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Emotional processing in schizophrenia across cultures: standardized measures of discrimination and experience

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Abstract

Schizophrenia appears quite similar across a range of cultures. However, variability has been noted, and understanding the variant and invariant features of the disorder is necessary for elucidating its biological and environmental basis. Evidence of prominent emotion processing deficits in schizophrenia, including perceptual and experiential aspects, led us to extend the paradigm of standardized measures cross-culturally. We assessed performance of American, German, and Indian patients with schizophrenia and healthy controls on standardized emotion discrimination and experience (mood induction) procedures using happy, sad, and neutral facial expressions of Caucasian actors. Participants were 80 Americans (40 patients; 40 controls), 48 Germans (24 patients; 24 controls), and 58 Indians (29 patients; 29 controls). Face discrimination performance was impaired across patient groups, but was most impaired in those of Indian origin. Lower performance was also found in Indian controls, relative to their American and German counterparts. Mood induction produced weaker effects in all patient groups relative to their respective controls. The results supported the feasibility of cross-cultural comparisons and also emphasized the importance of poser ethnic background for facial affect identification, while poser ethnicity was less consequential for mood induction effects. Emotion processing deficits in schizophrenia may add to the clinical burden, and merit further examination.

Keywords: Culture; Emotion discrimination; Mood induction; Schizophrenia

1. Introduction

While emphasizing the biological substrates of schizophrenia, Kraepelin also pioneered efforts to develop comparative sociocultural psychiatry (reviewed in Jilek, 1995) and encouraged examination of syndrome variability that may be imposed by cultural differences. More recently, emphasis on standardized approaches to diagnosis and assessment, embodied in the DSM and ICD nosologies, has stressed features that are culturally invariant (American Psychiatric Association, 1994). Nonetheless, considerable evidence has accumulated of systematic cross-cultural variability (reviewed in Thakker and Ward, 1998). Although features such as neurocognitive deficits, brain abnormalities, and the effects of some family interaction patterns appear culturally invariant

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(e.g., Bobes et al., 1996; Chen et al., 1996; Taleb et al., 1996; Weisman et al., 1998), many features do show substantial variance associated with culture. These include cultural differences in presentation, severity, course, and medication effects (e.g., Dassori et al., 1995; Bhugra et al., 1996; Collazo et al., 1996; Kent and Wahass, 1996; Davidson and McGlashan, 1997). Moreover, well-established sex differences, such as later age of onset and improved course and outcome (Goldstein and Tsuang, 1990), do not seem to be equally pronounced in all cultures (Jablensky and Cole, 1997).

There has been increased interest in the study of emotional processing and its neural regulation (reviewed in Cacioppo and Gardner, 1999). Despite the universal appearance of some basic emotions (Ekman and Friesen, 1986), culture influences and shapes more complex emotional experience and expression (Russell, 1994). For instance, Mandal et al. (1996) observed that healthy Indian participants judged fearful and angry facial expressions as more unpleasant than did North Americans, regardless of the ethnic identity of the facial stimulus (American or Indian). Correspondingly, culture and environment may contribute to the symptomatology of psychiatric disorders by influencing the outcome or degree of distress (Kirmayer, 1989).

Impaired emotional functioning has been considered fundamental in schizophrenia. Early descriptions emphasized inappropriate and blunted affect (Bleuler, 1911) and lack of relatedness (Kraepelin, 1919). Increased appreciation of negative symptoms prompted studies of emotion processing, with most examining perception of emotions. Patients with schizophrenia were noted to have deficits in recognition of facial affect (Cutting, 1981; Novic et al., 1984; Walker et al., 1984; Feinberg et al., 1986; Gessler et al., 1989; Archer et al., 1992; Heimberg et al., 1992; Salem et al., 1996). Few studies, however, have examined the experience and expression of emotion in schizophrenia. Reduced facial expression during social interaction (Krause et al., 1989) and diminished expressiveness in response to emotional films (Berenbaum and Oltmanns, 1992; Kring et al., 1993) have been noted. Self-report of emotional experience was not attenuated in the same manner in these studies. This suggests a potential dissociation between the reported experience of emotion and its display. Accordingly, an integrative study by Kring and Neale (1996) found reduced facial expression, increased skin conductance reactivity, but normal reported experience.

A prerequisite for appreciating cultural effects on emotion processing is the availability of standardized instruments for measuring the ability to discriminate, experience and express emotions. There is increased availability of such measures, and in particular experimental mood induction procedures have helped in the study of emotional experience (Gerrards-Hesse et al., 1994). Tests for emotion discrimination (Erwin et al., 1992) and mood induction (Schneider et al., 1994a) were detailed in earlier investigations that included comparisons between healthy participants and patients with schizophrenia. Patients were impaired in facial affect discrimination (Heimberg et al., 1992) and demonstrated diminished response to mood induction, especially for happiness (Schneider et al., 1995). Such deficits in emotion processing can influence the manifestation and outcome of the illness, and this may vary with the cultural context. The present investigation aims to examine the applicability of these tests to diverse samples so as to evaluate possible variations in performance on emotion processing tasks across cultures.

2. Methods

2.1. Subjects

The first study, published previously (Schneider et al., 1995), included 40 American patients (19 women, 21 men) meeting DSM-III-R criteria for schizophrenia. The patients were recruited and assessed by the Schizophrenia Center, applying procedures described earlier (Gur et al., 1991). Mean duration of illness was 6.2 ± 7.7 years. Most patients were clinically stable and were evaluated in an ambulatory setting (only eight were inpatients at time of assessment). Seventeen were medication-free from 3 weeks to lifetime, 23 received neuroleptic medication. Controls were healthy volunteers responding to advertisements in com-