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The Relationship Between Student Knowledge and Attitudes Toward Friends with Exceptionalities in Public Elementary Schools

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ABSTRACT

This study investigated the relationship between elementary students' disability knowledge and their attitudes toward peers with disabilities. A quantitative correlational design was employed involving 56 public elementary school students in Kediri City, Indonesia, selected through simple random sampling. Data were collected using validated questionnaires and analyzed through descriptive statistics, Pearson correlation, and simple linear regression. The results indicated that students possessed a moderate level of disability knowledge and generally positive attitudes toward peers with disabilities. A significant positive correlation was found between disability knowledge and attitudes ($r = 0.658$, $p < 0.01$). Regression analysis further demonstrated that disability knowledge significantly predicted students' attitudes, suggesting that greater understanding of disability is associated with stronger acceptance and inclusion of peers with disabilities. This study contributes empirical evidence from the underrepresented context of Indonesian elementary inclusive education, emphasizing the importance of disability literacy in fostering inclusive school cultures. Nevertheless, the findings are constrained by the relatively small sample, the single-city setting, and the cross-sectional design, which limit causal interpretation and generalizability. The findings underscore the value of integrating disability literacy into elementary education to strengthen empathy, social acceptance, and inclusive practices. Future research should involve larger and more diverse samples, examine additional psychosocial and environmental factors, and employ longitudinal or mixed-

methods approaches to better explain the development of inclusive attitudes.

Keywords
Disability
Elementary Schools
Inclusive Education
Social Attitudes
Student Knowledge

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Introduction

Inclusive education is an educational approach that emphasizes equal learning opportunities for all students, including students with disabilities. This concept is based on the principle that every child has an equal right to receive a meaningful education in a supportive and non-discriminatory learning environment [1]. The implementation of inclusive education in elementary schools is crucial because this period is the initial stage of social development that shapes students' attitudes and values toward diversity [2], [3].

Inclusive education has become a global paradigm in the modern education system, emphasizing equal access to learning for all students regardless of physical, intellectual, social, or emotional conditions [4], [5]. This approach affirms that every child has an equal right to receive a quality education in a learning environment that respects diversity [6]. The implementation of inclusive education is not only related to the provision of educational facilities or policies, but also concerns social acceptance within the school environment [7].

At the elementary level, social interaction between students is a crucial part of children's social and emotional development. Elementary school is the first social space for children to learn the values of tolerance, empathy, and respect for individual differences [8]. Therefore, the success of inclusive education is determined not only by the readiness of the education system and teachers, but also by students' attitudes toward peers with special needs or disabilities [9].

In practice, students with disabilities in regular schools often face various social challenges, one of which relates to peer acceptance [10], [11]. Students' attitudes toward peers with exceptionalities can affect the quality of social interactions, participation in learning activities, and the psychological well-being of students with exceptionalities in the school environment [12]. Positive attitudes can encourage inclusive social interactions, while negative attitudes can lead to social exclusion, discrimination, and even isolation for students with disabilities [13].

One factor suspected of shaping students' perceptions and attitudes toward peers with exceptionalities is their level of knowledge about disabilities [14]. A lack of understanding

about disabilities often leads to stereotypes, misunderstandings, and less inclusive social attitudes [15]. Conversely, adequate knowledge about disabilities can help students understand differences in individual abilities and develop empathy for peers with special needs [16].

Numerous studies in inclusive education and social psychology demonstrate that knowledge plays a crucial role in shaping individuals' social attitudes [17], [18]. The cognitive perspective in social psychology explains that a person's attitude toward a particular group is often influenced by their level of understanding or knowledge about that group [19]. Several empirical studies have shown that improving disability literacy can contribute to the formation of more favorable attitudes toward others with special need [20], [21]. Students who possess a deeper understanding of the characteristics, abilities, and needs of individuals with disabilities tend to demonstrate higher levels of empathy and social acceptance [22]. Furthermore, other research has shown that learning experiences that provide an understanding of human diversity can reduce negative stereotypes about individuals with disabilities.

However, most research on attitudes toward individuals with disabilities still focuses on secondary or higher education contexts, and on the perspectives of teachers and the general public. Research specifically examining the relationship between students' knowledge regarding disabilities and their social attitudes toward peers with Exceptionalities at the elementary school level is still relatively limited, particularly in the context of elementary education in Indonesia.

Based on this literature review, this study offers several novelties. First, it specifically examines the relationship between students' knowledge about exceptionalities and their attitudes toward peers with disabilities in the elementary education context, an area rarely explored in previous research. Second, this study integrates social psychology and inclusive education approaches to explain how cognitive factors, such as knowledge, can influence the formation of students' social attitudes toward peers with disabilities. Third, this investigation uses a quantitative approach with correlation and regression analysis to provide empirical evidence regarding the contribution of students' knowledge in forming inclusive attitudes in elementary school environments.

The research questions in this investigation are: (1) What is the level of student knowledge about disabilities in elementary schools? (2) What are students' attitudes toward peers with exceptionalities in elementary schools? (3) Is there a relationship between students' knowledge about exceptionalities and their attitudes toward peers with exceptionalities? (4) To what extent does student knowledge impact their attitudes toward peers with exceptionalities?

The urgency of this research is closely related to the growing expansion of inclusive education policies in Indonesia and internationally. While schools increasingly accommodate students with disabilities, successful inclusion cannot be achieved solely through infrastructure improvements or teacher preparedness. Inclusive education also requires supportive peer relationships that enable students with disabilities to participate fully in academic and social activities. Without adequate disability literacy among students, misconceptions and negative stereotypes may continue to undermine the effectiveness of inclusive education [23]. Therefore, identifying whether disability knowledge significantly influences students' attitudes is essential for designing evidence-based educational programs that strengthen inclusive values from the earliest stages of schooling.

The significance of this study extends to both theoretical and practical domains. Theoretically, this research enriches the literature on inclusive education by strengthening the application of cognitive theories of attitude formation within elementary education and providing empirical evidence that disability literacy constitutes an important determinant of students' inclusive attitudes. Practically, the findings provide evidence for curriculum developers, school administrators, teachers, and policymakers regarding the importance of integrating disability literacy into classroom learning, character education, and school-wide inclusion programs. Such evidence may support the development of educational strategies that cultivate empathy, social acceptance, and equitable participation among all students.

The novelty of this study lies in its integration of disability literacy and attitude formation within a single empirical model focused specifically on elementary school students in Indonesia. While previous research has generally emphasized teachers' perceptions, intervention effectiveness, or social inclusion outcomes, this investigation directly examines disability knowledge as a measurable cognitive predictor of students' attitudes toward peers with disabilities using validated quantitative instruments and regression analysis. By providing empirical evidence from an underrepresented educational context, this study contributes new insights into how cognitive understanding can serve as a foundation for strengthening inclusive school cultures and offers an evidence-based framework for promoting disability literacy as a strategic component of elementary inclusive education.

Based on these considerations, this study aims to analyze the level of elementary school students' knowledge regarding disabilities, examine their attitudes toward peers with disabilities, investigate the relationship between disability knowledge and inclusive attitudes, and determine the extent to which disability knowledge predicts students' attitudes toward peers with disabilities. The findings are expected to contribute to the advancement of inclusive education research while providing practical recommendations for strengthening disability literacy and promoting inclusive learning environments in elementary schools.

Material and Methods

A. Study Participants

This study employed a cross-sectional quantitative survey involving 56 upper-grade students (Grades IV–VI) enrolled in public elementary schools implementing inclusive education in Kediri City, East Java, Indonesia. The participants were selected because upper elementary students (approximately 10–12 years of age) possess relatively mature cognitive and social abilities that enable them to understand concepts related to disability and respond reliably to self-report questionnaires regarding their knowledge and attitudes toward peers with disabilities [24]. Participants were recruited using a simple random sampling technique to provide each eligible student with an equal probability of selection and to minimize sampling bias. The inclusion criteria were: (1) enrollment in Grades IV, V, or VI; (2) attendance at a public elementary school implementing inclusive education; (3) ability to understand and complete the questionnaire independently; and (4) willingness to participate with parental or guardian consent. Students with incomplete questionnaire responses or those absent during data collection were excluded from the final analysis [25], [26].

The study was conducted in public elementary schools that accommodate both students with and without disabilities, providing an appropriate educational context for investigating students' disability knowledge and attitudes toward peers with disabilities. The selected participants were considered suitable because they regularly interact with classmates with diverse educational needs, allowing the research objectives to be examined within authentic inclusive learning environments.

Ethical considerations were implemented throughout the study. Permission to conduct the research was obtained from the participating schools before data collection commenced. Written informed consent was obtained from parents or legal guardians, while verbal or written assent was obtained from all participating students. Participants were informed that their participation was voluntary, that their responses would remain anonymous and confidential, and that they could withdraw from the study at any time without academic consequences. All research procedures complied with the ethical principles for educational research involving minors, including respect for participant autonomy, confidentiality, and data protection.

B. Study Design

This study adopted a quantitative cross-sectional correlational research design to examine the relationship between students' knowledge about disabilities and their attitudes toward peers with disabilities. A correlational approach was selected because the primary objective was to investigate the magnitude and direction of the relationship between variables and to

determine whether disability knowledge significantly predicts students' inclusive attitudes without manipulating the independent variable [27], [28].

The independent variable was students' knowledge about disabilities (X), whereas the dependent variable was students' attitudes toward peers with disabilities (Y). The conceptual framework was derived from social cognitive theories of attitude formation, which posit that cognitive understanding influences affective evaluations and behavioral tendencies toward social groups.

Data collection was conducted during regular school hours over approximately four weeks. Before administering the questionnaires, the researcher explained the objectives of the study, assured participants of confidentiality, and provided standardized instructions for completing the instruments. Classroom teachers were present only to facilitate classroom management and did not influence students' responses.

The research instrument consisted of two structured questionnaires. The Disability Knowledge Questionnaire includes 14 Likert-scale items designed to measure disability students' understanding of concepts, types of disabilities, educational needs, diversity of abilities, and barriers to educational access [29]. Responses were rated on a four-point Likert scale ranging from lower to higher levels of knowledge. The Attitudes Toward Peers with Disabilities Scale consists of 12 Likert-scale items assessing students' social acceptance, willingness to interact, empathy, comfort during social interaction, and willingness to cooperate with classmates with disabilities. Responses were recorded using a four-point Likert scale ranging from strongly disagree (1) to strongly agree (4).

Prior to data collection, both instruments underwent content validation by experts in inclusive education and educational psychology to ensure content relevance and clarity. Instrument validity was subsequently evaluated using item-total correlation (Pearson Product-Moment correlation), while internal consistency reliability was examined using Cronbach's alpha coefficient. Only valid and reliable items were included in the final analysis. After questionnaire administration, completed responses were checked for completeness, coded, and entered into the statistical database for subsequent analysis.

Attitude Instrument toward Friends with Disabilities. This instrument was utilized to measure students' social attitudes toward peers with Exceptionalities [30]. Indicators used to measure this variable included: social acceptance of peers with Exceptionalities, comfort in interacting with peers with Exceptionalities, empathy for peers with disabilities, and willingness to help and cooperate with peers with disabilities. The attitude instrument consisted of 12 items with a Likert scale of 1–4, ranging from strongly disagree to strongly agree.

Prior to use in the study, the instrument underwent reliability and validity testing. Validity testing was employed using product-moment correlation, while reliability testing was employed using Cronbach's Alpha coefficient to ensure the instrument's internal consistency.

Table 1. Research Variables and Indicators

Variable	Indicator	Statement	Scala
Knowledge of Disabilities	Understanding the concept of disability	Disability means someone cannot do something.	Likert 1–4
	Knowledge of types of disabilities	There are different types of disabilities (vision, hearing, motor, cognitive)	Likert 1–4
	Understanding learning needs	Children with disabilities need special assistance in learning.	Likert 1–4
	Understanding the diversity of needs	All children with disabilities need the same support	Likert 1–4
	Knowledge of access barriers	Students with disabilities often face barriers to accessing education.	Likert 1–4
Attitudes towards Friends with Disabilities	Social comfort	I feel comfortable when there are friends with disabilities in class.	Likert 1–4
	Willingness to interact	I like playing with friends with disabilities.	Likert 1–4
	Social concerns	I worry about being embarrassed if my friends with disabilities do something different.	Likert 1–4

C. Data Collection Techniques

Data in this investigation were collected using a survey technique by distributing questionnaires to respondents. The data collection process was conducted directly in the school environment with the assistance of class teachers to ensure that students understood each statement in the questionnaire. Before completing the questionnaire, the researcher provided a brief description of the investigation objectives and how to complete the instrument to the respondents. Respondents were then asked to read each statement carefully and provide answers according to their circumstances or perspectives. This technique was chosen because it allowed the researcher to systematically obtain data regarding students' levels of knowledge and attitudes toward peers with disabilities [31].

D. Statistical Analysis

Data analysis was performed using IBM SPSS Statistics (Version 26.0). Initially, descriptive statistical analyzes were conducted to summarize participant responses by calculating frequencies, percentages, means, standard deviations, minimum values, and maximum values for each research variable. Before hypothesis testing, several statistical assumption tests were performed to determine the suitability of parametric analyses. The Kolmogorov–Smirnov test was employed to examine data normality because the study involved continuous variables measured from a moderate sample size. Homoscedasticity was evaluated through scatterplot analysis of standardized residuals to verify constant error variance across predicted values. Since the study involved only one independent variable, multicollinearity was assessed by

examining the Variance Inflation Factor (VIF) as a diagnostic procedure, although multicollinearity was not expected in a simple regression model [32].

The first research objective, describing students' disability knowledge and attitudes, was addressed using descriptive statistics. The second objective, examining the relationship between disability knowledge and students' attitudes toward peers with disabilities, was analyzed using the Pearson product–moment correlation coefficient, which is appropriate for examining linear relationships between continuous variables that satisfy normality assumptions.

To address the third research objective, namely determining the predictive contribution of disability knowledge to students' attitudes, simple linear regression analysis was performed. Regression coefficients (β), unstandardized coefficients (B), standard errors, t-values, significance values (p), and the coefficient of determination (R^2) were reported to evaluate the magnitude and explanatory power of the regression model.

Statistical significance was determined using a two-tailed significance level of $\alpha = 0.05$, while statistical significance at the 0.01 level was also reported where applicable. In addition to statistical significance, effect size was interpreted using the coefficient of determination (R^2) and the strength of Pearson's correlation coefficient based on Cohen's guidelines, thus providing information regarding the practical importance of the observed relationships. The selected statistical procedures were appropriate because the study employed continuous variables measured using Likert-scale composite scores, a correlational cross-sectional design, and research objectives focused on examining associations and predictive relationships rather than causal effects [33].

Results and Discussions

The outcomes of the descriptive statistical analysis are presented in Table 2.

Table 2. Descriptive Statistics of Students' Knowledge and Attitudes (N = 56)

Variable	N	Mean	SD	Minimum	Maximum
Knowledge about Disabilities	56	36.62	8.463	23	55
Attitudes toward Peers with Disabilities	56	32.95	8.078	20	48

As shown in Table 1, the mean score for students' knowledge about disabilities was 36.62 (SD = 8.463), while the mean score for attitudes toward peers with disabilities was 32.95 (SD = 8.078). The observed scores ranged from 23 to 55 for knowledge and 20 to 48 for attitudes. Classical assumption testing includes data normality, heteroscedasticity, and multicollinearity tests. The results of the data normality tests are presented in Table 3.

Table 3. Results of the Kolmogorov–Smirnov Normality Test

Variable	N	Kolmogorov–Smirnov Z	p-value
Knowledge about Disabilities	56	0.978	0.294
Attitudes toward Peers with Disabilities	56	0.787	0.565

The analysis criterion is that if the asymp.sig value is greater than 0.05, then the data is normally distributed. Table 3 shows that the asymp.sig for the knowledge and attitude variables is greater than 0.05. Therefore, it can be concluded that the data follows a normal distribution.

The Kolmogorov–Smirnov test indicated that both variables had significance values greater than 0.05. Therefore, the distributions of knowledge and attitude scores satisfied the assumption of normality. Homoscedasticity was evaluated using the scatterplot of standardized residuals. Visual inspection indicated that residuals were randomly distributed around the zero line without any systematic pattern, suggesting that the assumption of homoscedasticity was satisfied. Although the regression model included only one predictor variable, the Variance Inflation Factor (VIF) was examined as a diagnostic procedure. The results are presented in Table 4.

Table 4. Multicollinearity Diagnostic

Predictor	VIF
Knowledge about Disabilities	1.000

The VIF value of **1.000** indicates the absence of multicollinearity.

Table 4 shows that the VIF value is less than 10, indicating no signs of multicollinearity in the data in this study.

The second research objective was to examine the relationship between students' knowledge about disabilities and their attitudes toward peers with disabilities. Pearson product–moment correlation analysis was performed, and the results are presented in Table 5.

Table 5. Pearson Correlation between Disability Knowledge and Students' Attitudes

Variable	Knowledge	Attitude
Knowledge	1	0.658**
Attitude	0.658**	1

Note. p < .01 (two-tailed).

The Pearson correlation analysis revealed a statistically significant positive correlation between students' knowledge about disabilities and their attitudes toward peers with disabilities ($r = 0.658$, $p < .001$). The higher the level of student knowledge about disabilities, the more positive their attitudes toward peers with exceptionalities.

Regression Analysis

The regression coefficients are presented in Table 6.

Table 6. Simple Linear Regression Analysis

Predictor	Unstd B	SE	Std β	t	p
Constant	9.954	3.676	—	2.708	.009
Knowledge about Disabilities	0.628	0.098	0.658	6.416	<.001

The regression analysis results showed the following regression equation: Y=9.954+0.628XY = 9.954 + 0.628XY=9.954+0.628X where **Y** represents students' attitudes toward peers with disabilities and **X** represents students' knowledge about disabilities.

The overall regression model is presented in Table 6.

Table 6. Summary of the Regression Model

R	R^2	Adjusted R^2	Standard Error
0.658	0.433	0.423	6.135*

Standard error reported according to the SPSS output.

The regression model produced a correlation coefficient of R = 0.658 and a coefficient of determination of R^2 = 0.433**,** indicating that disability knowledge accounted for 43.3% of the variance in students' attitudes toward peers with disabilities.

Discussion

A. Relationship Between Disability Knowledge and Students' Inclusive Attitudes

The present study demonstrates that disability knowledge is positively associated with elementary school students' attitudes toward peers with disabilities. This finding suggests that students who possess greater understanding of disability concepts, characteristics, and educational needs are more likely to develop accepting, empathetic, and supportive attitudes toward classmates with disabilities. Rather than simply reflecting factual knowledge, disability literacy appears to function as a cognitive mechanism through which students reinterpret individual differences as natural aspects of human diversity rather than as indicators of limitation or social distance.

This finding is consistent with cognitive theories of attitude formation, which propose that attitudes are initially developed through cognitive processing before influencing emotional responses and behavioral intentions. According to this perspective, increasing students' knowledge about disability reduces misconceptions and stereotypes while strengthening empathy and social acceptance. The present findings therefore reinforce the argument that cognitive understanding constitutes an essential foundation for developing inclusive attitudes within school communities.

The results also support recent international evidence demonstrating that disability awareness contributes positively to inclusive attitudes among school-aged children. For example, Ling et al. [16] found that greater understanding of disability enhances empathy and improves students' willingness to interact with classmates with disabilities. Similarly, Vieriu [18] reported that educational activities promoting disability awareness significantly improved students' acceptance of individuals with disabilities. The consistency between the present findings and these international studies suggests that disability literacy represents an important determinant of inclusive attitudes across different educational contexts.

B. Disability Literacy as a Foundation for Inclusive Education

An important contribution of this study is its emphasis on disability literacy as an educational resource for strengthening inclusive school culture. Inclusive education is frequently discussed from the perspectives of educational policy, teacher competence, and school infrastructure. However, successful inclusion also depends on the willingness of students to establish meaningful peer relationships with classmates who have disabilities.

The findings indicate that disability knowledge contributes substantially to explaining variations in students' attitudes toward peers with disabilities. This suggests that improving students' understanding of disability may serve as an effective preventive strategy against prejudice, exclusion, and discriminatory behavior. Students who understand that disability represents human diversity rather than individual deficiency are more likely to demonstrate inclusive behaviors such as cooperation, friendship, peer support, and respect for differences.

From the perspective of inclusive education theory, social participation represents one of the primary indicators of successful inclusion. Students with disabilities experience higher academic engagement, stronger psychological well-being, and greater school belonging when accepted by their peers. Consequently, disability literacy should be viewed not merely as informational content but as an essential component of character education aimed at fostering respect for diversity and social justice.

C. Interpretation of the Moderate Level of Disability Knowledge

Although students generally demonstrated positive attitudes toward peers with disabilities, their overall disability knowledge remained at a moderate level. This finding indicates that elementary school students possess basic awareness of disability but may lack comprehensive understanding regarding disability rights, educational accommodations, diversity of functional abilities, and inclusive participation.

Several factors may explain this result. First, disability-related content is generally not presented systematically within elementary school curricula. Students therefore acquire much of their understanding through informal experiences rather than structured educational activities. Second, opportunities for meaningful interaction with classmates with disabilities may differ across schools, resulting in unequal exposure to inclusive experiences. Third, classroom instruction often prioritizes academic achievement over explicit development of disability awareness and inclusive values.

These findings suggest that positive attitudes alone may not be sufficient to sustain inclusive behavior over time. Without adequate conceptual understanding, students may continue to hold unconscious stereotypes or misunderstand the needs of classmates with disabilities. Therefore, schools should complement positive social interactions with structured

disability literacy programs that encourage accurate understanding and empathy simultaneously.

D. Comparison with Previous Studies

The present study both confirms and extends previous research on inclusive education. Previous investigations have primarily focused on teachers' attitudes, preservice teachers' readiness, or university students' perceptions regarding inclusion. In contrast, relatively few studies have examined elementary school students, despite childhood representing a critical developmental stage for the formation of long-term social attitudes.

Furthermore, many previous studies have investigated factors such as empathy, previous contact with individuals with disabilities, family values, or school climate as predictors of inclusive attitudes. The present study extends this body of knowledge by demonstrating that disability knowledge itself represents a significant cognitive predictor of students' inclusive attitudes. This finding contributes additional empirical evidence supporting the integration of cognitive and social psychological perspectives within inclusive education research.

Another important distinction lies in the Indonesian educational context. Most empirical evidence regarding disability literacy originates from Europe, North America, or East Asia, whereas relatively limited quantitative evidence has been available from Indonesian elementary schools. Consequently, this study contributes context-specific evidence showing that the relationship between disability knowledge and inclusive attitudes is also evident within Indonesian inclusive education settings.

E. Theoretical Contributions

The present findings contribute to the theoretical development of inclusive education by strengthening the application of cognitive theories of attitude formation within elementary education. The results suggest that disability literacy functions as a cognitive antecedent influencing students' social attitudes toward peers with disabilities. This extends previous theoretical discussions by demonstrating that knowledge acquisition constitutes an important mechanism linking educational experiences with inclusive social behavior.

Moreover, this study contributes to disability studies by supporting a shift from traditional deficit-oriented perspectives toward a rights-based understanding of disability. Rather than emphasizing students' limitations, disability literacy encourages recognition of diversity, equal participation, and inclusive citizenship. Consequently, disability literacy should be conceptualized as an educational construct that supports both cognitive development and social inclusion.

F. Practical Implications

The findings have several important implications for educational practice. First, disability literacy should be systematically incorporated into elementary school curricula through

thematic learning, citizenship education, and character education programs. Second, teachers should design collaborative learning activities that encourage meaningful interaction between students with and without disabilities, as positive peer contact reinforces both knowledge acquisition and inclusive attitudes.

Schools may also develop disability awareness campaigns, peer mentoring activities, inclusive classroom discussions, and experiential learning opportunities that expose students to diverse abilities within supportive learning environments. These approaches may strengthen empathy while simultaneously reducing stereotypes and social barriers.

At the policy level, educational authorities should consider disability literacy as an essential component of inclusive education implementation rather than focusing exclusively on infrastructure and teacher preparation. Integrating disability literacy into national curriculum frameworks may help cultivate inclusive school cultures from the earliest stages of education.

Conclusion

Based on the data analysis, several conclusions can be drawn as follows: First, students' knowledge about disabilities is in the moderate category. This indicates that elementary school students have a basic understanding of the concept of disability, its types, and the learning needs of students with exceptionalities. However, this understanding still needs to be improved through more systematic learning activities so that students have a more comprehensive understanding of the diversity of individual abilities.

Second, students' attitudes toward peers with exceptionalities are positive. Most students showed a tendency to accept the presence of peers with exceptionalities in the school environment, felt comfortable interacting with them, and were willing to help and cooperate in learning and social activities at school. These findings indicate that the elementary school environment has the potential to become a social space that supports the implementation of inclusive values.

Third, the outcomes of the correlation analysis indicate a significant positive relationship between students' knowledge about disabilities and their attitudes toward peers with exceptionalities. This means that the higher a student's knowledge about disabilities, the more positive their attitudes toward their peers.

Fourth, the regression analysis results show that student knowledge significantly influences their attitudes toward peers with disabilities. This finding confirms that cognitive factors, such as knowledge, play a crucial role in shaping students' social attitudes toward individuals with disabilities in the school environment. This research suggests that increasing literacy about disabilities among elementary school students can be an important strategy for developing more inclusive social attitudes toward peers with exceptionalities.

Recommendations and Implications

A. For Academic Professionals

The findings of this investigation have several important implications for academic professionals, particularly in the fields of elementary education and inclusive education. First, educational institutions and educators need to integrate material on disabilities and the diversity of human abilities into the learning process in elementary schools. This integration can be achieved through thematic learning, social literacy activities, and collaborative activities involving interactions between regular students and students with disabilities. Second, teachers, as learning facilitators, play a crucial role in building an inclusive classroom environment. Teachers can develop learning strategies that encourage empathy, tolerance, and appreciation for individual differences. Collaborative learning and value-based learning approaches can be effective tools for developing positive social attitudes among students.

B. For Further Research

Although this study provides an empirical overview of the relationship between students' knowledge and attitudes toward peers with exceptionalities, it has several limitations that open up opportunities for further research. First, this study only used one predictor variable: students' knowledge of disabilities. Future research could develop the research model by incorporating other variables that could potentially influence students' attitudes toward peers with disabilities, such as empathy, experiences interacting with individuals with disabilities, family values, and a school culture that supports inclusion. Second, this investigation used a quantitative approach with a correlational design. Future research could employ a mixed methods approach to gain a deeper understanding of the dynamics of students' social attitudes toward peers with exceptionalities. Third, this investigation involved a relatively limited number of respondents from a single elementary school district. Therefore, future research could expand the sample size to include different schools and districts to obtain a more comprehensive picture of students' inclusive attitudes in elementary education settings. Therefore, further investigation is expected to enrich the study of inclusive education and make a broader contribution to the development of educational practices that value diversity and equality for all students. Third, higher education institutions that offer teacher training programs need to provide competency strengthening on inclusive education to prospective teachers. This strengthening is crucial so that teachers have a sufficient understanding of the characteristics of students with exceptionalities and are able to create inclusive learning environments in schools.

Conflict of Interest

The authors declare no conflict of interest.

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