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A preliminary investigation of schematic beliefs and unusual experiences in children

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ABSTRACT

Background: In cognitive models of adult psychosis, schematic beliefs about the self and others are important vulnerability and maintaining factors, and are therefore targets for psychological interventions. Schematic beliefs have not previously been investigated in children with distressing unusual, or psychotic-like, experiences (UEDs). The aim of this study was firstly to investigate whether a measure of schematic beliefs, originally designed for adults with psychosis, was suitable for children; and secondly, to examine the association of childhood schematic beliefs with internalising and externalising problems and with UEDs.
Method: Sixty-seven children aged 8–14 years, with emotional and behavioural difficulties, completed measures of UEDs, internalising (depression and anxiety), and externalising (conduct and hyperactivity-inattention) problems, together with the Brief Core Schema Scales (BCSS).
Results: The BCSS was readily completed by participants, and scale psychometric properties were good. Children tended to view themselves and others positively. Internalising and externalising problems and UEDs were all associated with negative schematic beliefs; effect sizes were small to medium.
Conclusions: Schematic beliefs in young people can be measured using the BCSS, and negative schematic beliefs are associated with childhood psychopathology and with UEDs. Schematic beliefs may therefore form a useful target in psychological interventions for young people with UEDs.

1. Introduction

Adult schematic beliefs are strongly held, unconditional, thematic, implicit beliefs about oneself, the world and other people, formed early in life, and shaped by childhood experience [50]. As overarching cognitive structures, schemas are supposed to exert an automatic influence over cognition, emotional processing and behaviour. In adult emotional disorders, negative schemas are hypothesised vulnerability and maintaining factors [5,50]. Similarly, in psychosis, negative schematic beliefs about the self (e.g. that one is worthless or unlovable) or others (e.g. being untrustworthy or judgmental) are elevated in clinical populations, and help-seeking individuals at-risk for psychosis, compared to non-clinical groups [1,3,7,6,14–18,40,44,45]. Associations with negative schematic beliefs are stronger for paranoid type symptoms, in contrast to grandiosity, with mixed findings for hallucinations [12,18,22,40,46]. In psychosis, the amenability to change of negative schematic beliefs, and their association with recovery, marks them as a specific target for cognitive-behavioural interventions [4,8,23,24].

In childhood, schemas are viewed as the building blocks of knowledge, providing a framework for assimilating new information, and flexibly adapting to accommodate inconsistent

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information, until maturity [37]. Childhood schematic beliefs are less well researched than adult beliefs, but are likely to be more malleable, as they are still developing. Nevertheless, despite the developmental context, negative schematic beliefs have been linked to emotional and behavioural disorders in childhood, primarily as mediators between disrupted attachment and the development of clinical disorder [33,38,39,47]. The hypothesised greater flexibility of childhood schemas may facilitate improvements following psychological intervention: successful resilience-building cognitive therapy programmes in non-clinical but vulnerable schoolchildren have been demonstrated to change schematic beliefs [42,43].

Childhood schematic beliefs have not yet been comprehensively investigated in relation to unusual or 'psychotic-like' experiences. These experiences include hearing voices that others cannot hear, or feelings of being watched, followed, or having special powers, and are common in young people in the general population [29,30]. Evidence suggests that the persistence of these experiences over time, and associated distress and/or negative impact, increases the likelihood of a later at-risk mental state and future mental health problems, including psychosis [13,27,31,35,48]. Guidance from the United Kingdom National Institute for Health and Care Excellence [36] recommends that childhood unusual experiences with distress or impairment of functioning (UEDs) are treated using psychological interventions, irrespective of their prognostic significance. There is, therefore, a strong argument for developing theoretically informed and effective interventions for children presenting with these difficulties.

Recent work indicates that the cognitive, social and emotional factors implicated in the development and maintenance of psychosis in adults may contribute to the severity of childhood UEDs. Cognitive biases, emotional problems and adverse life events all show independent associations with childhood UEDs [2], but associations with the negative schematic beliefs relevant to adult psychosis have yet to be considered. Given their amenability to change, particularly in childhood while they are still developing, investigation of the association of negative schematic beliefs with UEDs in young people is a potentially important step in the development of therapeutic approaches for these experiences.

In this study, we investigated schematic beliefs in children aged 8–14 years, who were clinically referred for emotional and/or behavioural difficulties. As our purpose was to inform the development of interventions for childhood UEDs, we chose to examine the schemas previously associated with adult psychosis. We therefore employed a psychosis-specific measure, the Brief Core Schema Scales (BCSS), which has not previously been used with children.

Our aims were twofold: firstly, to make a preliminary assessment of the suitability of the BCSS for use with children; and secondly, to start to characterise the schematic beliefs of this group of children and their association with internalising and externalising psychopathology and UEDs, paralleling studies in adult populations.

Our specific hypotheses were that negative schematic beliefs would be associated with higher levels of:

- internalising problems (depression and anxiety);
- externalising problems (conduct problems and hyperactivity-inattention);
- distressing unusual experiences.

We also conducted an exploratory investigation of the associations of negative schematic beliefs with different types of UEDs.

2. Methods

2.1. Participants

Participants were recruited as part of the Coping with Unusual Experiences Study (CUES, ISRCTN 13766770) from the waiting list of community Child and Adolescent Mental Health Services (CAMHS) in three South East London boroughs. The services provide interventions for children with emotional and behavioural problems, but not with a known mental health problem requiring the input of a specialist community mental health team. Participants were recruited during the first 24 months of the CUES study (July 2011 to July 2013). Parents were invited to participate by letter; if parental consent was given, young people were approached for their assent. Ethical and local approvals for the research were granted by the National Research Ethics Service (London-Hampstead Research Ethics Committee Ref 11/LO/0023) and the South London and Maudsley NHS Foundation Trust, respectively.

2.2. Materials

Self-report measures were completed by the young person, on a handheld tablet computer using online survey software (SelectSurvey.NET 2.8.5), with the support of a trained researcher. The order of questionnaire administration was varied according to the judgment of the researcher, to maximize engagement. Demographic and medical information were collected from the young person's parent/guardian. Ethnicity was dichotomised according to whether or not the person self-reported a black or minority ethnic (BME) background. The British Picture Vocabulary Scale (BPVS [11]) was employed as a proxy measure of intellectual ability, appropriate for children aged 3–15 years.

2.3. Brief Core Schema Scales (BCSS [14])

The BCSS is a 24-item self-report questionnaire comprising four scales measuring positive and negative beliefs about self and others (positive self [PS]; positive others [PO]; negative self [NS]; negative others [NO]). Each scale comprises six statements, for which the participant rates their agreement (YES/NO). If endorsing a belief, respondents are asked to rate the strength of their belief from 1 (slightly) through 4 (totally). Total item scores therefore range from 0–4, and total subscale scores from 0–24. The BCSS has been used in adult populations with internal consistency ranging from 0.8 to 0.9 [14], but has yet to be used with children. For this study, we adapted the measure slightly following feedback from three focus groups (CAMHS clinicians; adolescents on an inpatient ward; and parents of adolescent inpatients). The changes were agreed by the creator of the scales (co-author D.F.) to be reasonable adjustments, and were: to expand the word 'devious' to the phrase 'devious or liars', as young people did not routinely understand 'devious' in isolation; and to re-order the items so that the measure started and finished with three positive statements.

2.4. Internalising problems (depression and anxiety)

Depression was assessed using the Short Mood and Feelings Questionnaire (SMFQ [32]), a 13-item screening questionnaire for children (aged 6–17 years) with good psychometric properties. Participants rate the degree to which a symptom was experienced in the preceding two weeks on a three-point scale (0: not true; 1: sometimes true; 2: certainly true). Scores $\geq$8 indicate significant low mood. The Spence Children's Anxiety Scale (SCAS [41]) assessed anxiety. The child self-report version of the SCAS is designed for young people from 7–19 years, and comprises