

The Study of Overexcitability, Perfectionism, and Learning Adaptation of Art-Talented Students

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Summary

Overexcitability (OE) and perfectionism are commonly mentioned psychological traits in gifted students, and may influence learning adaptation. Dabrowski defined OE as “higher than average responsiveness to stimuli, manifested either by psychomotor, sensual, emotional, imaginal, or intellectual excitability, or a combination thereof” (as cited in Mendaglio & Tillier, 2006, pp. 417-418). The intensity of OE varies between academically gifted students and art-talented students (H.-J. Chang, 2001; H.-J. Chang & Kuo, 2009; Chu, 2003; Nee, 2013; H.-J. Wang, 2017). Furthermore, different types of artists also demonstrate variations in their OEs. Perfectionism encompasses multiple dimensions, including excessive concern over making mistakes, high personal standards, perception of high parental expectations, perception of high parental criticism, doubting the quality of one’s actions, and a preference for order and organization (Frost et al., 1990). Perfectionism drives artists to achieve outstanding performances but can also lead to physical and mental stress, resulting in both positive and negative effects on performing arts (Hays, 2017; Hill et al., 2015; Jowett et al., 2021; Nordin-Bates & Kuylser, 2020). Learning adaptation refers to individual adjustment and interactions with the learning environment during the learning process (Kuo et al., 2022). Given the impacts of OE and perfectionism on emotional development, in this study the researchers were interested in exploring the relationships among these three variables.

The participating students in the study included visual-arts-talented, music-talented, and dance-talented students from different areas in Taiwan. The samples were assigned through stratification

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and classification. Three research instruments were used: the ME Scale III, Multidimensional Perfectionism Scale, and Student Learning Adaptation Questionnaire.

The ME Scale III was modified from the ME Scale II constructed by H.-J. Chang (2011). This scale included five dimensions of OE: Emotional, Imaginational, Psychomotor, Sensual, and Intellectual OEs. The scoring policy was based on a Likert 7-point scale, with higher scores indicating stronger OE. The coefficient of internal consistency, as measured by Cronbach's α , for each subscale ranged from .724 to .880. The result of the Kaiser-Meyer-Olkin and Bartlett's sphericity tests was .887, with cumulative explained variance at 44.856%.

The Multidimensional Perfectionism Scale Chinese version was translated and edited by Lu et al. (1999), based on the Multidimensional Perfectionism Scale by Frost et al. (1990). This scale measures six factors: Personal Standards, Concern Over Mistakes, Parental Expectation, Parental Criticism, Doubts About Actions, and Organization. The Cronbach's α coefficient for the whole scale was high ($\alpha = .91$), while the factor scales ranged from .74 to .89. The cumulative explained variance was 57.0% (Lu et al., 1999). A 5-point Likert scale was used, with higher scores indicating higher perfectionism.

The Student Learning Adaptation Questionnaire investigated three dimensions: Learning Development, Life Adjustment, and Future Career (Kuo et al., 2020). The coefficient α for each subscale ranged from .853 to .911, and the cumulative explained variance was 54.758%. This scale adopts a 4-point Likert scale, with higher scores indicating better learning adaptation.

In this study, a total sample of 606 art-talented students and 322 ordinary students completed the questionnaires. All participants were 11th graders, including 243 visual-arts-talented, 258 music-talented, 105 dance-talented, and 322 ordinary students from different schools in Taiwan. The scores were analyzed using SPSS 23.0 statistical software.

The following are the research results:

1. Performance differences between art-talented students and ordinary students: Regarding OEs, ordinary students scored much higher than art-talented students in Psychomotor OE ($p < .01$) and Intellectual OE ($p < .001$). The overall average scores of OEs in art-talented students ranged from 3.72 to 4.99, indicating moderate intensity. Art-talented students reported significantly higher tendencies in perfectionism compared to ordinary students: Personal Standard ($p < .01$), Concern Over Mistakes ($p < .001$), and Parental Expectation ($p < .05$). In the learning adaptation scale, art-talented students scored higher than ordinary students in Learning Development ($p < .001$) and Future Careers ($p < .05$). This finding is consistent with the research by Kuo et al. (2022).

2. Gender performance differences among art-talented students: Significant gender differences were found in the scores of the three scales. Art-talented boys displayed much higher levels of Imaginational ($t = 2.633, p < .01$) and Psychomotor ($t = 5.720, p < .001$) OEs than girls. Boys also scored higher than girls in Parental Criticism and Parental Expectation in the perfectionism scale. No gender difference was found in other subscales, and the gender difference in learning adaptation did not reach a significant level.
3. Class performance differences among art-talented students: Visual-art-talented students clearly scored higher than music-talented and dance-talented students in Emotional, Imaginational, and Sensual OEs. Dance-talented students, however, displayed strong Psychomotor OE. Regardless of the type of art-talented student, Sensual OE was the strongest among the five types of OEs. In terms of perfectionism, visual-art-talented and music-talented students scored considerably higher than dance-talented students in the Personal Standards dimension. Visual-art-talented students also scored substantially higher than dance-talented students in the dimensions of Doubts About Actions and Parental Criticism. Regarding learning adaptation, only the dimension of Learning Development show differences between classes, with dance-talented students scoring much higher than music-talented students.
4. Correlations between OE, perfectionism, and learning adaptation: Obvious correlations were found between most subscales of OEs, perfectionism, and learning adaptation. Overall, Emotional OE was associated with negative perfectionism, such as Doubts About Actions, Concern Over Mistakes, and Parental Criticism. Intellectual OE showed the strongest positive correlation with positive perfectionism, including Personal Standards and Organization. There was a positive correlation between Intellectual OE, Personal Standards, Organization, and learning adaptation. On the other hand, there was a negative correlation between Emotional OE, Concern Over Mistakes, Parental Criticism, and learning adaptation.

Based on the research findings, this study proposes the following suggestions: First, students with different artistic talents and giftedness have different psychological traits, and they should be encouraged to develop learning strategies based on their own characteristics. Second, this study found that most students have high levels of Imaginational and Sensual OEs, with strong ability to use visual, auditory, and synesthetic sensitivity to unleash their imagination. Third, it is important to help students understand their own psychological traits and encourage them to recognize the impact of these traits on their learning adaptation. Last, in addition to focusing on the academic development and outstanding performance of students, longitudinal studies on gifted students

can delve into the development of individual psychological traits and learning adaptation. This can provide teachers and parents with references for classroom management and parent–child communication.