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The effects of teacher support, feedback, and enthusiasm on middle school students' school belonging and self-efficacy

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Abstract

School serves as the primary context for adolescent development and is a crucial platform for socialization and identity formation. Adolescents have specific developmental needs, including seeking peer socialization, a sense of school belonging, and a positive self-perception. Within this context, teachers—who interact most directly with students—play an irreplaceable role in guiding and advancing students' socialization and identity formation. This study investigates the impact of teacher behaviors on students' sense of school belonging and self-efficacy within East Asian educational contexts. Using structural equation modeling, we analyze a subset of 1,391 Chinese middle-school students drawn from the PISA survey. Results indicate that teacher behaviors are essential for fostering students' development and growth. Specifically, teacher support for learning and assistance, feedback delivered in a readily understandable way, and teacher enthusiasm were identified as important promoters of students' school belonging. However, regarding perceived teacher support, the findings suggest potentially conflicting effects on belonging: the observed negative effect indicates that when perceived support fails to enhance belonging, it may paradoxically undermine students' confidence in their own competence. Taken together, these findings suggest that the external educational context of the school and students' subjective experiences interact to predict achievement-related outcomes.

Keywords: Middle school students, School belonging, Self-efficacy, Teacher enthusiasm, Teacher feedback, Teacher support.

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1. Introduction

Adolescents simultaneously seek peer socialization, a sense of school belonging, and a positive self-perception [1] all of which are critical foundations for educational achievement [2]. A positive self-concept also helps them adapt to the dramatic physical, cognitive, and emotional changes of puberty [3].

During this period, school serves as the primary context for adolescent development and a crucial platform for socialization and identity formation [4]. Consequently, teachers function not only as transmitters of knowledge but also as essential guides in students' daily school experiences. Longitudinal studies demonstrated that adolescents' perceived teacher support persists well into late adolescence and significantly influences their growth and adaptation [5, 6].

A substantial body of literature has reported positive associations among teacher support, teacher feedback, teacher enthusiasm, and self-efficacy as components of student growth [7-12]. However, far less is known about whether these teacher behaviors influence self-efficacy indirectly through students' sense of school belonging—particularly in East Asian educational contexts, where students' emotional interpretations of teacher behavior may differ from those documented in Western samples [13].

Researchers have emphasized that a caring school climate is essential for fostering students' Belonging and enhancing their social awareness [14-17]. A strong sense of belonging promotes psychological safety and helps prevent loneliness, anxiety, and other negative states [18]. However, it remains to be seen whether these pathways function similarly across diverse cultures and educational systems.

Clarifying the mediating role of school belonging between teacher behaviors and student self-efficacy is therefore of both theoretical and practical importance for understanding how teachers can best promote students' emotional development.

Accordingly, the present study analyzed a subsample of middle school students from East Asian countries in the OECD's PISA dataset. It investigated whether teacher support, teacher feedback, and teacher enthusiasm enhance students' self-efficacy by strengthening their sense of school belonging. Therefore, it was guided by two research questions.

Q1. Do teacher support, feedback, and enthusiasm significantly influence students' sense of school belonging?

Q2. Does school belonging significantly mediate the relationship between teacher support, feedback, enthusiasm, and students' self-efficacy?

2. Literature Review

2.1. School Belonging

School belonging refers to students' subjective experience of feeling accepted, respected, and emotionally connected to teachers and peers within the school environment [18]. According to Bronfenbrenner's Ecological Systems Theory [19] Ecological Systems Theory, the school is a key microsystem in adolescent development, where students shape their cognitive abilities, emotional responses, and social behaviors. Within this environment, students' academic motivation derives not only from acceptance by peers and teachers but also from the school-wide academic expectations. When the school environment reflects a consistent culture of high expectations, the sense of belonging is more likely to be transformed into academic motivation [20]. A sense of school belonging is also considered a prerequisite for the effective functioning of the school.

Researchers have emphasized that a supportive school climate is essential for fostering students' sense of belonging and enhancing their social awareness [14, 17]. A strong sense of school belonging contributes to students' emotional safety and can help prevent negative psychological states such as loneliness and anxiety [15, 17, 18].

Moreover, an enhanced sense of belonging can promote students' self-efficacy, leading to greater confidence in their learning abilities [5]. Positive emotions toward school and teachers help build affective connections between students and the school. As a result, students begin to perceive school as a social space to which they are willing to dedicate themselves over the long term. This emotional investment reflects one of the key psychological mechanisms underlying school belonging [15, 21]. Therefore, teacher support, feedback, and instructional enthusiasm often serve to strengthen students' sense of school belonging, thereby indirectly enhancing their academic performance [17]. In this sense, school belonging is not only an indicator of students' emotional engagement but also a critical construct for understanding the effects of teacher behavior.

2.2. Self-Efficacy

Self-efficacy is a central concept proposed by Bandura within the framework of Social Cognitive Theory (SCT). It is shaped through the reciprocal interaction of personal behavior, self-perception, and environmental factors, and it significantly influences individuals' achievements [22]. Self-efficacy refers to an individual's belief in their ability to organize and execute specific tasks when faced with various challenges. This belief system is one of the most influential factors in decision-making processes. Furthermore, self-efficacy serves as an internal mechanism that drives self-determined behavior and holds a central role in human development. It profoundly affects individuals across the lifespan—from childhood to old age—by shaping their perseverance in the face of difficulty, goal-setting strategies, and emotional regulation [23, 24].

According to the study by Köseoglu [25] students with high levels of self-efficacy are not only capable of analyzing and regulating their behaviors to achieve academic success but also demonstrate stronger goal attainment skills. In academic contexts, self-efficacy is evident in students' ability to refine their learning strategies, maintain persistence, and

develop effective coping responses in the face of failure [26, 27]. Therefore, identifying and investigating the antecedents of students' self-efficacy is of great significance for optimizing educational practices and promoting student development.

2.3. Teacher Support

The development of individuals' intrinsic motivation and self-efficacy depends on the fulfillment of three basic psychological needs: autonomy, competence, and relatedness [28]. Within educational contexts, teachers—as—significant others play—play a critical role in meeting these needs. Teacher support is regarded as a key factor in fostering students' self-efficacy [10]. When students perceive higher levels of support from their teachers, they are more likely to engage positively with classroom activities and learning tasks [10, 11, 28-30].

Numerous studies have demonstrated strong associations between teacher support and students' emotional well-being, motivation, and engagement. For instance, Trickett and Moos Trickett and Moos [12] found that various forms of teacher support—such as helping students accomplish academic tasks, showing care for their physical and emotional well-being, and expressing belief in their potential—can effectively promote students' self-efficacy. The influence of teacher support, once established during the early years of schooling, tends to persist into adolescence and remains a key factor in students' adaptive and social development [31]. Conversely, when students fail to perceive sufficient support from their teachers, their sense of school belonging may also be diminished [32]. Students spend a significant portion of their school life in the classroom, where encouragement and support from teachers can foster a strong sense of self-efficacy [33]. When students receive support from their teachers, the teacher–student relationship tends to beco2012me more positive, contributing to a classroom environment that promotes a sense of belonging [34].

2.4. Teacher Feedback

Teacher feedback serves as a vital interactive mechanism in the educational process, and it has been shown to significantly influence students' self-efficacy [8]. According to Bandura [22]. Social Cognitive Theory, self-efficacy is a central component that results from the dynamic interaction among internal cognitive processes, environmental stimuli, and external actions. This suggests that external social and physical stimuli, such as feedback, play a crucial role in shaping an individual's behavior [35].

From this perspective, the instructional feedback provided by teachers offers students constructive guidance and contributes positively to their academic development. Feedback occupies a central role within Social Cognitive Theory, as students adjust their behavior through feedback and observational learning. Teacher feedback also encourages students to engage actively in classroom activities, enhances their self-esteem, and provides clear direction for improvement [7]. Research has confirmed that individuals generally require feedback from others to support their progress. Thus, the provision of varied and continuous feedback is an indispensable element of effective teaching and learning [36, 37].

Moreover, the affective function of feedback should not be overlooked. In the classroom, feedback is not merely an instructional act of correcting or guiding students' academic behavior; it also represents a powerful tool for fostering positive emotional and cognitive engagement. Encouraging and supportive feedback enables students to build confidence in completing academic tasks and helps them construct a more positive self-perception. Furthermore, the extent to which students can interpret and utilize the feedback they receive is a critical instructional objective [38]. Therefore, teacher feedback not only facilitates knowledge acquisition and behavior modification but also creates a sense of being valued and supported. Through feedback, teachers can strengthen their relationships with students, ultimately fostering a greater sense of belonging at school. Hattie and Timperley [9] pointed out that students' self-efficacy can be enhanced through high-quality feedback.

2.5. Teacher Enthusiasm

When teachers engage in the teaching process with genuine enthusiasm, they not only spark students' interest but also convey the importance they attribute to teaching. Enthusiasm is widely recognized as one of the key characteristics of effective teachers. A teacher's instructional orientation is often shaped by their level of enthusiasm, which is evident in their willingness to share subject matter and their enjoyment of interaction with students. Such emotional expressiveness has been shown to positively affect students by creating a more dynamic and engaging classroom environment [39]. Furthermore, nonverbal cues associated with teacher enthusiasm—such as gestures, facial expressions, and vocal intonation—have been found to enhance students' attention in the classroom [39-43].

Genuine enthusiasm on the part of the teacher can also reduce student apathy and enhance the overall quality of the learning experience [44]. In this sense, enthusiasm functions as an emotional bridge, fostering positive teacher–student relationships and enabling students to feel genuinely cared for. This, in turn, contributes to an increased sense of school belonging and strengthens students' confidence in their academic abilities.

The study by [11] further demonstrated that teacher enthusiasm has a direct impact on students' psychological energy levels. This finding aligns with the Self-Determination Theory [28] which posits that the development of student motivation is closely tied to the fulfillment of basic psychological needs. In this light, not only is the content of instruction important, but how it is delivered—particularly the teacher's emotional engagement—has a motivational impact on students. Quin [45] found that teachers' positive and enthusiastic behaviors can enhance classroom climate and increase students' sense of school belonging. At the same time, such enthusiastic teaching practices are also associated with higher student self-efficacy and a reduction in subject-avoidant behaviors [11].

3. Methodology

3.1. Participants

This study utilized data from the 2018 Programme for International Student Assessment (PISA), which is administered by the Organisation for Economic Co-operation and Development (OECD). Conducted every three years, PISA assesses the extent to which 15-year-olds worldwide have acquired essential knowledge and skills, offering the most comprehensive and rigorous international evaluation of learning outcomes to date. The present analysis focuses on the Chinese mainland subsample—Beijing, Shanghai, Jiangsu and Zhejiang—whose middle school students achieved the highest mean scores globally in mathematics and science in 2018. Although these four eastern provinces and municipalities do not represent China as a whole, each is comparable in size to many countries, with a combined population exceeding 180 million. After listwise deletion, 1,391 valid student cases (51.7% female, 48.3% male) were retained for analysis.

3.2. Analysis Procedures

We analyzed the PISA data for middle school students in three stages. First, we used SPSS 26.0 to calculate Cronbach's α for internal consistency, conduct exploratory factor analyses (EFA) to examine the latent structure, and generate descriptive statistics and pairwise correlations. Next, we employed AMOS 26.0 to perform confirmatory factor analyses (CFA), establishing convergent validity and evaluating the overall fit of the measurement model identified by the EFA. Finally, structural equation modeling (SEM) in AMOS was used to assess the proposed direct and indirect pathways among constructs. Following Anderman [46] two-step procedure, we first confirmed the measurement model and then estimated the structural model to test the theoretical framework and mediating mechanisms. SEM was chosen because it accommodates multiple latent variables simultaneously, quantifies complex interrelations, and provides comprehensive fit indices for non-experimental causal inference.

3.3. Measures

All constructs were derived from the PISA Student Questionnaire OECD [47] which was developed within a theory-driven framework and validated through international expert review, ensuring robust content and construct validity. Since English was the test language for this subsample, students reported on their self-efficacy, as well as the support, feedback, and enthusiasm they perceived from their English-language teachers, along with their sense of belonging at school. Each scale consisted of four to five items rated on a four-point scale, with higher scores indicating stronger perceptions of the construct.

Self-efficacy was measured using five items (e.g., self-management, pride in accomplishments). Responses ranged from 1 (strongly disagree) to 4 (strongly agree). School belonging was measured using five items (e.g., making friends). Among these, two negatively worded items (e.g., feelings of loneliness at school) were reverse-scored so that higher values consistently reflected a stronger sense of belonging. Teacher support was assessed using four frequency items (e.g., teachers' sustained interest in student learning). Students responded on a four-point scale ranging from 1 = Every lesson to 4 = Never or hardly ever. The items were reverse-coded so that higher scores indicated greater perceived support. Positive teacher feedback was measured using three agreement items (e.g., feedback tailored to meet students' needs), scored on a scale from 1 = Strongly disagree to 4 = Strongly agree. Teacher enthusiasm was measured using four items (e.g., enjoying teaching students), rated on a four-point agreement scale.

Composite scores for each construct were calculated as the mean of the corresponding items, with higher scores indicating greater self-efficacy, belonging, perceived support, positive feedback, or teacher enthusiasm.

Table 1.
Correlation and Descriptive Statistics.

Variables	TS	TF	TE	SB	SE
TF	-0.209**				
TE	-0.335**	0.451**			
SB	0.204**	-0.189**	-0.221**		
SE	-0.152**	0.232**	0.348**	-0.355**	
Mean	1.378	3.243	3.394	1.730	3.272
SD	0.578	0.663	0.554	0.511	0.478
Skewness	2.101	-1.274	-0.950	0.557	-0.334
Kurtosis	4.961	2.358	1.363	-0.172	0.270

Note: $^{**}p < .01$

TS=Teacher Support, TF=Teacher Feedback, TE=Teacher Enthusiasm, SB=School Belonging, SE=Self-Efficacy.

4. Results

4.1. Correlation and Descriptive Statistics

Table 1 presents the descriptive statistics for the five research variables: Teacher Support (TS), Teacher Feedback (TF), Teacher Enthusiasm (TE), School Belonging (SB), and Self-Efficacy (SE), including mean, standard deviation,

skewness, kurtosis, and correlation coefficients. The means of the variables range from 1.378 to 3.394, with standard deviations ranging from .478 to .663. The absolute values of skewness were below 3 and those of kurtosis were below 5, indicating that the assumption of normality required for Structural Equation Modeling [48]. The correlation coefficients among variables ranged from -0.355 to 0.451 ($p < .01$), indicating statistically significant relationships between the variables.

4.2. Validity of the Measurement Model

First, this study assessed the construct reliability and convergent validity of the measurement model using factor loadings, composite reliability (CR), and Cronbach's alpha.

Specifically, Cronbach's alpha values ranged from .688 to .845. Teacher Support (TS, $\alpha = .778$), Teacher Feedback (TF, $\alpha = .790$), Teacher Enthusiasm (TE, $\alpha = .845$), and Self-Efficacy (SE, $\alpha = .813$) all exceeded the recommended threshold of 0.7, indicating good internal consistency. Although the alpha value for School Belonging (SB, $\alpha = .688$) was slightly below this threshold, it was considered acceptable given the satisfactory performance of the other indicators. The CR values ranged from .690 to .848, all meeting or exceeding the minimum threshold of 0.6, indicating good composite reliability for all constructs.

Table 2.
Measurement of Constructs.

Factor	Item	Cronbach's α	CR
Teacher Support	TS1	0.778	0.798
	TS2		
	TS3		
	TS4		
Teacher Feedback	TF1	0.790	0.791
	TF2		
	TF3		
Teacher Enthusiasm	TE1	0.845	0.848
	TE2		
	TE3		
	TE4		
School Belonging	SB1	0.688	0.690
	SB2		
	SB3		
	SB4		
	SB5		
Self-Efficacy	SE1	0.813	0.818
	SE2		
	SE3		
	SE4		
	SE5		

The measurement model fit was evaluated to determine whether the empirical data adequately represent the proposed theoretical structure. The results indicated a good model fit, with the following fit indices: CFI = .915, TLI = .901, and RMSEA = .059. These values meet the commonly recommended threshold criteria, suggesting that the measurement model exhibits a satisfactory and statistically significant fit demonstrates the data.

4.3. Validation of the Research Model

To better verify the relationships among teacher support, teacher feedback, teacher enthusiasm, school belonging, and self-efficacy, the structural research model was tested. The results were indicated that the model demonstrated a good fit to the data, with fit indices as follows: CFI = .90 (> .90), TLI = .890, IFI = .905, NFI = .889, and RMSEA = .062. These values suggest that the proposed model provides an acceptable and robust representation of the empirical data.

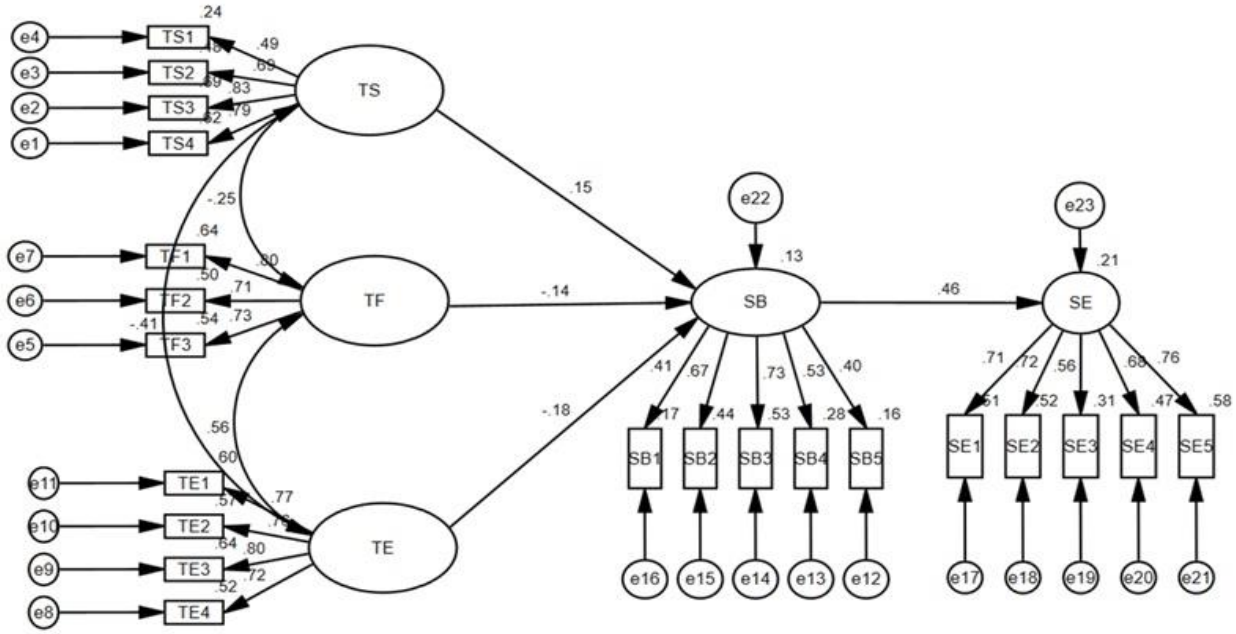

Figure 1.
Research Model.

Furthermore, Table 3 indicates that all four hypothesized relationships in the structural model are statistically significant in their predictive directions. The data show that all regression paths in the proposed model are significant. Specifically, teacher support had a positive effect on school Belonging (β = .148), whereas both teacher feedback (β = –.136, p < .05) and teacher enthusiasm (β = –.176, p < .001) exhibited significant negative effects on school Belonging. Additionally, school Belonging significantly predicted self-efficacy (β = .462, p < .001).

Table 3.
Results of the Hypothesis Test.

Path	B	β	S.E.	C.R
Teacher Support → School Belonging	0.082	0.148	0.021	3.893***
Teacher Feedback → School Belonging	-0.069	-0.136	0.022	-3.090*
Teacher Enthusiasm → School Belonging	-0.109	-176	0.029	-3.757***
School Belonging → Self-Efficacy	0.668	0.462	0.068	9.812***

Note: *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

4.4. Mediating Effects of Bootstrapping

This study employed a bootstrap method with 5,000 resamples to assess the statistical significance of the mediating effects. To further explore the mediating role of school belonging within middle school student sample, Table 4 was summarized the structural relationships and standardized path coefficients among the five variables. The analysis revealed that school belonging significantly mediated the effects of teacher support, teacher feedback, and teacher enthusiasm on students' self-efficacy.

Interestingly, the directions of the indirect effects were not uniform. Teacher support exerted a significant negative indirect effect on self-efficacy through school belonging (B = –.069). In contrast, teacher feedback demonstrated a significant positive indirect effect (B = .063), indicating that feedback positively interpreted by students can enhance their school belonging and, in turn, strengthen self-efficacy. Likewise, teacher enthusiasm yielded a significant positive indirect effect (B = .081), implying that teachers' emotional investment deepens students' emotional connection with school, ultimately promoting the development of self-efficacy.

Table 4.
Mediating Effects of Bootstrapping.

Path	Estimate	S.E.	Bootstrap Bias-Corrected	
			Lower	Upper
Teacher Support → School Belonging → Self-Efficacy	-0.069	0.015	-0.086	-0.027
Teacher Feedback → School Belonging → Self-Efficacy	0.063	0.018	0.015	0.084
Teacher Enthusiasm → School Belonging → Self-Efficacy	0.081	0.031	0.025	0.146

5. Discussion

The need to socialize with peers, a sense of belonging, and a positive self-perception are essential needs that adolescents pursue simultaneously and are critical for educational achievement [2]. Therefore, this study aimed to empirically verify the mechanisms by which school environmental factors influence belonging and self-efficacy in middle school students from the perspective of social cognitive theory.

Regarding the first research question, this study demonstrated that the educational efforts and enthusiasm of teachers are vital for fostering student growth and changes. Specifically, factors such as teachers' learning support and assistance, the feedback they provide in a comprehensible manner, and their enthusiasm for teaching were identified as significant contributors to students' sense of school belonging. The results align with those of Anderman [46]; Appleton, et al. [21] and Lei, et al. [49] all of which underscore the fundamental and potential significance of school Belonging. Social interactions with teachers can profoundly influence students' attitudes, cognition, and psychology.

These findings regarding teacher effectiveness are discussed in greater detail below. Students' experiences with teacher support have been shown to persist well into adolescence and beyond, serving as a significant factor influencing their growth and development [4]. The results of this study indicated that teachers' behavioral support—such as assisting students and ensuring that they understand the material—enables students to actively engaged in class activities, thereby receiving a higher level of support.

One of the previous studies, Wisniewski, et al. [50] analyzed the results of multiple studies and consistently found a significant effect of teacher feedback for students. In particular, they confirmed that feedback positively influenced not only cognitive outcomes, such as problem-solving, but also motivational outcomes, including self-efficacy. The principle underlying the feedback effect is that students are part of their environment, shaping and adjusting their behavior through interaction and social stimulation. Furthermore, as teachers strive to understand their students and listen to their perspectives, students gain confidence and develop a positive sense of being valued and supported in school [38].

In relation to teachers' enthusiasm, students' perceptions that their teachers enjoy teaching contribute to a more active school life [44]. And then, positive interactions between teachers and students foster stronger relationships among students. Additionally, teachers' nonverbal elements, such as passionate gestures and vocal intonation, have been shown to enhance students' learning attention [43]. According to social cognitive theory, observing others—such as teachers—within the context of social interactions experienced by students is effective for promoting student growth and achievement.

However, depending on students' perceptions of teacher support, the effectiveness of teachers in influencing students' sense of belonging may yield contradictory outcomes. The analysis of the indirect effects in this research model revealed a negative effect (B = –.069) of teacher support, in contrast to teacher feedback and enthusiasm. This result suggests that when perceived support fails to enhance a sense of belonging, it may paradoxically undermine students' confidence in their own competencies. Similarly, Sin and Lee [51] who analyzed PISA 2015 data, argued that teacher effectiveness varies depending on the frequency and methods of support provided. Students may perceive teacher support negatively depending on whether it is individualized or generalized to all students. Furthermore, Lee and Lee [52] noted that in East Asia, corrective support is more frequently given to students with low academic achievement. Integrating these previous studies with the current findings suggests that only high-quality, personalized teacher support can foster positive student growth.

Next, regarding the second research question, this study proved that the interaction between the external education environment and subjective experience ultimately predicts achievement-related outcomes. As Bruning, et al. [35] argued, this study confirmed that environmental support factors and the psychological growth process (school belonging → self-efficacy, C.R. = 9.812) accompany adolescents in building self-efficacy. In this regard, Pittman and Richmond [53] argued that social identification at school predicts various achievement such as enhanced awareness of learning ability.

For today's adolescents, a belonging formed through a supportive school culture more strongly satisfy the desire to be proud of oneself [16]. This is also related to the argument of Maslow [54] and Martin and Dowson [55] who structured the human needs system at the earliest, and the argument that in order to fulfill self-efficacy as a need for self-actualization, social needs (belonging) should be satisfied first. And if sense of belonging in school is a status granted by 'collective identity,' self-efficacy be considered as a 'personal identity' formed through differentiation from a wider group [56]. In other words, to fulfill the need to be positively respected in the group society to which one belongs, middle school students sufficiently satisfy the sense of belonging with individuals and groups.

6. Conclusion

6.1. Conclusions and Recommendations

This study suggested that a student's Belonging in school, cultivated through teacher support and passionate efforts, should be a primary consideration for schools aiming to promote long-term student achievement. Therefore, if schools are contemplating providing support that addresses students' higher-level self-actualization and needs, it is essential to first establish a stable sense of belonging to the school in a systematic manner. This is because a lack of a continuous sense of belonging to school can lead to negative emotions regarding achievement [16]

To achieve this goal, teachers should take into account the hierarchical needs system of individuals, offering diverse emotional and behavioral support to foster a stable sense of belonging within the school community. Additionally, they should consistently reflect on how to provide feedback that aligns with the unique characteristics and needs of their students. Furthermore, teachers can implement psychological programs designed to cultivate positive beliefs in the classroom and school environment, or they can develop and facilitate self-development programs that empower students to acquire their own strategies for problem-solving.

In addition to regular academic subjects, the demand for extracurricular programs that promote social-emotional competencies and self-development abilities is steadily increasing [49]. This trend arises from the need for convergent competencies in today's society, where the ability to manage anxiety independently in an unpredictable environment is crucial. Furthermore, fostering open communication between teachers and students is essential for students' growth and development. Additionally, it is important to implement informal learning programs simultaneously. The development of students' social-emotional skills, such as a sense of belonging and self-efficacy, cannot be achieved through one-time educational interventions or short-term experiences. Therefore, it is essential to comprehensively organize informal programs alongside both curricular and extracurricular education. Additionally, an integrated operating system should be established, ensuring that all areas of education are interconnected and that feedback is effectively incorporated into learning outcomes.

6.2. Limitations and Suggestions

This study underscored the significance of students' school environments by demonstrating the effects of teachers' support and dedicated efforts on students' emotional development. Nevertheless, a limitation of this study is its insufficient consideration of the diversity of environmental factors. It was not explored for critical influences on students' development, such as the roles of parents and peers in their lives. Consequently, future studies should incorporate a broader range of environmental factors to enhance the comprehensiveness of the research model. By validating this research model, it is also possible to compare the relative importance of various environmental factors that affect students' development.

In addition, this study assumed the development of students' sense of belonging and self-efficacy within a cross-sectional framework. As previously discussed, the positive growth of emotions is dynamic and varies according to the trajectory of students' development. Therefore, it is essential to complement follow-up study that can observe their development longitudinally. This study recommends designing an investigation for middle school students that measures the trends in emotions as they progress through grades and examines the support provided by teachers, as perceived by students, as a predictive factor.

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