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Reactivity to social stress in ethnic minority men

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ABSTRACT

Repeated exposures to social exclusion, through a process of sensitization, may result in larger responses to experiences of social stress. The current study tested the hypothesis that healthy Moroccan-Dutch men respond stronger to social stress than Dutch controls 1) in daily life, and 2) in an experimental set-up. A general population sample of 50 Moroccan-Dutch and 50 Dutch young adult males were tested with 1) the Experience Sampling Method, a structured diary technique, assessing reactivity to social stress in daily life, and 2) an experimental exposure to social peer evaluation. No group differences were found in affective or psychotic reactivity to daily social stress. When exposed to a negative social evaluation in the lab, a blunted affective response was found in the Moroccan-Dutch compared to the Dutch group, whereas the psychotic response did not differ significantly between groups. In conclusion, healthy Moroccan-Dutch men are not more sensitive to social stress than healthy Dutch men. Instead, the blunted affective response of Moroccan-Dutch men to peer evaluation may signify habituation rather than sensitization.

1. Introduction

Environmental factors, including the social environment, are important in understanding the aetiology of schizophrenia (van Os et al., 2010). The concept of sensitization has been proposed as a mechanism linking the environment and schizophrenia (Collip et al., 2008). Indeed, several groups of individuals with a higher than average liability to psychosis exhibit an increased stress reactivity: increases in negative affect and momentary psychotic experiences in response to stressors encountered in the flow of daily life (Myin-Germeys et al., 2005a, 2001; Reininghaus et al., 2016). This increased reactivity may be developed through a sensitization process, by which previous exposures to stress, such as childhood trauma, increase the sensitivity to subsequent exposures to stress, such as discrimination. It has also been suggested that the development of impairment and need of care may be the ultimate consequence of this sensitization (Collip et al., 2008).

Members of an ethnic minority group constitute another group with increased psychosis liability, but as yet no study has examined whether sensitization plays a role in pathogenesis. In the Netherlands, second-generation Moroccan-Dutch men have a particularly vulnerable and insecure position in society (Crul and Heering, 2009). They experience more discrimination than other ethnic groups, and unemployment rates are four times those for men of Dutch descent, differences which persist into the second generation (Huijnk et al., 2014; Huijnk and Dagevos, 2012). In parallel, studies show a 4–5 times increased risk for psychotic disorders among these men than in native Dutch men (Schrier et al., 2001; Selten, 2001; Selten and Sijben, 1994; Veling et al., 2006) which is not present in women, a gender difference also seen in other North-African migrant groups in Europe and suggested to be attributable to achievement-expectation mismatch and social marginalization (van der Ven et al., 2016).

This study examined whether Moroccan-Dutch men who are likely to encounter many social stressors such as discrimination, indeed show social stress sensitization (i.e. increased reactivity to social stress in daily life) compared to men of Dutch descent.

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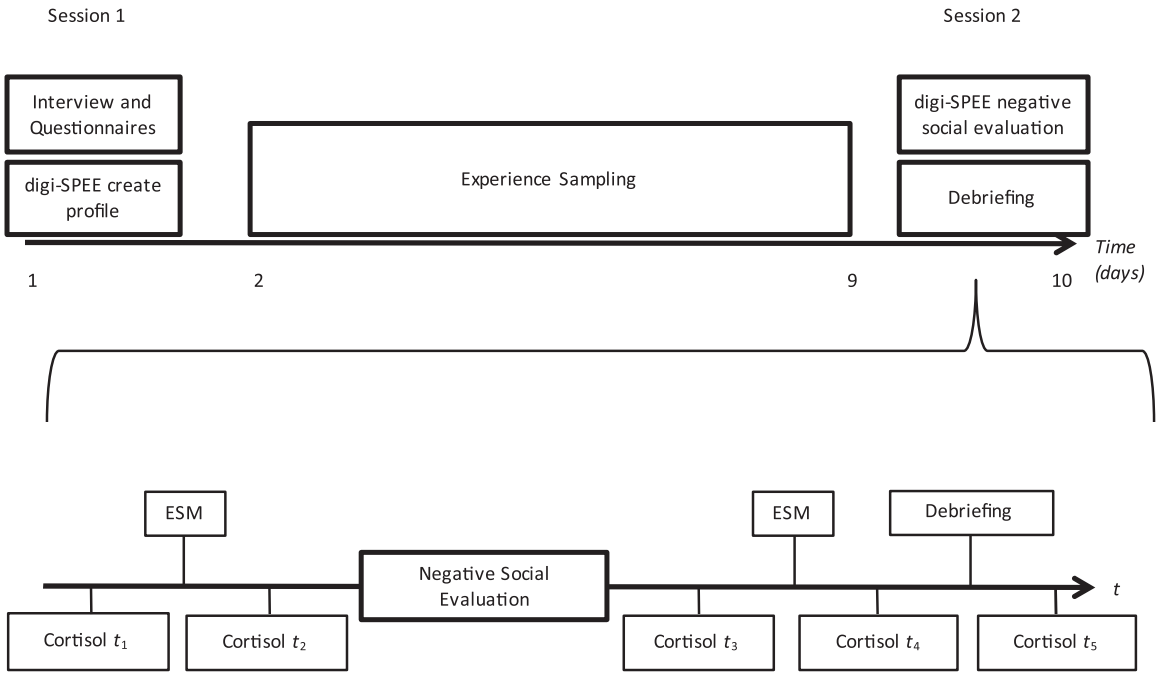

Fig. 1. Timeline of the study. t_1= start of session (20 min before stressor), t_2= directly before stressor, t_3=7 min after stressor, t_4=14 min after stressor, t_5=end of session (30 min after stressor); digi-SPEE=digital social peer evaluation experiment, ESM=Experience Sampling Method Questions.

Stress reactivity can be measured in daily life, using the Experience Sampling Method (ESM), an instrument which allows for the assessment of moment-to-moment changes in symptomatology (Myin-Germeys et al., 2009). Measuring stress reactivity in an experimental setting, however, offers more control over the stress exposure. For example the Trier Social Stress Test (Kirschbaum et al., 1993), where participants have to give a speech, or the Montreal Imaging Stress task, where participants receive negative feedback on their arithmetic performance (Dedovic et al., 2005), and which was recently reported to elicit an increased neural response in an ethnic minority population (Akdeniz et al., 2014). While these tasks clearly have a social component, performing in front of an audience or receiving negative feedback on task performance are not equivalent to rejection on the basis of your identity. Therefore we selected a recently developed social peer evaluation experiment (Menne-Lothmann et al., in press), in which participants receive mild negative feedback on their appearance, intelligence and congeniality from peers in a digital social platform. Since the use of social networks is commonplace, it effectively mimics exclusion experiences as encountered in everyday life. We hypothesize Moroccan-Dutch men to be more sensitized to such negative social peer evaluation, as it resembles experiences of identity-based rejection and discrimination that they may have encountered more often than their Dutch peers. In this project, we combined the experimental approach focusing on identity-related rejection with a real life ESM approach focusing on a broader range of social stress experiences. Those include social contexts which would normally be considered non-threatening but may be stressful to individuals who have been rejected before, and therefore may anticipate renewed rejection. We consider these methods complementary and hypothesize similar patterns of response, indicating independence of the findings from how social stress is conceptualized and measured.

1.1. Aims of the study

We combined the experience sampling method and the digital social peer evaluation experiment to test the hypothesis that Moroccan-Dutch men respond stronger to social stress than Dutch men 1) in daily life, and 2) in an experimental set-up.

2. Methods

2.1. Participants

The sample consisted of 100 men, aged 18–30 years, 50 of Moroccan and 50 of Dutch descent. Participants were recruited through advertisements in print and on-line media, as well as through community centres and sports clubs. The Moroccan-Dutch were born in The Netherlands to at least one Moroccan-born parent, conform the definition of second-generation migrants used by the Netherlands' Bureau of Statistics. Seven Moroccan-born individuals who had migrated to The Netherlands before the age of 5 years were also included. Dutch participants were born in the Netherlands to Dutch-born parents. We further assessed to what extent participants identified themselves as Moroccan or as Dutch with the Multigroup Ethnic Identity Measure (MEIM) (Phinney, 1992) and we assessed the lifetime presence of psychotic experiences with the Community Assessment of Psychic Experiences (CAPE) (Konings et al., 2006). We tried to measure the explicit experience of social defeat with the Social Defeat Scale (Gilbert and Allan, 1998), self-esteem with the Rosenberg Self Esteem Scale (Franck et al., 2008; Rosenberg, 1965), and perceived discrimination by asking participants if they had ever experienced discrimination in any of 12 different domains, including education, the job market and health care. IQ was estimated using a short version of the Wechsler Adult Intelligence Scale (WAIS) (Velthorst et al., 2013) and cannabis use was registered using the B-J-L sections of the Composite International Diagnostic Interview (CIDI) (Cottler et al., 1989).

Exclusion criteria were (1) mental retardation (IQ <70) and/or illiteracy (2), diagnosis of psychotic disorder, and (3) having a first-degree family member with a history of treatment for psychotic disorder as assessed with a shortened version of the Family Interview for Genetic Studies (Nurnberg et al., 1994).

Participants were seen twice, according to their preference in their own home, at a location in their neighbourhood, or at the research institute. For a timeline of the study see Fig. 1.

The study was approved by the local medical ethics committee of the Maastricht University Medical Center. All participants gave written