

## Modulating Inclusive Education in Early Childhood: The Role of Teachers' Attitude and Self-Efficacy in Shaping their Awareness and Readiness

Amjad Islam Amjad\*

Naghmana Batool\*\*

Umaira Tabassum\*\*\*

### Abstract

The role of inclusive education (IE) in early childhood education (ECE) is more pertinent because it fosters equity, acceptance, and diverse learning experiences. The present study explored the contribution of teachers' awareness of IE (TAOIE) to teachers' readiness for IE (TRFIE) by investigating the moderating effect of teachers' attitudes toward IE (TATIE) and teachers' self-efficacy toward IE (TSETIE) on this relationship. The research design of the present quantitative study was cross-sectional. Participants of the study were the 300 ECE teachers working in public sector schools of Kasur and Lahore. The data were collected using a self-developed questionnaire comprising four sub-scales (TAOIE, TRFIE, TATIE, TSETIE). We used SPSS software to analyse data by deploying simple linear regression and Process Macro. The results revealed that TAOIE significantly contributes to TRFIE ( $\beta = .640$ ,  $t(298) = 14.385$ ,  $p < .001$ ) in ECE. TATIE showed a statistically insignificant moderating effect ( $\beta = -.050$ ,  $p = .179 > .05$ , 95 % *CI* [-.124, .023] on the relationship of TAOIE and TRFIE. TSETIE had a statistically significant moderating effect ( $\beta = -.152$ ,  $p = .008 < .05$ , 95 % *CI* [-.264, .039] for the relationship of TAOIE and TRFIE. ECE teachers were suggested to improve their TAOIE and TRFIE in ECE. Longitudinal and qualitative studies were recommended to reinforce the current study implications.

**Keywords.** *Early childhood education, inclusive education, teachers' awareness, teachers' readiness, teachers' self-efficacy*

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\* Headmaster, School Education Department, Punjab, Pakistan  
Email: amjad\_14@yahoo.com ORCID: <http://orcid.org/0000-0002-4250-7526>

\*\* PhD Scholar (Education), School of Education, Minhaj University Lahore  
Email: naghmanasyeda@gmail.com

\*\*\* PhD Scholar (Education), Department of Education, Guangzhou University, Guangzhou, China  
Email: umairatabassumsattar@gmail.com

## Introduction

Teaching students in early childhood education (ECE) becomes more challenging when children with special needs are included in mainstream schools (Zabeli & Gjelaj, 2020). During this particular stage, the brain undergoes rapid development alongside intellectual, emotional, physical, and behavioural progression (Majoko, 2016). Several studies have mentioned that ECE is a crucial stage in children's holistic development and maturation (Cheema et al., 2020; Shah & Yusuf, 2021; Saracho, 2023). The combination of ECE and inclusive education (IE) has attracted greater attention from academics and teachers in an era characterised by shifting social norms and a growing emphasis on equity and diversity in schools (Amjad et al., 2023a). This constantly evolving interaction has the potential to create a more inclusive society and provide a strong foundation for lifelong learning when inclusive approaches are smoothly incorporated into early childhood settings (Lindner & Schwab, 2020; Tahira et al., 2020).

According to Amjad et al. (2020), the success of inclusive practices depends critically on teachers' awareness of inclusive education (TAOIE). Besides TAOIE, teachers' readiness for inclusive education (TRFIE) is also critical to achieving the goals of IE (Amjad et al., 2021). The core of this paradigm shift is that teachers must have extensive knowledge of various inclusive pedagogical approaches, educational policies, and inclusive practices that can meet the requirements of students in ECE (Zhang et al., 2019). In short, one must be well-versed in the best instructional techniques with students of varying abilities and backgrounds and the policies and national and international regulations that support IE (Amjad et al., 2020). It is argued that teachers with this level of awareness are better positioned to develop a classroom culture that values diversity as an asset and gives every student an equal chance to get a high-quality education. Therefore, expanding teachers' awareness in these vital areas is essential for establishing a more welcoming learning environment and raising a group of students who will flourish in a society that recognises and appreciates their diversity (Barnett, 2020).

Teachers' attitudes towards inclusive education (TATIE) have been identified as a critical determinant of the effectiveness of integrating children with various needs into regular classrooms (Amjad et al., 2023). Several studies constantly emphasise the strong relationship between teachers' positive attitudes and the successful implementation of IE (Kuyini et al., 2020; Singh et al., 2020). Positive attitudes are essential in creating an inclusive and supportive learning environment, benefiting all

learners. Additionally, these attitudes typically motivate teachers to actively acquire essential skills and information for IE (Paseka & Schwab, 2020). In addition, teachers with positive attitudes towards inclusion have been found to facilitate improved peer relations among students, create higher expectations for all students, and demonstrate more proficiency in adapting instruction to accommodate diverse needs (Saloviita, 2020). On the other hand, negative attitudes might unintentionally sustain stereotypes, limit students' potential, and impede the comprehensive advantages of an IE in ECE (Yu & Park, 2020).

Teachers' self-efficacy toward inclusive education (TSETIE) has been emphasised as a crucial factor in the success of inclusive practices in ECE (You et al., 2019). TSETIE refers to teachers' views on their skills to effectively address the various needs of these students and exerts a significant influence on instructional approaches and the overall dynamics inside the classroom (Haciibrahimoglu, 2022). Li and Cheung (2021) indicated that teachers who possess a strong TSETIE demonstrate increased flexibility in their teaching practices, employing a diverse range of pedagogical strategies specifically designed to address individual learners' unique needs and characteristics in ECE (Alsarawi & Sukonthaman, 2023). Moreover, teachers who strongly believe in their abilities are more determined to overcome problems, resulting in enhanced academic and socio-emotional achievements among students, irrespective of their abilities (Rivas et al., 2023). A decrease in TSETIE among teachers may result in heightened resistance towards inclusive practices, influencing their instructional decisions in a less-than-ideal manner and perhaps constraining students' potential (Yilmaz & Lee, 2023). Therefore, enlightening and enhancing teacher self-efficacy is crucial in pursuing ECE, emphasising its importance in achieving effective IE initiatives.

## **Problem Statement**

Although few studies have examined the effect of TATIE and TSETIE on TRFIE in a global context (Ismailos et al., 2022), none of the studies (with these variables and research model) have been yet conducted in Pakistan, especially in ECE. This leads to investigating how TATIE and TSETIE influence the relationship between TAOIE and TRFIE in ECE. This study is significant in understanding how these factors impact ECE teachers' preparedness for IE. The lack of geographical research in this area necessitates the present study to develop interventions and policies that are culturally appropriate. This study aimed to explore the moderating

effect of TATIE and TSETIE on the relationship between TAOIE and TRFIE in ECE.

## Research Hypotheses

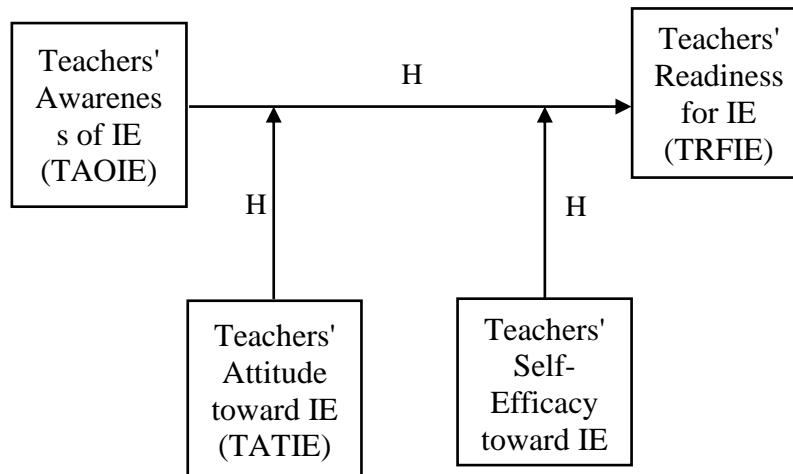
The following research hypotheses guided the present study.

1. Teachers' awareness of IE contributes to their readiness for implementing IE in ECE.
2. Teachers' attitudes toward IE moderate the relationship between their awareness and readiness to implement IE in ECE.
3. Teachers' self-efficacy for IE moderates the relationship between their awareness and readiness to implement IE in ECE.

## Conceptual Framework

Based on the study hypotheses, we developed the following research model for the present study. TAOIE is the independent variable, TRFIE is the dependent variable, and TATIE and TSETIE are the moderator variables used in the current paper.

**Figure 1**  
*Conceptual Model*



## **Literature Review**

### **ECE Teachers' Awareness and Readiness Towards IE**

A prominent shift has been observed in promoting the philosophy of IE in ECE. It emphasises incorporating students with diversified needs (autism, dyslexia, dyscalculia, and dysgraphia) in ECE (Anderson & Putman, 2023; Siregar et al., 2023; Wardhani, 2023). Current academic research highlights that although ECE teachers are becoming more aware of the crucial importance of IE and its potential holistic benefits, this awareness does not always contribute to thoroughly preparing or effectively integrating inclusive practices into the curriculum (Alam et al., 2022; Nelis et al., 2023). Multiple difficulties arise, including limited pre-service and continuous professional education, resource limitations, and deeply ingrained educational ideas regarding disability and diversity (Siller et al., 2021; Zabeli & Gjelij, 2020).

A study conducted by Love and Horn (2021) revealed that despite the ECE teachers' considerable understanding of inclusivity paradigms, an evident issue exists regarding their ability to effectively address the diverse needs inherent in IE settings. Several studies show that teachers, while generally supportive of inclusion paradigms, have concerns about their effectiveness in providing prime teaching without additional support mechanisms (Amjad et al., 2021; Correia et al., 2020). Although a significant amount of research has been conducted on TAOIE and TRFIE, there is a gap that examines this relationship when other variables (TATIE & TSETIE) moderate this relationship in the ECE context.

### **ECE Teachers' Attitude, Their Awareness, and Readiness for IE**

Kim et al. (2020) conducted a study to explore the perceptions of ECE teachers for inclusion in ECE, and they found they had a positive inclination towards inclusion. However, importantly, they emphasised the need for training for ECE teachers' professional knowledge of IE in ECE. Steed et al. (2022) conducted a mixed-method study on ECE teachers for deploying inclusive interventions. They found that ECE teachers had limited knowledge of inclusion-based interventions, and they had negative attitudes toward inclusion in ECE. Majoko (2016) conducted a study on ECE teachers' knowledge, preparedness, attitudes, and concerns for IE and found that although teachers had positive attitudes toward IE, they were less prepared to implement IE in ECE. Amjad et al. (2023) found that

although teachers had a moderate attitude towards IE, they were not prepared yet to implement IE.

In the current educational situation, ECE serves as a pivotal arena for inculcating the values of inclusion, guaranteeing equal access to equitable learning opportunities for all children. An increasing amount of scholarly literature emphasises the essential contribution of ECE teachers in effectively implementing these principles, as their knowledge and preparedness can significantly impact the effectiveness of inclusive practices (Yu & Cho, 2022). However, the level of knowledge and preparedness about IE is not only determined by the availability of training and resources. The TATIE greatly influenced it. Positive attitudes among teachers can serve as a driving force that motivates them to actively pursue various resources and training opportunities (Rojo-Ramos et al., 2020). This proactive approach enables teachers to bridge the gap between academic knowledge and its practical application effectively (Lacruz-Pérez et al., 2021). It is also evident from the literature that despite having sufficient resources and knowledge, implementing inclusive practices in ECE settings is hindered when teachers hold negative attitudes toward inclusivity (Tan et al., 2022). According to Tuncay and Kizilaslan (2022), it is essential to note that these attitudes might unintentionally reinforce stereotypes, impose limitations on expectations, and hinder the development of learners with various needs.

### **ECE Teachers' Self-Efficacy, Their Awareness, and Readiness for IE**

Integrating students with various needs into mainstream classes is increasingly essential in ECE. Several studies highlight the importance of ECE teachers' awareness and preparedness in effectively fostering an inclusive environment (Kim et al., 2020; Zabeli & Gjelaç, 2020). The importance of knowledge and preparedness cannot be denied. However, recent studies suggest that TSETIE plays a significant role in implementing IE in ECE (Peck & Neepër, 2022). TSETIE pertains to instructors' confidence to effectively perform tasks and attain desired objectives in inclusive ECE. TSETIE has been demonstrated to significantly impact the utilisation of teachers' acquired knowledge and skills. According to Alibakhshi et al. (2020), teachers with strong self-efficacy are more inclined to exhibit resilience when confronted with difficulties and utilise diverse instructional approaches, effectively meeting all students' needs.

On the other hand, individuals with reduced self-efficacy experience a contrasting reality. Despite being provided with resources and training, they may feel overwhelmed and lack competence in effectively navigating the intricate aspects of IE (Kiel et al., 2020). A study by Alibakhshi et al. (2020) revealed a strong relationship between higher self-efficacy and favourable academic achievements among students in inclusive educational environments. Although we acknowledge the significance of self-efficacy in IE, there is a prominent gap in comprehensive studies examining behaviours that affect ECE teachers' self-efficacy, specifically concerning inclusive practices when moderating the relationship between TAOIE and TRFIE.

## **Research Methodology**

The focus of this paper study was to examine the relationship between TAOIE and TRFIE and the moderating effect of TATIE and TSETIE for this relationship in the ECE context. The positivistic research philosophy guides causal relationship studies (Park et al., 2020). Thus, we followed the postcistic worldview in the present study and employed quantitative method to examine the process and test the hypotheses through the empirical evidence.

## **Research Design**

The present quantitative paper intended to explore the current situation of IE in ECE. It was focused to explore the causal relationship among TAOIE, TRFIE, TATIE and TSETIE by taking data from ECE teachers working in public sector school of the Punjab during the academic year of 2023-2024. We followed a cross-sectional survey research design in which data were collected at a single point of time using a self-developed scale.

## **Participants**

The present study revolved around ECE teachers. We envisioned generalising the study's results over a vast population. Therefore, the study participants were the ECE teachers working in public sector schools in the Punjab province. Most of the characteristics of ECE teachers (recruitment policy, qualification criteria, induction training and pay package) were the same throughout the Punjab province. Thus, we selected two districts (Kasur and Lahore) as typical geographical units. Both districts had almost similar

characteristics (literacy rate, teachers' qualification, and income). The study's sample was selected from Kasur and Lahore. The sample was comprised of 300 ECE teachers, selected using multi-method and multi-stage sampling techniques. Fraenkel et al. (2012) are of view that for survey studies, sample size of more than 100 is considered sufficient for data collection. The demographic information of participants is provided in Table 1.

**Table 1**  
*Demographic Information of Participants*

Sr N	Variable	Category	Frequency	Percentage (%)
1	Gender	Male	138	46
		Female	162	54
2	District	Kasur	165	55
		Lahore	135	45
3	Academic qualification	BA/Equal	159	53
		MA/Equal	114	38
		M.Phil	14	5
		Other	13	4
4	Professional qualification	186	186	62
		114	114	38

The sample consisted of 300 ECE teachers from Kasur and Lahore, among which 138 were male and 162 were female. More than of them (53 %) had BA/Equal as their highest academic degree, followed by the MA/Equal (38 %). It was also pertinent to know that 62 % had a B.Ed. as their highest professional qualification, followed by an M.Ed. (38 %).

## Measure

In the present cross-sectional survey research, we developed a questionnaire for data collection. An extensive literature was reviewed to develop the present study's scale items and variables (Kuutti et al., 2022; Nelis et al., 2023; Peck & Neeper, 2022; Steed et al., 2022). The questionnaire consisted of two parts. The first part consisted of demographic variables, including their gender, district name, and academic and professional qualifications. The second part of the questionnaire was a scale developed on a five-point Likert scale with options ranging from 1 (strongly disagree) to 5 (strongly agree). TAOIE was measured using items like, "I am aware of the principles and goals of IE in ECE." TRFIE was measured using sample items like; I have a clear



plan for accommodating children with diverse abilities in my ECE class.” TATIE was measured from items like, “I am open to adjusting my teaching strategies to support diverse learners in ECE.” TSETIE was measured with the help of statements like, “I feel capable of addressing behaviour challenges in an inclusive ECE classroom.” To ensure questionnaire’s content validity, we sent it to three experts in the field, who had PhD degrees at least to review the scale items. They gave us a detailed response on the relevance, comprihensiveness and useability of the scale items. After expert opinion scale items were motified according to feedback of experts. Then to determine questionnaire’s reliability, we took data from 40 participants (who were not the part of the study) during pilot testing. Based on the feedback of responodents of pilot testing, ttems were modified and revised again. The reliability of the four sub-scales is provided in Table 2.

**Table 2**  
*Reliability of Sub-Scales*

Sr no	Sub-scale	N	Cronbach' value
1	TAOIE	5	.89
2	TRFIE	5	.79
3	TATIE	5	.86
4	TSEFIE	5	.81

It is evident from Table 2 that none of the sub-scales had Cronbach’s alpha value less than .70. Hence, all the sub-scales meet the criteria of .70 for the reliability of the scale (Cheung et al., 2023).

## Data Collection

After obtaining consent from the school heads and ECE teachers, the first and second researchers collected data personally by visiting schools in both districts. In the first step, we distributed questionnaires to the selected teachers and gave them two weekly reminders. Overall, we got 300 questionnaires back from study participants.

## Data Analysis

After collecting data, it was managed in the Statistical Package for Social Sciences (SPSS version 26) file, and it was screened for identifying missing values. Then, it was tested for the assumptions of parametric statistics. Then, descriptive and inferential statistics were used for data analysis. We used simple linear regression to test the first hypothesis, and

for the second and third hypotheses, we used Process macro to deploy moderation analysis.

## Research Ethics

The present study adhered to the research ethics of humans (participants). The data were collected after obtaining informed consent. Before data collection, participants were given a briefing on the study process. They were assured of the confidentiality and anonymity of their data. Their identity was not shared, and their name and school names were not published anywhere. They were also allowed to withdraw and not respond to the questionnaire if they felt any potential harm.

## Results

We used descriptive and inferential statistics for data analysis and hypotheses testing. Table 3 presents the mean values, standard deviation and Pearson correlation among demographic and scale variables.

**Table 3**  
*Correlation Table*

Variable	1	2	3	4	5	6	7	<i>M</i>	<i>SD</i>	<i>N</i>
Gender								1.54	.49	30
District	.136*							1.45	.49	30
Acad_qul		-.013						1.60	.77	30
Prof_qul			.002					1.38	.48	30
TAOIE				-.056				3.85	.59	30
TRFIE					.640*			3.84	.66	30
TATIE						.651*		3.78	.56	30
TSETIE							.447*	3.92	.55	30

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\* $p < .05$  (2-tailed), \*\* $p < .01$  (2-tailed)

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Table 3 indicates that the relationship between district, TRFIE, TATIE, and TSETIE is positive, ranging from moderate to strong, and statistically significant correlations among variables involved in the present study. It was also found that ECE teachers' self-efficacy had a higher level ( $M = 3.92$ ,  $SD = .55$ ), followed by TAOIE ( $M = 3.85$ ,  $SD = .60$ ), TRFIE ( $M = 3.84$ ,  $SD = .67$ ), and TATIE ( $M = 3.78$ ,  $SD = .57$ ).

### Contribution of TAOIE to TRFIE in ECE

We developed the first hypothesis to explore the contribution of TAOIE to TRFIE in ECE. To test the first hypothesis, we applied simple linear regression. It was tested at the significance level of .001, and the results are presented in Table 4 below.

**Table 4**  
*Contribution of TAOIE to TRFIE in ECE*

Variables	B	SE (B)	$\beta$	$t$	$p$
(Constant)	1.078	.194		5.551	.000
TAOIE	.717	.050	.640	14.385	.000
$R^2$	.410				
$F$	206.938				
$P$	.000				

Table 4 presents the results for the contribution of TAOIE to TRFIE in ECE. The analysis revealed that there is a statistically significant relationship between TAOIE and TRFIE in ECE ( $\beta = .640$ ,  $t(298) = 14.385$ ,  $p < .001$ ). The value of the unstandardised coefficient ( $B = .717$ ) suggests that for each unit of TAOIE, TRFIE is expected to be enhanced by .717 points. The regression model accounted for a significant portion of the variance in TRFIE ( $R^2 = .410$ ,  $F(1, 298) = 206.938$ ,  $p < .001$ ), indicating that TAOIE can explain 41 % of the variance in TRFIE. Thus, it is concluded that TAOIE significantly contributes to TRFIE in ECE.

### Moderating Effect of TATIE on the Relationship between TAOIE and TRFIE

To explore the moderating effect of TATIE, we developed the second hypothesis. This hypothesis was tested using Process macro and explored

the moderating effect of TATIE on the relationship between TAOIE and TRFIE in ECE. The results are presented in Table 5.

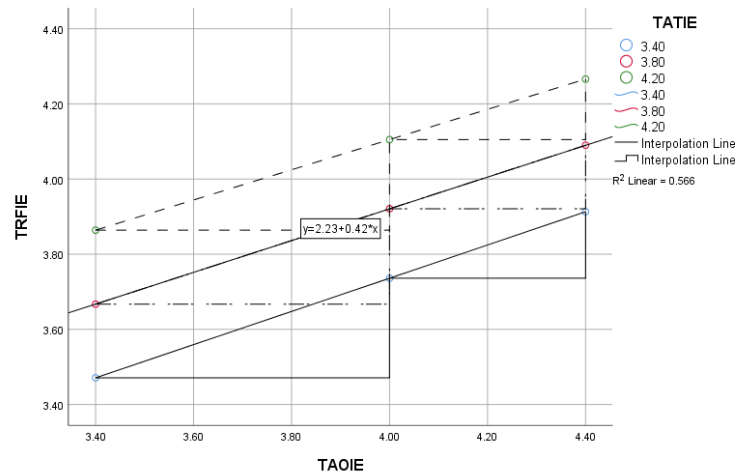
**Table 5**  
*Moderating Effect of TATIE on the Relationship between TAOIE and TRFIE*

Variables	B (Coeff.)	Std. Error (SE)	t- value	p- value	95 % CI (LLCI - ULCI)
Constant	-.283	.458	-.618	.537	(-1.184, .618)
TAOIE	.613	.139	4.413	.000	(.340, .887)
TATIE	.662	.138	4.800	.000	(.390, .933)
TAOIE x TATIE (Int-1)	-.050	.037	- 1.346	.179	(-.124, .023)
$R^2 = .528, F(3, 296) = 110.414, p < .001$					

In Table 5, the results from the moderation analysis indicate that both TAOIE ( $\beta = .613, p < .001, 95\% \text{ CI } [.340, .887]$ ) and TATIE ( $\beta = .662, p < .001, 95\% \text{ CI } [.390, .933]$ ) have a significant main effect on TRFIE. The interaction term (TAOIE x TATIE) representing the moderation effect) was not statistically significant ( $\beta = -.050, p = .179 > .05, 95\% \text{ CI } [-.124, .023]$ ). TATIE is not a statistically significant moderator for the relationship between TAOIE and TRFIE. The model explained 52.8 % of the variance in TRFIE ( $R^2 = .528$ ) and was statistically significant,  $F(3, 296) = 110.414, p < .001$ . Given the non-significant interaction term, it is concluded that TATIE does not significantly moderate the relationship between TAOIE and TRFIE. This moderating effect is shown in Figure 2 below.

**Figure 2**

*Moderating Effect of TATIE between the Relationship of TAOIE and TRFIE*



### **Moderating Effect of TSETIE on the Relationship between TAOIE and TRFIE**

To investigate the moderating effect of TSETIE, we developed the third hypothesis. This hypothesis was tested using Process macro and explored the moderating effect of TSETIE on the relationship between TAOIE and TRFIE in ECE. The results are presented in Table 6.

**Table 6**

*Moderating Effect of TSETIE on the Relationship between TAOIE and TRFIE*

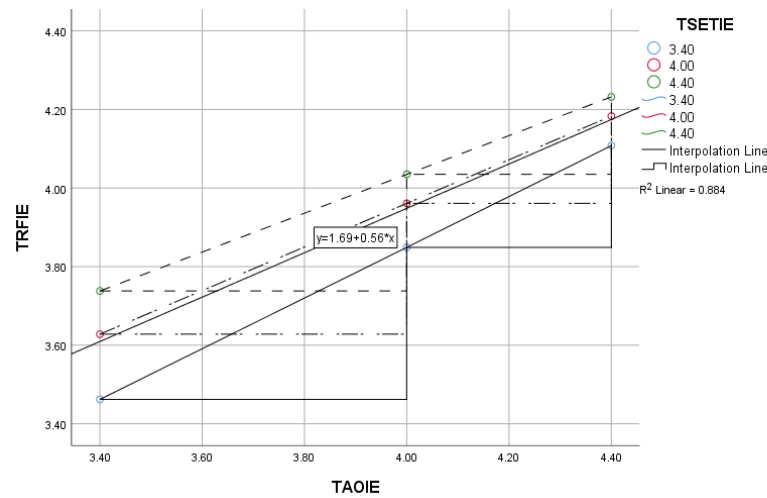
Variables	B (Coeff.)	Std. (SE)	Error	t- value	p- value	95 % CI (LLCI – ULCI)
Constant	-1.431	.758		- 1.887	.060	(-2.923, .061)
TAOIE	1.163	.209		5.569	.000	(.752, 1.573)
TSETIE	.793	.215		3.682	.000	(.369, 1.217)
TAOIE x TSETIE (Int-1)	-.152	.057		- 2.656	.008	(-.264, .039)

$$R^2 = .456, F(3, 296) = 82.633, p < .001$$

In Table 6, the results from the third hypothesis indicate that both TAOIE ( $\beta = 1.163, p < .001, 95\% \text{ CI } [.752, 1.573]$ ) and TSETIE ( $\beta = .793, p < .001, 95\% \text{ CI } [.369, 1.217]$ ) have significant main effect on TRFIE. The interaction term (TAOIE x TSETIE) representing the moderation effect) was statistically significant ( $\beta = -.152, p = .008 < .05, 95\% \text{ CI } [-.264, .039]$ ). TSETIE is a statistically significant moderator for the relationship between TAOIE and TRFIE. The model explained 46.6 % of the variance in TRFIE ( $R^2 = .456$ ) and was statistically significant,  $F(3, 296) = 82.633, p < .001$ . Given the statistically significant interaction term, it is concluded that TSETIE significantly moderates the relationship between TAOIE and TRFIE. This moderating effect is shown in Figure 3 below.

**Figure 3**

*Moderating Effect of TSETIE between the Relationship of TAOIE and TRFIE*



## Discussion

The results for the first hypothesis highlight the significant contribution of TAOIE to TRFIE in ECE. The strength of this relationship, as indicated by the coefficient, aligns with the findings obtained by Nelis et al. (2023), who also suggested that factors such as TAOIE had a significant impact on variables like TRFIE in educational settings. Furthermore, it is essential to highlight that the regression model demonstrates a substantial 41% explanation of the variance in TRFIE, thus

confirming the underlying importance of this relationship. This highlights the importance of stakeholders in ECE, considering factors such as TAOIE to achieve the best possible outcomes in terms of TRFIE (Siller et al., 2021).

The results for the second hypothesis indicate that TAOIE and TATIE exhibit substantial main effects on TRFIE; the interaction between these factors does not appear to have any significant moderating effects. This finding is consistent with the findings of Majoko (2016), who noted that not all possible moderating variables demonstrate a statistically significant interaction impact. The non-existence of a significant moderating impact from TATIE indicates that the direct influence of TAOIE on TRFIE remains constant regardless of variations in TATIE. Rojo-Ramos's (2020) findings have provided significant insight for educational practitioners, challenging their previous assumptions regarding the dynamic causal relationships between these variables.

However, the results of the third hypothesis introduce an additional level of intricacy in comprehending the association between TAOIE and TRFIE. Recognising TSETIE as a significant moderator presents an opportunity for further exploration and analysis. In contrast to the results of the second hypothesis, the observed interaction effect illustrates the distinct characteristics of each putative moderating component. These results are consistent with the findings reported by Zabeli and Gjela (2020), who observed that some moderating variables significantly impacted the associations they were involved in, while others did not exhibit such influence. This contradiction highlights the intricate and multifaceted nature of relationships in the ECE, emphasising the necessity for an in-depth examination of individual variables and their possible interrelationship. According to Alibakhshi et al. (2020), comprehending these particular dynamics holds significant value as it enables the development of more precise interventions and strategies in ECE.

## **Conclusion**

The objective of the present study was to explore the contribution of TAOIE to TRFIE and the moderating effect of TATIE and TSETIE on the relationship between TAOIE and TRFIE. The findings of the present study provide valuable insights into ECE's intricate dynamics and interconnections. The pivotal role of TAOIE in influencing TRFIE has been established, indicating its significant contribution within this particular context. While examining the impact of TAOIE and TATIE on

TRFIE, it was observed that both TAOIE and TATIE had significant effects on TRFIE. However, further analysis revealed that TATIE did not mediate the relationship between TAOIE and TRFIE. This suggests that the direct effect of TAOIE on TRFIE remained consistent, irrespective of any changes in TATIE. The factors previously observed underwent a significant change with the introduction of TSETIE. This factor emerged as a significant moderator in the relationship between TAOIE and TRFIE. The earlier distinction highlights the significance of careful evaluations of individual factors and their interactions in the field of ECE. Understanding that these variables may exhibit varying behaviours depending upon the specific contextual circumstances is imperative. The results of this study highlight the importance of acquiring a holistic comprehension of these relationships to develop effective strategies in ECE.

## **Recommendations**

The study's findings carry significant implications for informing and guiding future strategies and interventions in the ECE field. ECE teachers are suggested to work on their TAOIE to create a learning-friendly and welcoming environment for the kids coming to ECE classes. The significant contribution of TAOIE on TRFIE is found in this study, urging stakeholders in ECE to prioritise the integration and advancement of this aspect. The lack of a moderating effect by TATIE, compared to the substantial moderating effect observed with TSETIE, implies that interventions of a generic nature may not produce consistent outcomes. Tailored approaches, which consider the relationships of specific variables, are of utmost importance. In the pursuit of optimising outcomes about TRFIE, it is vital for ECE environments to prioritise the development of foundational attributes such as TAOIE and comprehensively comprehend and consider the unique moderating effects of variables like TSETIE. Based on the study findings, we recommend further studies to conduct longitudinal and qualitative studies to understand the phenomenon in detail. The generalisability can be improved by replicating the study in a cross-cultural context.



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