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The History and Timing of Depression Onset as Predictors of Young-Adult Self-Esteem

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Abstract

Depression often emerges early in the lifecourse and is consistently shown to be associated with poor self-esteem. The three main objectives of the current study are to (1) evaluate the association between a history major depression and self-esteem in young adulthood; (2) assess the relationship between timing of depression onset and young adult self-esteem; and (3) help rule out the alternative interpretation that the relationship between major depression and self-esteem is due to state dependence bias stemming from recent depressive symptoms and stressful life events. To address these objectives we use data from a two-wave panel study based on a community sample of young adults in Miami-Dade County, Florida ($n = 1,197$). Results indicated a history of major depression during sensitive periods of social development is associated with negative changes in self-esteem over a two-year period during the transition to young adulthood. Among those with a history of depression, earlier onset was more problematic than later onset for young adult self-esteem, although the difference disappeared once the level of self-esteem two years prior was controlled. The linkages between the history and timing of depression onset with self-esteem were observed net of recent depressive symptoms and stressful life events, and thus robust to an alternative interpretation of state dependence. The findings support the argument that major depression, especially if it develops earlier during child-adolescent development, has negative consequences for one's self-esteem.

Keywords

depression; timing of onset; self-esteem

Developmental and lifecourse theorists have long underscored the importance of childhood and adolescent experiential factors for adult adjustment and well-being (Bowlby, 1969;1973; Elder, George, & Shanahan, 1996). These early lifecourse stages are not only deemed as sensitive periods for understanding depression and its consequences (Abela & Hankin, 2008) but the early onset of psychiatric disorders can affect critical life-transitions such as the transition from adolescence to young adulthood (Kessler, 2002). Given that young adulthood is an important period in the lifecourse for the availability of psychosocial

resources such as self-esteem (Compas, Wagner, Slavin, & Vannatta, 1986), information on the relationship between a history of major depression and self-esteem during the transition into young adulthood is warranted.

Self-esteem, defined as the judgment people have regarding their self-worth (Rosenberg, 1979), is consistently shown to be related to depression (Cheng & Furnham, 2003; Rosenberg, 1985; Turner & Lloyd, 1999). However, self-esteem is often viewed as an antecedent to depression rather than a consequence (see Boden, Fergusson, & Horwood, 2008; Hoffman, Baldwin, & Cerbone, 2003; Pelkonen, Marttunen, Kaprio, Huurre, & Aro, 2008; Southall & Roberts, 2002). The current investigation extends prior literature by examining the relationship between the history of major depression and self-esteem during the transition into young adulthood. In addition, because childhood and adolescence are sensitive developmental periods in the lifecourse, this study assesses whether the timing of depression onset predicts self-esteem in young adulthood. Finally, this study seeks to rule out alternative explanations for the relationship between major depression and self-esteem. Specifically, we consider whether the relationship is explained by state dependence—those who currently experience higher levels of depressive symptoms or social stress report lower self-esteem.

HISTORY OF DEPRESSION AND SELF-ESTEEM

Social-cognitive perspectives portray depressed persons as withdrawn and socially isolated due to poor interpersonal skills, which can in turn lead to further delays in acquiring essential social and psychosocial resources, especially if depression occurs during childhood and adolescence as opposed to adulthood (Kovacs & Goldston, 1991). This is consistent with research indicating that psychiatric disorders contribute to poor social functioning (Klerman, 1989; Kovacs, 1997) and, compared to their non-depressed counterparts, depressed youths fare worse in terms of peer relationships and contact (Puig-Antich et al., 1985).

It has also long been recognized that depressed persons acquire negative self-schemas that can translate into low self-esteem, especially when exposed to social stress (Beck, 1967; 1976). In addition, sociological research on stigma highlights the negative social experiences among persons exhibiting symptoms of mental health problems (Link & Cullen, 1990). Studies indicate that depression is related to social rejection (Nieradzik & Cochrane, 1985), and stigma surrounding mental illness is associated with poor self-esteem (Wright, Gronfein, & Owens, 2000).

Early cross-sectional studies that conceptualize depression as a predictor of self-esteem confirm that youths with a history of depression report lower levels of self-esteem (Giaconia, Reinherz, Silverman, Pakiz, & Frost, 1994; Reinherz, Giaconia, Lefkowitz, Pakiz, & Frost, 1993). Since these early reports, longitudinal studies have shown depression to be an important predictor of subsequent levels of self-esteem (Giaconia et al., 2001; Franko et al., 2005; Lewinsohn et al., 1994; Reinherz, Giaconia, Hauf, Wasserman, & Silverman, 1999; Shahar & Davidson, 2003). However, other longitudinal studies do not support this conclusion. For example, in a community sample of Dutch adults, Ormel and colleagues (2004) found that episodes of major depression do not predict negative changes in self-esteem. These mixed findings may, in part, be the result of differences in the age of the population under investigation. It is possible that self-esteem becomes more stable in adulthood and thus the influence of major depression on self-esteem may be largely limited to earlier social developmental stages of the lifecourse.

In a recent longitudinal study of adolescents transitioning into young adulthood, Orth and colleagues (2008) concluded that self-esteem predicts subsequent depressive symptoms but

not vice versa. In another recent study, Burwell and Shirk (2006) found that self-worth among adolescents predicts changes in depressive symptoms but that depressive symptomatology does not predict changes in self-worth. Although these studies do not show depression during early social-developmental stages as a risk factor for later self-esteem, the potential negative consequences of depression early in the lifecourse for later self-esteem may be limited to depressive *disorder* rather than *distress* (for discussion see Payton, 2009). Indeed, episodes of major depressive disorder at age 18 are associated with lower self-esteem at age 21 (Reinherz et al., 1999). Together, the evidence suggests that depression has negative consequences for self-esteem but that these effects may be limited to major depression experienced early in the lifecourse. This suggests that the timing of depression onset, as well as its severity, matters for self-esteem.

TIMING OF DEPRESSION ONSET AND SELF-ESTEEM

From a developmental perspective, self-esteem is intertwined with social experiences and social development early in the lifecourse (Mruk, 2006). On the one hand, self-esteem is, in part, driven by social competence (Harter, 1999; 2003). Thus the delays in the development of interpersonal skills and difficulties “catching up” to developmental milestones that are often associated with earlier onset depression (Kovacs & Goldston, 1991) are likely to have a negative cumulative effect on later self-esteem. On the other hand, self-esteem also stems from one’s sense of being approved of by others (Harter, 1999; 2003). To the extent that depressed persons are more likely to acquire negative self-schemas (Beck, 1967; 1976) persons who experience depression onset earlier in social development may be more likely to engage and view the world around them from a depressogenic lens later in the lifecourse.

In addition to the potential negative consequences of depression for the development of one’s self-esteem, earlier onset depression may also erode one’s self-esteem. For example, earlier depression onset is found to be associated with longer duration of depression (Kovacs, 1997). The longer one experiences depressive symptoms and has to manage social stigma, the more depression may diminish one’s self-esteem over time. Directly or indirectly, these perspectives suggest that earlier onset depression is more likely than later onset to have more deleterious effects on self-esteem.

However, mid-to-late adolescence is also viewed as a sensitive time in the lifecourse for the development of one’s sense of self (Harter, 2003; Mruk, 2006). Just as low self-worth increases cognitive vulnerability for depression during adolescence (Burwell & Shirk, 2006), poor social skills and isolation-withdrawal stemming from adolescent onset depression may have negative consequences for the development and maintenance of self-esteem. Depression onset during later adolescence may also have greater negative consequences for self-esteem given the emergence and increased salience of *the self* over the course of early social development. Although there is reason to believe that later onset depression may be more harmful than earlier onset for self-esteem, to date, the question of whether the timing of depression onset during sensitive social developmental periods of the lifecourse matters for self-esteem remains unanswered.

In one of the few investigations that have considered the effects of the timing of depression onset for self-esteem, Giaconia and colleagues (1994) found that youths with depression onset during late adolescence, but not earlier onset, reported lower self-esteem at age 18 compare to those with no history of depression. This suggests that the onset of major depression later in adolescence is more problematic for self-esteem than earlier onset. However, it is not clear whether the relatively greater impact of later onset depression on self-esteem is the result of potentially higher levels of current depressive symptoms or stress exposure stemming from a more recent onset (e.g., state dependence bias).

State dependence bias stems from the possibility that those with a more recent onset of major depression are more likely to report greater current depressive symptomatology. In turn, the relationship between a more recent onset of depression and current self-esteem may be an artifact of higher levels of depressive symptoms proximal to the assessment of self-esteem, and not necessarily a function of later depression onset. Some scholars even view negative self-regard as underlying the persistence of depression (Kaslow, Brown, & Mee, 1994) and others argue that self-esteem and depression are part of the same construct (Harter, 1999). Thus research evaluating the impact of major depression and the age of onset on self-esteem necessitates controlling for depressive symptomatology at the time self-esteem is measured in order to rule out the interpretation of state dependence. In one of the few studies to shed light on this issue, Reinherz and colleagues (1999) found that persons experiencing a depressive episode at age 18 were at increased risk for poor self-esteem at age 21, independent of current depressive state. Although such findings help rule out a state dependence argument, no studies have assessed the impact of prior major depressive “disorder,” especially the age of depression onset, on self-esteem controlling for concurrent *depressive symptomatology*. In this same vein, controlling for stress exposure proximal to the assessment of self-esteem would also aid in ruling out state dependence, as depressed persons may engage in behaviors that are conducive to stress exposure (i.e., stress generation [Hammen, 2006]), which may in turn influence current levels of both depressive symptoms and self-esteem. Without consideration of current depressive symptomatology and recent life events, researchers have not been able to determine whether prior major depression lowers self-esteem or shows a negative association due to state dependence.

Finally, prior results indicating higher levels of self-esteem among persons with an earlier onset (Giaconia et al., 1994) may be the result of an increased probability of receiving effective treatment. In other words, youths with earlier onset may have better self-esteem than those with a later onset because earlier onset provides a larger “window” in which to seek/receive treatment for depression. At a minimum, controlling for treatment seeking for mental health problems will help clarify the relationship between the timing of depression onset and self-esteem.

In sum, the following three issues of both theoretical and practical significance remain to be resolved. Still in question are (1) whether lifetime major depression is associated with self-esteem during the transition to young adulthood; (2) whether the timing of depression onset is related to self-esteem; and (3) whether the association between major depression and subsequent self-esteem is robust to the alternative interpretation of state dependence, as it relates to current depressive symptomatology and recent stressful life events.

METHOD

The Original Study

Study procedures and the sample used in this investigation have also been detailed previously (Turner & Gil, 2002; Vega & Gil, 1998) and all data collection procedures were approved by the IRB at the University of Miami. Briefly, the data came from a two-wave panel study that built upon a previous three-wave study conducted by Vega and Gil (1998) in the Miami-Dade County. The original study included all of the county’s 48 public middle schools and 25 public high schools, as well as alternative schools. Surveys were administered to participating students annually between 1990 and 1993, beginning in grades 6 and 7 and finishing in grades 8 and 9.

The original study was designed as an all-male study with the aim of assessing drug use among adolescents. However, a small number of girls ($n = 410$) were surveyed because of the development of inclusiveness policies at the time. A total of 5,924 youths were retained

in Wave 3 of the original three-wave study. Although there was nearly 20 percent attrition between Waves 1 and 3, Wave 3 participants were highly representative of Wave 1 participants (Vega & Gil, 1998).

The Present Analysis

From the 5,924 Wave 3 participants in the original study a representative subsample of 1,683 youths (1,273 boys and 410 girls), and a supplementary sample of 517 females were interviewed between 1998 and 2000 (Time 1). The study was designed such that approximately 25 percent of respondents self-identified as non-Hispanic white, Cuban, non-Cuban Hispanic, or African American. The interview success rate from Wave 3 of the original study to Time 1 of the follow-up study was 70.1 percent, and detailed analyses have demonstrated no significant differences in early-adolescent behaviors and family characteristics (Turner & Gil, 2002). The current investigation employs data from Time 1 where the mean age of respondents was 20 years (SD .94, range 18–23 years).

The current investigation also employed data collected approximately two years later (Time 2). Having set a target of 1,200 participants, a total of 1,463 names were released to the field staff. Through intensive effort, 1,200 re-interviews were obtained between 2000 and 2002, for a success rate of 82 percent. Three cases were omitted from the panel due to missing data, yielding the 1,197 participants for analysis in this report. The working sample included 656 males (55%) with a mean Time 2 of 22.65 years (SD .98, range 19–26 years).

To assure that the random sampling yielded a Time 2 sample representative of those interviewed at Time 1, we compared the two populations on 14 dimensions, including parental socioeconomic status, lifetime drug dependence, psychiatric disorder, various forms of stress exposure, and self-esteem. We observed nearly identical means and proportions. Statistical tests of differences observed between the Time 1 sample and those lost at Time 2 revealed only one significant difference—those lost to attrition reported fewer recent stressful events at Time 1 compared to those retained at Time 2.

Measures

Self-Esteem—A six-item subset of Rosenberg's (1979) measure was employed to assess self-esteem. Respondents were presented with statements such as "You feel that you have a number of good qualities" and "All in all, you are inclined to feel that you are a failure." Response categories ranged from (1) "strongly agree" to (5) "strongly disagree." All responses were coded so higher values indicated greater self-esteem. The internal reliability for the summed measure of self-esteem at Time 1 and 2 was .78 (mean 27.62, SD 2.91) and .80 (mean 27.74, SD 2.82), respectively.

Lifetime Major Depression—Data on major depression were obtained using computer-assisted personal interviews based upon DSM-IV diagnostic criteria (American Psychiatric Association, 1994). Our basic instrument was the Michigan Composite International Diagnostic Interview (CIDI), also used in the National Comorbidity Survey (Kessler et al., 1994). The CIDI is a fully structured interview based on the Diagnostic Interview Schedule (Robins, Helzer, Croughan, & Ratcliff, 1981) and designed to be administered by trained non-clinical interviewers (Robins et al., 1988). Evidence supports good reliability and validity for CIDI diagnosis of major depression (Blazer, Kessler, McGonagle, & Swartz, 1994; Wittchen et al., 1991).

Lifetime major depression was measured retrospectively using information from both Time 1 and 2 to capture respondents who met diagnostic criteria at some point from childhood to young adulthood. Out of the 282 total cases with lifetime major depression, there were 69

new onset cases between Time 1 and Time 2, and 40 of these new onset cases met criteria within 12-months of Time 2. All 69 cases, however, reported symptoms first occurring prior to the 12 months preceding our Time 2 measurement of self-esteem. Thus, we can be fairly confident in our conclusions regarding the temporal order between lifetime major depression and self-esteem.

Timing of Depression Onset—The timing of onset for major depression was recorded as part of the CIDI interview. The age of depression onset was operationalized using the age of first symptoms reported among those who met criteria for lifetime depression. While retrospective reports for the onset of major depression has been shown to be extremely reliable (Prusoff, Merikangas, & Weissman, 1988), especially among younger respondents (Farrer, Florio, Bruce, Leaf, & Weissman, 1989), the age of onset was estimated with the aid of a Life History Calendar (LHC) similar to that developed by Freedman and colleagues (1989). The instrument established a chronological context within which respondents answered specific questions about the age at which qualifying symptom clusters first and last occurred. This procedure was designed to aid in recording accurate temporal order.

Treatment Seeking—Information on lifetime treatment seeking was also obtained as part of the CIDI interview by asking respondents “Did you tell a doctor about feeling sad, empty or depressed/losing interest in most things?” and “Did you tell any other professional about feeling sad, empty or depressed/losing interest in most things?” Because data on treatment seeking was limited to those who received the battery of questions on major depression reached through screening questions within the CIDI, analyses on treatment seeking were limited to those with a history of major depression. Among those who met criteria for lifetime depression, persons who responded affirmatively to treatment seeking either at Time 1 and/or Time 2 were coded as 1, otherwise coded as 0.

Depressive Symptomatology—Recent depressive symptoms were indexed at Time 2 using the Center for Epidemiologic Studies—Depression scale (CES-D; Radloff, 1977). The twenty-item measure has been widely employed and is deemed highly reliable. The mean score was 1.85 (SD .30, range 1–4), and the reliability coefficient was .87.

Recent Life Events—Because the current investigation was concerned with the potential confounding effects of life events experienced by the respondent proximal to our Time 2 measurement of self-esteem, we employed 22-items from a 33-item checklist (Turner & Avison, 2003) referring to undesirable events that occurred within the past 12 months at Time 2. The 22 selected items involved respondents’ own experiences (e.g., “being in a serious accident,” “trouble with the law,” and “having a close friendship end”) and excluded 11 items referring to events that occurred to partners, family, and friends. (Preliminary analyses were conducted using all 33 items and results were virtually identical to those reported below). The number of events was measured using a simple count (mean 1.16, SD 1.39, range 0–7).

Demographics—Gender, race-ethnicity, and parental socioeconomic status (SES) were measured at Time 1. Males and non-Hispanic whites served as reference groups. Because our subjects were in the transition to adulthood, SES was estimated in terms of parental education, income, and occupational prestige (Hollingshead, 1957). Age was measured as a continuous variable at Time 2.

Data Analysis

We began with a correlation matrix among the central study variables (Table 1). We then employed t- and χ^2 -tests to compare those with and without lifetime major depression on

each study variable (Table 2). Also presented in Table 2, effect size statistics were calculated for each continuous predictor variable by lifetime depression (Cohen, 1988). Using ANCOVA and multivariable OLS regression estimates, the effect sizes were adjusted for study covariates. Using OLS regression, we then estimated the association between lifetime major depression (measured retrospectively at T1) and changes in self-esteem from T1 to T2, net of demographic characteristics, recent depressive symptomatology, and recent life events (Table 3). Finally, restricting our analysis to those with lifetime major depression, we regressed self-esteem on the age of depression onset (Table 4). In Model 1 self-esteem at T1 was controlled to assess the relationship between age of depression onset and changes in self-esteem from T1 to T2. Although this *change model* was useful for establishing the temporal order between depression and self-esteem, it could not address whether the timing of depression onset had an effect on the *level* of self-esteem in young adulthood. For this reason, a set of models were run without Time 1 self-esteem controlled. The relationship between age of depression onset and the level of self-esteem at T2, net of demographic characteristics, history of treatment seeking, current depressive symptoms and recent life events, are presented in Models 2 through 6.

RESULTS

Descriptive Statistics

Table 1 presents bivariate correlations among the central study variables. Although self-esteem showed significant stability during the transition into young adulthood ($r = .49, p \leq .001$), much of the variability in Time 2 self-esteem was left unexplained by Time 1 self-esteem ($1 - .49^2 = 76\%$). Lifetime major depression was associated with lower self-esteem at Time 1 ($r = -.22, p \leq .001$) and Time 2 ($r = -.17, p \leq .001$). Among those with a history of major depression ($n = 282$), the timing of depression onset was also associated with self-esteem: Later onset cases reported higher levels of self-esteem at Time 1 ($r = .22, p \leq .01$) and Time 2 ($r = .17, p \leq .01$).

Depressive symptoms at Time 2 were associated with both lifetime major depression ($r = .24, p \leq .001$) and self-esteem at Time 2 ($r = -.18, p \leq .001$). Recent life events (Time 2) were also associated with lifetime major depression ($r = .19, p \leq .001$) and Time 2 self-esteem ($r = -.11, p \leq .001$). Age of depression onset was inversely associated with treatment seeking ($r = -.18, p \leq .01$). The mean age of depression onset was 14.52 years among those who sought treatment compared to 15.83 years among those who never sought treatment ($t = 3.11, p \leq .001$). Together these findings confirm that major depression is associated with self-esteem during the transition to young adulthood but that recent depressive symptoms and life events should be controlled when evaluating the relationship between lifetime major depression and self-esteem.

Table 2 compares those with and without a history of major depression on each study variable. More than one-fifth (24%) of the sample had a history of major depression and the mean age of onset was 15 years (SD 3.58). Consistent with results presented in Table 1, compared to those with no history of major depression, those with a history of depression reported lower levels of self-esteem at Time 1 ($t = 7.64, p \leq .001$) and Time 2 ($t = 5.95, p \leq .001$), as well as more depressive symptoms ($t = 8.41, p \leq .001$) and recent life events ($t = 6.70, p \leq .001$) in young adulthood. The effect size of major depression net of study covariates was medium ($d = .39$ for Time 1 self-esteem and $d = .27$ for Time 2 self-esteem). Although both groups showed improvement in self-esteem between Times 1 and 2, those with a history of major depression reported smaller improvement ($t = 1.78, p \leq .05$). Nearly half (47%) of those with a history of depression reported seeking treatment at some point during childhood to young adulthood, thus highlighting the importance of controlling for

treatment seeking when assessing the relationship between the timing of depression onset and self-esteem.

History of Depression and Young Adult Self-Esteem

Table 3 reports findings on whether lifetime major depression predicts young adult self-esteem, independent of demographic characteristics, current depressive symptomatology and recent life events. Model 1 shows that controlling for Time 1 self-esteem, lifetime depression predicted a smaller improvement in self-esteem during the transition to young adulthood ($b = -.45, p \leq .01$). Major depression also predicted changes in self-esteem independent of demographic controls (Model 2).

Models 3 through 5 introduced Time 2 depressive symptoms and recent life events, separately and simultaneously. Model 3 indicated that depressive symptoms at Time 2 is associated with changes in self-esteem from Time 1 to Time 2 ($b = -.98, p \leq .001$). Comparing regression coefficients for lifetime depression in Models 2 and 3, current depressive symptomatology explained approximately 29 percent of the association between lifetime major depression and changes in self-esteem ($1 - [.32/.45] = .29$). Controlling for recent life events (Model 4) also partially explained (16%) the relationship between lifetime major depression and changes in self-esteem ($1 - [.38/.45] = .16$). Together recent depressive symptoms and lifetime events (Model 5) explained approximately one-third (36%) of the association between lifetime major depression and changes in self-esteem ($1 - [.29/.45] = .36$).

In sum, results indicated that although partially explained by recent depressive symptoms and stressful life events, history of major depression was negatively associated with changes in self-esteem during the transition to young adulthood. Thus the results do not support the argument that the association between lifetime major depression and young adult self-esteem is solely an artifact of state dependence. However, the partial reduction in the association between major depression and self-esteem suggests that part of the association between depressive disorder and self-esteem may manifest indirectly through ongoing depressive symptomatology.

Additional analyses were conducted in order to further rule out the interpretation of state dependence bias by using a sub-sample of respondents with lifetime major depression (not shown). In the sub-sample, we compared those who met diagnostic criteria for a depressive episode within the past six months from the Time 2 interview to those who did not meet these criteria. Results indicated that those with a six-month episode reported similar levels of self-esteem compared to those without a six-month episode, providing further support for the conclusion that the effect of major depression on subsequent self-esteem is not due to state dependence bias.

Age of Depression Onset and Young Adult Self-Esteem

Using the sub-sample of those with a history of major depression, the analysis summarized in Table 4 evaluated the association between age of depression onset and young adult self-esteem. Model 1 shows that age of onset was not associated with changes in self-esteem over a two-year period in young adulthood. As described earlier in the analysis section, Time 1 self-esteem was removed from Models 2 through 6 in order to evaluate whether the timing of depression onset was associated with the level of self-esteem in young adulthood, net of demographic characteristics, recent depressive symptoms, recent life events, and lifetime treatment.

Shown in Model 2, later onset depression was associated with higher levels of self-esteem at Time 2 than earlier onset ($b = .17, p \leq .01$). We remind the reader that all persons with a history of major depression reported symptoms first occurring prior to the 12 months

preceding our Time 2 measurement of self-esteem. Thus, we can be fairly confident in our conclusions regarding the temporal order between lifetime major depression and Time 2 self-esteem. The association between age of onset and T2 self-esteem remained unchanged after demographic characteristics and treatment seeking were controlled (Model 3). The coefficient for age of depression onset predicting Time 2 self-esteem also remained largely unchanged after controlling for Time 2 depressive symptoms and recent life events (Models 4 through 5). Together the results indicated that earlier onset depression is more problematic than later onset for young adult self-esteem net of recent depressive symptomatology, recent life events, and treatment seeking.

DISCUSSION

Depression is recognized as a major mental health problem experienced by many adolescence and young adults in the U.S. (Reynolds & Johnston, 1994). The current investigation found that 24 percent of young adults had a history of major depression and the mean age of onset was 15 years old. Based on the argument that depression can have enduring effects on psychosocial functioning even after remission (Kovacs, 1997), the first purpose of this retrospective longitudinal study was to investigate the relationship between lifetime major depression and self-esteem in young adulthood.

Consistent with prior research (Reinherz et al., 1999), the findings demonstrated that major depression early in the lifecourse was associated with lower self-esteem in young adulthood. Although recent depressive symptoms and stressful life events partially explained the relationship between lifetime major depression and changes in self-esteem during the transition to young adulthood, it should be borne in mind that the time between the onset of depression and the measurement of self-esteem was rather extensive. Specifically, the mean age of depression onset was 15 years, and the mean age when self-esteem was assessed was 20 years at Time 1 and 22 years at Time 2. Given the number of years between average age of onset and self-esteem assessment, the modest effect size of major depression predicting self-esteem is notable and is consistent with the developmental literature indicating small direct effects on outcomes measured several years later (Sroufe, Egeland, & Carlson, 1999). In addition, the relationship between lifetime depression and changes in self-esteem during young adulthood (from Time 1 to Time 2) was independent of the variance shared between lifetime major depression and self-esteem at Time 1 and the prediction involved a span of approximately 2 years, suggesting statistical as well as substantive significance. Although we cannot unequivocally claim that the association is causal, together the results support the view that depression can have enduring effects on psychosocial functioning (Kovacs, 1997).

The negative consequences of depression on self-esteem may occur on two fronts. First, because depressed persons are often withdrawn and socially isolated, depression onset during childhood and adolescence is likely to have negative consequences for one's sense of self due to delayed and poorly developed interpersonal skills (Kovacs & Goldston, 1991). Second, because depressed persons often acquire negative self-schemas (Beck, 1967; 1976), the onset of depression in early developmental stages may translate into low self-esteem that individuals carry with them later in the lifecourse. Thus depressed youths may engage and view the world around them from a depressogenic lens, not unlike Abramson's notion of hopelessness depression (Abramson et al., 1989). As Abramson and colleagues highlight the tendency for depressed persons to view their *self* as flawed following negative life events, the onset of major depression during sensitive periods of personal and social development may result in a depressogenic lens in which individuals view the world generally. This is consistent with the idea that persistent negative self views during early child-adolescent development can have long-term consequences for how individuals perceive themselves later in the lifecourse (Abela & Hankin, 2008).

The second purpose of this study was to examine whether the timing of depression onset was associated with self-esteem in young adulthood. To the extent that depression and negative self schemas are solely reflections of personality traits and not born out experiences during childhood and adolescent development, the timing of depression onset should not predict later self-esteem. The results indicated that, although the timing of major depression onset was not associated with changes in self-esteem over a two-year period in young adulthood, earlier depression onset was more problematic than later onset for the level of self-esteem in young adulthood. Contrary to prior research suggesting that older age of onset is more detrimental for self-esteem (Giaconia et al., 1994), the findings are consistent with the idea that youths experiencing an earlier onset of depression may have a more difficult time “catching up” to developmental milestones and experience delays in the development of essential interpersonal skills (Kovacs & Goldston, 1991). In addition to delays in social development and related skills, the greater negative effect of earlier onset may stem from a depressogenic lens that develops in childhood-early adolescence and that individuals carry with them later in the lifecourse.

We acknowledge several limitations to the current study. First, given the episodic nature of depression (Reinherz et al., 1993), assessing the recurrence of depression would aid in our understanding of how depression is associated with self-esteem over time. For example, persons with an earlier depression onset may be at higher risk for chronic depression and, in turn, at greater risk for lower self-esteem. Similarly, evaluating the impact of the overall duration of depression and the time between episodes during adolescence would advance our understanding of the relationship between major depression and self-esteem. In preliminary analyses, the number of years between the first and last symptoms experienced was used as a proxy measure for duration, and it showed an effect on self-esteem similar to onset of age. The effects of duration and onset timing could not be simultaneously examined due to the collinearity. Further research is needed to estimate the relative importance of the age of onset, chronicity, and duration of depression on self-esteem.

Second, as with any retrospective measurement, reporting prior events and the timing of depression onset are subject to recall bias and error. However, problems related to recall bias and error are likely tempered given the young age of study participants. In addition, prior research has shown that reports of the age of depression onset to be extremely reliable (Farrer et al., 1989; Prusoff et al., 1988) and the use of a Life History Calendar (Freedman et al., 1988) aided in establishing timing of onset in the present study.

Third, the current investigation focused on the effect of depression on self-esteem, but future research should simultaneously consider the effect of self-esteem on depression in order to better understand the potential reciprocity between depression and self-esteem over time. To date, only two community-based studies have evaluated reciprocal effects between depression and self-esteem, which have either included older adults (Ormel et al., 2004) or evaluated depression in terms of symptomatology and not major depression (Orth et al., 2008). Although these studies did not find an association between depression and subsequent self-esteem, further research is needed on the reciprocity between major depression and self-esteem in young adulthood.

Such limitations notwithstanding, the results indicated that major depression early in the lifecourse was associated with negative consequences for self-esteem in young adulthood, and that the earlier the onset of depression the more problematic for self-esteem. Importantly, these associations were found to be largely independent of current depressive symptomatology and recent life events, providing evidence to rule out the alternative explanation of state dependence. Together the findings suggest that the impact of lifetime major depression on self-esteem manifests indirectly through poor social competence and a

depressogenic lens. If true then addressing potentially socially modifiable childhood and adolescent factors may help reduce or deter the negative consequences of major depression on self-esteem.

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REFERENCES

- Abela, JRZ.; Hankin, BL. Handbook of Depression in Children and Adolescents. New York: The Guilford Press; 2008.
- Abramson LY, Metalsky GI, Alloy LB. Hopelessness depression: A theory-based subtype of depression. *Psychological Review*. 1989; 96:358–372.
- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed.. Washington: American Psychiatric Association; 1994.
- Beck, AT. Depression: Clinical, Experimental and Theoretical Aspects. New York: Hoeber; 1967.
- Beck, AT. Cognitive Therapy and Emotional Disorders. New York: International Universities Press; 1976.
- Blazer DG, Kessler RC, McGonagle KA, Swartz MS. The prevalence and distribution of major depression in a national community sample: The National Comorbidity Survey. *American Journal of Psychiatry*. 1994; 151:979–986. [PubMed: 8010383]
- Boden JM, Fergusson DM, Horwood LJ. Does adolescent self-esteem predict later life outcomes? A test of the causal role of self-esteem. *Development and Psychopathology*. 2008; 20:319–339. [PubMed: 18211740]
- Bowlby, J. Attachment and loss. Vol. 1, Attachment. New York: Basic Books; 1969.
- Bowlby, J. Attachment and loss. Vol. 2, Separation: Anxiety and Anger. New York: Basic Books; 1973.
- Burwell RA, Shirk SR. Self processes in adolescent depression: The role of self-worth contingencies. *Journal of Research on Adolescence*. 2006; 16(3):479–490.
- Cheng H, Furnham A. Personality, self-esteem, and demographic predictions of happiness and depression. *Personality and Individual Differences*. 2003; 34:921–942.
- Cohen, J. Statistical power analysis of the behavioral sciences. 2nd ed.. Hillsdale, NJ: Erlbaum; 1988.
- Compas BE, Wagner BM, Slavin LA, Vannatta K. A prospective study of life events, social support, and psychological symptomatology during the transition from high school to college. *American Journal of Community Psychology*. 1986; 14(3):241–257. [PubMed: 3739977]
- Elder, GH.; George, LK.; Shanahan, MG. Psychosocial stress over the life course. In: Kaplan, H., editor. *Perspectives on Psychosocial Stress*. San Diego, CA: Academic Press; 1996. p. 245-290.
- Farrer LA, Florio LP, Bruce ML, Leaf PJ, Weissman MM. Reliability of self-reported age at onset of major depression. *Journal of Psychiatric Research*. 1989; 23:35–47. [PubMed: 2754627]
- Franco DL, Bean J, Tamer R, Faith-Anne D, Schreiber G, Striegel-Moore RH, Kraemer HC, Crawford PB, Daniels SR. Psychosocial and health consequences of adolescent depression in black and white young adult women. *Health Psychology*. 2005; 24:586–593. [PubMed: 16287404]
- Freedman, D.; Thornton, A.; Camburn, D.; Alwin, D.; Young-DeMarco, L. Clogg, CC. *Sociological Methodology*. Ann Arbor, MI: Institute for Social Research, University of Michigan; 1988. The life history calendar: A technique for collecting retrospective data; p. 37-68.
- Giaconia RM, Reinherz HZ, Paradis AD, Carmola Hauf AM, Stashwick CK. Major depression and drug disorders in adolescence: General and specific impairments in early adulthood. *Journal of American Academy of Child & Adolescent Psychiatry*. 2001; 40:1426–1433.

- Giaconia RM, Reinherz HZ, Silverman AB, Pakiz B, Frost AK, Cohen E. Ages of onset of psychiatric disorders in a community population of older adolescents. *Journal of American Academy of Child & Adolescent Psychiatry*. 1994; 33:706–717.
- Hammen C. Stress generation in depression: Reflections on origins, research, and future directions. *Journal of Clinical Psychology*. 2006; 62:1065–1082. [PubMed: 16810666]
- Harter, S. *The construction of the self: A developmental perspective*. New York: Guilford Press; 1999.
- Harter, S. The development of self-representations during childhood and adolescence. In: Leary, MR.; Tangney, JP., editors. *Handbook of Self and Identity*. New York: Guilford Press; 2003. p. 610-642.
- Hoffman JP, Baldwin SA, Cerbone FG. Onset of major depressive disorder among adolescents. *Journal of American Academy of Child & Adolescent Psychiatry*. 2003; 42:217–224.
- Hollingshead, AB. *Two Factor Index of Social Position*. New Haven, CT: A. B. Hollingshead; 1957.
- Kaslow, NJ.; Brown, RT.; Mee, LL. Cognitive and behavioral correlates of childhood depression: A developmental perspective. In: Reynolds, WM.; Johnston, HF., editors. *Handbook of Depression in Children and Adolescents*. New York: Plenum Press; 1994. p. 97-121.
- Kessler, Ronald C. "Epidemiology of Depression." In: Gotlib, Ian H., editor. *Handbook of Depression*. New York, NY, US: Guilford Press; 2002. p. 295-313.
- Kessler RC, McGonagle KA, Zhao S, Nelson CB, Hughes M, Eshleman S, Wittchen H-U, Kendler KS. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry*. 1994; 51:8–19. [PubMed: 8279933]
- Klerman GL. Depressive-disorders – Further evidence for increased morbidity and impairment of social functioning. *Archives of General Psychiatry*. 1989; 46(9):856–858. [PubMed: 2774851]
- Kovacs M. Depressive disorders in childhood: An impressionistic landscape. *Journal of Child Psychology and Psychiatry*. 1997; 38:287–298. [PubMed: 9232475]
- Kovacs M, Goldston D. Cognitive and social cognitive development of depressed children and adolescents. *Journal of American Academy of Child & Adolescent Psychiatry*. 1991; 30:388–392.
- Lewinsohn PM, Roberts RE, Seeley JR, Rohde P, Gotlib IH, Hops H. Adolescent psychopathology: II. Psychosocial risk factors for depression. *Journal of Abnormal Psychology*. 1994; 103:302–315. [PubMed: 8040500]
- Link, BG.; Cullen, FT. The labeling theory of mental disorder: A review of the evidence. In: Greenely, JR., editor. *Research in Community and Mental Health*. Greenwich, Connecticut: JAI Pres Inc; 1990. p. 75-105.
- Nieradzki K, Cochrane R. Public attitudes towards mental illness: The effects of behavior, roles, and psychiatric labels. *International Journal of Social Psychiatry*. 1985; 31(1):23–33. [PubMed: 3972490]
- Mruk, CJ. *Self-esteem research, theory, and practice: Toward a positive psychology of self-esteem*. New York: Springer Publishing Company, Inc; 2006.
- Ormel J, Oldehinkel AJ, Vollebergh W. Vulnerability before, during, and after a major depressive episode: A 3-wave population-based study. *Archives of General Psychiatry*. 2004; 61:990–996. [PubMed: 15466672]
- Orth U, Robins RW, Roberts BW. Low self-esteem prospectively predicts depression in adolescence and young adulthood. *Journal of Personality and Social Psychology*. 2008; 95:695–708. [PubMed: 18729703]
- Payton AR. Mental health, mental illness, and psychological distress: Same continuum or distinct phenomena? *Journal of Health and Social Behavior*. 2009; 50:213–227. [PubMed: 19537461]
- Pelkonen M, Marttunen M, Kaprio J, Huurre T, Aro H. Adolescent risk factors for episodic and persistent depression in adulthood. A 16-year prospective follow-up study of adolescents. *Journal of Affective Disorders*. 2008; 106:123–131. [PubMed: 17659351]
- Prusoff BA, Merikangas KR, Weissman MM. Lifetime prevalence and age of onset of psychiatric disorders: recall 4 years later. *Journal of Psychiatric Research*. 1988; 22:107–117. [PubMed: 3261342]

- Puig-Antich J, Lukens E, Davies M, Goetz D, Brennan-Quattrock J, Todak G. Psychosocial functioning in prepubertal major depressive disorders: I. Interpersonal relationships during the depressive episode. *Archives of General Psychiatry*. 1985; 42:500–507. [PubMed: 3985760]
- Radloff LS. The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychosocial Measurement*. 1977; 1:385–401.
- Reinherz HZ, Giaconia RM, Carmola Hauf AM, Wasserman MS, Silverman AB. Major depression in the transition to adulthood: Risks and impairments. *Journal of Abnormal Psychology*. 1999; 108:500–510. [PubMed: 10466274]
- Reinherz HZ, Giaconia RM, Lefkowitz ES, Pakiz B, Frost AK. Prevalence of psychiatric disorders in a community population of older adolescents. *Journal of American Academy of Child & Adolescent Psychiatry*. 1993; 32:369–377.
- Reynolds, WM.; Johnston, HF. The nature and study of depression in children and adolescents. In: Reynolds, WM.; Johnston, HF., editors. *Handbook of Depression in Children and Adolescents*. New York: Plenum Press; 1994. p. 3-17.
- Robins LN, Helzer JE, Croughan J, Ratcliff KS. National Institute of Mental Health Diagnostic Interview Schedule: Its history, characteristics and validity. *Archives of General Psychiatry*. 1981; 38:381–389. [PubMed: 6260053]
- Robins LN, Wing J, Wittchen H-U, Helzer JE, Babor TF, Burke J, et al. The Composite International Diagnostic Interview: An epidemiologic instrument suitable for use in conjunction with different systems and in different cultures. *Archives of General Psychiatry*. 1988; 45:1069–1077. [PubMed: 2848472]
- Rosenberg, M. *Conceiving the Self*. Malabar, FL: Krieger Publishing Company; 1979.
- Rosenberg, M. Self-concept and psychological well-being in adolescence. In: Leahy, RL., editor. *The Development of the Self*. Orlando: Academic Press; 1985. p. 205-456.
- Shahar G, Davidson L. Depressive symptoms erode self-esteem in severe mental illness: A three-wave, cross-lagged study. *Journal of Consulting and Clinical Psychology*. 2003; 71:890–900. [PubMed: 14516237]
- Southall D, Roberts JE. Attributional style and self-esteem in vulnerability to adolescent depressive symptoms following life stress: A 14-week prospective study. *Cognitive Therapy and Research*. 2002; 26:563–579.
- Sroufe, L.; Egeland, B.; Carlson, EA. One social world: The integrated development of parent-child and peer relationships. In: Collins, WA.; Laursen, B., editors. *Relationships as developmental contexts. The Minnesota Symposia on Child Psychology*. Vol. Vol. 30. Hillsdale, NJ: Erlbaum; 1999. p. 241-261.
- Turner RJ, Avison WR. Status variations in stress exposure: Implications for the interpretation of research on race, socioeconomic status, and gender. *Journal of Health and Social Behavior*. 2003; 44:488–505. [PubMed: 15038145]
- Turner RJ, Gil A. Psychiatric and substance disorders in South Florida: Racial/ethnic and gender contrasts in a young adult cohort. *Archives of General Psychiatry*. 2002; 59:43–50. [PubMed: 11779281]
- Turner RJ, Lloyd DA. The stress process and the social distribution of depression. *Journal of Health and Social Behavior*. 1999; 40:374–404. [PubMed: 10643162]
- Vega, WA.; Gil, AG. *Drug Use and Ethnicity in Early Adolescence*. New York, NY: Plenum Press; 1998.
- Wittchen H-U, Robins LN, Cottler LB, Sartorius N, Burke JD, Regier DA. Cross-cultural feasibility, reliability and sources of variance in the Composite International Diagnostic Review (CIDI). *British Journal of Psychiatry*. 1991; 159:645–653. [PubMed: 1756340]
- Wright ER, Gronfein WP, Owens TJ. Deinstitutionalization, social rejection, and the self-esteem of former mental patients. *Journal of Health and Social Behavior*. 2000; 41:68–90. [PubMed: 10750323]

TABLE 1

Correlation Matrix of Study Variables

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Self-Esteem (T1)	-						
(2) Self-Esteem (T2)	.49***	-					
(3) Lifetime Major Depression ^a	-.22***	-.17***	-				
(4) Age of Depression Onset ^{a,b}	.22***	.17***	n.a.	-			
(5) Depressive Symptoms (T2)	-.15***	-.18***	.24***	-.11	-		
(6) Treatment Seeking for Depression ^{b,c}	-.08	-.07	n.a.	-.18**	.10	-	
(7) Recent Life Events (T2)	-.08**	-.11***	.19***	.05	.34***	.05	-

Note: n = 1,197. Depressive symptoms were measured using the Center for Epidemiologic Studies–Depression scale. Recent life events refer to events within the past 12 months.

^a Measured retrospectively using information from both Time 1 and 2 to capture respondents who met diagnostic criteria for depression and the age of onset.

^b Includes only those with a history of major depression (n = 282).

^c Treatment seeking for depression (1=yes; 0=no) using information from both Time 1 and 2.

* p ≤ .05;

** p ≤ .01;

*** p ≤ .001.

TABLE 2

Variable Descriptives by Lifetime Major Depression

Variable	Lifetime Depression (n = 282, 24%)		No Depression (n = 915, 76%)		Group Contrasts	Adjusted Effect Size
	Mean	SD	Mean	SD		
Age of Depression Onset ^a	15.22	3.58	n.a.	n.a.		
Self-Esteem (T1) ^b	26.49	3.73	27.97	2.51	t = 7.64***	.39
Self-Esteem (T2) ^b	26.88	3.52	28.00	2.51	t = 5.95***	.27
Depressive Symptoms (T2) ^c	1.98	.32	1.81	.28	t = -8.41***	.37
Recent Life Events (T2) ^d	1.64	1.57	1.01	1.29	t = -6.70***	.29
Age (T2)	22.59	.83	22.67	.91	t = 1.32	.10
Family of Origin SES (T1) ^e	.07	1.00	-.02	1.00	t = -1.27	.04
	Freq.	%	Freq.	%		
Treatment Seeking for Depression ^f	132	47.81	n.a.	n.a.		
Female	172	31.79	369	68.21	$\chi^2 = 37.17^{***}$	
Male	110	16.77	546	83.23		
Non-Hispanic white	89	27.64	233	72.36	$\chi^2 = 9.21^*$	
Cuban	70	24.48	216	75.52		
Non-Cuban Hispanic	72	24.24	225	75.76		
African American	51	17.47	241	82.53		

Notes: n = 1,197. Lifetime major depression, age of depression onset, and treatment seeking were measured retrospectively drawing upon data from both time 1 and 2. Effect size (Cohen's d) was adjusted for study covariates. T1 = measured at time 1. T2 = measured at time 2.

^aRange = 5 to 23 years.

^bRange = 6 to 30.

^cCES-D: range = 1 to 4.

^dEvents occurring within 12-months of T2, range = 0 to 7.

^eStandardized index: parental education, occupational prestige and income (Mean = 0, S.D. = 1).

^fLifetime treatment seeking (n/% yes) among those with a history of major depression (n = 282).

$p \leq .001$

$p \leq .01$
**

$p \leq .50$
*

TABLE 3

Self-Esteem (T2) Regressed on Lifetime Depression & Study Variables

	(1)	(2)	(3)	(4)	(5)
Self-Esteem (T1)	.46*** (.03)	.45*** (.03)	.43*** (.03)	.44*** (.03)	.43*** (.03)
Lifetime Major Depression	-.45** (.17)	-.45** (.17)	-.32 (.18)	-.38* (.18)	-.29 (.18)
Female ^a		-.10 (.15)	-.05 (.15)	-.12 (.15)	-.06 (.15)
Cuban ^b		.22 (.21)	.18 (.21)	.21 (.21)	.18 (.21)
Non-Cuban Hispanic ^b		-.09 (.21)	-.08 (.21)	-.09 (.21)	-.08 (.21)
African American ^b		.20 (.21)	.27 (.21)	.22 (.21)	.27 (.21)
Family of Origin SES (T1)		.28*** (.08)	.29*** (.08)	.27*** (.08)	.29*** (.08)
Age (T2)		.05 (.08)	.04 (.08)	.05 (.08)	.04 (.08)
Depressive Symptoms (T2) ^c			-.98*** (.25)		-.90*** (.26)
Recent Life Events (T2) ^d				-.11* (.05)	-.05 (.06)
R-squared	.24	.25	.26	.26	.26

Notes: n = 1,197. Unstandardized OLS regression coefficients are presented with standard errors (). Lifetime major depression was measured retrospectively drawing upon data from both time 1 and 2. T1 = measured at time 1. T2 = measured at time 2 (approximately two years after time 1).

^aReference = males.

^bReference = non-Hispanic white.

^cCES-D.

^d Events occurring within 12-months of Time 2.

* $p \leq .05$;

** $p \leq .01$;

*** $p \leq .001$.

TABLE 4

Self-Esteem (T2) Regressed on Age of Depression Onset

	(1)	(2)	(3)	(4)	(5)	(6)
Self-Esteem (T1)	0.476** (0.049)					
Age of Depression Onset ^a	0.052 (0.052)	0.169** (0.059)	0.161** (0.060)	0.139* (0.057)	0.173** (0.058)	0.135* (0.059)
Female ^b		-0.285 (0.430)	-0.220 (0.438)	-0.324 (0.418)	-0.276 (0.429)	-0.297 (0.427)
Cuban ^c		0.401 (0.577)	0.360 (0.579)	0.446 (0.561)	0.354 (0.577)	0.434 (0.566)
Non-Cuban Hispanic ^c		0.577 (0.594)	0.533 (0.597)	0.583 (0.578)	0.567 (0.594)	0.565 (0.582)
African American ^c		-0.426 (0.671)	-0.523 (0.682)	-0.049 (0.659)	-0.405 (0.670)	-0.093 (0.673)
Family of Origin SES (T1)		0.271 (0.237)	0.283 (0.238)	0.293 (0.231)	0.251 (0.237)	0.301 (0.233)
Age (T2)		-0.126 (0.259)	-0.120 (0.259)	-0.171 (0.252)	-0.147 (0.259)	-0.166 (0.253)
Treatment Seeking ^d			-0.354 (0.440)			-0.157 (0.432)
(T2) ^e				-2.641** (0.645)		-2.656** (0.695)
Recent Life Events (T2) ^f					-0.168 (0.133)	0.024 (0.139)
R-squared	0.27	0.05	0.05	0.10	0.05	0.10

Notes: n = 282. Unstandardized OLS regression coefficients are presented with standard errors (). Analysis includes only those with a history of major depression. Age of onset was measured retrospectively drawing upon data from both time 1 and 2. T1 = measured at time 1. T2 = measured at time 2 (approximately two years after time 1).

^aMean age onset = 15.21, s.d. = 3.59, range = 5 to 23 years.

^bReference = males.

^cReference = non-Hispanic white.

^dLifetime treatment seeking for depression.

^eCES-D.

^fEvents occurring within 12-months of Time 2.

* $p \leq .05$;

** $p \leq .01$;

*** $p \leq .001$.