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Abstract

There is a diverse literature that explores the relationship between youth, music, and mental health, with few attempts at systematic synthesis. This critical interpretive review included 33 studies published between 2000 and 2012 investigating the relationship between music and the mental health of young people, particularly targeting depression. An iterative methodology was used involving several layers of inductive analysis with the intention of generating an organizing framework that critically synthesized the available literature. The organizing framework highlights that decisions related to research design, assessment of health, and the nature of musical engagement have predictably influenced study outcomes. Studies have been limited by the collection of insufficient detail about the full range of individual's musical behaviors. In addition, there has been inadequate triangulation of health outcomes solicited from a variety of perspectives. More comprehensive research is needed that avoids simplistic dichotomies in relation to music and youth mental health.

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Keywords

mental health, extracurricular activity, depression, risk behavior, qualitative methods

Adolescence is a critical time in which to identify and treat the mental health issues young people struggle with, as vulnerabilities left untreated can develop into chronic mental illnesses in adulthood (McGorry, Purcell, Hickie, & Jorm, 2007). The potential of music to play an important role in the prevention of mental health problems is increasingly recognized (Brown & Bobkowski, 2011) for healthy youth in everyday contexts (Batt-Rawden, DeNora, & Ruud, 2005), and for more vulnerable young people receiving professional support in therapeutic contexts (Gold, Solli, Kruger, & Lie, 2009). The importance of music to young people is accepted and documented (North, Hargreaves, & O'Neill, 2000), and although the relationship between youth, music, and mental health has been measured, nuanced explanations about the nature of this complex relationship are rare. As most researchers in the field have understandably remained grounded in the literature from their own disciplines, we chose to provide a review of the research literature across the fields of social psychology, music psychology, music therapy, and music education. In this article, we describe the results of a critical interpretive analysis that investigates the outcomes and methodologies used to study the relationship between music and youth mental health. We clearly label a number of dimensions of research design and musical engagement that appear to influence the interpretation of results.

Design

Critical Interpretive Synthesis

Critical interpretive synthesis (CIS) is an approach to systematic reviewing documented by Dixon-Woods et al. (2006). The main purpose of this method is to integrate findings from potentially diverse studies and disciplines into a single, coherent framework. The method adopts a typically postmodern stance, and may include descriptive (qualitative) and numerical (quantitative) data within analyses (Annandale, Harvey, Cavers, & Dixon-Woods, 2007). Important to the concept of this methodology is the *critical* nature of the analysis that questions the way that authors of the various studies “conceptualize and construct the phenomenon under consideration, and use this as the foundation for developing their argument” (Harden & Thomas, 2010, p. 755). In this way, authors adopting a critical interpretive approach aspire

to be integrative by valuing a range of epistemological stances and attempting to avoid common assumptions and biases.

Another important distinction between critical interpretive synthesis and other forms of systematic literature review is the rejection of a set of fixed procedural stages in the review process. Instead, the process is described as “iterative, interactive, dynamic and recursive” (Annandale et al., 2007, p. 465). The benefit of this approach is that it allows early analysis to inform subsequent foci, rather than requiring a predetermined hypothesis (expectation) about what will be revealed. The primary aim of the review presented here was to articulate what associations appear to exist between young people’s musical engagement and mental health (particularly depression) and subsequent to that, to critically examine how those associations have been informed by the research designs used in investigations.

Method

Searching the Literature

The initial search was a systematic, structured scan of the literature using the following online electronic databases: Informit, Ingenta Connect, PsychINFO, JSTOR, Psychology and Behavioral Sciences Collection, ERIC, and PsychINFO. We confined the search terms to music* AND (teenager* OR adolescent* OR youth* OR “young people”) AND (Social OR psycho* OR health OR emotion). An initial 530 articles were collated from this preliminary search. An additional strategy was then used to expand the exploratory process by reference chaining and by using the expertise within the research team to identify relevant literature from adjacent fields that might not otherwise have been identified. This resulted in the addition of a further 28 studies to our list, with an initial total of 558 articles.

Selection of Studies for Inclusion

Purposive sampling (Marshall, 1996) was used to select the articles that were most relevant from the 558 and that would represent evidence from a variety of different disciplines and study designs. Studies relating to mental health issues aligned with depression were targeted, and mental illnesses such as psychoses were eliminated unless they concerned dimensions that contributed to understanding the nonpathological aspects of mental health. Similarly, studies that targeted adults were eliminated. In addition, discussion papers without data were eliminated, although these were first scanned to see whether the theories proposed could inform our analysis, or provide references to relevant studies. Inclusion was also confined to studies published from the year 2000 or later.

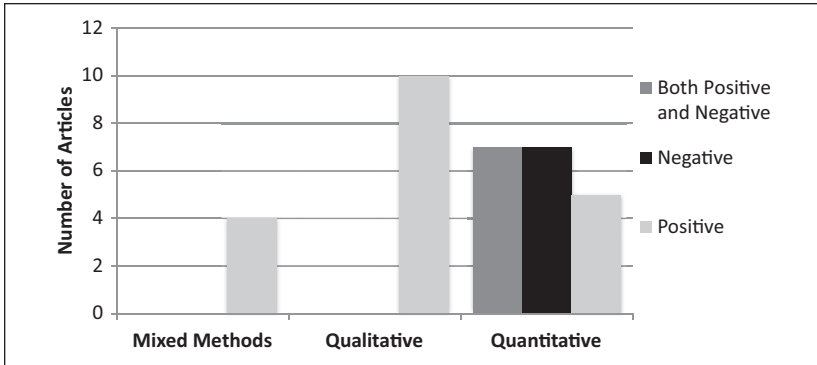


Figure 1. Count of negative and positive dimensions identified according to study type.

A total of 33 articles remained in the refined list (marked by * in the reference list). These were evenly distributed across the years between 2000 and 2012 and included articles published by authors from Northern America, Australia, Korea, England, the Netherlands, Finland, and Israel. The authors represented a variety of disciplines, including music therapy, music psychology, media psychology, social psychology, music education, and marketing.

Appraisal of Quality

While conventional appraisal criteria of scientific quality were applied (including evaluating the clarity with which the authors described their methods, the appropriateness of such methods to their objectives, and whether enough data were given to support the interpretations of the authors), our main purpose was to preserve studies that were highly relevant to our focus. Therefore, an integrated approach was adopted in which a critique of the credibility and reliability of findings was viewed as an integral part of the critical analysis and formulation of the synthesizing argument rather than a preliminary process for exclusion.

Data Analysis and Results

Our first approach to the data involved categorizing studies into qualitative, quantitative, or mixed methodologies and then analyzing whether the results of these studies connected musical engagement to positive or negative health outcomes. This descriptive analysis is illustrated in Figure 1 and

reveals that only quantitative studies reported results connecting musical engagement to ill health, as indicated by depression or secondary psychosocial measures.

This analysis also revealed that qualitative and mixed methodologies only reported positive health outcomes, and this revelation informed our subsequent analyses in a number of ways. We chose to scrutinize the nature of the qualitative and quantitative data collected and drill more deeply into the strategy for collecting data and the nature of the negative and positive health outcomes that were reported.

Distinguishing Between Studies of Musical Preferences and Musical Behaviors

Two distinct ways of conceiving music informed the 33 studies. Researchers either focused on the type of music (genre) preferred by participants, or the ways participants behaved musically. Those who focused on the genre typically sought correlations with other factors, such as personality or health. Those who focused on musical behaviors distinguished between listening and making music. We separated the identified studies into these two broad categories to examine each separately.

Studies examining musical preferences. Six of the studies included in the review examined correlations between specific genre preferences and mental health. For example, a preference for heavy metal music was found to correlate with alienation and anomie in girls (Lacourse, Claes, & Villeneuve, 2001) and with clinical depression and mood disorders in male and female participants (Doak, 2003). Other genres directly associated with depression and mood disorders were rap, techno, classic rock, hard rock, alternative (Doak, 2003) as well as pop music (Miranda & Claes, 2008). “Urban” music was found to correlate with aggressive behavior in one study (Mulder, Bogt, Raaijmakers, & Vollebergh, 2007).

Other studies did not classify music according to specific genre labels, but developed other ways of grouping preferred music that categorized several genres together. For example, Schwartz and Fouts (2003) found that people who preferred “heavy” music (including heavy metal, hard rock, classic rock, and rap) demonstrated higher levels of social nonconformity and intolerance, as well as lower self-esteem and impulse control. Participants who preferred “light” music (including pop, teen pop, or dance) experienced greater insecurity over relationships, an overdeveloped sense of responsibility, and greater discomfort with their sexual development.

Studies examining musical behavior

Music listening. Eight studies investigating music listening were associated with negative health outcomes. Higher levels of depression were directly correlated with listening to negatively valenced music (Dillman Carpentier et al., 2008), as well as avoidance/disengagement coping through music listening in girls, and emotion-oriented coping through music listening in boys (Miranda & Claes, 2009). Avoidant coping strategies were also associated with listening to music as a solitary activity (Hutchison, Baldwin, & Oh, 2006), and avoidance-based or maladaptive emotion-oriented coping strategies attached to listening were also associated with neuroticism (Miranda, Gaudrea, & Morizot, 2010). Anderson, Carnagey, and Eubanks (2003) reported that listening to music with violent lyrics could increase state hostility and aggressive thoughts. In addition, two studies demonstrated that high interest in musical celebrities characterized by use of posters, hanging out with fan groups, and consuming information about the musicians were correlated with alienation and low self-esteem (Kistler, Rodgers, Power, Austin, & Hill, 2010; Lacourse et al., 2001).

Some positive results were reported in five studies of musical listening behaviors. Listening to “fun” music (Dillman Carpentier et al., 2008) or music with humorous lyrics (Anderson et al., 2003) were reported to have positive effects on mood. Other effective mood regulation strategies such as using music to purge negative emotions or for cognitive reappraisal of negative situations were also associated with lower depression levels or better general emotion regulation skills (Lacourse et al., 2001; Miranda & Claes, 2009; Saarikallio, 2008).

Music-making. Music-making behaviors were canvassed in seven studies and involved active musical engagement such as group music-making (Currie & Startup, 2012; Faulkner, 2011), participation in music therapy sessions involving improvisation and songwriting (Barrera, Rykov, & Doyle, 2002; Dalton & Krout, 2005; McFerran, Baker, Patton, & Sawyer, 2006; McFerran, Roberts, & O’Grady, 2010), and learning to play a musical instrument (Shields, 2001). All articles reported enhanced quality of life in some form, from social connectedness to personal well-being.

Distinguishing between studies that focused on musical preferences and those that examined musical behaviors revealed that health benefits were persistently associated with music-making, but studies of music listening were sometimes associated with negative health outcomes. Negative health outcomes could be associated with a particular genre of music by researchers that focused on particular music types, but similar findings were identified even without this distinction. Some researchers who focused on listening behaviors identified particular ways of listening that were associated with negative health outcomes.

Assessing Impact on Health

A further layer of analysis was undertaken to more carefully examine how the impact of music on health was assessed in the different studies. To do this, we distinguished between studies that relied on participants reporting answers to direct questions about how music related to health, compared with those that used correlations or triangulation to measure independent associations between music and health. Independent associations often utilized validated health measures and mood measurement tools. Self-reporting was the most common mechanism of soliciting data in both types, using interviews and questionnaires.

Direct self-assessment of associations between music and health. A range of positive health benefits of music were reported by participants who were involved in a variety of forms of musical engagement, including rapping (Baker & Homan, 2007), listening to music (North et al., 2000; Saarikallio & Erkkila, 2007; Tarrant, North, & Hargreaves, 2000), playing a musical instrument (Campbell, Connell, & Beegle, 2007; North et al., 2000), group music-making (Kokotsaki & Hallam, 2011; Parker, 2010), and group music therapy sessions involving singing, songwriting (Kim et al., 2006), therapeutic improvisation (McFerran-Skewes, 2000), and music lessons (Baker & Homan, 2007; Campbell et al., 2007).

Some researchers did triangulate directly self-reported health outcomes with other self-report measures. Three studies compared the intentions of musical behaviors with outcomes from psychometric tests of mood or mental health (Hutchison et al., 2006; Miranda & Claes, 2009; Saarikallio, 2008). Two other studies (Barrera et al., 2002; McFerran et al., 2010) used multiple sources of data, including interview data, behavior reports from third parties, and results from self-reported psychometric tests.

Independent Assessment of Associations Between Music and Health

Results from direct self-reports about the impact of music on health often contrasted with results from studies that assessed music use and health independently of each other (see Table 1 for a summary). For example, participants in two studies reported that listening to music *always* had a beneficial effect on mood (Saarikallio & Erkkila, 2007; Tarrant et al., 2000). However, studies that tested mood effects separately indicated that effects varied depending on the type of music and various other individual factors. For example, Dillman Carpentier and colleagues (2008) found that male participants with depression were often in a lower mood after listening to music.

Table 1. Comparison of Strategies for Assessing Impact of Music on Health.

Musical behavior	Direct self-assessments		Independent assessment	
	Researcher(s)	Perceived benefits	Researcher(s)	Findings
Rapping	Baker and Homan (2007)	Improvements in confidence, satisfaction with increased confidence		
	Baker and Homan (2007)	Mood regulation	Doak (2003)	Associated with depression and mood disorders
	Baker and Homan (2007)	Empowerment		
Listening	Tarrant, North, and Hargreaves (2000); Saarikallio and Erkkila (2007)	Mood regulation; distraction/relaxation; emotional expression	Miranda and Claes (2009); Lacourse, Claes, and Villeneuve (2001); Dillman Carpentier et al. (2008); Schwartz and Fouts (2003); Doak (2003)	Connection to mood varies depending on media used and coping style of listener
	Tarrant et al. (2000); Nuttall (2009)	Increased social connection (although some musical tastes can be exclusionary)	Hutchison, Baldwin, and Oh (2006)	Can be alienating if listen alone
Playing	Campbell, Connell, and Beegle (2007); North, Hargreaves, and O'Neill (2000)	Increased social connection		
	Campbell et al. (2007); North et al. (2007)	Outlet for creativity		
Group playing; ensemble participation	Kokotsaki and Hallam (2011); Parker (2010)	Improved social skills; social bonding	Faulkner (2011)	Improved social skills; social bonding
	Kokotsaki and Hallam (2011)	Personal satisfaction (although pressure to work hard led to reduced satisfaction and perceived ability)	Faulkner (2011)	Personal satisfaction
	Parker (2010)	Outlet for creativity and emotional expression	Faulkner (2011); Currie and Startup (2012)	Reduced depression and anxiety
Music therapy participation (including improvisation and songwriting)	Kim et al. (2006)	Mood improvements; increased calmness	Barrera, Rykov, and Doyle (2002); McFerran, Roberts, and O'Grady (2010); Dalton and Krout (2005); McFerran, Baker, Patton, and Sawyer (2006)	Mood improvements

(continued)

Table 1. (continued)

Musical behavior	Direct self-assessments		Independent assessment	
	Researcher(s)	Perceived benefits	Researcher(s)	Findings
	Kim et al. (2006)	Improved relationships	Barrera et al. (2002); McFerran et al. (2010); Dalton and Krout (2005); McFerran et al. (2006)	Improved relationships
	McFerran-Skewes (2000)	Emotional expression	Faulkner (2011); McFerran et al. (2010)	Emotional expression
	McFerran-Skewes (2000)	Empowerment	Faulkner (2011); McFerran et al. (2010)	Empowerment
Learning/lessons	Campbell et al. (2007); Baker and Homan (2007)	Self-expression; release or control of emotions; distraction from stress		
	Campbell et al. (2007); Baker and Homan (2007)	Social connection; sense of belonging		
	Campbell et al. (2007); Baker and Homan (2007)	Competence and resulting self-esteem improvements	Shields (2001)	Competence and resulting self-esteem improvements
Worshipping/ high involvement with musical personae			Kistler, Rodgers, Power, Austin, and Hill (2010)	Negative self-perception
			Lacourse et al. (2001)	Alienation (boys only)

Similarly, they found that listening to sad music tended to intensify negative moods. Miranda and Claes (2009) found that music listening as a form of emotional avoidance was related to higher depression levels in females, but lower depression levels in males.

Inconsistencies are apparent in the associations between music and health that are directly reported by young people, as compared with when they are correlated independently. Similar contradictions were evident in studies investigating preferred genres of music. For example, participants in the study by Baker and Homan (2007) were asked about the effect of participating in a therapeutic rap group and they reported positive effects on self-esteem and mood. In contrast, participants in Doak’s (2003) study reported separately on music preferences and primary depression measures, resulting in the identification of associations between a preference for listening to rap music and depression. Doak (2003) acknowledged the

Table 2. Dimensions of Risk and Protection Associated With Health Properties.

Risk dimensions	Properties of health	Protective dimensions
Alienation	Interpersonal relationships	Connectedness
Worsened	Mood	Improved
Maladaptive	Coping	Adaptive

complexity of interpreting this phenomenon, stating, “It is unclear whether the music is part of a healthy process of self-regulation or is part of an unhealthy, distress-addiction cycle” (p. 72).

Reconceptualizing Positive and Negative Health Outcomes

A final layer of analysis categorized the studies by the type of health outcomes that were measured. Three groups were identified, comprising those focusing on interpersonal relationships, mood, and coping. In analyzing the studies categorized into these three properties of health, it became clear that musical behaviors could be related to positive and negative dimensions within each. For example, in different studies, music was seen to impact interpersonal relationships by either increasing isolation or increasing connectedness. Similarly, mood could be worsened or improved, and coping could be seen as adaptive or maladaptive. As the same musical behaviors could lead to different outcomes along the same continua, simplistic division into positive and negative health outcomes did not seem suitable and instead we chose to construct dimensions of risk and protection associated with each property of health (see Table 2) using a coding procedure from grounded theory methodology. Strauss and Corbin (1998) suggested identifying properties as “the general or specific characteristics or attributes of a category” (p. 117), and dimensions as representing “the location of a property along a continuum or range” (p. 117).

Types of health measures included in the *interpersonal* category were where musical behavior was connected to social bonding or relationships with other people at one end of the spectrum (Campbell et al., 2007; Kim et al., 2006; Kokotsaki & Hallam, 2011; Nuttall, 2009; Tarrant et al., 2000), and isolation/alienation at the other end (Hutchison et al., 2006; Lacourse et al., 2001; Mulder et al., 2007).

The relationship between music and *mood* was a popular focus within the literature, with some studies revealing improved moods (Barrera et al., 2002; Currie & Startup, 2012; Faulkner, 2011; Kim et al., 2006; North et al., 2000; Saarikallio & Erkkilä, 2007), while others demonstrated that musical behaviors could be associated with negative moods, including depression and

anxiety (Anderson et al., 2003; Dillman Carpentier et al., 2008; Doak, 2003; Miranda & Claes, 2009; Miranda & Gaudrea, 2011).

Some studies overtly discussed the way musical behaviors were related to various coping styles, both adaptive and maladaptive. Adaptive coping styles related to musical behavior included people-oriented coping behavior and problem-oriented coping (McFerran et al., 2010; Miranda & Claes, 2009), while maladaptive coping styles included avoidant/disengagement coping as well as emotion-oriented coping (Hutchison et al., 2006; Miranda & Claes, 2009).

An Organizing Framework

A critical examination of the methodologies and outcomes of the 33 included studies revealed a number of properties that appear to influence the interpretation of meaning from the results of these diverse investigations. As anticipated by the critical interpretive synthesis method, a number of these were related to research design, ranging from the nature of the data collected about health impact (direct self-reporting and independent associations), to the meaning constructed from relationships within the data (causative or correlational), to the type of analysis undertaken (qualitative, quantitative, or mixed). Another set of influential properties also emerged from categorizing the studies in the review according to the nature of musical behaviors, ranging between types of behavior (active music-making to receptive music listening) and impact of behaviors (intended as compared with actual outcomes). The decisions about type of musical engagement also impacted the associations that were identified, depending on whether researchers focused on musical preferences for specific genres of music or types of musical behaviors. The types of health outcomes that were examined also varied between health and illness, which we have constructed into three properties of health (interpersonal relationships, coping, and mood) and proposed risk and protective dimensions within each based on our analysis. Each of these influences has been combined into the organizing framework presented in Figure 2.

The depiction of the organizing framework in Figure 2 highlights the powerful influence of decisions made about research design, musical engagement, and measurement of health. The direct influence of each of these decisions on the results that are solicited suggests that most research to date has simply sanctioned the assumptions of researchers. Future investigators of this phenomenon are recommended to consider the impact of these influences when designing a study, and would benefit from intentionally identifying the dimensions that most usefully challenge or confirm their theories or hypotheses.

<i>Dimension</i>		Properties		<i>Dimension</i>
		<u>Research Design</u>		
Direct self-assessment	←	Nature of Health Assessment	→	Independent assessment
Correlational	←	Meaning Constructed From Relationships Within the Data	→	Causative
Qualitative	←	Type of Data Analysis	→	Quantitative
		<u>Musical Engagement</u>		
Genre preferences	←	Focus of Investigation	→	Musical behaviors
Active music-making	←	Type of Musical Behavior	→	Receptive listening
		<u>Measurement of Health</u>		
Intention	←	Level of Impact on Health	→	Outcome
Protective factors	←	Conceptualization of Health Outcomes	→	Risk factors

Figure 2. Organizational framework for studies of adolescents, music, and mental health.

Discussion

Undertaking a critical interpretive synthesis of the literature across a number of disciplines pertaining to music, adolescents, and mental health has revealed a number of inconsistencies that raise questions about research designs. First and foremost, the dearth of experimental studies that might inform causative understandings is limiting, and in this analysis, meant that a systematic review of outcomes (meta-analysis) was unsuitable. Instead, correlations have been the dominant form of analysis, with the exception of studies from music therapy, where two studies utilized pre- and post-testing, and a further two involved post-testing only. A meta-analysis of the effects of music therapy for children and adolescents with psychopathology has already incorporated most of these studies, and music therapy was seen to have medium to large positive effects (Gold, Voracek, & Wigram, 2004). Larger scale experimental studies are needed to validate the initial meta-analysis and trends seen in the studies included in this critical synthesis.

Despite the lack of experimental evidence, the belief that music can have a positive impact on the health of young people informed many of the

studies analyzed. This belief was strongest in the voices of adolescents themselves, and qualitative analysis of interview data resulted in a powerful affirmation of the perceived positive benefits of music for health. This is an important message for researchers, who should consider the inclusion of qualitative data in future studies to determine whether the results obtained from health measures are the same as those perceived by the young people involved. The results of this synthesis suggest that researchers who choose not to include young people's voices are ignoring an important and deeply relevant perspective.

Predominantly positive outcomes were also associated with studies of active music-making behaviors, although it is worthy of note that studies of the vast field of performance anxiety were excluded from this review. This became particularly interesting when compared with results from studies of the passive consumption of specific musical genres. Active participation in "rapping" (musical behavior) was associated with positive health benefits, whereas listening to rap music was associated with a range of health outcomes, including some negative correlations. Although no other direct comparisons between active and passive forms of musical behavior were available from the data set, this suggests that researchers focusing on preferences for specific music genres should expand questioning to search for distinctions between active and passive participation. Playing in a metal band, for example, may not result in the same negative correlations that are sometimes identified with the consumption of metal music (McFerran, O'Grady, Grocke, & Sawyer, 2012).

Given the contradiction between findings about active and receptive musical behaviors, the critical analysis suggests that investigations targeting correlations between specific music genres and health may be providing an incomplete picture. Correlational studies cannot, by their very nature, reveal whether listening to a particular genre causes or exacerbates mental health problems, or even, whether people with a predisposition toward mental health issues **are attracted to music** of certain genres because of certain properties. It may be that other factors are of greater importance than the actual genre listened to. For example, Levesque (2010) expressed concern about possible risks of overidentification with pop music idols, particularly when those doing the idolizing have a history of depression and suicide attempts. This is despite the fact that "light" music is usually associated with positive health (Schwartz & Fouts, 2003). In addition, findings from one study suggest the ways that people who listen may have more impact than the act of listening itself. In Miranda and Claes's (2009) study, **gender differences** were identified between teenagers who used music to avoid problems. Avoidance was correlated with positive health outcomes for young men, and negative outcomes for young women. Similarly, predispositions toward unhealthy

thinking patterns such as rumination may influence music choices and the outcomes to mental health from music listening (Garrido, 2009; Garrido & Schubert, 2011, 2013). A complex interplay of type of music and way of engaging music is therefore implicated, and separating one from the other can distort understandings.

What is missing in the literature is research that collects a comprehensive swathe of data that might allow for a more systematic comparison of a range of perspectives. This is true at the level of health as well as at the level of music. Comparing the opinions of young people in interviews with the results of health measures that utilize independent associations could illuminate whether there is consistency in these perspectives. This synthesis suggests that there may not be. Objective reports of health collected from third party observers would provide another dimension that would further elucidate the interaction. More careful consideration of the distinctions between music listening generally and music listening to particular types of music is also warranted. Results of this analysis suggest that genre may not be as influential as many researchers assume.

A study that collects comprehensive data about the full range of individuals' musical behaviors (active/receptive, preferences, intentions for music use), and correlates these with health outcomes reported from a variety of perspectives (interviews using direct questions, measures using indirect questions, third party reports) is needed. The findings from this study would then better inform the target variables for experimental designs that measure whether changes in musical behaviors lead to changes in health.

Conclusion

In this article, we have proposed an organizing framework that has resulted from a critical interpretive synthesis of the literature. This process identified that decisions related to research design, measurement of health, and the nature of musical engagement had somewhat predictable influences on the outcomes that resulted. This was most conspicuous in the different pictures that emerged depending on the use of qualitative and quantitative data analysis and the meaning constructed from results. Analyzing the approach to soliciting data from young people identified more subtle influences. Similarly, clear differences were identified between the impact of active and receptive musical behaviors, but this can be muddied when researchers target specific types of music, particularly if the reader attributes results to the genre rather than the way of listening. The analysis also revealed a gap in clear distinctions being made between the health benefits anticipated by young people and whether those were actually achieved. However, the notion of musical

engagement resulting in positive or negative outcomes was problematic in itself, and the use of risk and protective dimensions was posed as a more helpful conceptual tool.

Although our review was limited by the inclusion of studies published in the 21st century, it is clear that there is a great need for further systematic research on the subject of adolescent uses of music and the ways this interacts with the mental health of young people. Given the value of music in communicating with and reaching out to troubled adolescents (McFerran, 2010), a clearer understanding of the role of music in adolescent mental health may make an important contribution to early detection and intervention for depression in young people.

Authors' Note

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