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Life stress and family history for depression: The moderating role of past depressive episodes

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ABSTRACT

Three of the most consistently reported and powerful predictors of depression are a recent major life event, a positive family history for depression, and a personal history of past depressive episodes. Little research, however, has evaluated the inter-relations among these predictors in depressed samples. Such information is descriptively valuable and potentially etiologically informative. In the present article we summarize the existing literature and test four predictions in a sample of 62 clinically depressed individuals: (1) participants who experienced a major life event prior to onset would be less likely than participants who did not experience a major life event to have a positive family history for depression; (2) participants with a recent major life event would have fewer lifetime episodes of depression than would participants without; (3) participants with a positive family history for depression would have more lifetime episodes of depression than would participants with a negative family history for depression; and (4) we would obtain a 3-way interaction in which participants with a positive family history and without a major life event would have the most lifetime episodes, whereas participants with a negative family history and a major life event would have the fewest lifetime episodes. The first three predictions were confirmed, and the fourth prediction partially confirmed. These novel findings begin to elucidate the complex relations among these three prominent risk factors for depression, and point to avenues of research that may help illuminate the origins of depressive episodes.

Three of the most consistent and powerful predictors of depression are a recent major life event, a positive family history for depression, and a personal history of depressive episodes. Specifically, people with a recent major life event are 2.5–12 times more likely to develop an episode of depression (Kendler et al., 1995; Shrout et al., 1989). Similarly, people with a first-degree family member who has experienced depression are 2.8–10 times more likely to develop depression (Goodwin and Jamison, 2007; Wallace et al., 2002). Finally, approximately 40–60% of people suffering a first lifetime episode of depression will incur another, with risk rising further for those with more prior episodes (American Psychiatric Association, 1994; Monroe and Harkness, 2011).

Although these three risk indicators are widely recognized to be strongly associated with depression, little is known about how they are related to one another; indeed, no study has investigated all three factors in a well-characterized sample of depressed individuals. Following a brief review of prior work on this topic, we evaluate four predictions within a sample of depressed individuals regarding associations among pre-onset major life events, family history for depression, and personal history of depression.

1. Family history of depression and major life stress

Early work by Strecker (1922) suggested that manic-depressive patients with a history of recent life stress had fewer family members with a history of mental illness. The working premise for these observations was that "the more defective the family stock, the less likelihood there is of finding serious extraneous factors in the histories of mental patients" (p. 530). Other researchers added substance to these early observations by focusing specifically on major depression. For instance, Pollitt (1972) reported that, within a depressed sample, there was an inverse association between familial rates of depression and severe psychological stress.

Other research, however, has not uniformly confirmed these predictions. For example, Perris et al. (1982) hypothesized that patients without a family history of depression would be "less vulnerable from a genetic point of view" and, consequently, that

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such patients "would require more, or more severe, events to precipitate depression than the more vulnerable" patients with a family history of the disorder (p. 243). However, these investigators found no differences between patients who were positive and negative for family history with respect to life events three months prior to onset of the depression. Similarly, McGuffin et al. (1988) were unable to confirm the predicted "inverse association between the presence of familial loading and reactivity to stress" (p. 775; see also Behar et al., 1981; Thomson and Hendrie, 1972).

There are several explanations for these discrepancies, including differences in research designs, samples, and methods. Of particular concern is the adequacy of previous practices for assessing life stress (Monroe and Reid, 2008). Equally important and previously unrecognized, prior investigations have not taken into account the depressed person's history of depressive episodes. Specifically, prior history of depression may be essential to consider for understanding of the associations between recent life events and family history for depression.

2. Personal history of depression, family history of depression, and major life stress

Personal history of past depressive episodes has consistently been associated with family history of depression (e.g., see Sullivan et al., 2000). For instance, Bland et al. (1986) examined first lifetime admissions of depression over a 12- to 18-year follow-up period and compared morbidity risk for depression in relatives for the depressed patients who subsequently did or did not have a recurrence. The morbidity risk for relatives of individuals who had a single lifetime episode of depression was significantly lower (5.4%) than it was for relatives of individuals who experienced recurrences (12.65%). Thus, a personal history of depression should be associated with a positive family history of depression.

In contrast, the presence of major stress prior to onset of depression has been found consistently to be associated with less personal history of depression (Post, 1992), likely because major life events precede onset of depressive episodes early in the life course, and are less common prior to recurrences later in the life course. Such findings are often ascribed to premise that depressed persons become increasingly sensitized (or 'kindled') to stress, so that progressively lower levels of stress become capable of triggering recurrences (Monroe and Harkness, 2005). Consequently, a greater personal history of depression should be associated with a lower likelihood of experiencing a major life event prior to onset. Indeed, a large body of research has provided evidence for this effect (e.g., Slavich et al., 2011; for a review, see Stroud et al., 2008).

What is unknown, and has not yet been evaluated, is how these three major risk factors operate collectively. As indicated, there is good evidence for bivariate associations among the three factors, yet we do not know how such associations are altered when all three are considered simultaneously. Such information could resolve inconsistencies in the literature. Finally, such information could advance theory and research on the causes and possible subtypes of major depression. Along these lines, we propose that the association between pre-onset major life stress and family history of depression is moderated by personal history of depression.

3. The present study

In the present study we evaluated the relations between pre-onset major life events, family history for depression, and personal history of depression in a sample of 62 adults diagnosed with major depression. Based upon the literatures summarized above, we generated four predictions. First, participants who had a major life event prior to onset would be less likely to have a positive family history for depression. Second, participants with a pre-onset major life event would report fewer lifetime episodes of depression (as previously demonstrated for a subset of the present sample; Monroe et al., 2007). Third, participants with a positive family history for depression would report more lifetime episodes of depression.

Finally, given the lack of existing information, predictions for the key three-way interaction of all three risk factors are more difficult to generate with confidence. Nonetheless, based on stress sensitization theory and prior research, we predicted that the relation between a major life event and family history for depression would be moderated by personal history of depression. Specifically, we hypothesized that individuals with a positive family history for depression and without a recent major life event would have the greatest number of past depressive episodes, whereas individuals with a negative family history and a pre-onset major life event would have the fewest.

4. Method

4.1. Participants and procedure

Participants were 62 adults (46 female) between the ages of 18 and 58 ($M = 35.22$, $SD = 10.18$). These individuals, all diagnosed with Major Depressive Disorder (MDD), were drawn from projects investigating the role of cognition in psychopathology (see Gotlib et al., 2004) and life stress in depression (see Monroe et al., 2007; Muscatell et al., 2009; Slavich et al., 2009). The present study included all participants with complete data on recent life stress, family history for depression, and personal history of depression. Individuals were recruited through community advertisements and flyers, and through referrals from two outpatient psychiatry clinics at Stanford University. The majority of participants were self-referred from the advertisements, and approximately half (53%) were receiving some form of treatment.

Participants initially were screened by telephone to recruit those with current depression, and a relatively recent onset (98% of participants in the original sample had an onset within 2½ years); if the participant had experienced prior depression, a minimum interval of six months without MDD was required prior to the index episode. Individuals potentially eligible for the study were invited to complete a diagnostic interview and a battery of self-report questionnaires in the Department of Psychology at Stanford University. Participants who met full criteria for study inclusion were requested to return approximately one week later to complete additional measures. Following these two initial sessions, participants were invited for a third session to complete the life stress interview. After the protocol was fully explained, participants provided written informed consent and were paid $25 per hour. The research was approved by the University of Oregon and Stanford University Institutional Review Boards.

All participants were interviewed with the Structured Clinical Interview for DSM-IV (SCID; First et al., 1996) and met criteria for current MDD according to the Diagnostic and Statistical Manual of Mental Disorders (4th edition; DSM-IV; APA, 1994). These individuals were screened to exclude current comorbid panic disorder and social phobia, as well lifetime history of mania, hypomania, or psychotic symptoms. Participants were also excluded if they had a recent history (past 6 months) of alcohol or psychoactive substance abuse or dependence, or a history of brain injury or mental retardation. Interviewers were advanced psychology graduate students and post-baccalaureate research assistants. To assess diagnostic inter-rater reliability for the overall project, an independent trained rater who was unaware of group membership