Can music preference indicate mental health status in young people?

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**Objective:** In the aftermath of the double suicide of two teenage girls in 2007, the media linked the themes of ‘emo’ music and the girls’ mental state. But it is not just emo music that has been the subject of scrutiny by the media. Rap music, country, and heavy metal have also been blamed for antisocial behaviours including violence, theft, promiscuity and drug use. It remains an important research and clinical question as to whether music contributes to the acting out of behaviours described in the music lyrics or whether the preferred music represents the already existing behavioural tendencies in the subject. This paper surveys and discusses the relevant literature on music preference and adolescent music listening behaviours, and their links with adolescent mental health.

**Conclusion:** Studies have found a relationship between various genres of music and antisocial behaviours, vulnerability to suicide, and drug use. However, studies reject that music is a causal factor and suggest that music preference is more indicative of emotional vulnerability. A limited number of studies have found correlations between music preference and mental health status. More research is needed to determine whether music preferences of those with diagnosed mental health issues differ substantially from the general adolescent population.

**Key words:** Adolescence, behaviour, diagnosis, mental state, music preference.

It is irrefutable that popular music is integral to the social and emotional world of adolescents and journeys with them through their development and individuation.1,2 However, there is growing concern among professionals over the sheer amount of time adolescents are exposed to a broad range of media, including music and music videos, and what effects they might have on their emotional wellbeing.3,4 Although the latest Australian survey of children’s leisure time did not explore music listening habits,5 adolescents in the US and UK listen to music between 2.5 and 4 hours each day.1,2

Concerns raised in the media focus on the link between music subcultures and behaviours including suicide, violence, theft, promiscuity, and drug use. In 1984, a 19-year-old American boy shot himself while listening to Ozzy Osbourne’s song *Suicide Solution*. In 1999, two American students went on a shooting rampage, killing 12 students and injuring 24 others—the media linking their behaviours with listening to Marilyn Manson’s music. Manson’s music, otherwise coined shock-rock or industrial metal, is usually centred around metal guitar riffs and industrial synthesized/sequenced lines, heavily distorted, very low pitched guitars, and harsh vocals. Themes in Manson’s music include racism, masochism, drugs, violence and abuse. More recently on Australian soil, the media linked the double suicide of two teenage girls in April 2007 with the lyrical themes of ‘emo’ music.6 Emo music, short for emotional music, typically expresses...
the outpouring of emotions, usually associated with relationship break-ups or other tragic events.

But can music trigger drug use, violence, suicide, and antisocial behaviour?

THE FUNCTION OF MUSIC FOR ADOLESCENTS

Music fulfils a range of functions for human beings, especially so for adolescents. Music/lyrics can reflect a range of personal adolescent issues including identity, dependence–independence, separateness–connectedness, values, and perception of the self. Furthermore, music aids resistance to authority, development of peer relationships, and learning about issues not communicated by their significant adults. In addition, music is said to regulate emotions by temporarily allowing an escape from thoughts and feelings or validating thoughts and feelings, and releasing pent up emotions, anxiety, energy and anger. While it is clear music is a significant part of the lives of adolescents, the evidence that certain music styles are linked with a range of psychological attributes needs elaboration.

RELATIONSHIP BETWEEN MUSIC PREFERENCE AND PERSONALITY

The finding that music preferences stay relatively stable on a day-to-day basis has meant that such preferences can be studied with a degree of reliability. A number of experimental and correlation studies have utilized established self-report questionnaires to assess whether various genres of music correlate with personality traits. Two US studies of university students used the NEO Personality Inventory to investigate the relationship between listener characteristics and music preference. Findings indicated that preferences for heavy metal music correlated with: assertiveness and aggressiveness, indifference to the feelings of others, moodiness, pessimism, over-sensitivity and discontentment, and increased likelihood to act on impulses. These classified ‘anticonformists’ had lower self-esteem, were more likely to lack a stable sense of identity, and felt disconnected, rejected, or misunderstood by others. These characteristics were also found by Canadian researchers who correlated music preference of 12–19-year-olds and their scores on the Millon Adolescent Personality Inventory. In this same study, it was found that a preference for pop music was accompanied by predictable and danceable rhythms. Lyrics in pop music explore developmental themes, including relationships, autonomy and identity, and peer acceptance. One Australian study correlated the NEO Personality Inventory with music preference in first year university students. Extraversion was more highly correlated with popular music than heavy metal music.

MUSIC PREFERENCE, SELF-HARM AND SUICIDE

Several studies have rejected the notion that music listening causes suicide but may be more suggestive of suicide vulnerability. A Canadian study correlated the music preference of 14–18-year-olds with the Parental Bonding Instrument, self-perception of alienation, drug use and attempted suicide/serious suicide ideation. Heavy metal music preferences did not correlate with suicide risk and in fact was reported by adolescents to be associated with a positive change in affect. Similarly, an Australian study of year 10 students investigated the connection between music preference and suicide vulnerability. Measures included the Adolescent Risk Taking Scale and questions on drug use. Significant associations between rock/metal and suicidal thoughts, acts of deliberate harm, depression, delinquency, drug-taking behavour, and family dysfunction were found. This was especially the case for girls. In another US study, two experiments involving university students found that those who listened to rock music or watched rock music videos with suicidal content wrote more scenarios with suicide-related themes than those who were exposed to music with non-suicide-related themes. However, results on the Positive and Negative Affect Schedule, Suicide Opinion Questionnaire, and Becks Hopelessness Scale suggested that the music did not increased the risk of suicide in the students, but rather primed implicit cognitions related to suicide.

A study of US students who compared scores on the State-Trait Anger Expression Inventory, Becks Depression Inventory, Self-esteem Scale, State Trait Anxiety Inventory, and Adult Suicide Ideation Questionnaire found no significant effects on song content or music type of suicidal ideation, anxiety, or self-esteem. Non-violent rap songs, however, elicit higher depression scores than violent rap songs, and rap songs were found to elicit more angry responses than heavy metal music. And lastly, another US study of young adults (mean age 24 years) correlated music preference with depression, suicidal preoccupation and personality using the Becks Depression Inventory and Eysenck Personality Inventory, and found suicidal ideation was associated with a preference for heavy metal music. It was also found that psychotism scores were associated with a preference for jazz and rhythm and blues, and extraversion associated with rap and hip hop music. A large longitudinal cohort study in the UK tracked a group of 1258 adolescents when aged 11, 13, 15 and 19 years.
Psychiatric diagnosis, deliberate self-harm and suicidal ideation were measured using the computer version of the Diagnostic Interview Schedule for Children (Voice-DISC). Results showed that deliberate self-harm and attempted suicide were associated with those that identified with the Goth youth subculture. What these youth listen to range from some forms of medieval, opera or classical music right through to aggrotech, heavy metal, industrial metal, punk rock, techno, and trance music.

**MUSIC PREFERENCE, AGGRESSION, ANTIMSOCIAL BEHAVIOUR AND DRUG USE**

Music's impact on antisocial behaviour has been addressed in a range of studies. Music is thought to trigger the activation of aggressive thoughts, emotions, expectations and memories, weaken inhibitions against aggressive behaviour, desensitize reactions to violence, and reduce empathy towards victims. A study of university students in the US found that when students listened to violent songs, they felt more hostile and had an increase in aggressive thoughts when compared with those who heard similar but non-hostile and had an increase in aggressive thoughts. Sensation Seeking of relationships with peers and family, and self-esteem. Measures included the Sensation Seeking Scale, Perceived Arousal Scale. A US study of adolescents examined the link in music preference and reckless behaviour, sensation-seeking behaviour, quality of relationships with peers and family, and self-esteem. Several measures were used to determine the effect of the music on aggression and hostility: the State Hostility Scale, Caprara Irritability Scale, and Perceived Arousal Scale. A US study of adolescents examined the link in music preference and reckless behaviour, sensation-seeking behaviour, quality of relationships with peers and family, and self-esteem. Adolescents with a preference for heavy metal or rock music reported higher rates of reckless behaviour (e.g. drink-driving, unprotected sex, drug use, shoplifting and vandalism) than those with a preference for other music. Preferences for hard rock and heavy metal were also correlated with high levels of sensation-seeking behaviour, negative family relationships, and low self-esteem in female adolescents. Male university students in a US experimental study listened to rap music with either misogynous themes or neutral themes and were then asked to select a story (neutral, sexual-violent, or assaultive) to show to a female peer. Those who listened to the music with misogynous themes were more likely to choose the assaultive story. A correlation study in the US found that university students who preferred rap music and heavy metal music reported more hostile attitudes. Heavy metal fans were more negative towards women and rap fans found to be more distrustful.

In another study, music preference, measures of affect employing the Positive Affect Negative Affect Schedule and risk-taking behaviours in a sample of US university students were investigated to determine the relationship between the intensity of emotional response to music and health risk-taking behaviour. A strong relationship between emotional responses to music (either positive or negative) and risk-taking behaviour was found and this relationship was found to be strongest for fans of rock or heavy metal music. A recent study found strong links between rap music and deviant behaviours – in particular violence, theft, membership to street gangs, and drug use. Four styles of rap – American rap, French rap, hip hop/ soul and gangsta/hardcore rap – were compared, with French rap linked to the more deviant behaviours and hip hop to the less deviant behaviours. This study suggests that subgenres are worthy of investigation as they can elicit quite distinct findings.

The high prevalence of themes of drug and alcohol use and abuse in heavy metal, rap, and rave music genres has led to researchers investigating correlations between music genres and substance misuse. One study found that youth who had preference for rave (dance) music had substantially higher intake of drugs of all types regardless of their socio-economic background. Another study found that 60% of all chemically dependent youth preferred heavy metal music and, similarly, adolescents who preferred heavy metal music were more likely to use, but not abuse, illegal drugs when compared with those who had other music preferences.

In contrast, an experimental US study conducted in the mid-1980s of 11–15-year-olds rejected the notion that music preference influenced illegal drug use in adolescents. The adolescents were exposed to a range of ‘pop’ music (Olivia Newton John, Madonna, and Huey Lewis and the News) and asked to report on whether the music influenced their way of thinking on various issues. The study showed that recognizing the value content of a song is no guarantee that the adolescent will accept the values portrayed in the song. The difficulty with this study is that the adolescents were not asked to discuss the content of their preferred songs but a predetermined selection. Furthermore, the three songs they listened to are classified as pop music and not the more controversial styles of heavy metal, punk or rap music.

**DISCUSSION**

The aforementioned research found that preference for heavy metal music and rap music correlate with a range of antisocial and other behaviour. While the research does not suggest that music causes such behaviours, it may well be that music preference is indicative of an underlying emotional disturbance or vulnerability. In fact, the research found that those adolescents with antisocial behaviour who listened to heavy metal music felt disconnected, lacked a stable identity, and had low self-esteem. Anger, violence and misogyny were especially associated with rap music. Similarly, heavy metal music, particularly for girls, was associated with self-harm or suicidal ideation. Again, music preference was suggestive of vulnerability to suicide rather than a causal factor. In contrast, some
studies found that listening to preferred music was associated with a positive change in affect and had a purgative or cathartic effect for adolescents in distress.\textsuperscript{15,16,22}

Given that music preference may be indicative of emotional vulnerability, could this notion be extended to suggest that music preference can be a diagnostic indicator of emotional disturbance? It has already been noted that a high incidence of adolescents with preference for heavy metal music are hospitalized for psychiatric problems.\textsuperscript{50} Furthermore, adolescents diagnosed with mood disorder tended to like rap, classic rock, hard rock, heavy metal and alternative music, while those with oppositional defiant disorders tended to prefer rap and some techno.\textsuperscript{51} The American Academy of Child and Adolescent Psychiatry already recommends psychiatric assessment for adolescents who show a preoccupation with music containing destructive themes such as suicide.\textsuperscript{52}

Exploring music preferences as a reflection of at-risk status is feasible and relevant to those working with adolescents, particularly as many adolescents (e.g. those at risk of suicide) are unlikely to seek out assistance when needed. Understanding the link between music preference and mental illness also has implications for treatment. Therapy may include discussions on the themes of adolescents’ preferred music and may be an indicator of progress or deterioration in mental state.

A research agenda is needed in order to clarify a number of key associations before any causal explanations can be established between the experience of music and positive or negative mental health. To date, no such study has attempted to link music preferences with mental illness diagnosis. Such questions include: whether vulnerable youth prefer music selections in particular genres; whether there is a dose response relationship;\textsuperscript{53} do vulnerable adolescents understand the lyrics and messages that these songs are representing or are they more focused on the music itself; does the music they listen to change how they feel and act, and are these changes positive or negative; do adolescents with mental health problems listen to substantially more music than the average adolescent, and in what contexts do they listen to their music? All the above questions need to compare young people with mental health problems with the normal population. If many of the above associations do exist in contemporary culture and are related to adverse outcomes, then ways to reduce the exposure to particular music genres need to be advanced.

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