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Individual difference correlates of continuing versus ceasing musical participation

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Abstract

While researchers have begun to examine how social and emotional investment in music is related to psychological well-being, very little research has considered how best to promote life-long participation in music across the lifespan. One particular gap in the existing literature concerns how and why individuals continue to participate or, instead, cease their participation in musical activities. The current research adopted a social psychological approach to quantitatively examine the differences between 383 Australian residents who have ceased (44.40%) or currently participate in musical activity (55.60%). Responses to an online questionnaire indicated that current participation in music was associated positively with a preference for reflective and complex music and the WHO-Bref's psychological quality of life dimension; and that current participation in music was associated negatively with peer musical engagement when growing up. Moreover, gender, age, and measures of musical background and experience were not significantly associated with continuing to participate in musical activities. These findings have clear implications for educators' attempts foster continued musical participation.

Keywords: music participation; music-making; music engagement; life-long; cessation

Individual difference correlates of continuing versus ceasing musical participation

Researchers have begun to examine the association between music participation and both psychological and physical well-being. The growing evidence indicates that actively participating in music activities is associated with a range of perceived benefits for the musician which cluster into categories including social, emotional, cognitive, physical health, and life satisfaction benefits (Krause, Davidson, & North, 2018). Commonly reported social correlates include building and nurturing friendships (e.g., Jutras, 2011; Livesey, Morrison, Clift, & Camic, 2012); emotional correlates often include both expression and regulation (e.g., Judd & Pooley, 2014) and specifically relaxation (e.g., Michalos, 2005); physical health correlates include both generalized perceptions of feeling healthier (e.g., Gembris, 2012) in addition to specific improvements to body functions; and other reported correlates concern quality of life and life satisfaction more broadly (see Krause, et al., 2018 for a detailed review).

In Australia, 85% of people believe that the arts make a meaningful contribution to life (Australia Council, 2014). The Australia Council (2014) reported that one in five Australians creates music. More recent data from the Australian Bureau of Statistics (2019) indicated that 31.4% of Australians aged 15 and older participated in at least one cultural activity in 2017-2018—such as singing, playing music, writing, dancing, or visual arts. The Australian Bureau of Statistics (2019, March 26) data suggests that 4.6% of the Australian population sings or plays a musical instrument. This mirrors data elsewhere in the world. Data from the National Endowment for the Arts (2015, January, pp. 39-40) report states that, in 2012, 12% of Americans played a musical instrument, 9% sang, and that about 43% of Americans used technologies to “share, create, perform, edit, or remix art”. In England, in 2017-2018, 79% of adults engaged with the arts (Arts Council England, 2018, August 30)— with 12% playing a musical instrument for

personal pleasure, 4% playing an instrument for rehearsals and performances, 5% singing in a group or taking lessons, 5% signing for rehearsals and performances, and 3% writing music (Arts Council England, 2018, April 26).

This raises the need to identify those factors that relate to continued participation in musical activities. Little research has considered how best to promote on-going investment in musical activities, and what research there is yields sometimes paradoxical findings. For instance, even though fostering life-long participation in music is a major goal of music education (e.g., Bowles, Dobbs, & Jensen, 2014; Cavitt, 2005; Mantie & Tucker, 2008; Silveira, 2013), participation in school music programs rarely results in continued involvement (Bowles et al., 2014; S. K. Green & Hale, 2011; Pitts, 2016) as few students transition from school music making activities to adult music activities (Cavitt, 2005). McPherson, Davidson, and Faulkner's (2012) longitudinal study which traced young musicians after 11-14 years, found that nearly 25% of their sample were currently involved in music in some way. These individuals were involved in a range of activities, including school ensembles in and outside of school, private lessons, performance exams and competitions, and playing for fun on one's own or with friends (McPherson et al., 2012). A student's love of music may not be sufficient to promote continued involvement (Ayling & Johnston, 2005); and research that has narrowly focused on specific obstacles to continued participation in music (e.g., Pitts, Robinson, & Goh, 2015; Stewart, 2005) indicate barriers such as the availability of suitable activities (Kuntz, 2011; Pitts, 2016), the cost of participation (Hallam, Creech, Varvarigou, & McQueen, 2012), and busy schedules and other commitments (Delano & Royse, 1987; Douglas, 2011). As Pitts et al (2015) report, decisions about ceasing participation are not easy and often are accompanied by feelings of loss and regret: even those actively participating "are constantly, if not consciously, weighing up the

benefits and costs of participation” (p. 134). They note that music educators can promote an awareness of the benefits of music participation with their students to foster continued satisfaction and involvement.

In the light of findings such as these, some music education researchers have argued that school music programs are too focused on teaching skills or polishing performances, and devote insufficient attention to providing skills for continued music involvement (Myers, 2008a, 2008b; Pitts, 2016). Mantie and Tucker (2008) raised the question of whether teachers and students share the same view of the objective of music education, indicating that the connection between school music and a continued (even life-long) investment could perhaps be stronger. Moreover, the notion of *life-long* learning implies participation should take place across the entire lifespan, such that there can and should be “multiple and continuous entry points” for music learning and participation (Myers, 2008a, p. 54). If people can “begin or extend their musical growth at any age or stage” (Myers, 2008b, p. 3; see also Mantie & Tucker, 2008), the time spent in primary and secondary education is short relative to this (Dunn, 2006), underscoring the importance of considering music participation beyond school. In this context it is interesting that Shansky (2010) highlighted that the more limited amount of research on life-long participation that does exist has tended to focus on post-retirement aged adults or those with physical or mental challenges, rather than learning throughout the course of adulthood.

Thus, given the burgeoning interest in links between musical participation and well-being, and interest in promoting continued involvement in musical activities across the lifespan, the present research aimed to consider those factors that differentiate between continuing and ceasing musical participation across the lifespan. Previous research on community music involvement has tended to be descriptive in nature

(Rohwer, 2016), considering demographic characteristics, such as gender (e.g., Ashley, 2002; Clift & Hancox, 2010; Vaag, Saksvik, Milch, Theorell, & Bjerkeset, 2014) as well as age and education level (e.g., Cavitt, 2005; Elpus & Abril, 2011), and socioeconomic status (e.g., Kinney, 2010). For example, the National Endowment for the Arts (2015, January) reported that the likelihood of singing and playing a musical instrument “increases with education and family income” (pp. 39-40).

Personality (e.g., Cutietta & McAllister, 1997; Torrance & Bugos, 2017) and gender stereotypes (e.g., Dibben, 2002; L. Green, 1997; Wych, 2012) have also been considered in the context of musical involvement. Corrigall, Schellenberg, and Misura (2013) found that conscientiousness and openness to experience were associated with musical involvement in both children and adults. Interestingly, some kinds of musical activities are deemed ‘male’ and others ‘female’ (Dibben, 2002). Green (1997) found that teachers believed that female students were more successful at singing and boys were better at composition. Such gender associations with musical instruments persist (Abeles, 2009; Dibben, 2002; Eros, 2008). These stereotypes can constrain people’s activities in music (Abeles, 2009), impact ensemble participation opportunities (Wych, 2012), and influence peer approval (Eros, 2008).

Moreover, there is a positive relationship between participation in adult education and previous education (e.g., Ross-Gordon, Rose, & Kasworm, 2017, p.17); it could be that there is a similar link between continuous musical participation and previous musical experience(s). Indeed, when Bowles (1991) surveyed prospective adult participants about their music education preferences and interests, the findings illustrated differences between those who indicated that they would and would not pursue an adult music education opportunity. Those who were more likely to take up adult activity had received private music lessons, participated in music performance

organizations when younger, participated in general music classes, and participated in a music activity at the point of data collection. Other research suggests that life changes and transitions (e.g., work or family changes) can trigger adults to pursue learning opportunities (e.g., Kungu & Machtmes, 2009), and since older people may be more likely to have undergone these triggering events, they might be more likely to participate.

While providing a foundation for considering ongoing participation, it is helpful to consider them within the context of other psychosocial variables that relate to life-long learning more broadly, including quality of life, personality, and self-esteem. For example, Desjardins and Rubenson (2013) developed a model of barriers to adult participation in formal and informal learning which emphasizes both individual and structural constraints. The individual, or 'dispositional', category concerns self-beliefs, perceptions, and attitudes about oneself. Therefore, this model recognizes that perceptions of self (including, e.g., self-esteem) can influence continued investment in education. The desire for greater feelings of self-worth and self-esteem have been shown to factor into adults' participation in formal learning opportunities (Hansman & Moot, 2010). Further, Hill and Ziegahn (2010) assert that learning is central to health, in that learning has been associated with positive emotional, psychological, and physical health outcomes. Since higher levels of education tend to be associated with better health (Hill & Ziegahn, 2010), it is possible that continued involvement in learning opportunities as an adult is associated with perceived well-being. Therefore, in addition to considering musical background, musical taste, and demographic status, the current investigation included self-esteem, personality, gender role identity, and quality of life among a Western sample drawn from across the lifespan.

Aims and Hypotheses

The present research concerned music participation, situated in the cultural context of Australia. Musical participation can, of course, include amateur and/or professional performance, music facilitation, music creation and music listening (Kuntz, 2011). Indeed, the term “music engagement” can encompass many different forms of musical participation (e.g., Chin, Coutinho, Scherer, & Rickard, 2018; Vanstone, Wolf, Poon, & Cuddy, 2016). The present research focused on participants’ experiences of music-making, with the particular activities defined by the participants’ own perceptions of their musical participation and engagement. While focused on music-making, this acknowledges that, today, music-making extends beyond traditional playing of instruments to also include the use of technologies in making and performing music (as the National Endowment for the Arts’ (2015) statistics indicate a high percentage of this type of activity). Thus, the captured musical activities concern those which could be classified as formal and informal learning contexts (including school settings) and involve others including family and peers. While all types of musical participation were eligible for inclusion in the project, the context of data collection means that the overarching focus was on participation in popular and classical music among participants from a western cultural background.

The purpose of this research was to examine the differences between individuals who currently participate in a musical activity and those who had ceased their participation. A social psychological approach was adopted. Considering the previous work on musical engagement, dropout, and well-being as well as the work on life-long learning, the following hypotheses were developed. First, we hypothesized that an interest in music should be related to an individual’s propensity to continue active participation in musical activity. Second, assuming one’s past experiences affect those in the future, we hypothesized that those who participated in musical activities when

younger will be more likely to continue their participation (Bowles, 1991). Third, given that gender stereotypes associated with musical activities impact upon a wide range of variables concerning participation opportunities (Dibben, 2002; L. Green, 1997; Wych, 2012), we hypothesized that gender role identity is related to a range of music involvement variables. Fourth, with regard to personality, openness is often associated with creativity (e.g., Silvia, Nusbaum, Berg, Martin, & O'Connor, 2009) and conscientiousness with persistence and an achievement mindset (Corrigall et al., 2013): we hypothesized that those participating in musical activities will score higher on measures of openness and conscientiousness in particular than those who have ceased their participation (Corrigall et al., 2013). Finally, given the growing evidence concerning musical participation and experiencing well-being benefits (Krause, Davidson, et al., 2018), we hypothesized that differences in quality of life will exist between those that continue to participate in musical activities and those who have ceased participating.

Method

Participants

The data used in this research was obtained as a part of a larger study considering musical participation [reference removed to facilitate review]. The present research employed the data concerning the named social psychological variables, to quantitatively examine the differences between those who were currently participating in a musical activity and those who had ceased their participation. Online recruitment included posting information on the first author's website, dedicated online study websites, and creating social media postings. In addition, the study was available on two University student research participation programs. These recruitment techniques

resulted in a convenience sample, with the larger number of younger participants. Participation was voluntary, although some university students received course credit as compensation if they participated in one of the two student research participation schemes used to facilitate recruitment.

The convenience sample consisted of 383 Australian residents who were either currently participating in a musical activity (213, or 55.60%) or had ceased previous participation in a musical activity (170, or 44.40%). Note that data from an additional 71 participants were removed as these individuals had never participated in a musical activity or did not indicate their participation status in a manner that allowed this to be determined appropriately. Participants were aged 17-85 years, such that 53.10% of the sample was aged 17-24, 12.10% aged 25-34, 27.70% aged 35-64, and 7.50% aged 65-85. Table 1 details sample characteristics.

-Table 1 about here-

Design and Materials

Participants completed a questionnaire, consisting of eight sections.

Background information. Participants reported their age, gender, and whether they held a university degree.

Musical background and taste. Chin and Rickard's (2012) MUSE questionnaire items concerning musical background provided three calculated index scores concerning music listening, music instrument playing, and music training for each participant. The participants rated the subjective importance of music in their life using a seven-point scale (1= *not at all*, 7 = *extremely*; hereafter referred to as the 'music

importance rating') and completed Rentfrow and Gosling's (2003) Short Test of Music Preference (STOMP) measure.

The STOMP measure asks individuals to rate their liking for 14 music genres (e.g., blues, rock, country, rap/hip-hop) using a seven-point scale (1= *strongly dislike*, 7 = *strongly like*). Rentfrow and Gosling (2003) reported a four-factor model for their measure. The four genre preference factors were labeled as reflective and complex (encompassing blues, jazz, classical, and folk), intense and rebellious (characterized by rock, alternative, and heavy metal), upbeat and conventional (defined by country, sound track, religious, and pop music), and energetic and rhythmic (encompassing rap/hip-hop, soul/funk, and electronica/dance).

Given previous uses of the STOMP measure have not included Australian samples, a principal axis factor analysis with promax rotation was used to examine the structure of the present sample's responses. Four factors emerged, accounting for 45.214% of the total variance (see Table 2 for a complete list of items, the results of the factor analysis, and Cronbach's alpha values). The factors displayed a high degree of similarity to Rentfrow and Gosling's (2003) four-factor model. In particular, their intense and rebellious factor reproduced exactly, with rock, alternative, and heavy metal loading onto this. The reflective and complex factor (e.g., blues, jazz, folk) identified by Rentfrow and Gosling was reproduced by factor 1, albeit country also loaded on this factor; and the energetic and rhythmic factor included pop in addition to rap/hip-hop, dance/electronica, and soul/funk. The fourth factor retained the soundtracks/theme songs and religious genres from Rentfrow and Gosling's upbeat and conventional factor. Consequently, the resulting factors were labeled reflective and complex, energetic and rhythmic, intense and rebellious, and conventional. Based on the factor analysis, four respective genre preference scores were calculated for each

participant, and employed in further analyses. In the present study, Cronbach's alpha values were .737, .688, .665, and .373 for the reflective and complex, energetic and rhythmic, intense and rebellious, and conventional genre factors.

-Table 2 about here-

Musical support during childhood. Nine items, developed by the authors for the present study, addressed musical support and influence when growing up (e.g., 'My peer group sang/played an instrument'; 'As a child, I had access to instruments and/or books/games about music'). Individuals responded using a seven-point scale (1= *not at all true*, 7 = *very much true*). A *non-applicable* answer choice was also available. The responses to the nine items were subjected to a principal axis factor analysis with promax rotation (all 'non-applicable' responses were excluded). Three factors (which addressed childhood access to music lessons and materials, parent and sibling musical engagement, and peer musical engagement respectively) accounted for 49.562% of the total variance (see Table 3 for a complete list of items and the results of the factor analysis). The Cronbach's alpha values were .710 for the parent and sibling musical engagement factor, .700 for childhood access to music lessons and materials, and .723 for peer musical engagement. Accordingly, three respective factor scores were calculated for each participant, and employed in further analyses.

-Table 3 about here-

Quality of life. The World Health Organization Quality of Life-Bref measure includes 26 items (WHO, 2004). Scores on four domains (physical health, psychological,

social relationships, and environment) were computed for each participant. Cronbach's alpha values were .760 for physical health, .837 for psychological, .620 for social relationships, and .808 for environment. Participants also completed the Satisfaction With Life Scale (Diener, Emmons, Larsen, & Griffin, 1985), a five-item measure with a seven-point response scale (1 = *strongly disagree*, 7 = *strongly agree*) resulting in a single satisfaction with life score per participant that was used in analyses (Cronbach's alpha = .872).

Self-esteem. Participants completed Rosenberg's (1989) 10-item self-esteem measure, which asks respondents to state how true each of a series of statements is of themselves (employing a four-point response scale: 1 = *strongly disagree*, 4 = *strongly agree*). A single arithmetical mean was computed for each participant. Cronbach's alpha for the self-esteem score was .889.

Personality. Participants completed Langford's (2003) short form big five personality scale, in the interest of brevity. The scale uses one adjective-pair item to address each of the big five traits, such that '*uncreative—creative*' measures openness, '*lazy-hardworking*' measures conscientiousness, '*shy-outgoing*' measures extraversion, '*headstrong-gentle*' measures agreeableness, and '*nervous-at ease*' measures emotional stability). Chosen for its concise nature and demonstrated reliability (Langford, 2003; North, 2010), this measure has also been used in recent music research in which numerous other psychometric tests have been administered to participants (e.g., Krause & North, 2017; Krause, North, & Heritage, 2018).

Gender role identity. The Bem Sex-Role Inventory (short-form; Bem, 1974, 1981) includes 30 descriptors (10 considered to be male, female, and neutral respectively) to which participants respond concerning themselves using a seven-point scale (1 = *never or almost never true*, 7 = *always or almost always true*). Three scores

are computed per participant by taking the mean of responses to each set of 10 items. Cronbach's alpha values were .880, .828, and .422 for the female, male, and neutral scores respectively.

Music participation status. Participants were classified as 'presently participating' or having 'ceased participation' based on their responses to two questionnaire items. Specifically, participants were asked to respond to a direct question which asked whether they were (a) currently participating in a musical activity, (b) had previously participated in a musical activity but had stopped and were no longer currently participating in an activity, or (c) had never participated in a musical activity. The broad term, 'musical activity' was used in the questionnaire to capture all aspects of playing instruments, music performance, and music production irrespective of whether this employed conventional musical instruments. Recent technological advances mean that what individuals consider a musical activity could potentially refer to a broad range of activities, and so this correspondingly broad term afforded the participants the opportunity to define their participation themselves rather than rely upon a narrow researcher-provided definition. Participants who had never participated in a musical activity were excluded from further analysis. Note that participants who did not respond or responded that they were both currently participating and had ceased previous participation (i.e., answering 'yes' twice) were also excluded from analyses to create a categorical variable. Consequently, this categorical variable divides the sample into two groups: these comprised participants who were either actively participating (n = 213, hereafter the 'active participation group') or participants who were not participating in an activity at the time, but had ceased participation in a previous musical activity (n = 170, hereafter the 'dropout group'). Participants also indicated the number of years they had participated in the

musical activity, and this variable was included in the analyses to control for the potential influence of the length of time participating.

Procedure

Participants accessed the questionnaire online. After indicating their consent, individuals completed the questionnaire as a series of webpages. The final webpage thanked and debriefed the participants.

Results

A two-step analysis protocol was performed, using Generalized Linear Mixed Model analyses implemented through SPSS's (Version 24) GENLIMIXED procedure. The first step involved a series of analyses in which active/dropout participation status served as the criterion variable and each of the predictor variables was entered separately. Only those predictor variables demonstrating a significant relationship with the criterion variable ($\alpha < .05$; see Table 4) were retained for the second step. In the second step, the predictor variables were entered together in a single Generalized Linear Mixed Model analysis in which the criterion variable was again participation status. This analysis was statistically significant, $F(15, 259) = 5.476, p < .001, \eta_p^2 = .241$. The results for individual predictor variables are presented in Table 5.

-Table 4 and 5 about here-

As Table 5 indicates, the preference for reflective and complex music and quality of life psychological dimension were positively associated with currently participating

in a musical activity. Additionally, current musical participation was negatively associated with peer musical engagement when growing up.

Discussion

The findings indicate that there are a number of variables that demonstrate differences between those participating in musical activities and those who have ceased participating. The liking for reflective and complex music refers to blues, jazz, classical and folk music: it is possible that the positive association between participation in music and liking for this style of music reflects a stronger academic, or intellectual, interest in music (though this would need additional future investigation).

Peer music engagement when growing up was associated negatively with currently participating in a musical activity. While counter-intuitive at first glance, and subject to a number of possible interpretations, one clear implication of this finding is that peer engagement in music in early life is not a pre-requisite for on-going music participation. This could be considered a very encouraging finding.

The positive association between participating in music and psychological quality of life is consistent with previous findings concerning the potential correlation of music participation with health and well-being (e.g., Clift et al., 2010; Dingle, Brander, Ballantyne, & Baker, 2012; Judd & Pooley, 2014; Krause, Davidson, et al., 2018; MacDonald, 2013). The psychological quality of life measure includes positive/negative feelings, self-esteem, personal beliefs, and thinking, such that the significant relationship indicates that these specific features of psychological quality of life relate to on-going music participation. Interestingly, the present results indicate that these well-being correlates of music participation are limited to psychological aspects of quality of life (such as positive/negative feelings, self-esteem), however, rather than physical

health (concerning, e.g., energy and fatigue, mobility, sleep and rest), social relationships (e.g., personal relationships, social support), and environment (e.g., financial resources, transport, home environment).

It is also illuminating to consider the variables that were not significant predictors of on-going participation in music. Specifically, demographic variables including age, gender, and personality, which are commonly considered when researching musical behavior, were non-significant predictors, which is itself surprising given the effort that research in music education (e.g., Bowles, 1991; Cutietta & McAllister, 1997; Elpus & Abril, 2011; Kinney, 2010; Torrance & Bugos, 2017; Vaag et al., 2014) has devoted to exploring the impacts of age and gender. While the sample's age range was quite wide, the sample overall was skewed towards younger participants: future research could continue to explore musical participation across the lifespan using quota sampling.

The absence of relationships involving personality is also noteworthy, given that personality traits form the basis of an individual's priorities, motivations, and values. Furthermore, the measures of musical training were not significantly related to on-going music participation, implying that musical training does not predict life-long interest in music, consistent with the literature reviewed earlier regarding concerns with school-based music education. Although a somewhat surprising conclusion in some respects, one positive corollary is that anyone, at any time, can elect to actively participate in music without undergoing significant education in early life. It is encouraging that people elect to take up musical activities at any age, even in the absence of early exposure, and can maintain their engagement. However, it is important to clarify that this speaks to *participation* rather than their eventual *level of expertise*. The likelihood of attaining expertise in a mid-late adult beginner is relatively unlikely

compared to those who begin music participation at a younger age given the significant time and practice required to achieve elite status (McPherson et al., 2012). However, achieving expertise is not the only reason why individuals participate in musical activities. Thus, while the present study did not consider people's aims/goals for commencing (and continuing) participation, future research might consider these factors and how they relate to investment in practice.

Additionally, since several researchers (Mantie & Tucker, 2008; Myers, 2008a; Pitts, 2016) have suggested that school music programs are too focused on polishing skills and achievement levels rather than promoting participation and continued involvement in music, the present findings have specific implications for Western school music practices. Specifically, these findings show that western school music programs should consider program goals to include participation and well-being (in addition to high levels of expertise). Based on the present findings, the measures to achieve this outcome could include broadening participation to both conventional and modern means of music-making and scaffolding and supporting social connections amongst students to promote social well-being through music making. Another measure includes exposing students to a wide(r) range of music genres to legitimize and promote interest in them, given research findings linking preferred music and well-being benefits (e.g., Maury & Rickard, 2016; Rickson, Legg, & Reynolds, 2018).

Limitations

The present study utilized a dichotomy in classifying participants as those who are currently participating and those who have ceased participating: it did not address circumstances in which people cease and then have chosen to participate again (including, e.g., Pitts et al.'s (2015) "lapsed or returning players"). It would be very interesting in future research to use in-depth qualitative techniques, such as interviews

or diary studies, with individuals who have ceased participation only to re-engage with a musical activity later in life. As previously acknowledged, while the present sample's age range was wide, it was skewed towards younger adults. Further, participants did not report at what age they ceased participating. Therefore, future research could investigate whether the age at which people drop out (or re-engage) can predict other factors. Life-long participation is not necessarily linear, unbroken, or without changes (Myers, 2008a, see also Lamont, 2011; Myers, 2008a): to understand how best to support continued engagement, future research could target transition points associated with high dropout (e.g., high school graduation - Lamont, 2011; changes in environment/life circumstances – Pitts & Robinson, 2016). Considering how people transition from formal to informal musical participation could further guide efforts to support life-long musical participation.

Future Research Directions

While the present study adopted an individual differences approach to propensity to continue musical activity, it seems plausible that additional contextual factors likely also play a role. Potentially relevant contextual factors include the presence and nature of facilitators (e.g., Hallam, Creech, McQueen, Varvarigou, & Gaunt, 2016) as well as the specific nature of the musical activities in question (e.g., quantity and type of practice, see McPherson et al, 2012). Future research is needed to better understand the role of these contextual factors in on-going music participation, and particularly how they relate to the individual difference variables considered here. For example, despite the non-significant results here concerning personality, we might expect music participation to be subject to a number of interactions between personality dimensions and environmental factors (see e.g., Mischel's (1976) well-known critique of personality theory). For instance, openness and conscientiousness

might reasonably be expected to interact with environmental factors such as working hours in adult life and competition from other leisure activities; or agreeableness, extraversion, and neuroticism might reasonably be expected to interact with environmental factors such as support from family members and peers for extensive music participation and the presence of stressors in the environment.

In a similar vein, the present research showed that music participation was negatively associated with peer engagement in early life, nor was it related to social relationship aspects of quality of life currently. It would, therefore, be interesting to understand the relationship between music participation and the availability of peers for collaborative musical participation at points across the lifespan. If music use changes across the lifespan (e.g., Groarke & Hogan, 2016), younger cohorts may participate for different reasons than older cohorts. Additionally, while the present research was focused on participation in music-making opportunities, future research could explore additional musical activities, such as music listening. It could be there are differences between 'music-makers' and those who engage in music in other ways (e.g., 'music listeners').

In summary, the present study was concerned with understanding the differences between individuals who currently participate in a musical activity and those who had ceased their participation from a social psychological perspective. The findings indicate positive associations between currently participating in a musical activity and a preference for reflective and complex music and the psychological dimension of the quality of life measure. Demographic characteristics and personality traits were not associated with continuing to participate and peer engagement in music in early life was not a pre-requisite for on-going music participation. Together, these findings suggest that music participation does not hinge on previous musical training or

certain individual traits. While positive with regard to supporting life-long music participation, further research is needed to understand how music educators can support post-school music participation.

References

- Abeles, H. (2009). Are musical instrument gender associations changing? *Journal of Research in Music Education*, 57(2), 127-139. doi:10.1177/0022429409335878
- Arts Council England. (2018, April 26). *Taking Part focus on: Arts*. Retrieved from <https://www.artscouncil.org.uk/taking-part-survey>
- Arts Council England. (2018, August 30). *Taking Part Survey: England Adult Report, 2017/18*. Retrieved from <https://www.gov.uk/government/statistics/taking-part-201718-quarter-4-statistical-release>:
- Ashley, M. (2002). Singing, gender and health: Perspectives from boys singing in a church choir. *Health Education*, 102(4), 180-187. doi:10.1108/09654280210434255
- Australia Council. (2014). *Arts in daily life: Australian participation in the arts*. . Retrieved from <http://www.australiacouncil.gov.au/workspace/uploads/files/research/arts-in-daily-life-australian-5432524d0f2f0.pdf>
- Australian Bureau of Statistics. (2019, March 26). *4921.0 - Participation in selected cultural activities, Australia, 2017-2018*. Retrieved from <https://www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/4921.0Main%20Features12017-18?opendocument&tabname=Summary&prodno=4921.0&issue=2017-18&num=&view=>
- Ayling, B. C., & Johnston, K. E. (2005). Trends of college bound high school choral singers. *Contributions to Music Education*, 32(2), 27-42.
- Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, 42(2), 155-162.
- Bem, S. L. (1981). *Bem Sex Role Inventory: Professional manual*. Palo Alto, CA: Consulting Psychologists Press.
- Bowles, C. L. (1991). Self-expressed adult music education interests and music experiences. *JRME*, 39(3), 191-205.
- Bowles, C. L., Dobbs, T., & Jensen, J. (2014). Self-perceived influences on musically active nonmusic majors related to continued engagement. *Update*, 33(1), 11-20. doi:10.1177/8755123314540657
- Cavitt, M. E. (2005). Factors influencing participation in community bands. *Journal of Band Research*, 41(1), 42-57.
- Chin, T.-C., Coutinho, E., Scherer, K. R., & Rickard, N. S. (2018). MUSEBAQ: A modular tool for music research to assess musicianship, musical capacity, music preferences, and motivations for music use. *Music Perception*, 35(3), 376-399. doi:10.1525/mp.2018.35.3.376
- Chin, T.-C., & Rickard, N. S. (2012). The Music USE (MUSE) Questionnaire: An Instrument to Measure Engagement in Music. *Music Perception: An Interdisciplinary Journal*, 29(4), 429-446. doi:10.1525/Mp.2012.29.4.429
- Clift, S., & Hancox, G. (2010). The significance of choral singing for sustaining psychological wellbeing: Findings from a survey of choristers in England, Australia and Germany. *Music Performance Research*, 3(1), 79-96.
- Clift, S., Hancox, G., Morrison, I., Hess, B., Kreutz, G., & Stewart, D. (2010). Choral singing and psychological wellbeing: Quantitative and qualitative findings from English choirs in a cross-national survey. *Journal of Applied Arts and Health*, 1(1), 19-34. doi:10.1386/jaah.1.1.19/1
- Corrigall, K. A., Schellenberg, E. G., & Misura, N. M. (2013). Music training, cognition, and personality. *Frontiers in Psychology*, 4: 222. doi:10.3389/fpsyg.2013.00222

- Cutietta, R. A., & McAllister, P. A. (1997). Student personality and instrumental participation, continuation, and choice. *Journal of Research in Music Education*, 45(2), 282-294.
- Delano, A., & Royse, D. (1987). Factors influencing the decision of college freshmen to participate or not to participate in Kent State University music ensembles. *Contributions to Music Education*, 14, 9-18.
- Desjardins, R., & Rubenson, K. (2013). Participation patterns in adult education: The role of institutions and public policy frameworks in resolving coordination problems. *European Journal of Education*, 48(2), 263-280.
- Dibben, N. (2002). Gender identity and music. In R. A. R. MacDonald, D. J. Hargreaves, & D. Miell (Eds.), *Musical identities* (pp. 117-133). Oxford, UK: Oxford University Press.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49(1), 71-75.
- Dingle, G. A., Brander, C., Ballantyne, J., & Baker, F. A. (2012). 'To be heard': The social and mental health benefits of choir singing for disadvantaged adults. *Psychology of Music*, 41(4), 405-421. doi:10.1177/0305735611430081
- Douglas, K. A. (2011). A descriptive analysis of the psychological needs of adults participating in music ensembles: A survey of the New Horizons International Music Association ensemble participants (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. AAT3473456.
- Dunn, R. E. (2006). Teaching for lifelong, intuitive listening. *Arts Education Policy Review*, 107(3), 33-38. doi:10.3200/AEPR.107.3.33-38
- Elpus, K., & Abril, C. R. (2011). High school music ensemble students in the United States: A demographic profile. *Journal of Research in Music Education*, 59(2), 128-145.
- Eros, J. (2008). Instrument selection and gender stereotypes: A review of recent literature. *Update: Applications of Research in Music Education*, 27(1), 57-64. doi:10.1177/8755123308322379
- Gembris, H. (2012). Music-making as a lifelong development and resource for health. In R. A. R. MacDonald, G. Kreutz, & L. Mitchell (Eds.), *Music, health, and wellbeing* (pp. 367-382). Oxford, UK: Oxford University Press.
- Green, L. (1997). *Music, gender, education*. Cambridge: Cambridge University Press.
- Green, S. K., & Hale, C. L. (2011). Fostering a lifelong love of music: Instruction and assessment practices that make a difference. doi:10.1177/0027432111412829
- Groarke, J. M., & Hogan, M. J. (2016). Enhancing wellbeing: An emerging model of the adaptive functions of music listening. *Psychology of Music*, 44(4), 769-791. doi:10.1177/0305735615591844
- Hallam, S., Creech, A., McQueen, H., Varvarigou, M., & Gaunt, H. (2016). The facilitator of community music-making with older learners: Characteristics, Motivations and challenges. *International Journal of Music Education*, 34(1), 19-31. doi:10.1177/0255761415617039
- Hallam, S., Creech, A., Varvarigou, M., & McQueen, H. (2012). The characteristics of older people who engage in community music making, their reasons for participation and the barriers they face. *Journal of Adult and Continuing Education*, 18(2), 21-43. doi:10.7227/JACE.18.2.3
- Hansman, C. A., & Moot, V. W. (2010). Adult learners. In C. E. Kasworm, A. D. Rose, & J. M. Ross-Gordon (Eds.), *Handbook of adult and continuing education* (pp. 13-23). Thousand Oaks, CA: Sage.

- Hill, L. H., & Ziegahn, L. (2010). Adult education for health and wellness. In C. E. Kasworm, A. D. Rose, & J. M. Ross-Gordon (Eds.), *Handbook of adult and continuing education* (pp. 295-303). Thousand Oaks, CA: Sage.
- Judd, M., & Pooley, J. A. (2014). The psychological benefits of participating in group singing for members of the general public. *Psychology of Music, 42*(2), 269-283. doi:10.1177/0305735612471237
- Jutras, P. J. (2011). The benefits of new horizons band participation as self-reported by selected New Horizons band members. *Bulletin of the Council for Research in Music Education, 187*, 65-84.
- Kinney, D. W. (2010). Selected nonmusic predictors of urban students' decisions to enroll and persist in middle school band programs. *Journal of Research in Music Education, 57*(4), 334-350. doi:10.1177/0022429409350086
- Krause, A. E., Davidson, J. W., & North, A. C. (2018). Musical activity and well-being: A new quantitative measurement instrument. *Music Perception, 35*(4), 454-474. doi:10.1525/MP/2018.35.4.454
- Krause, A. E., & North, A. C. (2017). How do location and control over the music influence listeners' responses? *Scandinavian Journal of Psychology, 58*(2), 114-122. doi:10.1111/sjop.12352
- Krause, A. E., North, A. C., & Heritage, B. (2018). Musician interaction via social networking sites: Celebrity attitudes, attachment, and their correlates. *Music & Science, 1*, :1-11. doi:10.1177/2059204318762923
- Kungu, K., & Machtmes, K. (2009). Lifelong learning: Looking at triggers for adult learning. *The International Journal of Learning, 16*(7), 501-pp.
- Kuntz, T. L. (2011). High school students' participation in music activities beyond the school day. *Update, 30*(1), 23-31. doi:10.1177/8755123311418478
- Lamont, A. (2011). The beat goes on: music education, identity and lifelong learning. *Music Education Research, 13*(4), 369-388. doi:10.1080/14613808.2011.638505
- Langford, P. H. (2003). A one-minute measure of the Big Five? Evaluating and abridging Shafer's (1999a) Big Five markers. *Personality and Individual Differences, 35*(5), 1127-1140. doi:10.1016/S0191-8869(02)00323-9
- Livesey, L., Morrison, I., Clift, S., & Camic, P. (2012). Benefits of choral singing for social and mental wellbeing: qualitative findings from a cross-national survey of choir members. *Journal Of Public Mental Health, 11*(1), 10-26. doi:10.1108/17465721211207275
- MacDonald, R. A. R. (2013). Music, health, and well-being: A review. *International Journal of Qualitative Studies on Health and Well-being, 8*, : 20635. doi:10.3402/qhw.v8i0.20635
- Mantie, R., & Tucker, L. (2008). Closing the gap: does music-making have to stop upon graduation? *International Journal of Community Music, 1*(2), 217-227. doi:10.1386/ijcm.1.2.217/1
- Maury, S., & Rickard, N. (2016). Wellbeing in the classroom: How an evolutionary perspective on human musicality can inform music education. *Australian Journal of Music Education, 50*(1), 3-15.
- McPherson, G. E., Davidson, J. W., & Faulkner, R. (2012). *Music in our lives*. Oxford, UK: Oxford University Press.
- Michalos, A. C. (2005). Arts and the quality of life: An exploratory study. *Social Indicators Research, 71*, 11-59. doi:10.1007/s11205-004-8013-3
- Mischel, W. (1976). *Introduction to personality (second edition)*. New York, NY: Holt, Rinehart, and Winston.

- Myers, D. E. (2008a). Freeing music education from schooling: Toward a lifespan perspective on music learning and teaching. *International Journal of Community Music*, 1(1), 49-61. doi:10.1386/ijcm.1.1.49/1
- Myers, D. E. (2008b). Lifespan engagement and the question of relevance: Challenges for music education research in the twenty-first century. *Music Education Research*, 10(1), 1-14. doi:10.1080/14613800701871330
- National Endowment for the Arts. (2015, January). *A decade of arts engagement: Findings from the survey of public participation in the arts, 2002–2012*. Retrieved from <https://www.arts.gov/publications/decade-arts-engagement-findings-survey-public-participation-arts-2002-2012> Retrieved from <https://www.arts.gov/publications/decade-arts-engagement-findings-survey-public-participation-arts-2002-2012>
- North, A. C. (2010). Individual differences in musical taste. *The American Journal of Psychology*, 123(2), 199-208. doi:10.5406/amerjpsyc.123.2.0199
- Pitts, S. E. (2016). What is music education for? Understanding and fostering routes into lifelong musical engagement. *Music Education Research*, advanced online publication. doi:10.1080/14613808.2016.1166196
- Pitts, S. E., & Robinson, K. (2016). Dropping in and dropping out: Experiences of sustaining and ceasing amateur participation in classical music amongst UK adult instrumentalists. *British Journal of Music Education*, 33(3), 327–346. doi:10.1017/S0265051716000152
- Pitts, S. E., Robinson, K., & Goh, K. (2015). Not playing any more: A qualitative investigation of why amateur musicians cease or continue membership of performing ensembles. *International Journal of Community Music*, 8(2), 129-147. doi:10.1386/ijcm.8.2.129_1
- Rentfrow, P. J., & Gosling, S. D. (2003). The do re mi's of everyday life: The structure and personality correlates of music preferences. *Journal of Personality and Social Psychology*, 84(6), 1236-1256. doi:10.1037/0022-3514.84.6.1236
- Rickson, D., Legg, R., & Reynolds, D. (2018). Daily singing in a school severely affected by earthquakes: Potentially contributing to both well-being and music education agendas? *New Zealand Journal of Teachers' Work*, 15(1), 63-84.
- Rohwer, D. (2016). A narrative investigation of adult music engagement. *International Journal of Music Education*, online first. doi:10.1177/0255761416667466
- Rosenberg, M. (1989). *Society and the adolescent self-image (revised edition)*. Middletown, CT: Wesleyan University Press.
- Ross-Gordon, J. M., Rose, A. D., & Kasworm, C. E. (2017). *Foundations of Adult and Continuing Education*. San Francisco, CA: John Wiley & Sons, Inc.
- Shansky, C. (2010). Adult motivations in community orchestra participation: A pilot case study of the Bergen philharmonic orchestra (New Jersey). *Research & Issues in Music Education*, 8(1), article 5. Retrieved from <https://ir.stthomas.edu/rime/vol8/iss1/5>.
- Silveira, J. M. (2013). Students' social and musical reasons for participating in honor music ensembles. *Research Perspectives in Music Education*, 15(1), 21-29.
- Silvia, P. J., Nusbaum, E. C., Berg, C., Martin, C., & O'Connor, A. (2009). Openness to experience, plasticity, and creativity: Exploring lower-order, high-order, and interactive effects. *Journal of Research in Personality*, 43(6), 1087-1090. doi:10.1016/j.jrp.2009.04.015
- Stewart, J. L. (2005). Factors related to students' decisions to continue in band. *Contributions to Music Education*, 32(1), 59-74. Retrieved from <https://www.jstor.org/stable/24127236>.

- Torrance, T. A., & Bugos, J. A. (2017). Music ensemble participation: Personality traits and music experience. *Update*, 36(1), 28-36. doi:10.1177/8755123316675481
- Vaag, J., Saksvik, P. Ø., Milch, V., Theorell, T., & Bjerkeset, O. (2014). 'Sound of well-being' revisited - Choir singing and well-being among Norwegian municipal employees. *Journal of Applied Arts & Health*, 5(1), 51-63. doi:10.1386/jaah.5.1.51_1
- Vanstone, A. D., Wolf, M., Poon, T., & Cuddy, L. L. (2016). Measuring engagement with music: development of an informant-report questionnaire. *Aging & Mental Health*, 20(5), 474-484. doi:10.1080/13607863.2015.1021750
- WHO. (2004). *The World Health Organization Quality of Life (WHOQOL)-BREF*. Geneva, Switzerland: World Health Organization.
- Wych, G. M. F. (2012). Gender and instrument associations, stereotypes, and stratification: A literature review. *Update*, 30(2), 22-31. doi:10.1177/8755123312437049

Table 1
Sample characteristics.

Sample		Age	Music importance rating	MUSE index of music listening	MUSE index of music instrument playing	MUSE index of music training
Total ^a	<i>M</i>	32.66	6.45	11.87	36.25	4.30
	<i>Mdn</i>	23	7	10	6.25	4
	<i>SD</i>	17.46	0.89	5.96	66.53	2.45
Active participation group ^b		37.46	6.72	12.30	61.39	4.93
	<i>M</i>					
	<i>Mdn</i>	31	7	10	30	5
Dropout group ^c	<i>SD</i>	18.73	0.57	6.12	79.12	2.67
	<i>M</i>	26.64	6.10	11.35	4.97	3.91
	<i>Mdn</i>	20	6	10	0.625	3
	<i>SD</i>	13.55	1.08	5.74	19.83	1.86

^a N = 383; 66.60% female, 32.40% male, 1.00% did not report; 38.60% held university qualifications

^b N = 213; 60.10% female, 38.50% male, 1.40% did not report; 49.30% held university qualifications

^c N = 170; 74.70% female, 24.70% male, 0.60% did not report; 25.30% held university qualifications

Table 2.
Factor loadings for the principal axis factor analysis with promax rotation of the genre preference items.

Item	Factor			
	1 – Reflective and complex	2 – Energetic and rhythmic	3 – Intense and rebellious	4 – Conventional
Blues	0.843			
Jazz	0.741			
Folk	0.542			
Classical	0.476	-0.347		
Country	0.316			
Rap/ Hip hop		0.865		
Dance/ Electronica		0.623		
Soul/ Funk	0.416	0.530		
Pop		0.387		0.385
Rock			0.884	
Heavy metal			0.649	
Alternative			0.356	
Soundtracks/ theme songs				0.510
Religious	0.303		-0.311	0.421
Eigenvalue	2.96	1.723	1.085	0.562
% of variance explained	21.143	12.305	7.75	4.015

Note. KMO = .718 and Barlett's test was significant ($p < .001$). Values $< .300$ were suppressed.

Table 3.

Principal axis factor analysis of the childhood questionnaire items

Item	Factor		
	1: Childhood access to music lessons and materials	2: Parent and sibling musical engagement	3: Peer musical engagement
As a child, I had access to instruments and/or books/games about music.	0.921		
My parent(s) supported their children's music lessons.	0.574		
As a child, I had access to recorded music.	0.382		
My parent(s) listened to music and/or attended concerts.		0.763	
My parent(s) sang/played an instrument.			0.594
My sibling(s) listened to music and/or attended concerts.		0.564	0.374
My sibling(s) sang/played an instrument.		0.374	
My peer group listened to music and/or attended concerts.			0.776
My peer group sang/played an instrument.			0.698
Eigenvalue	2.932	0.855	0.674
% of variance explained	32.573	9.496	7.493

Note. KMO = .714 and Barlett's test was significant ($p < .001$). Values $< .300$ were suppressed.

Table 4.

Results of the First Step of The GLMM Analyses Concerning Participation Status.

Variable	<i>F</i>	<i>DF</i>	<i>DF</i> _{error}	η_p^2
Age	31.347 ***	1	381	0.076
Gender	8.458 **	1	377	0.022
In possession of a university degree	21.559 ***	1	377	0.054
Music importance rating (1-7)	33.997 ***	1	377	0.083
MUSE Index of music listening	2.398	1	381	0.006
MUSE Index of music instrument playing	21.677 ***	1	375	0.055
MUSE index of music training	32.515 ***	1	373	0.080
Reflective and complex preference score	42.323 ***	1	359	0.105
Energetic and rhythmic preference score	8.932 **	1	359	0.024
Intense and rebellious preference score	2.470	1	359	0.007
Soundtracks/ theme songs preference score	1.402	1	379	0.004
Religious preference score	18.269 ***	1	379	0.046
WHO QoL Physical score	2.309	1	338	0.007
WHO QoL Psychological score	13.974 ***	1	335	0.040
WHO QoL Social relationships score	0.133	1	337	0.000
WHO QoL Environment score	0.932	1	336	0.003
Satisfaction with life scale score	3.846	1	337	0.011
Self-esteem score	10.853 **	1	333	0.032
Bem sex-role inventory female score	7.288 **	1	325	0.022
Bem sex-role inventory male score	2.562	1	324	0.008
Bem sex-role inventory neutral score	0.971	1	314	0.003
Openness	25.048 ***	1	337	0.069
Conscientiousness	3.169	1	337	0.009
Extraversion	1.734	1	337	0.005
Agreeableness	0.882	1	336	0.003
Neuroticism	4.452 *	1	337	0.013
Childhood access to music lessons and materials score	0.238	1	296	0.001
Parent and sibling musical engagement score	3.060	1	396	0.010
Peer music engagement score	6.590 *	1	396	0.022
Length of time participating (in years)	27.135 ***	1	368	0.069

Note. *DF* = degrees of freedom. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 5.

Results of the Second Step of the GLMM Analysis Concerning Participation Status

Variable	<i>F</i>	Beta	<i>t</i>	95% CI		η^2	
Age	0.418	-0.009	-0.646	-0.038	0.019	0.002	
Gender	0.449	-0.248	-0.670	-0.976	0.481	0.002	
University degree	1.637	0.604	1.280	-0.326	1.534	0.007	
Music importance rating (1-7)	2.838	0.346	1.685	-0.059	0.750	0.013	
MUSE Index of music instrument playing	1.562	0.015	1.250	-0.008	0.038	0.007	
MUSE index of music training	2.453	0.151	1.566	-0.039	0.341	0.011	
Reflective and complex preference score	5.939	*	0.773	2.437	0.148	1.399	0.026
Energetic and rhythmic preference score	3.718		-0.436	-1.928	-0.882	0.010	0.016
Religious music preference score	1.736		0.117	1.318	-0.058	0.292	0.008
WHO QoL Psychological	4.219	*	0.176	2.054	0.007	0.344	0.019
Self-esteem score	0.136		-0.017	-0.369	-0.111	0.076	0.001
Bem sex-role inventory female score	0.044		-0.049	-0.209	-0.507	0.410	0.000
Openness	3.206		0.264	1.791	-0.027	0.555	0.014
Neuroticism	0.293		0.062	0.542	-0.165	0.290	0.001
Peer music engagement score	11.334	**	-0.697	-3.367	-1.105	-0.289	0.049
Length of time participating (in years)	1.243		0.031	1.115	-0.024	0.086	0.006

Note. Degrees of Freedom = 1, 222. CI = Confidence Interval. * $p < .05$, ** $p < .01$, *** $p < .001$