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The content of attenuated psychotic symptoms in those at clinical high risk for psychosis

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ABSTRACT

Recent research has started to focus on identifying individuals who are at clinical high risk of developing psychosis as a means to try and understand the predictors and mechanisms involved in the progress to a full psychotic episode. The aim of the current study was to provide an initial description and prevalence rates of specific content found within attenuated positive symptoms. The Content of Attenuated Positive Symptoms (CAPS) codebook was used by independent raters to determine the presence of content within a sample of written vignettes. Krippendorff's alpha was used to determine inter-rater reliability. Overall, the majority of items fell in or above an acceptable range of reliability. There was heterogeneity present in the types of content endorsed. However, the most commonly endorsed items included being perplexed by reality, increased hypervigilence, being gifted, hearing indistinct and distinct sounds, seeing figures or shadows, something touching the individual, and unpleasant smells. The use of the CAPS codebook is a reliable way to code the content of attenuated positive symptoms. Identifying and monitoring the presence of certain content may provide insight into the presence of other comorbid issues and the potential for future conversion.

1. Introduction

One approach to an improved understanding of the development of schizophrenia and other psychotic illnesses has been the study of those who are considered to be at risk of developing psychosis. A wide range of terms are used to describe this population such as Ultra High Risk, putatively prodromal but for consistency we will use the term clinical high risk (CHR). Individuals are determined to be at CHR on the basis of well-established criteria (Yung et al., 1996; McGlashan et al., 2010). Individuals who meet these criteria typically experience attenuated psychotic symptoms that are below the threshold of full-blown psychotic symptoms. Although there is much research examining a wide range of topics in this area (Addington and Heinssen, 2012) one area that might provide some relevant insights into the development of psychosis is an examination of the content of these attenuated psychotic symptoms in CHR individuals (Thompson et al., 2010).

Despite the interest in psychotic symptoms such as hallucinations and delusions, it is the presence and the severity of these symptoms that have been the focus of attention, whereas the content contained within them has been given little attention (Escher et al., 2004; Raune et al., 2006). Only a few studies have examined psychotic symptom content and, unfortunately, in this literature there are methodological concerns and little replication (Marshall et al., 2012). Most studies address the content in delusions or auditory hallucinations with affective content being the most common. For example, people with schizophrenia often report hearing negative voices in contrast to those who hear voices but do not have a diagnosis of a psychotic illness (Honig et al.,

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1998). This can be impactful in that the presence of negative voice content is associated with poorer quality of life (Honig et al., 1998), and increased suicidal ideation (Fialko et al., 2006). In addition, a more negative response has been reported with respect to voices that are in the second person (Copolov et al., 2004).

Symptom content has also been associated with the study of violence. When violence is associated with mental illness, it has been observed that the violent act is associated with specific psychotic symptoms (Junginger, 1996). It has been suggested that the violent behavior that results from psychotic symptoms may be a rational response to protect one's self or others from upsetting beliefs or images (Junginger, 1996). In fact, it has been suggested that examining the content of psychotic symptoms may help identify those who may be at risk of committing violent acts either towards themselves or others (Junginger, 1996). Being able to conduct a thematic analysis in those who are at CHR provides an opportunity to intervene prior to symptoms reaching a level of full conviction.

To date, five studies have focused on the content of attenuated psychotic symptoms in those at CHR of psychosis. Thompson et al. (2010) reported that 15% of participants reported experiencing symptoms containing direct sexual content. Marshall et al. (2012) described the development of The Content of Attenuated Positive Symptoms (CAPS) Codebook which was developed to overcome methodological issues in the current literature. In the third study, which also tested the CAPS Codebook, Falukozi and Addington (2012) found significant positive correlations between increased trauma and feeling watched or followed and grandiose ideas related to status or power. Velthorst et al., 2013 found that individuals at CHR who experienced physical trauma reported more suspiciousness and grandiosity. In addition, those with a history of sexual trauma were found to have more perceptual distortions with abusive content (Velthorst et al., 2013). Finally, in a recent paper (Thompson et al., 2013), examining the clinical symptoms that may be predictive of transition to a full blown psychotic disorder in those at CHR, additional attention was given to the form and content of symptoms. Although the presence of unusual thought content in terms of delusions was associated with transition to psychosis in the univariate analysis, when the authors adjusted for other symptoms this association did not continue.

The aim of the current paper is to provide initial descriptions and prevalence rates of the content in attenuated psychotic symptoms experienced by a large sample of individuals at CHR for psychosis.

2. Methods

2.1. Sample

All individuals were participants in the North American Prodrome Longitudinal Study 2 (NAPLS 2). Details of ascertainment and recruitment have been described in detail elsewhere (Addington et al., 2012). Participants were between 12 and 35 years old and all met the Criteria of Prodromal Syndromes (COPS) using the Structured Interview for Prodromal Syndromes (SIPS) (McGlashan et al., 2010). The COPS includes diagnosis of three clinical high risk (CHR) syndromes including: brief intermittent positive symptoms (BIPS), genetic risk and deterioration (GRD), and attenuated positive symptom syndrome (APSS). Exclusion criteria for NAPLS 2 included participants who met criteria for any current or lifetime axis I psychotic disorder, had a prior history of treatment with an antipsychotic, had an IQ < 70, and/or had a past or current history of a clinically significant central nervous system disorder which may confound or contribute to prodromal symptoms.

Only participants who met APSS or APSS plus another criterion were included in the current study. APSS includes the emergence or worsening of symptoms within the past year in at least one of five positive symptoms including unusual thoughts, suspicious ideas, grandiose ideas, perceptual abnormalities or disorganized communication. Disorganized communication was not included in the current study as it is based on behavior and does not contain content. All participants received a consensus diagnosis of study suitability between February 2009 and December 2011. A total of 556 participants across the NAPLS 2 sites had been recruited by the end of December 2011 and 444 participants (79.9%) met eligibility for inclusion in the current study.

2.2. Measures

2.2.1. The Scale of Prodromal Symptoms

The symptoms being examined in this project are those endorsed by participants based on the Scale of Prodromal Symptoms (SOPS) (McGlashan et al., 2010). These symptoms include unusual thoughts, suspicious ideas, grandiose ideas, perceptual abnormalities, and disorganized communication. Each symptom is rated on severity from 0—absent to 6—severe and psychotic. Raters across all eight sites demonstrated excellent reliability on the SOPS. Interclass correlations were used to compare raters' agreement with "gold standard" ratings on the SOPS and ranged from 0.92 to 0.96 for the SOPS positive symptoms (Addington et al., 2012).

2.2.2. Vignettes

Following, the initial assessment with the SIPS, conducted by two interviewers, a comprehensive vignette was written based on the SIPS semi-structured interview. Each vignette focused on relevant background information including family history of mental illness, DSM-IV diagnosis based on the SCID-I, the Global Assessment of Functioning score, and each of the five positive symptoms. In the vignette positive symptoms endorsed were described in detail including the frequency, intensity, and conviction, as well as dates of onset, increase and a rating score. Each vignette was presented and reviewed on a diagnosis consensus call attended by reliable raters from each of the eight sites and chaired by JA. The purpose of the call was to make a consensus regarding the rating of each symptom and the criteria for inclusion into the NAPLS 2 project. The descriptions of the symptoms for this project were taken from comprehensive vignettes based on the SIPS semi-structured interview.

2.2.3. The Content of Attenuated Positive Symptoms Codebook

The content of each unit of analysis was coded using the Content of Attenuated Positive Symptoms (CAPS) Codebook. The CAPS codebook consists of commonly mentioned content in unusual thoughts, suspicious ideas, grandiose ideas, and perceptual abnormalities. Each item is presented with a definition and several examples. Raters code each item under each positive symptom as being present or absent. The development of the codebook is described in detail elsewhere (Marshall et al., 2012).

2.3. Procedures

2.3.1. Units of analysis

Each vignette was separated into four units of analysis based on unusual thoughts, suspicious ideas, grandiose ideas, and perceptual abnormalities. Four separate lists were created containing participant ID numbers based on symptom endorsement for the purpose of randomization. With 444 participants, a potential of 1776 units of analysis was available. However, not every participant endorsed all of the positive symptoms, therefore only participants who endorsed the specific positive symptom were included in the relevant randomization lists. In the end, 426 units of analysis were available for unusual thoughts, 389 for suspicious ideas, 195 for grandiose ideas, and 407 for perceptual abnormalities. Some units of analysis were excluded from coding based on poor written quality or a lack of content (i.e. 6 from unusual thoughts, 8 from suspicious ideas, 13 from grandiose ideas, and 7 from perceptual abnormalities). In total, there were 420 units of analysis for unusual thoughts, 381 for suspicious ideas, 182 for grandiose ideas, and 400 for perceptual abnormalities.

2.3.2. Rater training

Four raters were trained using the CAPS codebook (Marshall et al., 2012) by CM and EF who helped develop the CAPS codebook. Raters were trained on each positive symptom separately as described below. (i) Each item and its description were openly discussed amongst the group with a focus on clarifying definitions and making distinctions between different items. (ii) A "gold standard" was established for each unit of analysis through a consensus rating established by the two trainers (CM and EF). (iii) Trainers and raters openly discussed the content ratings of five randomly selected units of analysis for each positive symptom until all raters agreed with the ratings of each unit. (iv) Raters individually rated the content of an additional five randomly selected units of analysis and again ratings were discussed amongst the group. (v) Next, raters were required to independently code an additional 30 units of unusual thought content, suspicious ideas and perceptual abnormalities and 20 units of grandiose ideas. Raters' scores were then compared to the "gold standard" for these units of analysis. Raters were exposed to units of analysis from each NAPLS 2 site and each item under each positive symptom. (vi) Units of analysis used during training were recorded 8 months later and included in the final analysis for frequencies but were not included in the sample randomly selected to establish inter-rater reliability.