

Examining How Music Training is Associated with Self-Esteem and Emotional Intelligence among Adults

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Abstract: *The present study examined the relationship between self-esteem and emotional intelligence among adults with formal or structured music training and compared scores between trained and untrained respondents. A quantitative, non-experimental, cross-sectional questionnaire design was used. Convenience sampling yielded 65 respondents: 44 (67.7%) reported music training and 21 (32.3%) reported no such training. Data were collected through a researcher-developed questionnaire comprising three music-activity items, four self-esteem items and four emotional-intelligence items, each rated on a five-point Likert scale. Internal consistency was high for the three item sets (Cronbach's $\alpha = .939, .951$ and $.936$, respectively). Spearman's rank-order correlation indicated a strong positive association between self-esteem and emotional intelligence in the trained group ($p = .904, p < .001$); a positive association was also observed in the untrained group ($p = .747, p < .001$). The trained group had higher mean self-esteem scores, but the difference was not statistically significant (17.86 versus 16.43; $p = .114$). Emotional-intelligence scores were significantly higher in the trained group (17.64 versus 15.19; $p = .021$). Because the study was observational, cross-sectional and based on self-report measures, the findings indicate associations and group differences rather than causal effects. The results support further investigation using larger samples, validated instruments and longitudinal designs.*

Keywords: music training, self-esteem, emotional intelligence, adults, music activity

1. Introduction

Music learning can involve sustained practice, skill development, emotional expression, performance and interaction with other people. These experiences provide a rationale for examining music training alongside psychological characteristics such as self-esteem and emotional intelligence. The present study focuses on adults who report formal or structured music training and compares their self-report scores with those of adults who report no such training.

Self-esteem refers to a person's overall evaluation of personal worth. It may be reflected in confidence, acceptance of personal strengths and weaknesses, and a sense of accomplishment. Emotional intelligence concerns the recognition and understanding of emotions, the management of emotional responses, and sensitivity to other people's feelings. These constructs are distinct, although they may be related in everyday functioning.

Music training may offer opportunities for mastery experiences, constructive feedback and social belonging, which are conceptually relevant to self-evaluation. Musical activities may also involve interpreting emotional expression, responding to mistakes and coordinating with others. These possible pathways do not mean that music training necessarily improves either construct; individual experiences and contextual factors may influence outcomes.

1.1 Theoretical Background and Review of Literature

Self-determination theory emphasizes autonomy, competence and relatedness as important psychological needs (Deci & Ryan, 2000). Music learning may provide opportunities to practise skills, receive feedback and participate with others. Bandura's (1997) social-cognitive perspective highlights mastery experiences and self-efficacy, which are relevant to confidence in carrying out particular tasks. Self-efficacy should not, however, be treated as identical to global self-esteem.

Research on music education has considered possible cognitive, social and personal outcomes. Hallam (2010) reviewed research on music education and the development of children and young people, while Hargreaves and North (1999) described the varied personal and social functions of music in everyday life. North, Hargreaves and O'Neill (2000) also explored the importance of music in adolescents' lives. These studies offer a broad rationale for studying music participation, but do not establish that every type of music training produces uniform psychological outcomes.

Research has also explored emotional responses to music and the use of music in emotion regulation. Juslin and Västfjäll (2008) discussed mechanisms underlying emotional responses to music; Saarikallio (2011) considered music as a means of emotional self-regulation across adulthood; and Thoma et al. (2012) examined music listening in everyday emotion-regulation contexts. Music listening, active music-making and formal training are

different experiences, so findings from one should not automatically be generalized to another.

Rosenberg (1965) provided a foundational approach to global self-esteem, while Harter (1999) examined the development of self-perception. Orth and Robins (2014) reviewed evidence on self-esteem across the lifespan. Emotional-intelligence theory, as discussed by Mayer, Salovey and Caruso (2004), concerns perceiving, using, understanding and managing emotional information. Measures of emotional intelligence vary in their theoretical basis and method; researcher-developed self-report items should not be equated with established instruments.

1.2 Research Gap and Rationale

The literature provides a conceptual basis for studying musical engagement, self-evaluation and emotional processes, but these outcomes are not interchangeable and research findings depend on participants, measures and training contexts. The present project examines self-esteem and emotional intelligence together in one adult sample and compares respondents who do and do not report formal or structured music training. The dataset records training as a yes/no variable; it does not provide analyzable information on genre, duration, instrument, intensity or performance level.

1.3 Aim and Objectives

The aim was to examine the relationship between self-esteem and emotional intelligence among respondents with formal or structured music training and to compare both constructs between trained and untrained respondents.

- Examine the self-esteem–emotional-intelligence relationship among music-trained respondents.
- Explore the same relationship among respondents without music training.
- Compare self-esteem and emotional-intelligence scores by training status.
- Describe music-activity responses and the demographic composition of the sample.

1.4 Hypotheses

H₀₁: There is no statistically significant relationship between self-esteem and emotional intelligence among respondents who have received formal or structured music training. H₁₁: There is a statistically significant positive relationship between self-esteem and emotional intelligence among respondents who have received formal or structured music training

2. Methodology

2.1 Research Design

A quantitative, non-experimental, cross-sectional questionnaire design was employed. The study was descriptive, correlational and comparative. Data were collected at one point in time, and music training was not manipulated or assigned by the researcher. Consequently,

the analyses can identify associations and differences between observed groups but cannot establish causal effects.

2.2 Participants and Sampling

The sample consisted of 65 respondents who indicated consent. Convenience (volunteer) sampling was used, based on availability and voluntary questionnaire submission. Forty-four respondents (67.7%) reported formal or structured music training, while 21 (32.3%) reported no such training. All 65 records indicated consent, and no core composite scores were missing. As a convenience sample without a defined random sampling frame, it cannot be assumed to represent all adults.

2.3 Sample Characteristics

Characteristic	Category	n	%
Age	18–25	35	53.8
	26–35	18	27.7
	36–45	12	18.5
Gender	Female	41	63.1
	Male	22	33.8
	Prefer not to say	2	3.1
Marital status	Single	36	55.4
	Married	26	40.0
	Divorced	2	3.1
	Widowed	1	1.5
Residence	Rural	26	40.0
	Semi-urban	16	24.6
	Urban	23	35.4
Music training	Yes	44	67.7
	No	21	32.3

2.4 Measures

Data were collected using a structured questionnaire developed for this project. It included a consent item, demographic questions, a yes/no music-training question, three music-activity items, four self-esteem items, four emotional-intelligence items and an optional open-ended comments field.

Music activity was measured through items concerning regular musical engagement, perceived development of discipline and perseverance, and achievement when musical skills improve. Self-esteem items concerned personal worth, confidence in abilities, acceptance of strengths and weaknesses, and pride in accomplishments. Emotional-intelligence items assessed understanding one's own emotions, regulating emotions in difficult situations, understanding other people's feelings and managing emotions in relationships.

Responses to the 11 Likert-type statements were scored from 1 (Strongly Disagree) to 5 (Strongly Agree); no items were reverse-scored. Music activity was summed to a possible range of 3–15. Self-esteem and emotional intelligence each had a possible range of 4–20, with higher totals indicating greater endorsement. These were researcher-developed item sets, not the Rosenberg Self-Esteem Scale, MSCEIT or Schutte et al. measure.

2.5 Reliability and Ethics

Internal consistency was assessed using Cronbach's alpha. The coefficients were .939 for music activity, .951 for self-esteem and .936 for emotional intelligence. These values indicate high internal consistency in this sample, but do not establish construct validity or equivalence to standardized measures. Participation was treated as voluntary on the basis of recorded consent. The report uses aggregate results and does not reproduce individual responses. No separate ethics-committee approval number or detailed data-retention protocol was available in the project materials.

2.6 Procedure and Statistical Analysis

The questionnaire was administered with a consent item followed by demographic questions, music-training status and the three item sets. Responses with consent were retained, scored and analyzed. Frequencies and percentages summarized categorical variables; means, standard deviations and medians described composite scores. Spearman's rank-order correlation examined the relationship between self-esteem and emotional intelligence among trained respondents and, exploratorily, among untrained respondents. Welch's independent-samples t-tests compared group means. Mann-Whitney U tests were used as non-parametric sensitivity checks. Cohen's d and 95% confidence intervals were reported for group comparisons. Statistical significance was set at $\alpha = .05$. Formal normality-test values were not available; interpretation therefore acknowledges uncertainty about distributional assumptions, modest sample size and unequal group sizes.

3. Results

3.1 Descriptive Results

Respondents generally endorsed the music-activity items. Regular engagement in music practice or musical activities had a mean of 4.06 (SD = 1.00), and the item about music training and discipline/perseverance also had a mean of 4.06 (SD = 1.09). The sense of achievement associated with improving musical skills had the highest music-activity mean, 4.15 (SD = 0.96).

For self-esteem, item means ranged from 4.29 to 4.40. Pride in accomplishments had the highest mean (M = 4.40, SD = 0.72), followed by confidence in abilities and skills (M = 4.38, SD = 0.72). For emotional intelligence, understanding others' feelings and maintaining relationships through emotional management both had means of 4.28 (SD = 0.86). Emotional control in difficult situations had the lowest mean in this set (M = 4.14, SD = 0.98).

Composite (N = 65)	Mean	SD	Median	Range
Music activity	12.28	2.88	12	5–15
Self-esteem	17.40	2.96	18	4–20
Emotional intelligence	16.85	3.43	16	4–20

Composite scores were concentrated toward the upper end of their possible ranges, suggesting a possible ceiling effect. Emotional-intelligence scores showed greater dispersion than self-esteem scores. Because the measures were brief,

positively worded self-report item sets, high scores should be interpreted as endorsement of the specific statements rather than as clinical or diagnostic classifications.

3.2 Scores by Music-Training Status

Training status	n	Self-esteem M (SD)	Emotional intelligence M (SD)	Music activity M (SD)
Yes	44	17.86 (2.47)	17.64 (2.70)	13.59 (1.86)
No	21	16.43 (3.65)	15.19 (4.20)	9.52 (2.69)

The trained group had higher mean scores on all three composites. The mean self-esteem difference was 1.43 points and the emotional-intelligence difference was 2.45 points. Inferential tests were used to assess whether the self-esteem and emotional-intelligence differences were statistically significant. The music-activity group gap should be interpreted cautiously because one item directly refers to music training.

3.3 Inferential Results

Relationship Between Self-Esteem and Emotional Intelligence

Among respondents reporting formal or structured music training (n = 44), Spearman's rank-order correlation showed a strong positive relationship between self-esteem and emotional intelligence, $\rho = .904$, $p < .001$. The primary null hypothesis (H_{01}) was rejected, supporting the proposed positive association in this sample. Among respondents without music training (n = 21), the relationship was also positive and statistically significant, $\rho = .747$, $p < .001$. This second result was exploratory. The two coefficients do not establish that the strength of the relationship differs significantly between groups.

Self-Esteem by Training Status

The music-trained group had a mean self-esteem score of 17.86 (SD = 2.47), compared with 16.43 (SD = 3.65) in the untrained group. Welch's test was not statistically significant, $t(29.06) = 1.63$, $p = .114$, Cohen's d = 0.49, 95% CI [-0.37, 3.24]. The Mann-Whitney U sensitivity test was also non-significant, $U = 581.5$, $p = .079$. Therefore, H_{02} was not rejected. Although the difference was descriptively in the expected direction, the sample did not provide sufficient evidence of a statistically significant group difference.

Emotional Intelligence by Training Status

The trained group's mean emotional-intelligence score was 17.64 (SD = 2.70), compared with 15.19 (SD = 4.20) among untrained respondents. Welch's test indicated a statistically significant difference, $t(28.17) = 2.44$, $p = .021$, Cohen's d = 0.75, 95% CI [0.39, 4.50]. The Mann-Whitney U test also indicated a significant difference, $U = 624$, $p = .016$. H_{03} was rejected. This result indicates higher self-reported emotional-intelligence scores in the trained group in this sample; it does not demonstrate that music training caused the difference.

Exploratory Associations with Music-Activity Items

All three music-activity items showed moderate positive associations with self-esteem and emotional intelligence in the full sample. Correlations with self-esteem ranged from ρ

= .546 to .572, and correlations with emotional intelligence ranged from $\rho = .565$ to $.597$; all were reported at $p < .001$. These analyses were exploratory rather than confirmatory hypothesis tests.

4. Discussion

The main finding was a strong positive association between self-esteem and emotional intelligence among music-trained respondents. A positive association was also found among untrained respondents. This pattern suggests that the constructs tended to co-occur across both groups rather than being related only in people with music training. Because both variables were measured at the same time through similarly worded, positively keyed self-report items, shared response tendencies or social desirability may partly contribute to the correlations. The findings do not show that one construct causes the other.

The self-esteem mean was higher among trained respondents, but the difference did not reach statistical significance. The confidence interval crossed zero, so the direction of the observed mean difference should not be treated as conclusive evidence of a group effect. Unequal group sizes, a modest overall sample and scores clustered near the upper end of the scale may have limited precision.

4.1 Discussion Continued

Emotional-intelligence scores were significantly higher among music-trained respondents, and the result was consistent across Welch's t-test and the Mann-Whitney U sensitivity test. This finding is compatible with the possibility that music-related activity offers opportunities to interpret expressive cues, communicate emotion, respond to performance challenges and coordinate with others. Nevertheless, training was recorded only as yes/no, and participants were not randomly assigned. Differences in access to music education, personal characteristics, social context or other unmeasured factors could account for some or all of the observed association.

The results broadly align with literature that considers music participation in relation to personal and social development and emotional processes (Hallam, 2010; Juslin & Västfjäll, 2008; Saarikallio, 2011). Direct comparisons remain limited because earlier studies use different populations and outcomes, while the present study uses brief researcher-developed measures. Cronbach's alpha values were high, but internal consistency alone does not establish validity; very high coefficients in short item sets can also reflect item similarity.

4.2 Limitations

- The sample was modest ($N = 65$), recruited through convenience sampling, and the groups were unequal (44 trained; 21 untrained).
- The cross-sectional, observational design does not support causal conclusions.
- Music training was measured as a yes/no response; duration, intensity, type, genre and level of training were not available for analysis.

- Self-esteem and emotional intelligence were measured with four researcher-developed items each rather than full standardized instruments.
- All key measures were self-reported and may be influenced by response style or social desirability.
- Scores were concentrated near the maximum, suggesting possible ceiling effects; several demographic categories were small.

4.3 Implications and Future Research

The findings provide a basis for further investigation of music participation alongside self-evaluative and emotional variables, but should not be used to promise psychological benefits from music training. Future studies should recruit larger and more balanced samples, use validated measures, collect details about training duration and intensity, and examine individual versus group learning and performance exposure. Longitudinal or experimental designs could better investigate whether music training precedes changes in self-esteem or emotional intelligence. Multivariable analyses may also help account for demographic and contextual differences.

5. Conclusion

This study examined self-esteem, emotional intelligence and music-training status among 65 adults. Self-esteem and emotional intelligence were strongly and positively associated among music-trained respondents ($\rho = .904$, $p < .001$), and a positive association was also observed among untrained respondents ($\rho = .747$, $p < .001$). The trained group's self-esteem score was descriptively higher, but the difference was not statistically significant ($p = .114$). Emotional-intelligence scores were significantly higher in the trained group ($p = .021$). These findings apply to the respondents and measures used in this project and should be interpreted as associations, not causal effects.

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