ELSEVIER

Social anhedonia and schizotypy: The contribution of individual differences in affective traits, stress, and coping

William P. Horan [a], Seth A. Brown [b], Jack J. Blanchard [c,*]

[a] Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles, CA, United States
[b] University of Northern Iowa, Cedar Falls, IA, United States
[c] Department of Psychology, University of Maryland at College Park, College Park, MD 20742-4411, United States

Abstract

While social anhedonia is a promising indicator of vulnerability to schizophrenia, it remains uncertain whether anhedonia is a core feature of schizotypy or merely a secondary associated characteristic. This issue was examined by comparing dimensional scores on schizophrenia spectrum personality disorder symptoms derived from clinical interviews among three groups: a) "pure" social anhedonics with high scores on the Revised Social Anhedonia Scale (SAS; [Eckblad, M.L., Chapman, L.J., Chapman, J.P., Mishlove, M., 1982. The Revised Social Anhedonia Scale. Unpublished test, University of Wisconsin, Madison.]) and low scores on the Magical Ideation Scale (MIS, [Eckblad, M.L., Chapman, L.J., 1983. Magical ideation as an indicator of schizotypy. Journal of Consulting and Clinical Psychology, 51, 215–225.]), b) subjects with high MIS and low SAS scores, and c) controls with low scores on both scales. This study also sought to identify individual differences in stress reactivity, personality, coping style, and social support that might be related to severity of clinical symptoms among at-risk subjects. Compared to controls, the SAS group had higher levels of schizotypal, schizoid, and paranoid symptoms and the MIS group had higher schizotypal symptoms. Among social anhedonics, individual differences in perceived stress, trait negative affectivity, and coping style accounted for over 40% of the variance in schizotypal and paranoid symptoms. This cross-sectional study bolsters support for the validity of social anhedonia as a primary feature of schizotypy. Longitudinal studies are required to determine whether these individual differences potentiate clinical outcomes among social anhedonics.
© 2006 Elsevier Ireland Ltd. All rights reserved.

Keywords: Social anhedonia; Magical ideation; Schizotypy; Stress reactivity; Trait negative affectivity; Coping; Schizophrenia spectrum personality disorders

1. Introduction

Studies of individuals with schizophrenia and their unaffected biological relatives indicate that social anhedonia is a promising indicator of vulnerability to this disorder. Among patients, social anhedonia reflects an enduring individual difference that is elevated across time and clinical status, and is relatively independent of symptoms such as depression and psychosis (Katsanis et al., 1992; Blanchard et al., 1998, 2001). In addition, social anhedonia has been found to be elevated in several studies of patients' unaffected relatives (Katsanis et al.,

1990; Kendler et al., 1996; Laurent et al., 2000), suggesting that this trait is not merely a secondary consequence of developing schizophrenia.

Studies using the psychometric high-risk strategy in non-clinical populations also support the notion that social anhedonia is associated with vulnerability to schizophrenia. Individuals with markedly elevated scores on the revised Social Anhedonia Scale (SAS; Eckblad et al., 1982) demonstrate neurocognitive, perceptual, and psychophysiological abnormalities that resemble those found in schizophrenic patients (e.g., Gooding, 1999; Tallent and Gooding, 1999; Gooding et al., 2000). In addition, scores on the SAS have been found to demonstrate a taxonic latent structure in non-clinical samples (Blanchard et al., 2000; Horan et al., 2004), which is consistent with Meehl's (1962) original theorizing that social anhedonia is an indicator of the latent class or taxon that he termed "schizotypy" (also see Meehl, 2001).

The most compelling evidence from psychometric high-risk studies comes from a 10-year study of the predictive validity of scales assessing negative (i.e., SAS) and positive (Magical Ideation Scale [MIS], Eckblad and Chapman, 1983; Perceptual Aberration Scale [PAS], Eckblad and Chapman, 1983]) schizotypy or psychosis-proneness traits. While individuals with elevated positive schizotypy scores at baseline were at significantly elevated risk for the development of a variety of psychotic, mood, and substance use disorders (Chapman et al., 1994), a subgroup of individuals with elevated scores on the MIS who also had elevated SAS scores was at greatest risk for the development of psychotic, but not other, disorders at follow-up (Kwapil et al., 1997). After statistically controlling for the effects of other psychosis-proneness measures, Kwapil (1998) found that individuals with elevated SAS scores were significantly more likely than controls to be diagnosed with a schizophrenia spectrum personality disorder (PD) at follow-up, and received higher dimensional ratings than controls on schizotypal, schizoid, and paranoid PD symptoms, psychotic-like experiences, and social withdrawal at follow-up. An independent longitudinal study by Gooding et al. (2005) also found that individuals with high SAS scores were significantly more likely to have developed schizotypal, schizoid, or paranoid PD than individuals with elevated scores on the MIS and/or PAS at a five-year follow-up assessment.

While these longitudinal findings suggest that the SAS may identify individuals who are specifically at risk for the development of schizophrenia spectrum disorders, interpretation of these studies is limited by the selection procedures that were used to identify social anhedonics. In the study by Kwapil (1998), the SAS was not originally used to select subjects, and many social anhedonics had elevated scores on positive schizotypy measures. The Gooding et al. (2005) study did select subjects based on elevated SAS scores but it was not required that the social anhedonics also reported low positive schizotypy scores. Cross-sectional studies reporting elevated rate of spectrum PD symptoms, positive psychotic-like experiences, negative symptom characteristics, and social maladjustment in social anhedonics also have not specifically selected high SAS scorers who had low scores on other traits such as magical ideation (Mishlove and Chapman, 1985; Gooding et al., 2000; Kwapil et al., 2002). It is therefore possible that the elevations of both negative symptoms (e.g., of schizoid PD) and positive symptoms (e.g., of schizotypal and paranoid PDs) found in social anhedonics were not associated with anhedonia per se, but were instead secondary to positive schizotypal traits associated with psychosis proneness (Meehl, 2001). In this context, it is noteworthy that scores on the SAS demonstrate a latent taxonic structure that is essentially independent of traits measured by the MIS and PAS (Horan et al., 2004), a finding consistent with the notion that social anhedonia is indeed an indicator of schizotypy in its own right.

One goal of the current cross-sectional study was to determine whether "pure" social anhedonics with high SAS scores and low MIS scores demonstrate higher levels of schizophrenia spectrum PD symptoms than controls with low scores on both scales. An additional comparison sample with high MIS scores and low SAS scores was also examined. We evaluated whether even pure social anhedonics would demonstrate elevations across dimensional ratings of schizotypal, paranoid, and schizoid symptoms as compared to controls. We also sought to replicate findings that high MIS subjects demonstrate elevated scores on the predominantly positive symptoms of schizotypal and paranoid PDs.

The second goal was to identify individual differences that might be associated with greater clinical severity among social anhedonics and high MIS subjects. Kwapil's (1998) finding that less than one-third of social anhedonics had developed schizophrenia-spectrum disorders by 10-year follow-up is consistent with Meehl's (1990) theorizing that key potentiating factors influence whether schizotypic individuals experience decompensation. These potentiators could include general social environmental factors or non-specific traits that contribute to clinical deterioration among individuals with core schizotypal traits.

Our selection of candidate potentiators was guided by a vulnerability-stress model of schizophrenia (Nuechterlein et al., 1992), which incorporates exposure to psychosocial stressors, personal risk characteristics that increase