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Childhood trauma and emotional reactivity to daily life stress in adult frequent attenders of general practitioners

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Abstract

Objectives: Childhood trauma (CT) has consistently been associated with neuroticism—a personality trait reflecting vulnerability to stress. However, not much is known about the impact of a history of trauma on moment-to-moment emotions and experiences in the flow of daily life. The relationship between CT and emotional reactivity to daily life stress was investigated. **Methods:** Ninety frequent attenders of general practitioners, of which 29 fulfilled criteria for CT (sexual and/or physical trauma before the age of 19 years), were studied with the Experience Sampling Method (a structured diary technique assessing current context and mood in daily life) to assess: (a) appraised subjective stress related to daily events and activities, and (b) emotional reactivity conceptualized as changes in negative affect (NA). **Results:** Multilevel regression analysis revealed that subjects with a history of CT reported significantly increased emotional reactivity to daily life stress, as reflected in an increase in NA. This effect was significantly stronger for subjects who experienced trauma before the age of 10 years. **Conclusion:** These results confirm that CT may have long-lasting and enduring effects on adult psychological functioning, as exposed individuals continually react more strongly to small stressors occurring in the natural flow of everyday life. The finding that emotional stress reactivity is most pronounced for subjects who experienced trauma early in life confirms prior evidence suggesting that the effects of trauma are more detrimental when trauma occurs at a younger age.

Keywords: Childhood trauma; Experience Sampling Method; Momentary assessment; Neuroticism; Stress response

Introduction

Although prevalence rates of childhood trauma (CT) vary widely, it appears to be common in western society [1–5]. For women in the general population, prevalence rates of childhood sexual trauma have been estimated at between 10% and 20% [2,4,5], whereas in males, much lower prevalence rates have been reported [2,5–8]. Physical abuse assessed in a general population study revealed a prevalence rate of 31.2% for men and 21.1% for women, whereas for severe physical abuse, prevalence rates of 10.7% for males and 9.2% for females were found [3]. Physical and sexual traumas tend to co-occur with other trauma types, such as neglect, emotional abuse, and loss [9].

Evidence from animal and human research shows that the effects of CT may be severe and enduring, affecting emotion, cognition, and behavior into adult life [10–14]. Age at traumatization may be an important predictor of the effects of CT in later life. Consequences of CT appear more detrimental when it occurs at a younger age—a time of vulnerable stages in brain development, with several neurobiological processes ending or attenuating before puberty [12,15]. Several studies found that CT may have

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an enduring influence on the development of adult personality characteristics [16–19]. One personality characteristic that is consistently associated with CT is neuroticism—a personality trait reflecting instability, vulnerability to stress, or anxiety proneness [17,18,20]. High neuroticism predisposes people to react with more negative emotion (anxiety, depressive mood, anger, and irritability) to stressful circumstances [21–23]. It is important to further explore the association between CT and neuroticism, as neuroticism may be the generic factor explaining the association between CT and a number of mental and somatic disorders [24].

Neuroticism is most often assessed with questionnaires reflecting global patterns of experience and behavior [17,18,20,23]. However, it is unclear how these global patterns of behavior translate into the reality of everyday life. Thus, not much is known about the impact of a history of trauma on moment-to-moment emotions and experiences in the flow of daily life. A reliable and valid approach to studying experiences in the flow of daily life is the Experience Sampling Method (ESM) [25]. ESM is a structured diary approach assessing thoughts, mood, and context in daily life. ESM is ideally suited to studying emotional reactivity to stressful experiences and can thus be considered as a more ecologically valid approach to assess neuroticism [26]. Emotional reactivity towards stressors has previously been studied with ESM in different groups of subjects ranging from white collar workers to patients with psychosis and depression [27–30].

In the current study, ESM was used to investigate the effects of sexual and physical trauma during childhood and adolescence on emotional reactivity to daily life stress in adult life. In order to investigate such an association, a sample of frequent general practitioner (GP) attenders with somatic complaints was selected, as it was expected that this sample would have a higher prevalence of CT than a general population sample, hence increasing the power of the study [31].

Methods

Subjects

A sampling frame of frequent GP attenders with a more or less comparable medical history of somatic complaints was selected from the Registration Network of Family Practices (RNH) database at Maastricht University [32]. Participating GPs reported health problems in the RNH if they were permanent, chronic, or recurrent. Subjects were selected from the RNH if they had a history of back, neck, or abdominal complaints in the absence of an active serious somatic condition and in the absence of a history of psychiatric disorders other than anxiety or depression. In addition, subjects had to be aged 20–44 years (young adulthood) to minimize the risk of underlying somatic morbidity explaining somatic complaints. The participating GPs, using their medical records, then selected subjects on the basis of the frequency of consultation, with a correction for obvious or serious somatic problems: at least 15 consultations without any compelling somatic reason for the visit in the previous 3 years. The GPs excluded a patient if they thought that participation would seriously harm the patient or their relationship with the patient. The GPs invited the selected patients to participate by sending them a letter. Patients who agreed to participate were visited by a trained interviewer (P.J.M. Portegijs or a research psychologist) for further information about the study and about data collection. The protocol for selection and recruitment has been described in detail elsewhere [33]. The Diagnostic Interview Schedule (DIS) was used to establish psychiatric diagnoses according to the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised* [34].

CT

CT was assessed using a standardized questionnaire following Portegijs et al. [33] and Draijer [35]. Subjects were asked whether they had experienced any kind of sexual or physical trauma before the age of 19 years, a cutoff point in line with sensitive timeframes for brain and personality development [12,15,36]. If a person reported a traumatic event, specific follow-up questions were asked in order to fully understand the nature of the event. *Sexual trauma* was subsequently defined as any unwanted sexual experience before the age of 15 years, or indecent assault or rape after that age. *Physical trauma* was defined as beating that was subjectively threatening or that necessitated a visit to the doctor. A dichotomous variable 'CT' was defined (1=*experience of sexual and/or physical trauma*; 0=*no experience of sexual or physical trauma*).

In addition, a second CT variable was constructed, taking into account the age at the first occurrence of the traumatic experience. This categorical variable CT_age consisted of three levels (0=*no trauma*; 1=*first trauma occurring after the age of 10 years*; 2=*first trauma occurring before the age of 10 years*).

ESM

The ESM is a within-day momentary self-assessment technique. Previous applications of ESM have demonstrated the feasibility, validity, and reliability of the method in general population samples and in samples of psychiatric patients [30,37–41]. Subjects were studied in their normal daily living environment. They received a digital wristwatch and a set of ESM self-assessment forms collated in a booklet for each day. Ten times daily on six consecutive days, the watch emitted a signal (beep) at unpredictable moments between 0730 and 2230 h. After every 'beep,' subjects were asked to stop their activity and to fill out the