



Investigating the relationship among dimensions of aesthetic sensitivity and intelligence in students: Comparing based on gender and age

Ahmad Bayat¹ , Khosro Rashid^{2*} , Rasoul Kord-Noghabi², Abolghasem Yaghoobi³

1. PhD Student of Psychology, Department of Psychology, Faculty of Economics and Social Sciences, Bu-Ali Sina University, Hamadan, Iran

2. Associate Professor of Psychology, Department of Psychology, Faculty of Economics and Social Sciences, Bu-Ali Sina University, Hamadan, Iran

3. Professor of Psychology, Department of Psychology, Faculty of Economics and Social Sciences, Bu-Ali Sina University, Hamadan, Iran

Abstract

Introduction: Aesthetic sensitivity and intelligence have recently attracted the attention of scientists in various fields such as art, sociology, and psychology, and various theories have been proposed in this area. The present study aimed to investigate the relationship between aesthetic sensitivity and intelligence in students and compare these variables based on gender and age.

Methods: The method of this research was descriptive and correlational. The statistical population was all of the students in Tuyserkan, 2021 (Elementary, Junior High, and High school). Three hundred students were selected by cluster sampling and answered the aesthetic sensitivity and intelligence questionnaires by online or presence method. Data were then analyzed using the correlation method and structural equation modeling using SPSS-25 and Lisrel.

Results: The results revealed that there is a significant relationship between all aesthetic sensitivity dimensions and all aesthetic intelligence components ($P < 0.05$). There was a statistically significant difference between girls and boys, and age groups regarding aesthetic intelligence and aesthetic sensitivity. Also, the estimated model in this research had good fit indexes (CFI=0.92; GFI=0.91; RMSEA=0.011).

Conclusion: According to the findings of this study, it can be concluded that the aesthetic intelligence of people has a close relationship with their aesthetic sensitivity and this close relationship exists at the level of the components of the two. Also, the sensitivity, attention, and response of male and female students at different educational levels to beautiful stimuli are different, and they should pay special attention to this issue in their educational and upbringing plans.

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Corresponding author

Khosro Rashid, Associate Professor of Psychology, Department of Psychology, Faculty of Economics and Social Sciences, Bu-Ali Sina University, Hamadan, Iran

Email: Khosrorashid@yahoo.com



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Extended Abstract

Introduction

Since the 18th century, the concept of beauty took on a more psychological aspect and was seen in relation to perception. In the works of people like Lanzoni (2009), psychological concepts such as empathy in the field of

art and aesthetics are well seen. Since psychological and social factors significantly affect human perceptions, they also affect his sense of beauty. aesthetic experience is a pleasant and desirable experience that gives value

and meaning to life. This experience is based on an inner contemplation that makes him better understand his environment, an experience that requires people to focus on specific aspects of their environment and within themselves at all times. Aesthetic sensitivity and intelligence have recently attracted the attention of scientists in various fields such as art, sociology, and psychology, and various theories have been proposed in this area. The present study aimed to investigate the relationship between aesthetic sensitivity and intelligence in students and compare these variables based on gender and age.

Methods

The method of this research is descriptive and correlational. The statistical population of this study was all students (primary, junior high, and high school) in Tuyserkan, the academic year 2019-2020; the number of this group is 12460 people. Thus, 4325 people studied in primary school, 3766 in the first secondary school, and 4369 in the second secondary school. The sample was selected from male and female students. To identify the age subgroups studied, it is possible to use the classification of theories such as Piaget's theory. However, by modeling the research of Rashid, Worrell, and Kenny (2014) five age subgroups, 7 to 9 years, 9 to 11 years, 11 to 13 years, 13 to 15 years, and 15 to 17 years, were examined. Accordingly, the current study will have two gender groups and five age groups, and in each of these subgroups, 30 people were selected in each age group. Therefore, a sample of 300 students was examined. The sampling method in this study was a combination of a cluster sampling method and a simple random sampling method. In this way, the cluster method was first used to select the desired schools, and then the simple random method was used to select the participants. Due to the current situation of the Coronavirus epidemic, some of the questionnaires were administered online and others

in person. The Structural Equation Model and Pearson correlation coefficient were used to test the hypotheses of this study. The software used for data analysis was SPSS-25 and Lisrel.

Results

There is a significant relationship between the dimensions of aesthetic sensitivity and the components of aesthetic intelligence ($P < 0.001$). In this regard, the relationship between aesthetic sensitivity and intelligence is significant. The value of χ^2 was 169.48, and the DF was 87. Relative χ^2 (1.948) indicates an acceptable situation for the model. The Comparative Fit Index (CFI) and the Goodness of Fit Index (GFI) were 0.92 and 0.91, respectively, which are acceptable. Also, the Normed Fit Index (NFI) and the Root Mean Square Error of Approximation (RMSEA) as the most general fit indices are 0.91 and 0.011, respectively, which shows that the model fits well. The highest estimate is related to the effect of the natural dimension of aesthetic sensitivity on the natural component of aesthetic intelligence (0.87). The lowest estimate is related to the effect of the practical dimension of aesthetic sensitivity on the sensory-emotional component of aesthetic intelligence (0.45). All the estimated effects are significant at a level of less than 0.01 ($P < 0.001$). There is a significant difference between male and female students in terms of aesthetic sensitivity and intelligence; because, according to the Pillay effect index, calculated F (517.54) is significant at the level of $P < 0.05$ ($P = 0.001$). Also, the calculated η^2 coefficient (0.983) is considered an acceptable value. More than 98% of male and female students are due to their differences in aesthetic sensitivity and intelligence. Comparing the mean aesthetic sensitivity and intelligence of girls and boys shows that the difference between these two groups is significant in terms of aesthetic sensitivity and intelligence ($P < 0.05$). There is a significant difference between age groups in terms of

aesthetic sensitivity and intelligence; because, according to the Pilay effect index, calculated $F(874.28)$ is significant at the level of $P < 0.05$ ($P = 0.001$). Also, the calculated ETA coefficient (0.854) is considered an acceptable value. More than 85% of the different age groups are due to their differences in aesthetic sensitivity and intelligence.

Conclusion

This study aimed to investigate the structural relationships of aesthetic sensitivity dimensions with components of aesthetic intelligence and compare them based on gender and age groups in students. In this regard, statistical analysis of data collected in this study using structural equation modeling showed that there is a relationship between aesthetic sensitivity and intelligence. Also, a significant relationship was found between the dimensions of aesthetic sensitivity and the components of aesthetic intelligence in students. In general, the findings of this study indicated that the studied model has statistically acceptable fit indices. As a result, the collected data and the findings obtained from their analysis confirm the research hypotheses and the conceptual model of the research. In addition, the relationships between the studied paths in the model revealed that there is a significant relationship between aesthetic sensitivity and intelligence. The dimensions of aesthetic sensitivity are also related to the components of aesthetic intelligence. The difference between girls and boys and the difference between age groups in terms of aesthetic sensitivity and intelligence were also statistically significant. Planners, policymakers, and education staff need to address these issues. Art students can also consider the findings of this study. Finally, the data collection method of this research (questionnaire) can be mentioned as one of its main limitations.

Ethical Considerations

Compliance with ethical guidelines

Ethical principles in research, such as informed consent and the least risk, are observed in this research. Since the participants were in the age group of fewer than 18 years old, coordination with their parents was also done, and informed consent was obtained from them. In addition, the ethical principle of confidentiality and confidentiality of participants' information has been observed in this study.

Authors' contributions

Ahmad Bayat: Writing, analyzing, and pursuing acceptance and publication of the article. Khosrow Rashid: Supervisor, providing guidance on editing the article. Rasool Kordaghabi: Consulting professor, explaining methodological points. Abolghasem Yaghoobi: Consulting professor, editing the article.

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Conflict of interest

This article has not any conflict of interest for the authors.