

Do Need-Supportive Teaching Practices and Student-Perceived Need Fulfillment Matter Academic Achievement? The Mediating of Anxiety and Educational Opportunities in Indonesia

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Abstract - *This study examines the relationships between need-supportive teaching practices, student-perceived need fulfillment, anxiety, educational opportunities, and academic achievement in low socioeconomic status high schools in Indonesia. Data were collected through surveys and interviews from a diverse sample of high school students. Path analysis and mediation analyses were conducted. Results indicate that need-supportive teaching practices positively correlate with student-perceived need fulfillment, which, in turn, positively influences academic achievement. Anxiety and educational opportunities were found to mediate the relationship between need-supportive teaching practices, student-perceived need fulfillment, and academic achievement, underscoring the hindrance of high anxiety levels on academic performance. Furthermore, educational opportunities were identified as a significant mediator, highlighting the importance of equitable access to quality education. These findings contribute to the understanding of the role of need-supportive teaching practices, student needs, anxiety, and educational opportunities in academic achievement. The study suggests the implementation of strategies that promote supportive teaching, address student anxiety, and provide equal educational opportunities to enhance academic success. Limitations include the study's specific context, sample size, and generalizability. Future research should consider diverse contexts, larger samples, longitudinal designs, and objective measures of academic achievement.*

Keywords – *need-supportive teaching practices, student-perceived need fulfillment, anxiety, educational opportunities, academic achievement.*

INTRODUCTION

Education plays a crucial role in shaping individuals and societies, and ensuring equal educational opportunities for all students is a key aspect of social justice [1],[2]. However, in many countries, including Indonesia, educational inequalities persist, particularly among students from low socioeconomic backgrounds [3]. Students from economically disadvantaged families often face various challenges that hinder their academic achievement, such as limited access to resources [4]–[6], inadequate educational opportunities [7], [8], and higher

levels of anxiety [9], [10]. In recent years, there has been increasing interest in need-supportive teaching practices, which aim to create a supportive and inclusive learning environment that addresses the individual needs of students [11]–[13]. These practices involve providing emotional support, personalized instruction, constructive feedback, and relevant learning resources to facilitate students' academic growth and development. Previous research has shown that need-supportive teaching practices positively impact student motivation [14]–[16], engagement [17]–[19], and academic achievement [20]–[22].

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However, there is still limited research on the relationship between need-supportive teaching practices, student-perceived need fulfillment, and academic achievement in high schools with a low socioeconomic status in the Indonesian context. It is important to investigate how these teaching practices are implemented and experienced in the Indonesian context and how they relate to students' academic outcomes. Furthermore, anxiety and educational opportunities are important factors that may mediate the relationship between need-supportive teaching practices and academic achievement among students from low socioeconomic backgrounds in Indonesia. Anxiety can significantly impact students' cognitive and emotional well-being, thereby affecting their ability to engage effectively in the learning process [23]–[25]. Additionally, limited educational opportunities, such as unequal access to quality education and educational resources, can exacerbate educational disparities and hinder students' academic progress [26].

Despite the importance of need-supportive teaching practices, student-perceived need fulfillment, and their impact on academic achievement in high schools with a low socioeconomic status in Indonesia, there is a notable research gap in this area. Limited studies have specifically examined the mediating effect of anxiety and educational opportunities within this context. Therefore, the following research gaps exist:

1. Limited research on need-supportive teaching practices: There is a lack of comprehensive studies that investigate the implementation and effectiveness of need-supportive teaching practices in high schools with a low socioeconomic status in Indonesia. Understanding how these practices are applied and experienced within the Indonesian educational context is crucial for informing educational policies and interventions.
2. Scarcity of studies on student-perceived need fulfillment: Research exploring students' perceptions of their needs being fulfilled in the context of low socioeconomic status high schools in Indonesia is limited. Examining

students' perspectives on the extent to which their needs are met within the educational setting can provide valuable insights into the factors that contribute to academic achievement.

3. Limited understanding of the mediating role of anxiety: The mediating effect of anxiety in the relationship between need-supportive teaching practices, student-perceived need fulfillment, and academic achievement has received limited attention in the Indonesian context. Understanding how anxiety influences the academic outcomes of students from low socioeconomic backgrounds can inform targeted interventions to support their emotional well-being and academic success.
4. Insufficient exploration of educational opportunities: The role of educational opportunities as a mediator in the relationship between need-supportive teaching practices and academic achievement has not been adequately studied in the Indonesian context. Investigating how access to educational resources, facilities, and equal learning opportunities influence the academic outcomes of students from low socioeconomic backgrounds is essential for promoting educational equity.

OBJECTIVES OF THE STUDY

Therefore, this study aims to address these gaps in the literature by examining the relationship between need-supportive teaching practices, student-perceived need fulfillment, and academic achievement in high schools with a low socioeconomic status in Indonesia. Additionally, it seeks to explore the mediating role of anxiety and educational opportunities in this relationship. The findings of this study can contribute to a better understanding of the factors influencing academic achievement among students from low socioeconomic backgrounds in Indonesia and inform the development of effective educational interventions and policies to promote equitable access to quality education for all students.

Relationship between need-supportive teaching practices, anxiety, educational opportunities, and academic achievement

Opdenakker (2021) asserts that Need-supportive teaching practices, which prioritize students' autonomy, competence, and relatedness, play a crucial role in reducing anxiety levels. When students feel supported and empowered in their learning environment, it helps alleviate anxiety and promotes a sense of security and confidence. This, in turn, allows students to concentrate better, engage actively in their studies, and perform at their full potential academically [28]. The reduction of anxiety through need-supportive teaching practices creates a conducive environment for students to explore and seize educational opportunities [29]. When anxiety levels are low, students are more willing to take on new challenges, participate in extracurricular activities, and seek out additional learning experiences [29]. These educational opportunities provide avenues for students to broaden their knowledge, acquire new skills, and enhance their academic achievement [30]. On the other hand, educational opportunities themselves can impact anxiety levels. The availability of diverse educational opportunities, such as internships, research projects, or study abroad programs, can introduce new stressors and challenges that may trigger anxiety in some students [31]. However, with the support of need-supportive teaching practices, students can effectively manage anxiety and turn these opportunities into positive learning experiences that contribute to their academic achievement [32]. Academic achievement, in turn, can be influenced by both anxiety and educational opportunities [33]. High levels of anxiety can hinder concentration, memory recall, and overall cognitive functioning, impacting students' ability to perform well academically [34]. Conversely, the presence of educational opportunities provides students with the necessary resources, experiences, and skills to excel academically, leading to higher levels of achievement. By implementing need-supportive teaching practices, educators can create an environment that reduces anxiety, promotes educational

opportunities, and fosters academic achievement [11], [35]–[37]. Addressing students' psychological needs, providing support and guidance, and offering a range of educational possibilities contribute to a positive cycle where reduced anxiety levels enable students to fully engage in educational opportunities, leading to enhanced academic achievement. Based on the context explained earlier, the hypothesis that can be proposed is:

H1a: Need-supportive teaching practices relate to anxiety

H1b: Need-supportive teaching practices relates on educational opportunities

H1c: Need-supportive teaching practices relates on academic achievement

Relationship between student-perceived need fulfillment, anxiety, educational opportunities, and academic achievement

According to Neufeld & Malin (2019), student-perceived need fulfillment, which encompasses feelings of autonomy, competence, and relatedness, plays a crucial role in mitigating anxiety. When students' psychological needs are met, they experience a sense of control, mastery, and connection, which can reduce anxiety levels [39]. This promotes a positive mindset, enhances self-confidence, and allows students to better cope with academic challenges, leading to improved academic achievement. In the presence of need fulfillment, students are more likely to actively seek and take advantage of educational opportunities. When students feel empowered and supported, they are motivated to explore additional learning experiences beyond the classroom [40]. These opportunities can include participation in extracurricular activities, research projects, internships, or specialized programs. Engaging in such activities expands students' knowledge, skills, and networks, fostering personal growth and contributing to their academic achievement. Conversely, anxiety can hinder students' access to and utilization of educational opportunities. High levels of anxiety may limit students' willingness to take on new challenges or participate in activities that require stepping out of their comfort zone [41]. Anxiety

can create barriers that prevent students from fully embracing educational opportunities, which may hinder their overall academic achievement. Educational opportunities themselves can have an impact on anxiety levels. While educational opportunities provide avenues for growth and learning, they can also introduce additional stressors and challenges that may trigger anxiety in some students. However, the presence of a supportive and need-fulfilling environment can help students navigate these challenges and manage anxiety effectively, ensuring that they can fully benefit from the educational opportunities available to them. Ultimately, the interplay between student-perceived need fulfillment, anxiety, educational opportunities, and academic achievement is complex. When students' psychological needs are met, anxiety levels are reduced, paving the way for students to engage in diverse educational opportunities. Active engagement in these opportunities, in turn, can contribute to enhanced academic achievement. By fostering a supportive environment that addresses students' needs and provides guidance, educators can help students navigate anxiety, embrace educational opportunities, and achieve their full academic potential. Based on the context explained earlier, the hypothesis that can be proposed is:

H2a: Student-perceived need fulfillment teaching practices relate to anxiety

H2b: Student-perceived need fulfillment teaching relates to educational opportunities

H2c: Student-perceived need fulfillment teaching relates to academic achievement

Relationship between student-perceived need fulfillment, anxiety and educational opportunities and academic achievement

Anxiety can hurt academic achievement [42], [43]. According to Hooda & Saini (2017), high levels of anxiety can impair concentration, memory recall, and cognitive functioning, making it difficult for students to perform optimally in academic tasks. Anxiety-related symptoms, such as worry, fear, and restlessness, can interfere with students' ability to focus on their studies and absorb information effectively,

leading to lower academic performance. Educational opportunities, on the other hand, can play a positive role in academic achievement [45]–[47]. Access to diverse educational opportunities, such as specialized programs, enrichment activities, and resources, can enhance students' knowledge, skills, and experiences. These opportunities provide students with the chance to engage in hands-on learning, explore their interests, and develop important academic competencies, ultimately contributing to improved academic achievement. Participating in extracurricular activities, internships, or research projects can offer a sense of purpose and fulfillment, which can counteract anxiety symptoms and promote positive mental well-being. By being actively involved in these opportunities, students may experience a reduction in anxiety levels, leading to enhanced academic performance. However, it's important to note that educational opportunities can also be a source of anxiety for some students. The pressure to excel in specialized programs or the fear of competition can contribute to heightened anxiety levels. Educators and institutions must provide the necessary support, guidance, and resources to help students effectively manage anxiety and navigate the challenges that may arise from educational opportunities, ensuring that they can fully benefit from these experiences. Overall, the relationship between anxiety, educational opportunities, and academic achievement is dynamic. While anxiety can hurt academic achievement, engaging in educational opportunities can offer students avenues for growth and development, potentially mitigating anxiety's effects. By fostering a supportive environment that addresses students' mental well-being, providing adequate support mechanisms, and promoting a balanced approach to educational opportunities, educators can help students overcome anxiety and optimize their academic achievement. Based on the context explained earlier, the hypothesis that can be proposed is:

H3a: Anxiety relates to academic achievement negatively

H3b: Educational opportunities relates to academic achievement

The mediating effect of anxiety and educational opportunities in the relationship

Anxiety mediates the relationship between need-supportive teaching practices, student-perceived need fulfillment, and academic achievement. Higher levels of anxiety can disrupt the positive effects of supportive teaching practices and impede students' perceived need fulfillment, which, in turn, can hinder their academic performance. Addressing and mitigating anxiety within the educational context is crucial to fully harness the benefits of need-supportive teaching practices and promote optimal academic achievement. Educational opportunities mediate the relationship between need-supportive teaching practices, student-perceived need fulfillment, and academic achievement. Providing students with a wide range of educational opportunities enhances their ability to translate their perceived need fulfillment into tangible academic outcomes. By ensuring equitable access to educational opportunities, educators can further support students' academic success and maximize the positive impact of need-supportive teaching practices. Based on the context explained earlier, the hypothesis that can be proposed is:

H4a: Anxiety mediates Need-supportive teaching practices and academic achievement

H4b: Anxiety mediates Student-perceived need fulfillment teaching and academic achievement

H4c: Anxiety mediates Need-supportive teaching practices and academic achievement

H4d: Anxiety mediates Student-perceived need fulfillment teaching and academic achievement.

MATERIALS AND METHOD

Research design

The research design refers to the overall plan or strategy that will guide the study. In this particular research, a mixed-methods research design can be employed [48]. This design combines qualitative and quantitative approaches to gather a comprehensive understanding of the relationship between need-supportive teaching

practices, student-perceived need fulfillment, anxiety, educational opportunities, and academic achievement in low socioeconomic status high schools in Indonesia. The qualitative component involved interviews or focus groups to gather in-depth insights and experiences of students, teachers, and administrators [49]. The quantitative component involved surveys or questionnaires to collect data on variables such as need-supportive teaching practices, student-perceived need fulfillment, anxiety levels, educational opportunities, and academic achievement [50].

Sample population

The sample population for this research would consist of high school students from low socioeconomic status backgrounds in Indonesia [51]. It is important to carefully define the criteria for selecting the sample population to ensure that it represents the intended target group. The sample size should be determined based on statistical considerations and the research objectives [52]. Stratified random sampling was used to ensure a representative sample from different socioeconomic backgrounds and school locations within Palangka Raya, Indonesia [53]. The number of samples in this study amounted to 159 participants [54].

Data collection instruments and Measurement

To collect relevant data, a combination of validated instruments can be used [55]. The data collection instruments include: (1) Surveys/questionnaires: These can assess variables such as need-supportive teaching practices, student-perceived need fulfillment, anxiety levels, and educational opportunities. Existing validated scales or instruments can be used, or new instruments can be developed and pilot-tested for reliability and validity; (2) Interviews or focus group protocols: These qualitative instruments can gather in-depth insights and experiences from students, teachers, and administrators. Open-ended questions can be used to explore their perspectives on need-supportive teaching practices, perceived need

fulfillment, anxiety, and educational opportunities.

The components of the need-supportive teaching practices were modified using 5 indicators from [18]. Student-perceived need fulfillment teaching measurements were adapted using 3 indicators from [15]. Anxiety measurement using 4 indicators and for academic achievement, 6 indicators were adopted from [23]. Educational opportunities were adapted using 3 indicators from [56]. The measurement process involves administering the relevant measurement tools or questionnaires to the selected respondents, which may include village officials, community members, and other stakeholders. The collected data are then analyzed using appropriate statistical techniques to derive meaningful insights and draw conclusions.

Data collection procedures

The data collection procedures involve the implementation of the chosen data collection instruments. The procedures include: (1) Administering surveys/questionnaires to the selected sample population, either in paper format or electronically; Conducting interviews or focus groups with selected participants, ensuring privacy and confidentiality; (2) Providing clear instructions to participants regarding the purpose of the study and obtaining informed consent; (3) Establishing a timeline for data collection and setting up appropriate venues for interviews or survey administration; (4) Ensuring proper training and supervision of data collectors to maintain consistency and reliability in data collection procedures.

Data analysis techniques

The data collected from surveys, interviews, or focus groups will require appropriate data analysis techniques. The analysis can involve both quantitative and qualitative methods, depending on the nature of the data. Some data

analysis techniques employed include: (1) Quantitative analysis: This involves descriptive statistics, correlation analysis, regression analysis, or structural equation modeling to examine the relationships between variables, test hypotheses, and assess the mediating effect of anxiety and educational opportunities; (2) Qualitative analysis: This involves thematic analysis or content analysis of interview or focus group transcripts to identify recurring themes, patterns, and insights related to need-supportive teaching practices, student-perceived need fulfillment, anxiety, and educational opportunities.

RESULTS AND DISCUSSION

Validity and reliability

We assessed the validity of the indicator by employing the convergent method, which yielded the external loading factor. The acceptable range for the loading factor in exploratory studies, which are the initial stages of developing a measurement scale, is 0.50 to 0.70. In our specific investigation, all indicators exhibited an outer loading value greater than 0.70, meeting the criteria for convergent validity (refer to Table 1). In the next phase, we compared the square root coefficient of variance (AVE) extracted from each latent factor to the correlation coefficient between the other factors in the model. This analysis aimed to determine if the variables demonstrated discriminant validity, indicating their ability to differentiate between distinct groups. The AVE values significantly exceeded 0.5, as indicated in Table 1. Consequently, all constructs examined in this study exhibited discriminant validity higher than 0.50, as per Fornell & Larcker (1981). In the final step of the process, we employed composite reliability to assess the value of the variable indicators. Both the composite reliability and Cronbach's alpha exceeded 0.70, affirming the trustworthiness of the results [58]

Table 1. Confirmatory factor analysis

Construct	Items	Outer Loading	Cronbach's Alpha	rho_A	CR	AVE
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Need-supportive teaching practices	NST1	0.725	0.920	0.944	0.939	0.757
	NST2	0.892				
	NST3	0.911				
	NST4	0.891				
	NST5	0.916				
Student-perceived need fulfillment teaching	SPN1	0.888	0.923	0.926	0.951	0.867
	SPN2	0.951				
	SPN3	0.952				
Anxiety	ANX1	0.974	0.957	0.957	0.970	0.889
	ANX2	0.976				
	ANX3	0.838				
	ANX4	0.976				
Educational opportunities	EDO1	0.922	0.885	0.893	0.929	0.812
	EDO2	0.870				
	EDO3	0.912				
Academic achievement	ACE1	0.882	0.950	0.953	0.960	0.801
	ACE2	0.928				
	ACE3	0.922				
	ACE4	0.923				
	ACE5	0.901				
	ACE6	0.809				

The calculation of composite reliability for the variables in this study resulted in values ranging from 0.929 to 0.970, which exceeded the threshold of 0.70. These findings indicate that the indicators used to measure the variables were reliable and consistent. Additionally, Cronbach's alpha values ranging from 0.885 to 0.957 were obtained, further confirming the dependability of the indicators and indicating that they were free from measurement error [59].

Testing research hypothesis

The results of the hypotheses testing exhibited that need-supportive teaching practices had a significant and positive influence on anxiety ($t=11.151>1.96$), educational opportunities ($t=4.964>1.96$), and academic

achievement ($t=3.017>1.96$). Furthermore, the student-perceived need fulfillment teaching had a significant and positive influence on anxiety ($t=3.850>1.96$), educational opportunities ($t=3.445>1.96$), and academic achievement ($t=3.044>1.96$). In addition, anxiety impacts academic achievement negatively ($t=4.431>1.96$), but educational opportunities impact academic achievement positively ($t=14.359>1.96$). Therefore, all hypotheses from H1a to H3b are accepted (see Table 2).

Table 2. Path Coefficient

Hypothesis	Construct *)	Original Sample	Standard Deviation	T Statistics	P Values	Remark
H1a	NST -> ANX	0.701	0.063	11.151	0.000	Accepted
H1b	NSA -> EDO	0.429	0.086	4.964	0.000	Accepted

H1c	NST -> ACE	0.300	0.107	3.017	0.000	Accepted
H2a	SPN -> ANX	0.241	0.069	3.505	0.000	Accepted
H2b	SPN -> EDO	0.259	0.086	3.850	0.000	Accepted
H2c	SPN -> ACE	0.310	0.102	3.044	0.002	Accepted
H3a	ANX -> ACE	-0.369	0.118	4.431	0.001	Accepted
H3b	EDO -> ACE	0.747	0.052	14.359	0.000	Accepted

*) : NST=Need-supportive teaching practices; SPN= Student-perceived need fulfillment teaching; ANX=Anxiety; EDO=Educational opportunities; ACE=Academic achievement

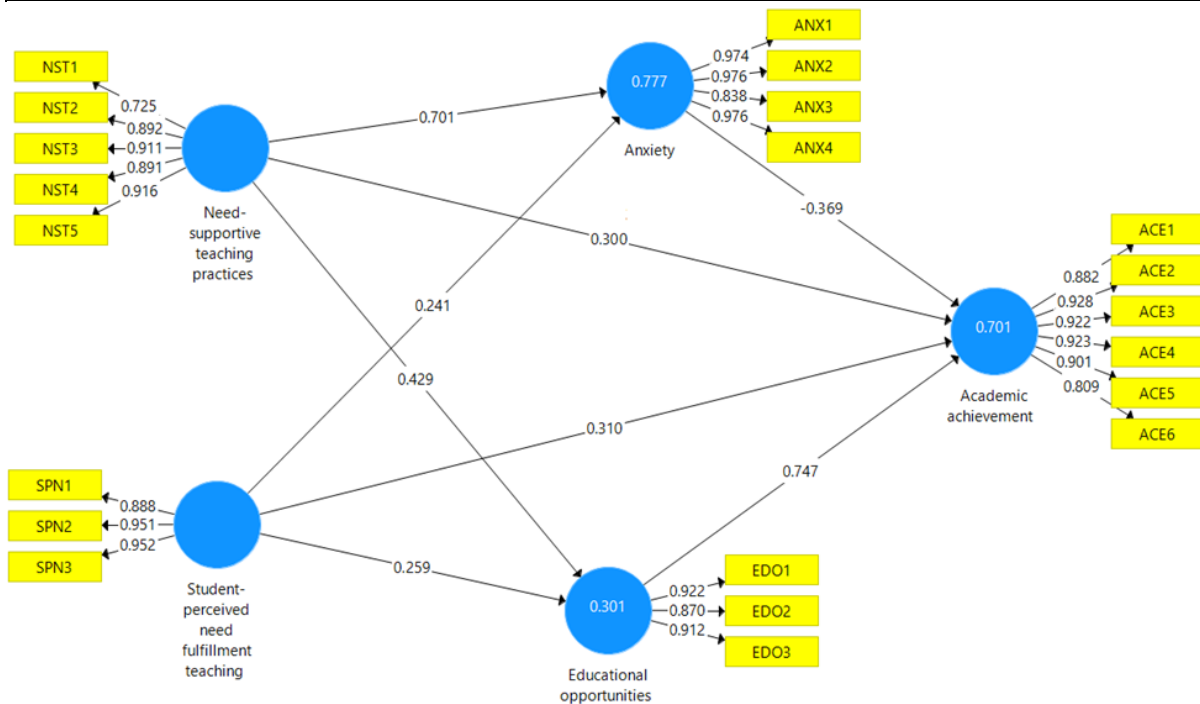


Fig. 1. Path Analysis Result

Furthermore, the study examines the pathway coefficients to investigate whether anxiety and educational opportunities can mediate the relationship between need-supportive teaching practices and the student-perceived need

fulfillment teaching on academic achievement (Table 3).

Table 3. Design of BA Economics research

Hypothesis	Construct *)	Original Sample	Standard Deviation	T Statistics	P Values	Remark
H4a	NST -> ANX -> ACE	-0.318	0.083	4.917	0.000	Accepted
H4b	SPN -> ANX -> ACE	-0.341	0.031	4.926	0.000	Accepted
H5a	NST -> EDO -> ACE	0.320	0.067	4.819	0.000	Accepted
H5b	SPN -> EDO -> ACE	0.319	0.061	4.818	0.000	Accepted

*) : NST=Need-supportive teaching practices; SPN= Student-perceived need fulfillment teaching; ANX=Anxiety; EDO=Educational opportunities; ACE=Academic achievement

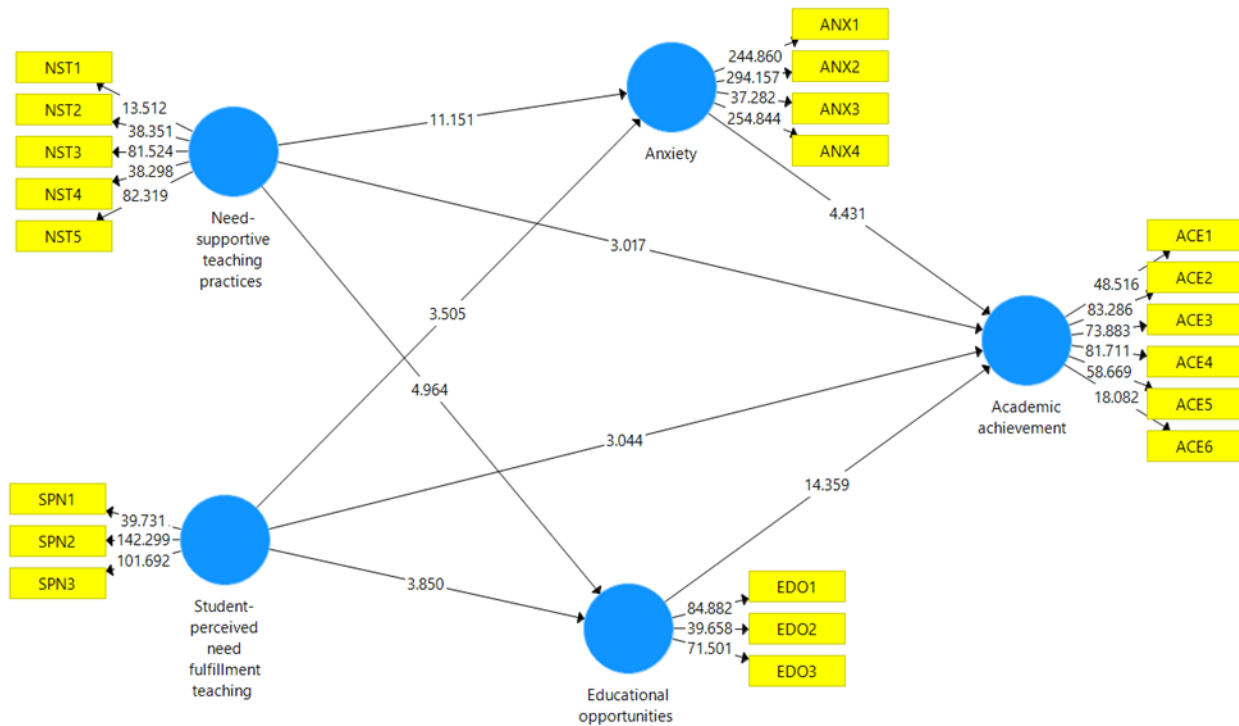


Fig. 2. Bootstrapping Inner Model

According to the mediation test, anxiety hurts need-supportive teaching practices and academic achievement ($t=4.917>1.96$), and also anxiety affects student-perceived need-fulfillment teaching and academic achievement negatively ($t=4.926>1.96$). In addition, educational opportunities have a favorable effect on need-supportive teaching practices and academic achievement positively ($t=4.819>1.96$), and also educational

opportunities have a favorable effect on the student-perceived need-fulfillment teaching and academic achievement positively ($t=4.818>1.96$). Consequently, it is possible to argue that anxiety and educational opportunities can mediate the association between need-supportive teaching practices and student-perceived need-fulfillment teaching; therefore, all hypotheses (H4a – H4d) are accepted.

Relationship between need-supportive teaching practices, anxiety, educational opportunities, and academic achievement

Need-supportive teaching practices refer to instructional approaches that fulfill students' psychological needs for autonomy, competence, and relatedness in the learning environment. These practices involve providing choices, promoting student autonomy, offering

constructive feedback, fostering positive relationships, and supporting students' intrinsic motivation. Anxiety, on the other hand, refers to a psychological state characterized by feelings of worry, fear, and unease. In an educational context, students may experience anxiety due to various factors such as academic pressure, performance expectations, social interactions, or the learning environment itself. The relationship

between need-supportive teaching practices and anxiety suggests that when teachers employ instructional methods that prioritize students' psychological needs and create a supportive learning environment, it can have a positive impact on reducing anxiety levels among students. By providing autonomy and choices, teachers can empower students and alleviate the anxiety associated with rigid structures and excessive control. Offering constructive feedback and creating positive relationships can enhance students' sense of competence and relatedness, reducing anxiety related to performance and social interactions. When students feel supported, valued, and motivated intrinsically, their anxiety levels may decrease as they perceive the learning environment as safe and conducive to their growth and well-being. Overall, implementing need-supportive teaching practices can potentially contribute to a decrease in anxiety among students, fostering a positive and nurturing learning atmosphere that promotes students' psychological well-being and academic success.

Need-supportive teaching practices play a crucial role in enhancing educational opportunities for students. These practices, which emphasize autonomy, competence, and relatedness, have a positive impact on various aspects of education. By implementing need-supportive teaching, educators can foster greater student engagement and motivation, leading to improved learning outcomes. Students who feel empowered and supported in their learning environment are more likely to actively participate in their education and take advantage of available educational opportunities. Moreover, need-supportive teaching practices contribute to creating a more inclusive and equitable educational environment. By recognizing and responding to students' diverse needs, abilities, and interests, educators ensure that all students have equal access to educational opportunities. This approach promotes fairness and addresses the unique challenges and barriers that students may face. By providing a supportive and inclusive learning environment, need-supportive teaching practices create opportunities for

personal growth and development, allowing students to explore their interests, talents, and passions. This, in turn, opens up a broader range of educational opportunities, enabling students to pursue further education, engage in extracurricular activities, and develop skills for their future careers.

Need-supportive teaching practices have a strong connection to academic achievement. These practices prioritize students' autonomy, competence, and relatedness, leading to positive outcomes in their academic performance. When students are given the freedom to make choices in their learning, encouraged to take on challenges, and provided with a supportive environment, they become more engaged and motivated. This increased motivation drives them to actively participate in their studies and strive for success, resulting in improved academic achievement. Moreover, need-supportive teaching practices foster a sense of competence among students. By offering appropriate challenges and providing constructive feedback, educators help students develop confidence in their abilities. When students believe in their capabilities, they approach academic tasks with a positive mindset and are more likely to persist in the face of challenges. This self-assurance and determination contribute to their academic achievement by enabling them to overcome obstacles and perform at their best. Ultimately, need-supportive teaching practices play a vital role in empowering students, boosting their motivation, and building their confidence, all of which significantly impact their academic achievement.

Relationship student-perceived need fulfillment, anxiety, educational opportunities, and academic achievement

Student-perceived need fulfillment and anxiety are closely related, with the former playing a crucial role in influencing the latter. When students feel that their psychological needs for autonomy, competence, and relatedness are fulfilled, it can significantly reduce their levels of anxiety. By providing students with opportunities to make choices and have control over their

learning, educators empower them and help alleviate anxiety. Similarly, when students are supported in developing their skills and competencies, it boosts their self-confidence and reduces anxiety levels. Lastly, fostering a sense of belonging and connection in the learning environment by promoting positive relationships and support from teachers and peers can also contribute to reducing anxiety among students. Conversely, when students perceive a lack of need fulfillment, it can contribute to heightened anxiety. Students who feel a lack of autonomy, competence, or relatedness may experience increased anxiety due to a sense of helplessness, inadequacy, or isolation. Therefore, it becomes essential for educators to prioritize creating a supportive and inclusive learning environment that addresses students' psychological needs. By doing so, they can help mitigate anxiety levels and create a conducive atmosphere for students to thrive academically and emotionally.

Student-perceived need fulfillment and educational opportunities share a significant relationship, as meeting students' psychological needs directly impacts their access to diverse educational possibilities. When students feel their needs for autonomy, competence, and relatedness are fulfilled, it positively influences their motivation and engagement in education. This, in turn, opens up pathways to educational opportunities such as extracurricular activities, specialized programs, and access to quality education. Students who feel empowered and supported are more likely to actively seek and take advantage of these opportunities, leading to enriched educational experiences and broader skill development. Moreover, student-perceived need fulfillment contributes to the creation of an inclusive and equitable learning environment. When students feel a sense of belonging and connection, it enhances their overall well-being and fosters an environment that values diversity. In such an environment, educational opportunities become accessible to all students, regardless of their background or circumstances. By addressing students' psychological needs and creating an inclusive atmosphere, educators can ensure that educational opportunities are

available to every student, promoting equal access, and maximizing their potential for growth and success.

The relationship between student-perceived need fulfillment and academic achievement is significant, as meeting students' psychological needs directly impacts their overall academic performance. When students feel that their needs for autonomy, competence, and relatedness are fulfilled, it positively influences their motivation, engagement, and focus on their academic tasks. By providing a learning environment that values students' autonomy and choices, educators empower students to take ownership of their learning, resulting in increased effort and dedication toward academic pursuits. Additionally, when students perceive a sense of competence through opportunities for skill development and success, it boosts their self-confidence and belief in their abilities, leading to improved academic achievement. Furthermore, fostering positive relationships and a sense of relatedness in the learning environment promotes a supportive community that reduces stress and anxiety, allowing students to focus better on their studies and achieve higher levels of academic success. In conclusion, the relationship between student-perceived need fulfillment and academic achievement is closely intertwined. By addressing students' psychological needs and creating a supportive learning environment, educators can enhance students' motivation, self-confidence, and overall well-being, all of which contribute to improved academic achievement. Recognizing and meeting students' needs for autonomy, competence, and relatedness is essential for optimizing their educational experiences and maximizing their potential for academic success.

Relationship anxiety, educational opportunities, and academic achievement

The relationship between anxiety and academic achievement is complex and can have a significant impact on students' educational outcomes. Anxiety refers to a state of heightened worry, apprehension, and nervousness, which can negatively affect students' academic

performance. Excessive anxiety can hinder concentration, impair memory recall, and reduce overall cognitive functioning, making it challenging for students to perform at their best academically. Anxiety can also lead to procrastination, avoidance of academic tasks, and feelings of overwhelm, all of which can impede students' progress and hinder their academic achievement. Additionally, chronic anxiety can negatively impact students' overall well-being, affecting their motivation, self-confidence, and ability to cope with academic challenges, further contributing to lower academic achievement. Conversely, lower levels of anxiety are generally associated with improved academic achievement. When students experience manageable levels of stress and anxiety, it can enhance their focus, alertness, and motivation to perform well academically. Some degree of anxiety can serve as a motivational factor, prompting students to prepare adequately, set goals, and engage in effective study strategies. However, it is crucial to strike a balance, as excessive anxiety can have detrimental effects on students' academic performance. Educators and support systems play a vital role in identifying and addressing anxiety-related challenges, providing students with strategies to manage their anxiety effectively, and creating a supportive environment that promotes mental well-being. By addressing anxiety and fostering a positive learning environment, students can achieve their full academic potential.

The relationship between educational opportunities and academic achievement is crucial, as access to various educational resources and experiences significantly impacts students' overall academic performance. Educational opportunities encompass a wide range of factors, including quality instruction, learning materials, extracurricular activities, and support systems that contribute to students' academic success. When students have access to well-equipped classrooms, up-to-date educational materials, and advanced technologies, it enhances their learning experiences and provides them with the tools necessary for academic achievement. Furthermore, participation in extracurricular activities such as sports, clubs, and cultural

events can foster important skills such as teamwork, leadership, and time management, which positively influence academic performance. Educational opportunities also extend to opportunities for higher education, scholarships, and career development programs that prepare students for future academic pursuits and professional success. Moreover, educational opportunities can level the playing field and promote equitable access to academic achievement. By providing equal access to educational resources and opportunities, regardless of socioeconomic status, race, or gender, educational institutions can bridge the achievement gap and promote inclusive learning environments. Students from disadvantaged backgrounds may face additional challenges, but by offering support systems such as tutoring, mentorship programs, and financial assistance, educational opportunities can empower them to overcome obstacles and succeed academically. Additionally, personalized learning approaches that cater to individual student needs, such as differentiated instruction and individualized support, can optimize educational opportunities and facilitate academic achievement for all students. By ensuring that educational opportunities are accessible, inclusive, and tailored to student's diverse needs, educational institutions can foster an environment that promotes academic excellence and supports students in reaching their full potential.

The mediating effect of anxiety and educational opportunities in the relationship

The mediating effects of anxiety and educational opportunities provide insights into the mechanisms through which these factors influence the relationship between need-supportive teaching practices, student-perceived need fulfillment, and academic achievement.

Firstly, the mediating effect of anxiety suggests that high levels of anxiety among students can hinder the positive impact of need-supportive teaching practices on student-perceived need fulfillment and subsequently affect academic achievement. Anxiety can lead to reduced concentration, increased stress levels,

and negative self-perceptions, all of which can impede students' ability to fully engage with and benefit from supportive teaching practices. Therefore, addressing and managing student anxiety is crucial in order to fully leverage the benefits of need-supportive teaching practices.

Secondly, the mediating effect of educational opportunities highlights the role of access to diverse and enriching educational experiences in translating student-perceived need fulfillment into tangible academic outcomes. Educational opportunities encompass a range of factors such as access to quality instruction, resources, extracurricular activities, and supportive learning environments. When students have equal access to these opportunities, they are better able to apply and showcase their skills and knowledge, leading to improved academic achievement. Therefore, ensuring equitable access to educational opportunities is vital in promoting academic success among students, particularly those from low socioeconomic status backgrounds.

Understanding the mediating effects of anxiety and educational opportunities enhances our understanding of the complex interplay between need-supportive teaching practices, student-perceived need fulfillment, and academic achievement. By addressing student anxiety and providing equal educational opportunities, educators and policymakers can create an environment that maximizes the positive impact of supportive teaching practices on students' academic outcomes. This underscores the importance of taking a holistic approach to education that considers not only instructional strategies but also emotional well-being and access to resources for students.

Implications of the research findings

The implications of the research findings involve discussing the practical and theoretical implications of the study. Practical implications refer to the potential applications and recommendations that can be derived from the findings to inform educational practices and policies. This may include recommendations for promoting need-supportive teaching practices,

enhancing student-perceived need fulfillment, reducing anxiety levels, and improving educational opportunities in low socioeconomic status high schools in Indonesia. Theoretical implications refer to how the findings contribute to or challenge existing theories, models, or frameworks in the field of education and psychology.

Limitations of the study and recommendations for future research

The limitations of the study should be acknowledged and discussed. This may include any constraints or challenges encountered during the research process, such as sample limitations, data collection issues, or limitations in the chosen research design or data analysis techniques. Additionally, recommendations for future research can be provided to address these limitations and further deepen our understanding of the topic. Suggestions for future research can include exploring other potential mediators or moderators, expanding the sample size or population, using longitudinal designs for causal inferences, or examining the effectiveness of specific interventions or programs in promoting need-supportive teaching practices and improving academic achievement in low socioeconomic status high schools in Indonesia.

CONCLUSION AND RECOMMENDATION

This study focused on investigating the relationship between need-supportive teaching practices, student-perceived need fulfillment, and academic achievement in low socioeconomic status high schools in Indonesia. The study also examined the mediating effects of anxiety and educational opportunities in this relationship. The research findings revealed that need-supportive teaching practices were positively associated with student-perceived need fulfillment, which, in turn, positively influenced academic achievement. This suggests that when teachers create a supportive and nurturing learning environment that addresses students' autonomy, competence, and relatedness needs, students are more likely to experience a sense of fulfillment

and motivation, leading to improved academic performance.

Moreover, the study found that anxiety played a mediating role in the relationship between need-supportive teaching practices, student-perceived need fulfillment, and academic achievement. High levels of anxiety among students hindered the positive impact of need-supportive teaching practices on their perceived need fulfillment and subsequently affected their academic achievement. This highlights the importance of addressing anxiety levels among students to fully leverage the benefits of supportive teaching practices.

Additionally, the research revealed that educational opportunities mediated the relationship between need-supportive teaching practices, student-perceived need fulfillment, and academic achievement. Access to diverse and enriching educational opportunities enhanced students' ability to translate their perceived need fulfillment into tangible academic outcomes. It emphasizes the significance of providing equitable access to quality instruction, resources, and extracurricular activities to foster academic success among students from low socioeconomic backgrounds. The findings of this study contribute to the existing literature by shedding light on the importance of need-supportive teaching practices, student-perceived need fulfillment, anxiety, and educational opportunities in the academic achievement of students in low socioeconomic status high schools in Indonesia. The study underscores the need for educators and policymakers to implement strategies that promote supportive teaching practices, reduce anxiety levels, and provide equal educational opportunities for all students.

However, it is important to acknowledge the limitations of this study. These limitations may include the specific context of the research, the sample size, the generalizability of the findings, and the reliance on self-reported measures. Future research should address these limitations by conducting studies in different contexts, using larger and more diverse samples, employing longitudinal designs, and

incorporating objective measures of academic achievement. Overall, the findings of this study have significant implications for educational practice and policy in Indonesia. By prioritizing need-supportive teaching practices, addressing students' anxiety levels, and ensuring equal access to educational opportunities, educators and policymakers can promote academic achievement and improve the educational experiences of students from low socioeconomic backgrounds.

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