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Psychotic traits in musicians

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Abstract

The association of music with madness is very longstanding. But is it more than myth, and if so what is the nature of this relationship? We tested the hypotheses that musicians possess greater schizotypy and symptoms of bipolar disorder. A total of 102 musicians were found to have greater positive and negative schizotypal traits when compared to matched norms on the shortened Oxford–Liverpool Inventory of Feelings and Experiences. Based on the Mood Disorder Questionnaire, 10.8% of musicians also met criteria for lifetime bipolar disorder. Rock musicians appeared to have greater symptoms than those performing in other musical genres.

Introduction

From antiquity, music and madness have been seen as intertwined in the popular imagination. In past centuries, this common cultural trope has alighted on several notable musicians exemplified by romantics such as Franz Schubert (Deaville, 2006). In a contemporary context, this fascination has twinned with countercultural ideas in the more 'alternative' corners of music notably 'heavy metal' (Walser, 1993), jazz and rock genres (Farrington, 2015). Affective and psychotic illnesses have often been 'identified' in the biographies of musically creative individuals; but few empirical studies have tested the association of musicianship with psychopathology or related personality traits. Preti & Vellante (2007) identified a higher level of sub-clinical delusional beliefs in thirty musicians (amongst a group of 25 painters and 25 writers) when compared with non-creative controls. Rankin (2006) identified a distinctive pattern of personality traits in a group of popular/rock musicians suggesting that they possessed high levels of neuroticism, openness to experience and extraversion, as well as responses reflecting depressive, obsessive–compulsive and psychotic tendencies.

Associations of psychopathology with creativity are not limited to musicianship, with a plethora of claims that include schizophrenia (Sass, 2000) and bipolar disorder (Jamison, 1993). However, probably the best empirical evidence to date links creativity to affective instability, and bipolar disorder in particular. Nowakowska *et al.* (2005) documented greater cyclothymic, dysthymic and irritability traits in both bipolar and creative groups. Santosa *et al.* (2007) also found superior creativity in a bipolar disorder group; other evidence suggests that this may especially be the case during manic phases (Soeiro-de Souza *et al.* 2011). The link is probably not confined to bipolarity: in a Swedish population-wide study (Kyaga *et al.* 2011) those in a creative profession possessed a greater likelihood of schizophrenia, bipolar disorder, depression, suicide and substance abuse.

Elevated schizotypal traits have also been found in a range of creative groups (see Holt, 2015, for review), though musicians have not received specific attention. We used here the same methodology as recent studies of both comedians (Ando *et al.* 2014) and poets (Mason *et al.* 2015). We predicted that musicians would possess both greater self-reported schizotypy and bipolar symptoms. We were also interested to explore the relationships between musical role/genre and traits/symptoms.

Method

Musicians were recruited by emails to online music networks and places of musical study. Participants completed an online survey based on an earlier study of poets (Mason *et al.* 2015), but adapted to suit musicians. In addition to the Oxford–Liverpool Inventory of Feelings and Experiences (O-LIFE: Mason et al. 2005) and Mood Disorder Questionnaire (MDQ) (Hirschfeld, 2000) the survey covered demographics and musical experience/expertise. The normative sample was also taken from Mason *et al.* (2015). The study was approved by the University of Surrey. The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

Results

A total of 102 musicians (24 females, 78 males) were aged from 16 to 81 years ($M = 38.51$, S.D. = 15.74), had a mean number of years involvement with the music of 22.06 ($M = 15.00$), and

comprised both amateur (48) and professional/semi-professional (52). Most performed on an instrument (94); around half were vocalists (49) and/or composers (48). Many composed lyrics (44), while a minority chose 'conductor' (9) or turntablist/DJ (3). In terms of genre, 58 chose rock music, 31 classical, 35 blues, 34 jazz, 31 blues and 24 folk/world.

O-LIFE and MDQ scores

Table 1 shows mean scores for the groups on the four O-LIFE scales and the results of MANOVA. There were highly significant differences favouring higher scores in musicians for all schizotypy subscale scores. According to the MDQ criteria, 14 musicians (14%) met diagnostic criteria for bipolar disorder at some point in the past. This can be compared to the 3.7% base rate identified the US general population on the same measure (Hirschfeld *et al.* 2003).

In terms of roles, many categories were too numerous or rare for formal analysis. However, composers, lyricists and vocalists were all found to be higher in the Cognitive Disorganisation subscale than those not identifying in these roles [composer $M = 6.08$ (3.01) *v.* non-composer $M = 4.68$ (2.74), $t = 2.46$, $p < 0.05$; lyricist $M = 6.43$ (2.69) *v.* non-lyricist $M = 4.53$ (2.89), $t = 3.39$, $p < 0.01$; vocalist $M = 6.10$ (2.73), non-vocalist $M = 4.66$ (2.99), $t = 2.54$, $p < 0.05$]. However, these categories of musicianship were highly overlapping. Of genres, only rock musicians reported a higher number of bipolar symptoms than those not so self-identifying [7.38 (3.56) *v.* 5.58 (4.24), $t = 2.312$, $p < 0.05$].

Discussion

In line with our hypothesis, musicians showed a high level of psychosis-prone personality traits consistent with several other studies of creative groups that included musicians (Nowakowska *et al.* 2005; Rankin, 2006; Preti & Vellante, 2007). They did so across all measures of schizotypy, as well as on self-reported symptoms of bipolar disorder. Self-reported bipolar symptoms were seen at a similar level (14%) to a comparable sample of poets (18%: Mason *et al.* 2015), and exceeded the general population by a factor of four. The elevated levels of positive schizotypy were also broadly similar to those seen in both poets and comedians (Ando *et al.* 2014). In common with the comedians but not the poets, *negative* schizotypy – social withdrawal and anhedonia – was also more commonly seen in musicians. Though not always seen in creativity studies, there is evidence of its relationship to divergent thinking (Cox & Leon, 1999) suggesting it may have a relationship to cognitive processes contributing to creativity. Perhaps the most intriguing finding relates to 'rock' musicianship and bipolar symptoms, though again this was not specifically hypothesised and many other music genres were too poorly represented to be appropriately tested. Given the cultural construction of the 'rock rebel' with an expression of anger and even mental instability (Walser, 1993; Deaville, 2006; Farrington, 2015), this area is definitely deserving of further investigation.

Table 1. Scores on the O-LIFE for Musician and Normative groups

O-LIFE scale	Musicians ($n = 102$)	Controls ($n = 808$)	F** ($p < 0.01$)
UnExp	4.23 (2.64)	3.42 (2.97)	6.83**
CogDis	5.35 (2.94)	4.43 (2.9)	9.01**
IntAn	5.04 (1.49)	2.74 (1.96)	130.12**
ImpNon	4.73 (1.78)	2.46 (2.01)	117.62**

** p <.01

Limitations

The methodology does not allow estimation of the response rate or representativeness of the sample and may have attracted respondents with greater distress. Musical experience, traits and symptoms are self-reported and not corroborated by independent assessment.

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Declaration of interest. The authors have no personal, professional or financial competing interests to declare.

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