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Research paper

Hostile parenting, parental psychopathology, and depressive symptoms in the offspring: a 32-year follow-up in the Young Finns study

Kia Gluschkoff[a], Liisa Keltikangas-Järvinen[a], Laura Pulkki-Råback[a,b], Markus Jokela[a], Jorma Viikari[c], Olli Raitakari[d], Mirka Hintsanen[e,a,*]

[a] Institute of Behavioural Sciences, University of Helsinki, Finland
[b] Helsinki Collegium for Advanced Studies, University of Helsinki, Finland
[c] Department of Medicine, University of Turku and Division of Medicine, Turku University Hospital, Finland
[d] Department of Clinical Physiology and Nuclear Medicine, Turku University Hospital and Research Centre of Applied and Preventive Cardiovascular Medicine, University of Turku, Finland
[e] Unit of Psychology, Faculty of Education, University of Oulu, Finland

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ABSTRACT

Background: Both hostile parenting and parental psychopathology have been shown to predict depression in the offspring. However, whether and how they interact in predicting the longitudinal course of depression from adolescence to adulthood remains unclear.

Methods: Participants were from the prospective Cardiovascular Risk in Young Finns study, aged 3–18 years at baseline in 1980. We used multilevel modeling for repeated measurements to examine the associations of hostile parenting (i.e., parental intolerance and emotional distance) and parental history of psychopathology with trajectories of depressive symptoms across five study phases from 1992 to 2012.

Results: On average, depressive symptoms decreased in a curvilinear pattern with age. A relatively steep decreasing trend was also observed among offspring of parents with a history of psychopathology but low intolerance. By contrast, among the offspring of parents with a history of psychopathology and high intolerance there was a rising trend in depressive symptoms starting from young adulthood. There was no similar interaction between parental history of psychopathology, emotional distance, and age.

Limitations: Non-standardized, parental self-report scales were used to measure hostile parenting. The observed effects were small, and the depressive symptoms scale applied in the study may not be used for measuring clinical depression.

Conclusions: Parental psychopathology might render individuals sensitive to the unfavorable characteristics of the caregiving environment. Intolerance towards the child can exacerbate the effects of parental psychopathology and have a long-term significance on the developmental trajectory of depressive symptoms over the life-course.

1. Introduction

Affecting approximately 350 million people in all communities, depression is one of the leading causes of disability worldwide (Vos et al., 2012). A substantial body of evidence points to childhood experiences in the pathogenesis of depression (Heim et al., 2008; Pirkola et al., 2005; Danese et al., 2009), highlighting the role of parenting in the onset of the disorder (McLeod et al., 2007). Hostile parenting characterized by emotional distance, neglect, or rejection is a risk factor for the offspring's mental health (Hall et al., 2004; Oakley-Browne et al., 1995; Rojo-Moreno et al., 1999; Sakado et al., 2000) because it not only undermines self-esteem and promotes maladaptive attitudes (Keltikangas-Järvinen et al., 2003; Randolph and Dykman, 1998) but also increases neurobiological stress reactivity (Meaney, 2001), which, in turn, contribute to later onset of depression (Sowislo and Orth, 2013; Willner et al., 2013). Unfavorable childhood experiences, such as dysfunctional parent-child interactions, thus lay the groundwork for the offspring's future depressive tendencies.

Besides contributing to the development of depression in their offspring through the quality of parenting practices they employ, parents may also pass on vulnerability to the disorder (Rice et al., 2002). There is consistent evidence that depression runs in families, as

* Correspondence to: Unit of Psychology, University of Oulu, P.O.Box 2000 (Yliopistokatu 9), 90014 Oulu, Finland
E-mail address: mirka.hintsanen@oulu.fi (M. Hintsanen).

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studies have reported parental psychopathology to be associated with up to 13 times higher risk of depression in the offspring (Klein et al., 2005; Weissman, 2006; Wickramaratne and Weissman, 1998). This is likely due to the heritability of depression (Sullivan et al., 2000), rendering the offspring of depressed parents inherently susceptible to the disorder. Whereas the heritability estimate of depression is around 40% in the general population, it reaches staggering proportions (67%) in the direct descendants of clinically depressed individuals (Guffanti et al., 2016).

Whether the association between hostile parenting and depression in the offspring might be dependent on the offspring's susceptibility to depression due to parental psychopathology, however, remains poorly understood. Previous research suggests that there are differences in the way children respond to hostile parenting, depending on the susceptibility of the child (Morris et al., 2002; Bradley and Corwyn, 2007). This susceptibility is suggested to originate from biological differences, making some children more receptive to environmental influences (Belsky and Pluess, 2009). While some evidence suggests that, for example, traumatic childhood events predict depression in the offspring particularly among those who are at risk due to parental psychopathology (Zimmermann et al., 2008), very little research has been conducted to examine the combined effects of parenting and parental psychopathology in the longitudinal course of depression. According to cross-sectional evidence, hostile parenting might be particularly pathogenic in individuals with parental psychopathology (Hammen et al., 2004). However, this finding was not replicated in the first, and to date, only longitudinal study examining the effects of parenting and parental psychopathology on the risk of depression in the offspring at a 20-year follow-up (Pilowsky et al., 2006). Understanding more about the possible interplay of these factors is necessary for an early detection and prevention of childhood risks for depression in adulthood.

In the present study, we apply repeated measurements to examine whether parental history of psychopathology and hostile parenting interact in predicting the age-related developmental trajectory of depressive symptoms in the offspring from adolescence to adulthood. Although the median age for the onset of mood disorders, such as depression, is around 25–32 years (Kessler et al., 2005), majority of studies examining depression in individuals with a heightened risk for the disorder have focused on children or adolescents. Consequently, previous research may not have captured the relevant time periods in describing the developmental course of depression in at-risk individuals. It is currently unknown whether and how such risk factors are associated with depressive symptoms in adulthood.

We hypothesized that the association between hostile parenting and depressive symptoms would be more intense in individuals vulnerable to depression, as indicated by parental history of psychopathology. Depression has been shown to share a common genetic background with several other psychiatric conditions, including anxiety, bipolar disorder, schizophrenia, autism spectrum disorder, and attention deficit-hyperactivity disorder (Guffanti et al., 2016; Cross-Disorder Group of the Psychiatric Genomics Consortium, 2013; Flint and Kendler, 2014). Specifically, variation in some genes, such as those associated with calcium-channel signaling, is suggested to contribute to general vulnerability to psychopathology. These genes impact brain circuitry involved in a wide range of cognitive and emotional processes that are disrupted in mental illnesses (Bigos et al., 2010). Due to this common biological background of major mental disorders, we used parental history of any psychopathology as a general marker for the offspring's susceptibility to depressive symptoms.

2. Methods

2.1. Participants

Participants were from the ongoing Young Finns study (Raitakari et al., 2008), which is a population-based study following up individuals from six different birth cohorts aged 3–18 years at the baseline in 1980 (N=3596). Depressive symptoms were measured for the first time when the youngest cohort had reached the age of 15 (in 1992), and in four subsequent phases (in 1997, 2001, 2007, and 2012). In the final study phase, the participants were 35–50 years old. The data used in this study are from 2122 participants (59% of the original sample, 967 men and 1155 women) with complete information on hostile parenting, parental history of psychopathology, covariates, and at least one measurement of depressive symptoms. With regard to pattern of missingness in depressive symptoms, 697 (33%) participants had data on depressive symptoms from 5 time points, 445 (21%) from 4 time points, 361 (17%) from 3 time points, 313 (15%) from 2 time points, and 306 (14%) from a single time point (see Supplementary Table 1 for the number of observations by age and measurement year). In this sample, participants were more likely to be women ($p < 0.001$) and slightly younger ($p < 0.001$), to have higher parental SES ($p < 0.001$), to have parents with no history of psychopathology (p=0.022), and reported more depressive symptoms in 2001 (p=0.038) than those who were excluded. The study was approved by the local ethics committees and conducted in accordance with the Helsinki declaration. Written informed consent was obtained from the participants or their parents, and their treatment complied with APA ethical standards.

2.2. Measures

2.2.1. Hostile parenting

Parenting quality was reported by the participant's parents at baseline in 1980 using a scale derived from Operation Family Study (Makkonen et al., 1981). The scale has two dimensions: parental intolerance and emotional distance towards the child. Parental intolerance of a child's activities was assessed by three items (”In difficult situations, my child is a burden”, “I become irritated when being with my child”, “My child takes too much of my time”). Emotional distance was measured by four items addressing the emotional significance of the child (”My child is emotionally important to me”, “I enjoy spending time with my child”, “I am emotionally important to my child”, “My child enables me to fulfill myself” [the items were reverse scored]). Responses were given on a 5-point scale ranging from 1 (totally disagree) to 5 (totally agree). The Cronbach's alphas for intolerance and emotional distance were 0.68 and 0.65, respectively. The two dimensions of hostile parenting were examined separately because they are conceptually different and they have been shown to differ in predicting health related outcomes (Ravaja et al., 2001). The measures of intolerance and emotional distance share similar elements with the care and indifference subscales of the Parent Bonding Instrument (PBI, Parker et al., 1979), which is one of the most widely studied measures assessing parenting style.

2.2.2. Parental history of psychopathology

Participant's parents' history of psychopathology was assessed in 1980 and 1983 by two indices: the parents' self-reported mental health problems and the parents' use of prescription medicines for psychiatric disorders. The parents were asked: ”Have you ever been diagnosed with a mental health problem by a medical doctor? ” (yes/no). In addition, the parents were asked to check their prescriptions and list all medications prescribed by a doctor that they were using at the time of the data collection. A parent was coded as “user of psychiatric medication” if he/she reported using any medication targeting specifically depression, psychosis, bipolar disorder, anxiety, or panic disorder. The medications were identified using Pharmaca Fennica 1980, a drug database that is used by medical professionals. Medications that were not prescribed exclusively for the above-mentioned psychiatric disorders but for other non-specific poor mental health conditions, such as alcohol withdrawal delirium or insomnia, were not considered as use of psychiatric medication. A variable for parental history of