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Elucidating the role of Early Maladaptive Schemas for psychotic symptomatology

Johanna Sundag [a,*], Leonie Ascone [a], Anna de Matos Marques [a], Steffen Moritz [b], Tania M. Lincoln [a]

[a] Clinical Psychology and Psychotherapy, Institute of Psychology, University of Hamburg, Germany
[b] University Medical Center Hamburg-Eppendorf, Department of Psychiatry and Psychotherapy, Hamburg, Germany

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ABSTRACT

Although cognitive accounts postulate negative self-concepts as a causal factor in the emergence of psychotic symptoms, little is known about the role of specific self-schemas for psychotic symptomatology. Building on a differentiated and treatment-informed schema model, we aimed to elucidate the role of Early Maladaptive Schemas (EMS) for psychotic symptomatology, particularly their specificity to patients with psychosis and their association with positive versus negative symptoms. We assessed EMS with the Young Schema Questionnaire in patients with psychosis ($n=81$), patients with depression ($n=28$) as well as healthy participants ($n=60$). In the psychosis sample symptoms were rated using the Positive and Negative Syndrome Scale. In comparison to healthy participants, patients with either psychosis or depression showed a higher overall number and intensity of EMS whereas the psychosis and the depression sample did not significantly differ. The overall number and intensity of EMS were significantly associated with positive but not with negative symptoms. Contrary to previous findings, patients with psychosis and patients with depression did not differ in the EMS subscale Mistrust/Abuse. The results suggest that EMS are particularly relevant to positive symptoms. Our findings imply that addressing maladaptive schemas in patients with psychosis by making use of the schema-concept holds potential.

1. Introduction

There is a large body of evidence suggesting an association between negative self-concepts and psychotic symptoms (Fannon et al., 2009; Kesting and Lincoln, 2013; Tiernan et al., 2014). Prominent cognitive accounts even postulate negative self-concepts as a causal factor in the emergence of psychotic symptoms (Beck and Rector, 2003; Garety and Freeman, 2013; Morrison, 2001). In their cognitive model of delusions, Garety and Freeman (2013) proposed that early trauma and chronic stress lead to the development of dysfunctional negative schemas, facilitating paranoid explanations for anomalous experiences and low self-esteem in predisposed individuals. A systematic review of 52 studies by Kesting and Lincoln (2013) concluded that in order to understand the role of self-concepts in the formation of delusions it is necessary to look into specific self-schemas. For example, it has been repeatedly demonstrated that specific negative self-evaluations are associated with psychotic symptoms (e.g. Tiernan et al., 2014). Moreover, schemas depending on the acceptance by others and negative interpersonal self-concepts (e.g. to feel unloved by one's family) seem to be relevant (Hesse et al., 2015; Lincoln et al., 2010b). Deeper insights into specific interpersonal schemas may provide a better understanding of the proposed connections between self-concepts, early trauma and chronic stress which could be implemented in psychotherapeutic approaches for patients with psychosis.

A promising approach to understand specific interpersonal self-schemas is schema theory. Schema theory emphasizes early childhood experiences and suggests that negative experiences and unmet basic emotional needs during childhood and adolescence may lead to the manifestation of Early Maladaptive Schemas (EMS). EMS are defined as a complex pattern of memories, emotions, cognitions and bodily sensations, part of which can be conscious but most of which are implicit knowledge. In adulthood, these EMS, when triggered, are assumed to induce negative emotional states and dysfunctional coping responses (Young et al., 2008).

EMS have been found to be pronounced in several clinical disorders such as depression (Cormier et al., 2011; Renner et al., 2012; Wang et al., 2010), bipolar disorders (Ak et al., 2012; Hawke

* Correspondence to: Von-Melle-Park 5, 20146 Hamburg, Germany.
E-mail address: johanna.sundag@uni-hamburg.de (J. Sundag).

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Table 1
Means (standard deviations) of demographic and clinical characteristics by group.

Variable	Group			Statistics
	PSY ($n=81$)	DEP ($n=28$)	HC ($n=60$)	
Age in years	40.86 (11.62)	41.71 (11.04)	38.43 (13.04)	$F(2, 166)=0.99$, $p=0.375$
Gender (% female)	53	46	52	χ^2 $(2)=0.37$, $p=0.831$
Formal school education (% high/middle/low)	57/26/17	50/39/11	70/22/8	χ^2 $(4)=6.11$, $p=0.191$
EMS overall number	4.35 (3.85)	3.29 (2.72)	1.17 (1.62)	$F(2, 166)=18.88$, $p<0.001$, $\eta^2_{\text{partial}}=0.185$
EMS overall score	229.74 (66.07)	213.25 (53.62)	152.52 (46.29)	$F(2, 166)=31.78$, $p<0.001$, $\eta^2_{\text{partial}}=0.277$
Positive syndrome score	15.49 (6.02)	–	–	–
Negative syndrome score	14.00 (6.11)	–	–	–

Note. PSY=participants with psychosis; DEP=participants with depression; HC=healthy controls; EMS=Early Maladaptive Schema. An EMS was rated as present if two items within one EMS subscale exhibit a score ≥ 5. Positive and negative syndrome scores were calculated according to an algorithm proposed by van der Gaag et al. (2006).

and Provencher, 2012; Nilsson et al., 2015), eating disorders (Unoka et al., 2010; Waller et al., 2001) and personality disorders (Jovev and Jackson, 2004; Nordahl et al., 2005; Thimm, 2010). The concept of EMS may also apply to patients with psychosis and provide a helpful rationale to further develop psychotherapeutic interventions for this group. This seems necessary in light of rather small to at best medium effects of cognitive-behavioral therapy (CBT) for psychosis (Turner et al., 2014; Wykes et al., 2008).

To the best of our knowledge, so far only one study has investigated EMS in psychosis (Bortolon et al., 2013). In this study EMS were assessed in a sample of 48 patients diagnosed with schizophrenia and 44 healthy controls. The authors found the majority of EMS to be significantly more pronounced in the individuals with schizophrenia compared to the controls. After controlling for depression, six out of fourteen schemas remained significantly increased relative to controls: Emotional Deprivation, Social Isolation/Alienation, Defectiveness/Shame, Enmeshment/Undeveloped Self, Failure to Achieve, and Subjugation. The schema Mistrust/Abuse predicted positive symptoms after controlling for depression whereas none of the schemas predicted negative symptoms. The relevance of the schema Mistrust/Abuse to positive symptoms seems intuitively plausible because of the content-related affinity of mistrust and paranoia. Further, the EMS Mistrust/Abuse can be expected to be particularly related to childhood traumas such as physical and sexual abuse (Young et al., 2008) which have been found as risk factors for psychotic disorder (Read et al., 2005). However, controlling for depression is somewhat problematic because of its high overlap with psychosis, especially with the negative syndrome (Barnes and McPhillips, 1995; Siris, 2000). Thus, a direct comparison of EMS in people with psychosis to people with depression would be a more valid way of identifying psychosis specific schemas. Moreover, the absent associations of EMS with negative symptoms are slightly unexpected because related constructs, such as low self-esteem and dysfunctional beliefs are also found to be prominent in patients with negative symptoms (Grant and Beck, 2009; Lincoln et al., 2011; Rector, 2004). Therefore, these findings need to be expanded.

The aim of the present study was to corroborate the finding of increased EMS in patients with psychosis and their association with psychotic symptomatology. Moreover, we aimed at identifying psychosis-specific EMS. We expected (1) both patients with psychosis and patients with depression to show a higher overall number of EMS and a higher overall EMS score than a healthy control group; (2) the number of EMS and the overall EMS score to predict positive but not negative symptoms in patients with psychosis; (3) patients with psychosis to show a higher number and a higher subscale score of the EMS Mistrust/Abuse compared to patients with depression. Finally, we explored the specificity of each of the EMS to psychosis versus depression.

2. Methods

2.1. Participants

The total sample consisted of 81 patients with psychosis, 28 patients with depression and 60 healthy controls. Inclusion criteria for all participants were sufficient command of the German language and age between 18 and 65 years. Inclusion criterion in the psychosis sample was a diagnosis of a psychotic disorder (DSM-IV: 295.x, 297.1, 298.8; ICD-10: F2). Inclusion criteria in the depression sample were a present or past affective disorder (DSM-IV: 296.x; ICD-10: F31-34-excluding depression with psychotic symptoms and current (hypo-) manic episode) and no present or past psychotic disorders. Healthy controls were to have no clinically relevant present Axis I disorder (substance abuse but not substance dependence was tolerated) no disorder that required treatment in the past and were not to be taking medication for any type of mental problem. The samples were recruited from in- and outpatient treatment settings in Hamburg and Marburg (patients with psychosis and depression) and advertisements in local newspapers (patients with psychosis and healthy controls).

Background characteristics of the three samples are summarized in Table 1. The psychosis sample consisted of patients with schizophrenia ($n=61$), schizoaffective disorder ($n=17$), delusional disorder ($n=2$) or brief psychotic disorder ($n=1$). Fifty patients were acutely psychotic and 31 were remitted. The depression sample comprised patients with reoccurring depressive disorders ($n=18$), present major ($n=6$), past major ($n=1$) or present minor ($n=2$) depression, and bipolar disorder with present depression ($n=1$). There were no differences across groups regarding gender distribution, age and formal school education.

2.2. Measures

2.2.1. Young Schema Questionnaire-Short Form

To assess Early Maladaptive Schemas (EMS), we used the 75-item German version of the Young Schema Questionnaire-Short Form (YSQ-SF; Grutschpalk, 2009; Young, 1998). The YSQ-SF assesses the presence of 15 EMS (which are listed in Table 2) which were selected from the clinical data set used by Schmidt et al. (1995). Participants were asked to rate the extent to which each item applies to them on a 6-point Likert scale ranging from 1 (“not at all”) to 6 (“exactly”). Young's recommendation states that an EMS is present if two items within one EMS subscale exhibit a score equal or higher than 5; compare http://www.schematherapy.com/id111.htm. Cronbach's α has been found to be between 0.92 and 0.96 for the overall score (Oei and Baranoff, 2007) and between 0.76 and 0.93 for the subscales (Welburn et al., 2002). The discriminative as well as the predictive validity of the YSQ-SF are considered satisfactory (Oei and Baranoff, 2007).