = 23.826, *SD* = 6.065). Analyses also indicated a significant interaction between past depression and current depression on interpersonal competence $F(1,104) = 9.806$, $MSe = 3.097$, $p = 0.002$. Consistent with the hypothesis, participants with no past depression and no current depression scored higher on interpersonal competence (*M* = 3.043, *SD* = 0.534) than participants with no past depression but current depression (*M* = 2.984, *SD* = 0.490). Also consistent with the hypothesis, participants with past depression but no current depression scored higher on interpersonal competence (*M* = 3.210, *SD* = 0.618) than participants with both past and current depression (*M* = 2.433, *SD* = 0.558).

A series of independent ANOVAs with planned comparisons were used to test for significant differences of social skills between the four conditions. The initial independent ANOVA showed a significant difference of overall social skills scores between the four conditions $F(3,101) = 3.254$, $MSe = 2.95$, $p = 0.025$. Additionally, significant differences were found between the four groups for emotional understanding $F(3,101) = 10.92$, $MSe = 42.453$, $p < 0.00$, and interpersonal competence $F(3,103)$ – 9.226, $MSe = 0.316$, $p < 0.00$, but not for strength of social relationships.

Significant differences were found between the test group (yes past, no present) and both groups of participants with current depression (no past, yes present and yes past, yes present). Consistent with the hypothesis, overall social skills were significantly higher in participants with a history of adolescent depression and no current symptoms (*M* = 0.5826, *SD* = 1.773) than in participants with no history of adolescent depression but current symptoms (*M* = -0.853, *SD* = 1.827) $t(101) = -2.756$, $p = 0.007$, and

participants with both a history of adolescent depression and current symptoms (M = -0.496, SD = 1.86) $t(101) = 2.326$, $p = 0.022$. These results differed slightly when individual aspects of social skills were analyzed. Emotional understanding scores, but not interpersonal competence or strength of social relationships, were significantly higher for participants with a history of adolescent depression and no current symptoms (M = 5.67, SD = 0.972) than in participants with no history of adolescent depression but current symptoms (M = 7.519, SD = 1.88), $t(101) = -5.496$, $p < 0.00$. Additionally, interpersonal competence scores, but not emotional understanding or strength of social relationship scores, were significantly higher in participants with a history of adolescent depression and no current symptoms than for participants with both a history of adolescent depression and current symptoms (M = 2.433, SD = 0.559), $t(101) = 5.121$, $p < 0.00$.

Secondary Hypotheses

Two secondary predictions were made regarding the participants who had a history of adolescent depression, both with and without current symptoms. A Pearson's correlation matrix was used to test the prediction that there would be a significant and positive correlation between age of onset of adolescent depression and social skills, such that an earlier age of onset would correlate with lower social skills. Contrary to the hypothesis, no significant correlations were found between age of onset and overall social skills, emotional understanding, or interpersonal competence. However, age of onset and strength of social relationships (M = 2.841, SD = 0.379) have a significant positive relationship, such that as age of onset increases, so does the strength of social relationships $r(56) = 0.366$, $p < 0.01$. Secondly, a Pearson's correlation matrix was used

to test the prediction that length of depressive episode in years would have a significant and negative correlation with social skills such that as length of episode increases, the level of social skills decreases. Contrary to the hypothesis, length of depressive episode did not have a significant relationship with participants' scores of overall social skills, emotional understanding, interpersonal competence, or strength of social relationships. It was also predicted that within the primary test group – participants who have a history of adolescent depression but not current symptoms - the time in years since adolescent depression would be significantly and positively correlated with social skills, such that the more time since remission of an episode of adolescent depression, the higher the level of social skills. A Pearson's correlation matrix found that, contrary to the hypothesis, time since depressive episode did not have a significant relationship with participants' scores of overall social skills, emotional understanding, strength of social relationships or interpersonal competence, but did show non-significant negative correlations with each variable.

Lastly, it was predicted that among all participants who have experiences of depression (yes past, yes present; yes past, no present; no past, yes present), social skills would differ significantly by gender, such that male participants would have weaker social skills than female participants. Contrary to this hypothesis, an Independent ANOVA showed no main effect of gender on social skills, strength of social relationships, or interpersonal competence between genders in participants with past and/or current depression. However, a main effect of gender on emotional understanding scores was found between currently and/or previously depressed participants, such that females had significantly higher (M = 24, SD = 6.135) emotional understanding scores

than male participants (*M* = 19.087, *SD* = 9.145). Two follow-up Independent ANOVAs were completed on gender differences of social skills in all participants and participants without any experience with depression to determine if this pattern was unique to depressed and previously depressed participants. The first test, which analyzed all participants, found significant differences by gender of overall social skills $F(1, 108) = 7.013$, $MSe = 3.212$, $p = 0.009$, such that females had significantly higher overall social skills (*M* = 0.375, *SD* = 1.65) than males (*M* = -0.544, *SD* = 1.982); and significant differences by gender of emotional understanding $F(1, 108) = 9.219$, $MSe = 49.767$, $p = 0.003$, such that females had significantly higher emotional understanding scores (*M* = 24.754, *SD* = 6.258) than males (*M* = 20.6, *SD* = 7.316). The second test, which analyzed only participants with no current or past experience with depression, found significant differences between genders of emotional understanding $F(1,30) = 5.438$, $MSe = 44.289$, $p = 0.027$ such that non-depressed females scored significantly higher on emotional understanding (*M* = 27.4167, *SD* = 6.96) than non-depressed males (*M* = 21.75, *SD* = 6.471). A small but non-significant interaction of gender was observed on overall social skills in non-depressed participants ($p = 0.056$).

Discussion

The relationship between depression in adolescence and social skills in young adulthood was investigated in order to shed light on the behavioral and cognitive processes that lead from depression, through remission, to negative outcomes and behaviors in young adulthood. Past research on young adults with a history of adolescent depression has focused on the negative life events and behaviors that correlate in young

adulthood with a history of adolescent depression while past research on social skills and depression has focused on the role of social skills before or during a depressive episode, but not after. The present study aimed to further explore the social skills deficits that result from a depressive episode and how they may carry through remission to young adulthood as psychological scars. Additionally, it investigated how qualities of an episode of adolescent depression, including length of episode, time since remission, and age of onset, affect the manifestation and continuation of social skills beyond recovery.

Consistent with past research and the Social Skills Deficit Hypothesis (Lewinsohn, Hoberman & Hautzinger, 1985), results indicated that the occurrence of current depression had a significant main effect on current social skills, both overall and within the facets of emotional understanding, strength of social relationships, and interpersonal competence. Social skills were significantly lower in participants with current depression than in those without. These results demonstrate that social skills deficits of all kinds are pervasive during an episode of depression. Additionally, as the severity of current depressive symptoms increased, the level of social skills decreased. In line with the Social Skills Deficit Hypothesis, one explanation for these results is that depression causes deficits in social skills. However, it is also possible that impaired social skills are a cause of depression, or that deficits in social skills are both a cause and an effect of depression. As a correlational study, the present data cannot be used to imply cause or effect but still reaffirms the presence of social skills deficits during an episode of depression.

Contrary to the primary hypothesis, results indicated no main effect of past depression on overall social skills, interpersonal competence, or strength of social

relationships. These results imply that depression in adolescence does not leave a psychological scar of social skills deficits in young adulthood. Thus, these results directly contradict Lewisohn's (1985) scar hypothesis and its supporting research. Conversely, they demonstrate that full recovery of social skills after depression is possible and likely. Furthermore, results did indicate a main effect of past depression on emotional understanding. Contrary to the hypothesis though, participants with a history of adolescent depression scored significantly higher on emotional understanding than those with no history of adolescent depression. These results could be explained by the body of past research which has demonstrated that individuals with depression have a negativity bias when detecting emotion in others (Jermann, van der Linden, & D'Argembeau, 2008; Matthews & Antes, 1992; Ridout, Astell, Reid, Glen, & O'Carroll, 2003; Suslow & Junghanns, 2001). Previously depressed participants may have carried over an increased accuracy in detecting negative emotions in others from their past depression that led them to score higher on the emotional understanding than participants without a history of adolescent depression. Another possible explanation for these findings is that decreased social skills during depression leads recovering individuals to actually improve their emotional understanding skills because they are anxious about the deficits they experienced during depression.

No significant interactions were found between past and current depression as they related to overall social skills and strength of social relationships. However, significant interactions did occur between past and current depression as they related to emotional understanding and interpersonal competence. The four participant groups were found to be significantly different in terms of overall social skills, emotional

understanding, and interpersonal competence. Participants in the test group (yes past, no present) showed the highest levels of overall social skills followed by participants with no past or present experiences with depression, participants with both past and present experiences with depression, and finally, participants with no occurrence of adolescent depression but significant current symptoms. Results indicated that participants with a history of adolescent depression and no current symptoms have significantly better social skills than participants who are currently depressed, both with and without a history of adolescent depression. However, social skills between the two currently depressed groups did not differ significantly. These results could be explained by the main effect of current depression playing a stronger role in the interaction effect than past depression, which was found to have no main effect. This would also explain the lack of a significant difference between social skills in participants with a history of adolescent depression and no current depression and participants with neither a history nor current symptoms. This difference could be explained by the same theories used to explain the enhanced emotional understanding in participants with past depression but not current: anxiety about decreased social skills during depression leads recovering individuals to actually increase their social skills in young adulthood.

Tests of the secondary hypothesis indicated that an earlier age of onset of adolescent depression is associated with weaker social relationships in young adulthood but not deficits in other facets of social skills. These results are somewhat in line with previous research by Essau, Lewinsohn, Seeley, and Sasagawa (2010) who found that a lower age of onset of adolescent depression predicts more depressive episodes in both genders and a worse course of depression in females. Based on these findings it was

predicted that decreased social skills would also be associated with an earlier age of onset. The occurrence of this pattern only in the strength of social relationships could be explained by a sense of self-efficacy in the ability to form new relationships. It is possible that individuals with an earlier age of onset believe that they are incapable of forming strong social relationships because they experienced social skills deficits at such a young age, and that even though they have regained their social skills through recovery from depression, their self-efficacy prevents them from forming strong relationships.

Length of adolescent depressive episode was found to have no relation to current social skills. These results are consistent with the study's finding that past depression had no main effect on current social skills and further contradict the Scar Hypothesis. The lack of a significant relationship between length of episode and current social skills implies that deficits do not increase as a depressive episode continues over the years, or that the length of a depressive episode does not impact the likelihood of a full recovery of social skills. Time since initial recovery from adolescent depression was also found to have no relation to current social skills. These results imply that recovery of social skills from an episode of depression is relatively rapid, as recovered participants with a range of one to thirteen years since an episode of depression showed no significant differences in social skills than participants with no history of depression.

Consistent with the research hypothesis, results indicated that present or previously depressed male participants had significantly weaker social skills than present or previously depressed female participants. These results are consistent with past research that has found that remission and recovery from depression is more difficult for males and leaves more lingering symptoms of depression (Derdikman-Eiron, et al., 2012;

Essau, Lewinsohn, Seeley, & Sasagawa, 2010). However, the effect was found to be the same in participants with no experience with depression and in all participants overall. Thus, these results could be explained by weaker social skills in the male gender in general. Past research on gender differences of social skills have demonstrated that females have higher levels of social competence (Margalit & Eysenck, 1990) and score higher on social and emotional skills (Groves, 2005). Additionally, a gendered disposition to weaker social skills could increase the social skills deficits men experience during depression. However, in her discussion of social skills assessments, Crombie (1988) argues that males and females are socialized to acquire different sets of social skills. It is possible that the social skills scales used in this study were biased towards a socially-female set of social skills.

Overall, the results of this study are inconsistent with Lewinsohn's (1985) scar hypothesis and its supporting research. The results indicated that although social skills were weaker during current depression, social skills deficits from adolescent depression did not leave a lasting scar on participants. Some of the results even pointed in the direction of the opposite effect. Weak emotional understanding was positively associated with severity of current depressive symptoms. However, emotional understanding was also found to be significantly higher in participants with a history of adolescent depression than those without. This discrepancy implies that recovery from adolescent depression may actually increase individuals' ability to detect emotions, rather than carrying over the deficit into young adulthood. Although this explanation is only supported by very preliminary data, the relationship of the test group to the other three conditions implies that full recovery of social skills following remission is entirely

possible and normal in individuals who suffer from adolescent depression. Assuming that participants with a history of adolescent depression experienced the weakness of social skills that is apparent in currently depressed participants, the significantly higher social skills scores of participants who have recovered from adolescent depression than currently depressed participants and the lack of a significant difference between these of participants and participants with no experiences with depression implies that social skills are regained in young adulthood after an episode of adolescent depression.

The present study was limited by its correlational design. Ideally, the data would be collected longitudinally, tracking participants' social skills and depressive symptoms from adolescence to young adulthood to test for cause and effect. However, financial and time constraints limited the present study to a correlational model. One possibly confounding variable is the presence or history of other mental disorders that cause social skills deficits. Participants were not asked to disclose their experiences with other mental disorders, but the presence of one in the past or present could also have a strong influence on current social skills. Another limitation of this study can be seen in the lack of correlation between all three of the social skills scales. To prevent this from confounding the results, each analysis was conducted using both the composite social skills variable – the sum of the z-score of the three scales – as well as analyzing each facet's individual effect. Although fairly diverse in terms of age range, gender, and education level, the present study's sample of participants was overwhelmingly White. This limits the external validity of the results to only White populations. The participant sample was recruited primarily through national public sources such as Amazon's Mechanical Turk and public Facebook pages related to depression and mental health. Snowball and

convenience sampling brought in only a small portion of the participants. However, it is possible that participant bias could be influencing the results. The percentages of participants who had some experience of depression – either past or present – were abnormally high compared to the national averages, indicating that participants self-selected to partake in the survey because of its subject matter. Lastly, the present study was limited in funding. An individual Survey Monkey account was purchased, as required by the Institutional Review Board, which limited some of the possible survey functions. For this reason, the researchers were not able to randomize the order of the three social skills scales which may have caused response bias in participants' answers.

This study was the first to investigate social skills in the context of adolescent depression and its consequences in young adulthood after remission. The analysis of three separate facets of social skills – emotional understanding, strength of social relationships, and interpersonal competence – as well as their composite gave the results a dimensionality and depth that could not be achieved by a general social skills scale. The results add to the literature preliminary findings of the long-term patterns of social skills as they relate to depression, including further support of the Social Skills Deficit Hypothesis, contradiction to the Scar Hypothesis, indication of differing roles of separate facets of social skills, and a strong role of gender in the manifestation of social skills during and after depression.

Future studies should further investigate the long-term recovery process of adolescent depression and the behaviors and cognitions present in this transition. Social skills and their relation to depression should be studied through a longitudinal model in order to further understand the timeline of cause, effect, and recovery of social skills

deficits. Additionally, the different facets of social skills should be studied more extensively in this context as they garnered significantly different results in sections of the analysis. Results indicated that emotional understanding may play a different role in depression and recovery than strength of social relationships or interpersonal competence. Future studies should more extensively compare these facets to investigate their role in depression and recovery. Lastly, further research in this vein should explore the role of gender in the manifestation of social skills during and after depression as well as in populations with no personal experiences of depression to identify the differing relationships of gender and social skills in depression and gender and social skills in the general population.

The present study aimed to investigate the role of social skills deficits young adults with a history of adolescent depression by comparing participants with and without experiences of adolescent depression and current depressive symptoms in young adulthood. Results indicated that although current depressive symptoms are strongly associated with deficits in social skills, a history of adolescent depression did not significantly correlate with social skills differences, and participants who had experienced adolescent depression but were currently recovered did not show significantly different social skill levels than participants who had never experienced depression. For the most part, qualities of an adolescent depressive episode were shown to have no influence on social skills in young adulthood although male participants who were previously and/or presently depressed showed significantly weaker social skills. Although inconclusive, the results of this study provide preliminary data into the investigation of the long-term effects of adolescent depression on young adulthood and

recovery. Further research in this vein will help mental health practitioners identify the long-term problems facing patients who have a history of adolescent depression and help them to guide these patients through a successful transition to young-adulthood.

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Appendices

Appendix A:

Situational Test of Emotional Understanding (STEU)

MacCann, C., & Roberts, R. D. (2008). New paradigms for assessing emotional intelligence: Theory and data. *Emotion, 8,* 540-551.

The following questions each describe a situation, and ask you to choose which of five emotions is most likely to result from that situation.

Here is an example:
Clara receives a gift. Clara is most likely to feel?
(a) happy
(b) angry
(c) frightened
(d) bored
(e) hungry

If you think Clara would feel happy, you would mark option A and then move to the next question.

1. A pleasant experience ceases unexpectedly and there is not much that can be done about it. *The person involved is most likely to feel?*
(a) Ashamed (b) Distressed (c) Angry (d) Sad (e) Frustrated

2. Xavier completes a difficult task on time and under budget. *Xavier is most likely to feel?*
(a) Surprise (b) Pride (c) Relief (d) Hope (e) Joy

3. An irritating neighbor of Eve's moves to another state. *Eve is most likely to feel?*
(a) Regret (b) Hope (c) Relief (d) Sadness (e) Joy

4. There is great weather on the day Jill is going on an out-door picnic. *Jill is most likely to feel?* (a) Pride (b) Joy (c) Relief (d) Guilt (e) Hope

5. Regret is most likely to occur when?
(a) Events are unexpected
(b) You have caused something you didn't want to happen and cannot change it
(c) Circumstances have caused something you didn't want to happen
(d) You have caused something you didn't want to happen and are trying to change it
(e) Events are getting beyond your control

6. Edna's workmate organizes a goodbye party for Edna, who is going on holidays. *Edna is most likely to feel?*

(a) Surprise (b) Gratitude (c) Pride (d) Hope (e) Relief

7. Something unpleasant is happening. Neither the person involved, nor anyone else can make it stop. *The person involved is most likely to feel?*
(a) Guilty (b) Distressed (c) Sad (d) Scared (e) Angry

8. If the current situation continues, Denise's employer will probably be able to move her job to a location much closer to her home, which she really wants. *Denise is most likely to feel?*
(a) Distress (b) Joy (c) Surprise (d) Hope (e) Fear

9. Song finds out that a friend of hers has borrowed money from others to pay urgent bills, but has in fact used the money for less serious purposes. *Song is most likely to feel?*
(a) Anger (b) Excitement (c) Contempt (d) Shame (e) Horror

10. Somebody is most likely to feel surprised after?
(a) Something unexpected happens.
(b) Something unfamiliar happens.
(c) Something unusual happens.
(d) Something scary happens.
(e) Something silly happens.

11. Leya works as a trouble-shooter. She is presented with a standard looking problem but cannot work out how to solve it. *Leya is most likely to feel?*
(a) Confused (b) Frustrated (c) Surprised (d) Relieved (e) Distressed

12. Charles is meeting a friend to see a movie. The friend is very late and they are not in time to make it to the movie. *Charles is most likely to feel?*
(a) Depressed (b) Frustrated (c) Angry (d) Contemptuous (e) Distressed

13. Rashid needs to meet a quota before his performance review. There is only a small chance that he will be able to do so and there isn't much he can do to improve the outcome. *Rashid is most likely to feel?*
(a) Irritated (b) Scared (c) Distressed (d) Sad (e) Hopeful

14. Someone believes that another person harmed them on purpose. There is not a lot that can be done to make things better. *The person involved is most likely to feel?*
(a) Dislike (b) Rage (c) Jealousy (d) Surprise (e) Anxiety

15. Phil's workmate Bart asks Phil to lie for him about money Bart has been stealing from the company. Phil does not agree. *Phil is most likely to feel?*
(a) Excitement (b) Anger (c) Horror (d) Contempt (e) Shame

16. Jim enjoys spending Saturdays playing with his children in the park. This year they have sporting activities on Saturdays and cannot go to the park with him any more. *Jim is most likely to feel?*

(a) Angry (b) Sad (c) Frustrated (d) Distressed (e) Ashamed

17. If all goes well, then it's fairly likely that Derek's house will increase in value. *Derek is most likely to feel?*
(a) Distress (b) Fear (c) Surprise (d) Joy (e) Hope

18. Sheila's workmate intentionally does not give Sheila some important information about applying for a raise. *Sheila is most likely to feel?*
(a) Depressed (b) Contemptuous (c) Frustrated (d) Angry (e) Distressed

19. Megan is looking to buy a house. Something happened and she felt regret. *What is most likely to have happened?*
(a) She didn't make an offer on a house she wanted, and now she is trying to find out if it is too late.
(b) She found a house she liked that she didn't think she would find.
(c) She couldn't make an offer on a house she liked because the bank didn't get her the money in time.
(d) She didn't make an offer on a house she liked and now someone else has bought it.
(e) She made an offer on a house and is waiting to see if it is accepted.

20. Mary was working at her desk. Something happened that caused her to feel surprised. *What is most likely to have happened?*
(a) Her work-mate told a silly joke.
(b) She was working on a new task she hadn't dealt with before.
(c) She found some results that were different from what she thought they would be.
(d) She realized she would not be able to complete her work.
(e) She had to do a task she didn't normally do at work.

21. Garry's small business is attracting less and less clients and he can't tell why. There doesn't seem to be anything he can do to help matters. *Garry is most likely to feel?*
(a) Scared (b) Angry (c) Sad (d) Guilty (e) Distressed

22. Someone thinks that another person has deliberately caused something good to happen to them. *They are most likely to feel?*
(a) Hope (b) Pride (c) Gratitude (d) Surprise (e) Relief

23. Kevin has been working at his current job for a few years. Out of the blue, he finds that he will receive a promotion. *Kevin is most likely to feel?*
(a) Pride (b) Relief (c) Joy (d) Hope (e) Guilt

24. By their own actions, a person reaches a goal they wanted to reach. *The person is most likely to feel?*
(a) Joy (b) Hope (c) Relief (d) Pride (e) Surprise

25. An unwanted situation becomes less likely or stops altogether. *The person involved is most likely to feel?*

(a) Regret (b) Hope (c) Joy (d) Sadness (e) Relief

26. Hasad tries to use his new mobile phone. He has always been able to work out how to use different appliances, but he cannot get the phone to function. *Hasad is most likely to feel?*
(a) Distressed (b) Confused (c) Surprised (d) Relieved (e) Frustrated

27. Dorian's friend is ill and coughs all over him without bothering to turn away or cover his mouth. *Dorian is most likely to feel?*
(a) Anxiety (b) Dislike (c) Surprise (d) Jealousy (e) Rage

28. Although she has been careful to avoid all risk factors, Tina has contracted cancer. There is only a small chance that the cancer will be benign and nothing Tina does now can make a difference. *Tina is most likely to feel?*
(a) Scared (b) Distressed (c) Irritated (d) Sad (e) Hopeful

29. Quan and his wife are talking about what happened to them that day. Something happened that caused Quan to feel surprised. *What is most likely to have happened?*
(a) His wife talked a lot, which did not usually happen.
(b) His wife talked about things that were different to what they usually discussed.
(c) His wife told him that she might have some bad news.
(d) His wife told Quan some news that was not what he thought it would be.
(e) His wife told a funny story.

30. An upcoming event might have bad consequences. Nothing much can be done to alter this. *The person involved would be most likely to feel?*
(a) Sad (b) Irritated (c) Distressed (d) Scared (e) Hopeful

31. It is clear that somebody will get what they want. *They are most likely to feel?*
(a) Pride (b) Relief (c) Joy (d) Hope (e) Guilt

32. By chance, a situation arises where there is the possibility that a person will get what they want. *The person is most likely to feel?*
(a) Distress (b) Hope (c) Surprise (d) Joy (e) Fear

33. A supervisor who is unpleasant to work for leaves Alfonso's work. *Alfonso is most likely to feel?*
(a) Joy (b) Hope (c) Regret (d) Relief (e) Sadness

34. The nature of Sara's job changes due to unpredictable factors and she no longer gets to do the portions of her work that she most enjoyed. *Sara is most likely to feel?*
(a) Ashamed (b) Sad (c) Angry (d) Distressed (e) Frustrated

35. Leila has been unable to sleep well lately and there are no changes in her life that might indicate why. *Leila is most likely to feel?*
(a) Angry (b) Scared (c) Sad (d) Distressed (e) Guilty

36. A person feels they have control over a situation. The situation turns out badly for no particular reason. *The person involved is most likely to feel?*
(a) Confused (b) Relieved (c) Surprised (d) Frustrated (e) Distressed

37. Someone believes another person has deliberately caused something good to stop happening to them. However, they feel they can do something about it. *They are most likely to feel?* (a) Angry (b) Contemptuous (c) Distress (d) Depressed (e) Frustrated

38. The new manager at Enid's work changes everyone's hours to a less flexible work pattern, leaving no room for discussion. *Enid is most likely to feel?*
(a) Dislike (b) Rage (c) Jealousy (d) Surprise (e) Anxiety

39. Someone believes that another person has caused harm to them, due to that person's bad character. They think they can probably handle the situation though. *The harmed person is most likely to feel?*
(a) Contempt (b) Anger (c) Horror (d) Excitement (e) Shame

40. Pete gets home late, after his favorite TV show has ended. Pete's partner has taped the show for him. *Pete is most likely to feel?*
(a) Surprise (b) Hope (c) Pride (d) Relief (e) Gratitude

41. Matthew has been at his current job for six months. Something happened that caused him to feel regret. *What is most likely to have happened?*
(a) He did not apply for a position he wanted, and has found out that someone else less qualified got the job.
(b) He did not apply for a position he wanted, and has started looking for a similar position.
(c) He found out that opportunities for promotion have dried up.
(d) He found out that he didn't get a position he thought he would get.
(e) He didn't hear about a position he could have applied for and now it is too late.

42. Penny's hockey team trained hard and won the championship. *Penny is most likely to feel?* (a) Hope (b) Pride (c) Relief (d) Joy (e) Surprise

Appendix B:

Adult Toolbox Social Relationship Scale

Cyranowski, J. M., Zill, N., Bode, R., Butt, Z., Kelly, M. A. R., Pilkonis, P. A., Salsman, J. M., & Cella, D. (2013). Assessing social support, companionship, and distress: National Institute of Health (NIH) toolbox adult social relationship scales. *Health Psychology*, *3*, 293-301.

For the next set of questions, please read each statement and then decide how much each applies to you in the past month.
In the past month, please rate how often . . .

1. I have someone who understands my problems

1	2	3	4	5
Never	Rarely	Sometimes	Usually	Always

2. I have someone who will listen to me when I need to talk
3. I feel there are people I can talk to if I am upset
4. I have someone to talk with when I have a bad day
5. I have someone I trust to talk with about my problems
6. I have someone I trust to talk with about my feelings
7. I can get helpful advice from others when dealing with a problem
8. I have someone to turn to for suggestions about how to deal with a problem

For the next set of questions, please read each statement and then decide how much each applies to you in the past month. In the past month, please rate how often . . .

1. I get invited to go out and do things with other people
2. I have friends I get together with to relax
3. There are people around with whom to have fun
4. I can find a friend when I need one
5. I feel like I have lots of friends
6. I have friends who will have lunch with me when I want
7. I feel close to my friends
8. I feel like I'm part of a group of friends

For the next set of questions, please read each statement and then decide how much each applies to you in the past month. In the past month, please rate how often . . .

1. I feel alone and apart from others
2. I feel left out
3. I feel that I am no longer close to anyone
5. I feel lonely

For the next set of questions, please read each statement and then decide how much each applies to you in the past month. In the past month, please rate how often people in your life . . .

1. Don't listen when I ask for help
2. Act like my problems aren't that important
3. Let me down when I am counting on them
4. Act like they don't have time for me
5. Act like they don't want to hear about my problems
6. Act like they don't care about me
7. Act like they can't be bothered by me or my problems
8. Avoid talking to me

For the next set of questions, please read each statement and then decide how much each applies to you in the past month. In the past month, please rate how often people in your life . . .

1. Argue with me
2. Act in an angry way toward me
3. Criticize the way I do things
4. Yell at me
5. Get mad at me
6. Blame me when things go wrong
7. Act nasty to me
8. Tease me in a mean way

Appendix C:

Interpersonal Competence Questionnaire (ICQ)

Buhrmester, D., Furman, W., Wittenberg, M. T., & Reis, H. T. (1988). Five domains of interpersonal competence in peer relationships. *Journal of Personality and Social Psychology*, *55*(6), 991-1008.

Please read the following statements and indicate how confident you feel in your abilities to complete the described action by choosing one of the five choices below each question.

1. Asking or suggesting to someone new that you get together and do something, e.g., go out together.
   1 I'm poor at this.
   2 I'm only fair at this.
   3 I'm OK at this.
   4 I'm good at this.
   5 I'm extremely good at this.
2. Telling a companion you don't like a certain way he or she has been treating you.
3. Revealing something intimate about yourself while talking with someone you're just getting to know.
4. Helping a close companion work through his or her thoughts and feelings about a major life decision, e.g., a career choice.
5. Being able to admit that you might be wrong when a disagreement with a close companion begins to build into a serious fight.
6. Finding and suggesting things to do with new people whom you find interesting and attractive.
7. Saying "no" when a date/acquaintance asks you to do something you don't want to do.
8. Confiding in a new friend/date and letting him or her see your softer, more sensitive side.
9. Being able to patiently and sensitively listen to a companion "let off steam" about outside problems s/he is having.
10. Being able to put begrudging (resentful) feelings aside when having a fight with a close companion.
11. Carrying on conversations with someone new whom you think you might like to get to know.
12. Turning down a request by a companion that is unreasonable.
13. Telling a close companion things about yourself that you're ashamed of.
14. Helping a close companion get to the heart of a problem s/he is experiencing.
15. When having a conflict with a close companion, really listening to his or her complaints and not trying to "read" his/her mind.
16. Being an interesting and enjoyable person to be with when first getting to know people.
17. Standing up for your rights when a companion is neglecting you or being inconsiderate.
18. Letting a new companion get to know the "real you."

19. Helping a close companion cope with family or roommate problems.
20. Being able to take a companion's perspective in a fight and really understand his or her point of view.
21. Introducing yourself to someone you might like to get to know (or date).
22. Telling a date/acquaintance that he or she is doing something that embarrasses you.
23. Letting down your protective "outer shell" and trusting a close companion.
24. Being a good and sensitive listener for a companion who is upset.
25. Refraining from saying things that might cause a disagreement to build into a big fight.
26. Calling (on the phone) a new date/acquaintance to set up a time to get together and do something.
27. Confronting your close companion when he or she has broken a promise.
28. Telling a close companion about the things that secretly make you feel anxious or afraid.
29. Being able to say and do things to support a close companion when s/he is feeling down.
30. Being able to work through a specific problem with a companion without resorting to global accusations ("you always do that").
31. Telling a companion that he or she has done something to hurt your feelings.
32. Presenting good first impressions to people you might like to become friends with (or date).
33. Telling a close companion how much you appreciate and care for him or her.
34. Being able to show genuine empathetic concern even when a companion's problem is uninteresting to you.
35. When angry with a companion, being able to accept that s/he has a valid point of view even if you don't agree with that view.
36. Going to parties or gatherings where you don't know people well in order to start up new relationships.
37. Telling a date/acquaintance that he or she has done something that made you angry.
38. Knowing how to move a conversation with a date/acquaintance beyond superficial talk to really get to know each other.
39. When a close companion needs help and support, being able to give advice in ways that are
well received.
40. Not exploding at a close companion (even when it is justified) in order to avoid a damaging conflict.

Appendix D:

Adolescent Social Self Efficacy Scale (S-EFF)

Connolly, J. (1989). Social self-efficacy in adolescence: Relations with self-concept, social adjustment, and mental health. *Canadian Journal of Behavioural Science*, *21*(3), 258-269.

Thinking about how your adolescent/teenage self would have answered, please rate the following items from "impossible to do" to "extremely easy to do".

1. Start a conversation with a boy or girl who you don't know very well.

1	2	3	4	5	6	7
Impossible to do						Extremely easy to do

2. Express your opinion to a group of students discussing a subject that is of interest to you.
3. Join a group of students in the school cafeteria for lunch.
4. Work on a project with a student you don't know very well.
5. Help make a new student feel comfortable with your group of friends.
6. Share with a group of peers an interesting experience you once had.
7. Put yourself in a new and different social situation.
8. Volunteer to help organize a school dance.
9. Ask a group of students who are planning to go to a movie if you can join them.
10. Stand up for your rights when someone accuses you of doing something you didn't do.
11. Get invited to a party that's being given by one of the most popular people in the class.
12. Keep up your side of the conversation.
13. Be involved in group activities.
14. Find someone to spend breaks with.
15. Wear the kind of clothes you like even if they are different from what others wear.
16. In a line, tell a student who pushes in front of you to wait his or her turn.
17. Stand up for yourself when another student in your class makes fun of you.
18. Help a student who is visiting your school for a short time to have fun and interesting experiences.
19. Join a school club or sports team.
20. Express your feelings to another student.
21. Ask someone over to your house on a Saturday.
22. Ask someone to go to a school dance or movie with you.
23. Go to a party where you are sure you won't know any of the people.
24. Ask another student for help when you need it.
25. Make friends with people your age.

Appendix E:

Beck Depression Inventory Revised

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

On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group that best describes the way you have been feeling the past week, including today. Be sure to read all of the statements in each group before making your choice.

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

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

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

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

5. I don't feel particularly guilty.
   I feel guilty a good part of the time.
   I feel guilty most of the time.
   I feel guilty all of the time.

6. I don't feel I am being punished.
   I feel I may be punished.
   I expect to be punished.
   I feel I am being punished.

7. I don't feel disappointed in myself.
   I am disappointed in myself.
   I am disgusted with myself.
   I hate myself.

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

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

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

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

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

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

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

15. I can work about as well as before.
    It takes an extra effort to get started at doing something.
    I have to push myself very hard to do anything.
    I can't do any work at all.

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

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

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

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

20. I am purposely trying to lose weight by eating less.
    Yes
    No

21. I am no more worried about my health than usual.
    I am worried about my physical problems such as aches and pains; or upset stomach; or constipation.
    I am very worried about physical problems and its hard to think of much else.
    I am so worried about my physical problems, that I cannot think about anything else.

22. I have not noticed any recent change in my interest in sex.
    I am less interested in sex than I used to be.
    I am much less interested in sex now.
    I have lost interest in sex completely.

Appendix F:

Adolescent Depression Questionnaire

Were you ever diagnosed with depression between the ages of 12 and 22?
Yes
No

At what age were you first diagnosed?

What treatment did you receive for this diagnosis? (Check all that apply)
Therapy
Antidepressants
Other medication
Diet
Other methods – please explain

If you received antidepressants or other medication as treatment are you still taking these medications?
Yes
No

At what age would you estimate the majority of your symptoms went into remission?

Option to indicate: “The majority of my depressive symptoms are still present”

Appendix G:

Demographics Questionnaire

With which gender do you identify?
Male
Female
Other

What is your age?
22
23
24
25
26
27
28
29
30

How would you classify yourself? (Check all that apply)
African American
Asian/Pacific Islander
Caucasian/White
Hispanic or Latino
Middle Eastern
Native American
Other

What is the highest level of education you have completed?
High school or equivalent
Some college
Bachelor's degree
Master's degree
Doctoral degree or Professional degree

What is your current marital status?
Divorced
Married
Single/Never been married
Widowed