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Influence of Intelligence and Gender on Mathematics Anxiety: Verbalized Strategies to Overcome Difficulties

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Introduction:
Mathematics anxiety negatively impacts performance, achievement, and career choices. This study investigates how intelligence and gender influence this anxiety and explores the coping strategies used by those who dislike math. Existing research shows that lower intelligence and being female often correlate with higher math anxiety, but how these factors interact with coping mechanisms is less understood. This research employs a mixed-methods approach to analyze these relationships, aiming to answer how intelligence and gender affect anxiety levels, what strategies are used to manage this anxiety, and if these strategies vary based on intelligence and gender. By examining these questions, this study will contribute to a deeper understanding of mathematics anxiety and inform the development of tailored interventions to support learners, ultimately fostering a more positive and inclusive mathematics learning environment.
Objective:
To investigate the influence of intelligence and gender on mathematics-related anxiety and to analyze the verbalized strategies employed by individuals who dislike mathematics to overcome their difficulties.
Method:
A mixed-methods research methodology (MMR) was used, with the quantitative part employing a cross-sectional survey design and the qualitative part using content analysis. The sample consisted of 1552 students, of whom 1012 were women.
Results:
Significant differences were found based on both intelligence and gender. Women and individuals with lower cognitive abilities reported higher levels of anxiety related to mathematics. The verbalized strategies were grouped into four clusters: cluster 1 (26.6%), relying on external support, such as peers, teachers, and online resources, to seek help and guidance; cluster 2 (23.7%), using extra learning aids like video tutorials and procedural explanations, with a focus on practical exercises; cluster 3 (24.4%), simplifying and understanding basic concepts through individual effort and perseverance; cluster 4 (25.3%), developing study habits, including problem-solving, note-taking, and concentration-focused strategies.
Conclusions:
The findings highlight how gender and cognitive abilities influence mathematics-related anxiety and coping mechanisms. Women and higher math anxiety tend to rely on external support and tend to seek alternative learning strategies, while men and lower math anxiety prefer individual effort and perseverance . These insights underline the importance of tailoring support strategies to the specific needs of learners who dislike mathematics.

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