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## ANALYSIS OF STUDENTS' IMPOSTOR PHENOMENON: SELF-ESTEEM AND ATYCHIPHOBIA IN MATHEMATICS LEARNING

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### ABSTRACT

This study aims to analyze the impostor phenomenon of students and its relationship with self-esteem and atychiphobia in mathematics learning at SMA Negeri 1 Gegecik. This study uses a qualitative method with a case study design and criterion sampling technique. The subjects of the study were 143 grade XI students, where 8 students were identified as experiencing the impostor phenomenon with the criteria "Very High". These findings indicate a moderate negative correlation between the impostor phenomenon and self-esteem, and a positive correlation between the impostor phenomenon and atychiphobia. The implications of this study are the importance of focused psychological interventions to overcome the impostor phenomenon and atychiphobia, as well as self-esteem development programs that can help students increase their self-confidence in academic contexts, especially in mathematics.

**Keywords:** Impostor Phenomenon, Self-Esteem; Atychiphobia, Mathematics learning

### INTRODUCTION

Mathematics is often regarded as a highly important subject because it is independent and does not necessarily rely on knowledge from other subjects. Many students believe that mastering mathematics is a key factor in determining academic excellence (Rawa & Yasa, 2019). Due to this stigma, students frequently feel pressured to succeed academically, particularly in mathematics. Mohammadi (Suyati, 2015) argues that the expectations of parents, teachers, and peers are significant stressors that affect students' academic performance.

Academic achievement, which is supposed to have a positive impact, does not always yield the same results for all students. Some students do not take pride in their accomplishments, not because of poor performance, but because they feel that their achievements are not solely the result of their own abilities. Instead, they believe external factors such as luck, appearance, or assistance from others contributed to their success (Wulandari & Tjundjing, 2007). This phenomenon is known as the impostor phenomenon. The impostor phenomenon is when students with high

achievements feel as though they have deceived others regarding their intelligence and capabilities (Clance & Imes, 1978). Even though impostors often have much external and objective validation of their achievements, they fear being exposed and believe they are not as intelligent as others perceive them to be (Castro, 2004).

Characteristics of students experiencing the impostor phenomenon can be observed in their behavior. These students often start their tasks early but take a long time to complete them with thorough preparation. They live in constant fear of failure and worry that others will consider them frauds (Sakulku & Alexander, 2011). Clance identified several groups at risk of experiencing the impostor phenomenon, including individuals who have recently achieved success, first-generation professionals, students with high-achieving parents, pioneers, minorities, those in jobs that do not align with traditional gender roles, independent workers, creative individuals, and students (Wulandari & Tjundjing, 2007).

This unique phenomenon has also been found among university students. A survey of 100 students revealed that 42 students experienced a moderate level of the impostor phenomenon, 50 students experienced a high level, and 6 students experienced a very high level. Moreover, the students affected by this phenomenon had an average GPA of over 3.50 and had achieved success in several academic competitions (Nurhikma & Lubabin Nuqul, 2020).

Students experiencing the impostor phenomenon often suffer from high levels of anxiety, including constant anxiety and acute reactions to specific situations. They are also prone to depression, fear of failure, overthinking small mistakes, feeling ashamed, being introverted, rejecting objective proof of their success, and frequently having low self-esteem. According to the World Health Organization (WHO), low self-esteem is a common mental health issue among the population, with a prevalence of 5.8% in men and 9.5% in women. However, only 30% of individuals with low self-esteem receive adequate treatment, despite the availability of effective care technologies to address this issue. Ironically, the largest group affected by low self-esteem is within the productive age group, specifically those under 45 years old (Suarthana & Dewi, 2023).

The involvement of self-esteem becomes crucial in determining the impostor phenomenon in students, as self-esteem involves evaluating competencies that motivate students to achieve excellent results to meet needs and attain achievements (need for achievement). A student's level of self-esteem rises when they successfully solve problems and achieve accomplishments (Afsari et al., 2021; Nasution et al., 2023). This emphasizes that self-esteem levels are aligned with the level of success attained. However, students experiencing the impostor phenomenon feel a different sense



of anxiety alongside their success. They worry that their abilities are not as competent as they appear, and they feel undeserving of the success they have achieved (Kamarzarrin, Khaledian, Shoostari, Yousefi, & Ahrami, 2013).

Clance and Imes' (1978) study revealed findings that support the relationship between global self-esteem and the impostor phenomenon. A study conducted by Andi Nurhikma and Fathul Lubabin Nuqul (2020) involving students from the Faculty of Psychology at Maulana Malik Ibrahim State Islamic University of Malang, with 291 participants consisting of 84 male students (28.9%) and 74 female students (71.1%) with a minimum GPA of 3.00, showed that the contribution of self-esteem reached 31.13% and had a negative impact on the impostor phenomenon. This indicates that the higher the level of self-esteem, the lower the level of the impostor phenomenon experienced by students. Other research also shows a negative correlation between self-esteem and the impostor phenomenon (Anjani & Safitri, 2023; Safitri et al., 2023). These findings suggest a negative correlation between the impostor phenomenon, self-esteem, anxiety, and depression.

Other factors that influence the relationship between the impostor phenomenon and academic anxiety in new students include threats, conflicts, unmet needs, and excessive fear of failure. This excessive fear of failure is known as Atychiphobia. In November and December 2014, a survey conducted in Karachi, Pakistan, on Atychiphobia revealed high levels of anxiety and depression (Karim, 2022). A significant number of students were affected by Atychiphobia, leading some to attempt suicide.

In addition to self-esteem, the impostor phenomenon can be influenced by Atychiphobia. Atychiphobia is a medical term used to describe an intense and irrational fear of failure (Hildani & Safitri, 2021; Latif et al., 2020). Without realizing it, Atychiphobia has negative and harmful impacts on students. Symptoms of Atychiphobia may include nausea, rapid breathing, or digestive issues. Atychiphobia affects various aspects of life, including educational achievement, particularly students' mental health, which can cause academic problems such as poor attendance, difficulty learning, poor grades, behavioral issues, and concentration problems. These problems increase dropout rates and lower academic achievement, especially in mathematics.

Based on the background presented above and the lack of research on the relationship between Atychiphobia and the impostor phenomenon, this study aims to examine the influence of Atychiphobia on the impostor phenomenon.

## METHODOLOGY

This study is a qualitative research with a case study design. The Case Study Method is a research approach used to investigate a bounded system, such as a program, activity, event, or a group of individuals connected by time or place. The focus of this research is to collect data, provide interpretations, and gain an in-depth understanding of the case being studied diteliti (Wekke, 2019). The sampling technique used was criterion sampling. Data collection was conducted using three scales: the Clance Impostor Phenomenon Scale (CIPS), the Coopersmith Self-esteem Inventory (CSEI), the Atychiphobia Scale, and interviews. The study was carried out from April 22 to 25, 2024, at SMA Negeri 1 Gegecik, Cirebon Regency.

The research was conducted by distributing research instruments in the form of a 21-item impostor phenomenon questionnaire, a 30-item self-esteem questionnaire, a 24-item atychiphobia questionnaire, and a 16-item interview instrument. After distributing the instruments and obtaining results, interviews were conducted regarding the impostor phenomenon with students identified as experiencing the impostor phenomenon. The study involved subjects from SMA Negeri 1 Gegecik, specifically students from classes XI-A, XI-E, XI-G, and XI-I, with a total of 143 students participating. The data collection technique used in this study was triangulation, which included observation, interviews, and documentation.

## RESULTS AND DISCUSSION

Based on the distribution of the students' impostor phenomenon questionnaires, there were 3 students with very high criteria, 28 students with high criteria, and 5 students with moderate criteria in class XI-A. The data distribution for the students' impostor phenomenon in class XI-E revealed that there were 2 students with very high criteria, 24 students with high criteria, and 10 students with moderate criteria. The data above also shows that in class XI-G, there were 2 students with very high criteria, 26 students with high criteria, and 7 students with moderate criteria. In class XI-I, there was 1 student with very high criteria, 25 students with high criteria, and 10 students with moderate criteria. Based on this categorization, the researcher selected subjects with very high criteria, totaling 8 students: 3 students from class XI-A, 2 students from class XI-E, 2 students from class XI-G, and 1 student from class XI-I.

**Table 1.** Distribution of Student Impostor Phenomenon Questionnaire

Class	Criteria					Size
	Very High	High	Middle	Low	Very Low	
XI-A	3	28	5	0	0	36
XI-E	2	24	10	0	0	36
XI-G	2	26	7	0	0	35
XI-I	1	25	10	0	0	36
Total of students						143

Based on interviews with 8 students, it was revealed that there were thought patterns and behaviors reflecting the impostor phenomenon in the context of learning mathematics. Many of these students felt disappointed, frustrated, and fearful of others' judgments when facing failure, as well as doubted their own abilities and self-worth. The students often felt undeserving of praise for their achievements and believed their success was due more to external factors such as luck or help from others, rather than their own efforts. Overall, these findings indicate that these students experience significant self-doubt and a lack of confidence in their own abilities, despite evidence of actual good performance and capability. These patterns suggest that the impostor phenomenon can negatively impact students' motivation and academic performance in mathematics.

### The Relationship Between Students' Impostor Phenomenon and Self-Esteem

The impostor phenomenon questionnaire was distributed to 143 students from classes XI-A, XI-E, XI-G, and XI-I at SMA Negeri 1 Geesik. From these, 8 students were identified as experiencing the impostor phenomenon: 3 students from class XI-A, 2 students from class XI-E, 2 students from class XI-G, and 1 student from class XI-I. Based on the analysis of the impostor phenomenon questionnaires completed by the student respondents, the following results were obtained:

**Table 2.** The Results of Student Impostor Phenomenon

Scoring	Frecuency	Presentase	Criteria
81 - 100	8	100%	Very High
61 - 80	0	0%	High
41 - 60	0	0%	Middle
21 - 40	0	0%	Low
0 - 20	0	0%	Very Low
Total	8	100%	

Penyebaran angket *self-esteem* yang diisi oleh 8 siswa yang teridentifikasi *impostor phenomenon* yaitu 3 siswa kelas XI-A, 2 siswa dari kelas XI-E, 2 siswa dari kelas XI-G, dan 1 siswa dari kelas XI-I. Berdasarkan analisis angket *self-esteem* yang menjadi responden diperoleh hasil sebagai berikut:

**Table 3.** The Results of Student Self-esteem

Scoring	Frecuency	Presentase	Criteria
81 - 100	0	0%	Very High
61 - 80	1	13%	High
41 - 60	7	88%	Middle
21 - 40	0	0%	Low
0 - 20	0	0%	Very Low
Total	8	100%	

The questionnaire results showed that 7 students had self-esteem with moderately high criteria, scoring between 41-60, while 1 student had self-esteem with high criteria, scoring between 61-80. No students had self-esteem in the very high, low, or very low categories. This indicates that although the students exhibited very high levels of the impostor phenomenon, they still had relatively good self-esteem. Moderately high self-esteem can help students keep trying, even though the impostor phenomenon hinders them. A high level of the impostor phenomenon can prevent students from achieving optimal self-esteem. While the students' self-esteem was not very low, they did not feel highly confident in their abilities, as reflected in the absence of very high self-esteem scores. The impostor phenomenon often causes students to doubt their own abilities and achievements, which can impact their self-esteem. Students may feel that their success is not the result of their own abilities, but rather luck or help from others. Although students had fairly good self-esteem, the feelings of unworthiness and lack of confidence associated with the impostor phenomenon can prevent them from fully appreciating and recognizing their own capabilities.\*\*

### **The Relationship Between Students' Impostor Phenomenon and Atychiphobia**

Atychiphobia, or the excessive fear of failure, was also analyzed among the same students. Based on the analysis of the atychiphobia questionnaire filled out by the respondents, the following results were obtained:

**Table 4.** Analysis results of the atychiphobia questionnaire

Scoring	Frecuency	Presentase	Criteria
81 - 100	3	38%	Very High
61 - 80	5	63%	High
41 - 60	0	0%	Middle
21 - 40	0	0%	Low
0 - 20	0	0%	Very Low
Total	8	100%	

The results show that 3 students were in the very high criteria range with scores between 81-100, and 5 students were in the high criteria range with scores between 61-80. No students exhibited atychiphobia in the moderately high, low, or very low criteria. These findings indicate that the fear of failure is very strong among students experiencing the impostor phenomenon. This fear can exacerbate feelings of unworthiness and lack of confidence, and hinder students from taking risks or attempting challenging tasks in learning mathematics.

Data analysis shows that most students experiencing the impostor phenomenon also have high levels of atychiphobia—38% in the very high criteria and 63% in the high criteria. Excessive fear of failure, or atychiphobia, can intensify the impostor phenomenon, where students feel highly anxious and afraid of failing. This fear can make students feel undeserving and lacking in confidence, causing them to avoid challenges or difficult tasks in mathematics learning. This creates a cycle where feelings of unworthiness or the impostor phenomenon and fear of failure or atychiphobia reinforce each other, inhibiting students' progress and performance.

Overall, there is a close relationship between the impostor phenomenon, self-esteem, and atychiphobia in learning mathematics. The impostor phenomenon can lower self-esteem and increase the fear of failure or atychiphobia, which can negatively impact students' motivation and performance in learning mathematics. To address this, interventions focused on improving self-esteem and reducing the fear of failure or atychiphobia may help students overcome feelings of the impostor phenomenon and enhance both their performance and well-being in mathematics learning.

## Discussion

Thompson, Foreman, and Martin (Nabila, 2022) suggest that students with impostor tendencies often experience a decline in quality of life and face issues such as worry, self-doubt, anxiety, and even depression. Students who experience the impostor phenomenon believe that their success in mathematics is a product of hard work and does not reflect their true ability. Even



though impostor students often have much external and objective validation of their achievements, they fear being "found out" and believe they are less intelligent than others perceive them to be (Casselman, 1991). Impostor students tend to disregard feedback that does not validate their perceptions and constantly live in fear that they will fail to meet others' expectations.

Self-esteem is the evaluation, either positive or negative, of oneself. In other words, self-esteem is the way individuals assess themselves. Global self-esteem refers to an overall positive or negative attitude toward oneself. Self-esteem can also relate to specific aspects such as academic abilities, social skills, physical appearance, or collective self-esteem, which involves the evaluation of the value of a group to which a student belongs. These groups can include ethnic groups or groups based on religion (Srisayekti, 2015). The highest self-esteem is associated with higher life satisfaction, good social adaptability, the ability to cope with stress, and high achievement in educational and career contexts. On the other hand, low self-esteem is related to lower achievement, symptoms of depression, anxiety about one's abilities, strong reactions to failure, and a tendency to experience setbacks in various aspects of life.

The study by Clance and Imes (1978) revealed findings that support the relationship between overall self-esteem (global self-esteem) and the impostor phenomenon. Research conducted by Andi Nurhikma and Fathul Lubabin Nuqul (2020) involved students from the Faculty of Psychology at Maulana Malik Ibrahim State Islamic University in Malang, with 291 participants, consisting of 84 males (28.9%) and 74 females (71.1%) with a cumulative GPA of at least 3.00. The research findings showed that the contribution of self-esteem reached 31.13% and negatively impacted the impostor phenomenon. This indicates that the higher the level of self-esteem, the lower the level of impostor phenomenon experienced by students. The findings of this study demonstrate that self-esteem has a negative correlation with the impostor phenomenon. Other studies also show a negative correlation between self-esteem and the impostor phenomenon (Ferrari, 2005). These findings suggest a negative correlation between the impostor phenomenon, self-esteem, anxiety, and depression.

In addition to self-esteem, the impostor phenomenon can be influenced by atychiphobia. Atychiphobia is a medical term used to describe an intense and irrational fear of failure (Karim, 2022). Atychiphobia can be part of emotional and anxiety disorders, particularly in individuals with perfectionist tendencies. Fear of failure, or atychiphobia, can become so severe that it causes someone to become completely paralyzed, hindering their ability to perform tasks at home, school, college, or the workplace, which in turn can result in personal and professional setbacks



(Munauwaroh, 2012). Atychiphobia (fear of failure) impacts various aspects of life, including academic achievement, especially students' mental health, which can lead to academic problems such as poor attendance, learning difficulties, low grades, behavioral issues, and concentration problems. These issues increase dropout rates and reduce academic performance.

## CONCLUSION

The analysis of the relationship between students' impostor phenomenon, self-esteem, and atychiphobia in mathematics learning can be summarized based on the research findings and discussion from the previous chapters. Overall, there is a close relationship between impostor phenomenon, self-esteem, and atychiphobia in mathematics learning. The impostor phenomenon can lower self-esteem and increase the fear of failure or atychiphobia, which can negatively impact students' motivation and performance in learning mathematics. To address this issue, interventions focused on improving self-esteem and reducing the fear of failure or atychiphobia can help students overcome impostor phenomenon and improve both their performance and well-being in mathematics learning.

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