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Learning Indicators among Vietnamese Freshmen: Demographic Disparities and the Role of Teacher Confirmation across Self-Esteem Level

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ABSTRACT

Introduction. Global higher education research increasingly underscores the necessity of comprehending the mechanisms that enable effective transfers to university. *The aim of study* is to examines learning indicators among Vietnamese freshmen, specifically analyzing demographic and how teacher confirmation impacts outcomes across different levels of self-esteem.

Methods. A descriptive research design was employed, involving a sample of 418 first-year students within their first three months at Tra Vinh University (Vietnam). Data collection utilized validated instruments to assess learning indicators, teacher confirmation, self-esteem, and demographic variables. Analyses included independent t-tests, one-way ANOVA, and simple regression analysis.

Results. Significant differences in learning indicators were observed across demographic variables, including ethnicity, classroom leadership roles, and high school academic performance ($p < .05$). No significant differences emerged between male and female students ($p > .05$). Teacher confirmation significantly predicted learning indicators for freshmen with low ($R^2 = .210$, $p < .01$) and moderate ($R^2 = .241$, $p < .01$) self-esteem, but not for those with high self-esteem ($R^2 = .109$, $p > .05$).

Discussion. Khmer ethnic minority students achieved significantly higher learning indicator scores than their Kinh (majority) peers, indicating a positive trend. Engagement in leadership activities fosters essential skills relevant to learning indicators. Furthermore, students with low or moderate self-esteem are more responsive to affirming instructor behaviors, which contributes to improved learning indicators.

Conclusion. Learning indicators of Vietnamese freshmen are closely linked to student demographics, and teacher confirmation contributes to improvements in learning indicators across self-esteem levels. The results emphasize the role of teacher confirmation in fostering learning engagement among freshmen with lower self-esteem as a strategy to support students' academic adjustment during the initial phase of their university experience.

KEYWORDS

freshmen, learning indicators, self-esteem, teacher confirmation, Vietnam

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INTRODUCTION

Aligned with UNESCO's Sustainable Development Goal 4, which highlights the importance of inclusive and equitable quality education, identifying the determinants of student success has emerged as a global priority. Consequently, the transition to higher education represents is a critical juncture where freshmen must navigate complex academic and social adjustments in an increasingly autonomous environment [1; 2]. First-year students frequently face challenges with academic tasks, communication, social engagement, and daily routines [3], and often fail to achieve the desired learning outcomes in the first year of university [2; 4]. These transitional difficulties often lead to lower academic outcomes compared to those of second- and third-year students [5]. Therefore, first-year students often need time to adjust to the increased academic expectations and unfamiliar social contexts of higher education [2], gradually developing self-directed learning skills [4]. Given these concerns, analyzing first-year students' learning indicators across various demographic variables and investigating their relationships with self-esteem and teacher confirmation may provide valuable insights into improving these indicators.

Learning indicators

Learning indicators are important tools for describing and assessing how students learn. According to Shavelson et al., these indicators can take a qualitative form, such as flow charts based on students' verbal reasoning or classifications of their explanations for scientific concepts [6]. More frequently, learning indicators appear in quantitative forms, summarizing learning progress through statistical measures that reflect changes in a student's performance over time [6]. In the Vietnamese educational context, learning indicators were also evaluated quantitatively, especially through grade point average (GPA) [7]. This practice suggests that students' learning is often inferred from performance on standardized assessments or assignments. Although the assumption that high scores necessarily indicate deep or meaningful learning remains contested [8], grades represent a key component of overall academic effectiveness [9]. However, Anaya argued that course grades often fail to account for a student's initial performance level [10], suggesting that GPA serves more as a normative rather than a criterion-referenced measure of cognitive development. This study was conducted with first-year students who had been enrolled at the university for only 3 months. Consequently, assessing learning indicators based solely on academic grades poses significant challenges. Thus, this study approaches learning indicators from the perspective that academic engagement is a primary component of learning. In alignment with this perspective, Frymier and Houser [8] developed a revised learning indicators scale to measure the degree to which students enjoy, reflect on, and discuss their learning experiences with others. Accordingly, in the present study, the researchers examine the learning indicators of first-year students using the framework proposed by Frymier and Houser [8].

Freshmen's demographic differences in learning indicators

Regarding gender, several researchers have reported that it influences students' learning indicators. For instance, Ademi and Loshkovska found that female students scored significantly higher than male students on achievement goals [11]. However, several studies have reported no statistically significant differences in academic achievement between male and female students [12; 13]. The contrasting findings suggest that the relationship between gender and learning indicators remains ambiguous and warrants further investigation, particularly among first-year university students in Vietnam, the focus of this study. Similarly, ethnicity has been identified as a critical factor shaping students' experiences. Previous studies have shown significant differences in academic integration and learning quality between minority and majority students [14; 15]. Severiens and Wolff found that, after one year of study, minority students performed less favorably and accumulated fewer credits than their majority peers [14]. Ethnic minority students' scores on this predictor were lower than those of ethnic majority students [15]. In Vietnam, Khmer students belong to an ethnic minority. In university settings, their limited proficiency in Vietnamese often hinders effective communication, leading to reduced confidence when engaging with peers and lecturers from different cultural backgrounds [16].

Regarding student leadership, Tortosa Martínez et al. reviewed articles in databases such as Web of Science and Scopus and concluded that effective student leadership enhances academic engagement [17]. They identified several key leadership-related factors associated with engagement, including participation, effectiveness, and motivation [17]. Similarly, Abbas et al. [18] reported that students in leadership positions demonstrated higher learning outcomes than their peers without such roles. Feron and Schils also emphasized the crucial role of leadership in students' academic performance, in school safety, self-efficacy, and engagement in academic tasks [19].

Regarding academic background and its relationship with learning indicators, Richardson conducted a meta-analysis of 1,105 correlations and found that students with stronger pre-university academic preparation, a belief in their academic competence, higher academic goal setting, and effort regulation generally achieved better academic outcomes [20]. Nguyen also reported that students' high school academic performance was positively associated with their adjustment to university life in the first year [1]. Similarly, Van Rooij et al. [21] showed that students with better academic adjustment and higher GPAs in secondary education were more likely to achieve higher GPAs in university. Prior academic achievement served as a strong indicator of subsequent first-year academic success [15].

Teacher confirmation and learning indicators

Teacher confirmation is the process by which instructors communicate to students that they are valued and acknowledged as important individuals [22]. Confirmation in the classroom occurs across three dimensions. The first dimension, responding to questions, is characterized by instructors providing timely and thoughtful answers to student inquiries. The second dimension, demonstrating interest, involves instructors expressing a genuine commitment to supporting student learning. The third dimension, known as an interactive teaching style, involves implementing adaptable, student-centered instructional approaches [22]. Previous studies showed a positive association between teacher confirmation and students' learning outcomes [23; 24]. Goldman et al. investigated the impact of teacher confirmation on 208 students' cognitive learning and found that teacher confirmation was perceived as a key contributor to enhancing students' cognitive learning [24]. Then, teacher confirmation behaviors represent a strategy that instructors use to enhance students' perceived learning and classroom engagement [9; 25]. Students who perceive their instructors as highly confirming tend to report higher levels of cognitive learning than those who view their instructors as moderate or non-confirming [26]. Teacher confirmation has been shown to alleviate students' fear and anxiety about their ability to comprehend classroom material, thereby enhancing their perceived learning [23; 27].

Self-esteem and learning indicators

Self-esteem is defined as an individual's perception or valuation of their own self-worth [28]. According to Rouault et al., high self-esteem is characterized by a significantly positive self-perception, whereas individuals with low self-esteem tend to consistently underestimate their own performance and maintain more negative self-evaluations [29]. An individual with low self-esteem who takes risks may experience more severe psychological consequences compared to those with high self-esteem. In the educational context, students who hold a positive self-concept, reflected in high levels of self-esteem, are more likely to translate this favorable self-perception into academic engagement and confidence in their ability to perform successfully in college-level tasks [30]. In the study by Acosta-Gonzaga [31], the researcher found no direct correlation between self-esteem and academic performance; however, self-esteem was identified as a factor influencing academic engagement, which, in turn, contributed to academic outcomes. The results highlight that low self-esteem impacts students' emotional and behavioral engagement.

Based on the reviewed literature, this study aims to examine the learning indicators of first-year students across various demographic variables, including gender, ethnic background, student leadership, and academic background. Prior studies have highlighted significant associations between learning indicators and teacher confirmation [22; 23] and between learning indicators and self-esteem [30; 31]. However, previous research has not yet examined whether the effect of teacher

confirmation on learning indicators varies across freshmen with different levels of self-esteem. To address this gap, the present study proposes the following hypotheses:

H1: There are significant differences in learning indicators across various demographic variables among freshmen students.

H2: Teacher confirmation significantly predicts freshmen students' learning indicators across different levels of self-esteem.

METHODS

1. Participants

The study population consisted of first-year students at Tra Vinh University, located in the Mekong Delta region of Vietnam. According to Tra Vinh University's 2023 annual report, there were 3,243 first-year students from various provinces in the Mekong Delta. To determine an appropriate sample size, Slovin's formula was used. Using a 5% margin of error, the minimum required sample size for this study was estimated to be 356 participants. To enhance representativeness and ensure adequate sample size for group-comparison analyses, 418 first-year students from Tra Vinh University were invited to participate in the survey. These participants were drawn from four academic schools, including Education (25.5%), Technology (29.1%), Health Sciences (20.3%), and Social Sciences (25.1%). Among them, 200 students (47.8%) were male and 218 (52.2%) were female. The data were collected using convenience sampling in November 2024, approximately 3 months after students enrolled in the university.

2. Research Instruments

Learning indicators

Learning indicators for freshmen were measured using the Revised Learning Indicators Scale developed by Frymier and Houser [8]. The Scale consists of nine items that reflect learning activities students may engage in during the cognitive learning process. Responses were solicited using a 5-point Likert scale anchored with 0 (never) and 4 (very often). In an original study conducted by Frymier and Houser [9], the learn indicators demonstrated good internal consistency, a well-defined structure, and strong validity coefficients ($\alpha = 0.85$). In the present study, Cronbach's alpha reliability coefficient for the scale was also good ($\alpha = 0.82$), with $M = 20.53$ and $SD = 5.42$.

Teacher confirmation

The Teacher confirmation was measured by the Teacher Confirmation Scale by Ellis [22] which has 16 items and asks participants to report on the frequency with which an instructor exhibits confirming behaviors in the classroom across three dimensions: teachers' responses to students' questions or comments (5 items), demonstrated interest in students (6 items) and in their learning, and teaching styles (5 items). Data from participants were gathered via a five-point Likert scale ranging from 0 (strongly disagree) to 4 (strongly agree). The mean score for teacher confirmation was 3.95 (SD = 0.60). The 16-item scale exhibited Cronbach's alpha reliability of 0.93 in the initial validation study [22]. In this study, Cronbach's alpha for the summed scale was 0.88, indicating internal reliability.

Self-esteem

Self-esteem level was assessed using Rosenberg's Self-esteem Scale [28], a 10-item instrument rated on a 4-point Likert scale ranging from 0 (strongly disagree) to 3 (strongly agree). This scale assesses individuals' sense of self-worth by measuring both positive and negative perceptions of themselves. After reversing the scoring for 5 negative items, a total self-esteem score was obtained by summing the 10 responses. The range of scores using this procedure was 0 to 30, with higher scores reflecting higher levels of self-esteem. Specifically, scores below 15 indicate low self-esteem, scores between 15 and 25 indicate moderate self-esteem, and scores above 25 indicate high self-esteem [32]. The scale demonstrated good internal reliability, with a Cronbach's alpha coefficient of 0.82. The mean score for self-esteem was 18.13, SD = 5.25.

3. Procedure

Before conducting the research study, the research proposal underwent a comprehensive ethical review conducted by the Science and Education Council of Tra Vinh University. The review process focused on evaluating the research's benefits, fairness, and identifying any possible risks or harms to participants. Following ethical approval, the consent form was sent to freshman students.

Upon receipt of the signed consent form, the survey was conducted. All participants received a clear explanation of the study's purpose, the nature of the questions, and how their data would be used. Confidentiality and anonymity were strictly maintained throughout the research process to protect the privacy and autonomy of all participants. Participants were informed that their decision to decline participation would not result in any consequences and that they could refuse to answer any questions or withdraw from the study at any time without penalty. All data were de-identified, coded, and securely stored in password-protected and encrypted files accessible only to the research team.

4. Data analysis

The study is a descriptive cross–sectional survey. All statistical analyses in this study were conducted using SPSS version 24.0. The means and standard deviations were used to examine the learning indicators across socio–demographic groups and levels of self–esteem. Differences in learning indicators by gender, ethnicity, classroom roles, and academic background were examined using independent-samples t-tests and a one-way ANOVA. A one-way ANOVA with Tukey's HSD post hoc test was further conducted to examine differences in learning indicators across self-esteem levels among first-year students. Finally, simple regression analyses were conducted to examine the specific contribution of teacher confirmation at different levels of self-esteem to the prediction of learning indicators.

RESULTS

1. Comparative analysis of learning indicators across socio-demographic groups

The results presented in Table 1 showed that the average learning indicators score among first-year students was M = 20.53 (SD = 5.52) on a 36-point scale. When comparing learning indicators across socio-demographic groups, the findings revealed no significant differences between male and female students ($t = -1.17$, $p > 0.05$). However, significant differences in learning indicators were found across ethnicity, leadership roles, and academic background. Specifically, regarding ethnicity, Kinh students reported significantly lower learning indicator scores than Khmer students ($t = -2.19$, $p < 0.05$). In terms of leadership roles, students holding positions such as class president, vice president, or group leader demonstrated significantly higher cognitive learning compared to those without such roles ($t = 2.83$, $p < 0.01$).

Regarding high school GPA, most students in the sample had academic backgrounds rated as either fair or good. Results from a one-way ANOVA and subsequent post hoc analyses indicated that students with an excellent high school academic background have significantly higher learning indicator scores at the university level than the other groups. Notably, only 23.7% of the students belonged to this excellent category. In contrast, no statistically significant differences in learning indicators were found among students with average, fair, or good high school academic performance.

Table 1 Comparative analysis of learning indicators across socio-demographic groups

Variables		N	M	SD	t/F	Sig
Gender	Male	200	20.21	5.93	-1.17	.244
	Female	218	20.83	5.11		
Ethnic group	Kinh (majority)	340	20.29	5.56	-2.19	.034
	Khmer	78	21.73	5.14		

Classroom leadership Role	Leadership	82	22.17	5.95	2.83	.003
	No leadership	336	20.13	5.34		
High school GPA	Average	21	19.76	6.63	7.66	.000
	Fair	109	20.27	5.05		
	Good	149	20.09	5.08		
	Excellent	99	23.04	4.93		
	Prefer not to say	40	-	-	-	-
Total		418	20.53	5.52	-	

2. Learning indicators across self-esteem levels

The data in Table 2 showed that 23.4% of the sample's freshmen demonstrated low self-esteem, 69.2% were in the normal range, and only 7.4% had high self-esteem.

Table 2 Learning indicators across freshmen across self-esteem levels

Level of self-esteem	Descriptive statistics			Post-hoc comparisons				
	N (%)	M	SD	Level of self-esteem	Mean Difference	Sig.	Lower Bound	Upper Bound
Low self-esteem	98 (23.4%)	17.43	5.86	Moderate self-esteem	-4.11*	.000	-5.55	-2.67
				High self-esteem	-3.94*	.001	-6.50	-1.38
Moderate self-esteem	289 (69.2%)	21.54	4.95	Low self-esteem	4.11*	.000	2.67	5.55
				High self-esteem	.17	.984	-2.18	2.53
High self-esteem	31 (7.4%)	21.37	5.54	Low self-esteem	3.94*	.001	1.38	6.50
				Moderate self-esteem	-.19	.984	-2.53	2.18
F = 23.05; p < 0.00								

* The mean difference is significant at the 0.05 level.

Further analysis using one-way ANOVA indicated significant differences in learning indicators across levels of self-esteem. As shown in Table 2, post hoc comparisons using Turkey's HSD test revealed that students with low self-esteem scored significantly lower on learning indicators than those with moderate or high self-esteem ($p<0.05$). However, the difference in learning indicator scores between students with moderate and high self-esteem levels was not statistically significant ($p > 0.05$).

3. Impact of teacher confirmation on freshmen learning indicators across self-esteem levels

To assess the specific contribution of teacher confirmation across varying levels of self-esteem to freshmen students' learning indicators, a simple regression analysis was conducted. The analysis indicated that the models for both low and moderate self-esteem groups were statistically significant ($p < 0.01$), demonstrating that the predictors accounted for a meaningful proportion of variance in learning indicators within these groups. Conversely, the model for the high self-esteem group was not statistically significant ($p > 0.01$), indicating that the predictors did not effectively explain learning indicators for this subgroup.

As shown in Table 3, within the overall self-esteem model, regression analysis indicated that teacher confirmation was a significant predictor of freshmen's learning indicators, accounting for approximately 25.0% of the variance. When the model was examined by self-esteem levels, regression analysis for the low self-esteem group revealed that teacher confirmation explained 21.0% of the variance in learning indicators ($R^2 = 0.210$; $F = 31.05$; $p < 0.01$; $\beta=0.46$). In the medium

self-esteem group, teacher confirmation demonstrated a stronger predictive value, explaining 24.1% of the variance in learning indicators (R^2 = 0.241; F = 82.11; p < 0.01; β=0.49), which suggests a stronger association between teacher confirmation and learning outcomes in this subgroup.

Table 3 Contribution of teacher confirmation on freshmen learning indicators across self-esteem levels

Model	B	SE	β	t	p	F	R^2	Durbin - Watson	
Self-esteem	Constant	1.03	.19		5.31	.000	137.40**	0.250	1.71
	Teacher confirmation	.57	.05	.50	11.72	.000			
Low self-esteem	Constant	1.00	.36		2.77	.006	31.05**	.210	1.90
	Teacher confirmation	.53	.10	.46	5.57	.000			
Medium self-esteem	Constant	1.29	.24		5.47	.000	82.11**	.241	1.75
	Teacher confirmation	.53	.06	.49	9.06	.000			
High self-esteem	Constant	1.88	.83		2.26	.032	3.43	0.109	2.50
	Teacher confirmation	.37	.20	.33	1.85	.075			

**p value <.01

DISCUSSION

This study examined the learning indicators of Vietnamese freshmen within the first three months of their transition into university life. The mean score for learning indicators in this study was moderately high, suggesting that, despite transitional challenges, first-year students demonstrated relatively strong engagement in classroom learning activities.

The findings confirm Hypothesis 1 for nearly all socio-demographic groups, except gender. The finding reported that there was no statistically significant difference in learning indicators between male and female freshmen. This aligns with previous studies that also reported a lack of significant gender-based differences in academic performance [12; 13]. However, the analysis revealed that Khmer ethnic minority students reported significantly higher learning indicator scores than their Kinh (majority) counterparts. This finding is inconsistent with previous studies [14; 15], particularly studies in the Vietnamese context that have shown Khmer ethnic minority students tend to have lower academic performance due to systemic barriers [1; 32]. Thuy et al. showed that 51.9% of Khmer students experienced difficulties participating in classroom activities due to a lack of confidence in communication [33]. These students often exhibited reluctance to ask questions or engage in discussion and had trouble organizing and articulating their ideas clearly [34]. This observation is further supported by Nguyen's research, which found that lower academic communication skills among Khmer students were associated with reduced academic performance [34]. Nevertheless, the current findings may indicate a positive shift in this trend, as learning indicators among Khmer students in the Mekong Delta of Vietnam appear to be higher than those of Kinh students, warranting further investigation into the underlying factors driving this change.

Another influential factor identified in this study was students' roles within the classroom. Students who held leadership positions, such as class monitors or group leaders, reported significantly higher learning indicator scores than those without such roles, which may be explained by their greater engagement in academic and extracurricular activities, which may foster the development of regulated learning skills and academic motivation. This finding is consistent with previous research [17; 18]. Abbas et al. explained that engagement in leadership activities fosters a sense of responsibility and cultivates essential skills such as time management and motivation [18], which are critical for academic achievement.

Building upon the above findings, it is also important to consider students' academic background prior to entering university. The findings of this study revealed significant differences in learning indicators across high school GPA levels. However, this difference was only statistically significant among a subgroup of students who graduated with an excellent GPA, accounting for 23.7% of

the sample. Consistent with Richardson [20], who identified high school GPA was a medium-sized predictor of success, our study confirms the stability of academic correlates previously reported in correlation of university academic performance across diverse educational settings in broader context [1; 20]. The lack of significant differences among students with average to good high school GPAs suggests that pre-university academic performance may not consistently predict achievement across all achievement levels. This finding supports the view that university learning involves a broader set of skills beyond cognitive preparedness, such as self-regulation, adaptability, academic resilience, and personal and social resources [35].

The findings support Hypothesis 2, indicating teacher confirmation significantly predicts freshmen students' learning indicators across different levels of self-esteem. Firstly, the results of this study revealed that students with low self-esteem exhibited significantly lower cognitive learning than those with moderate or high self-esteem. This is consistent with previous research linking low self-esteem to poor academic performance [24; 31]. Acosta-Gonzaga explained that when students lack confidence in their academic ability, they are more likely to experience negative emotions such as boredom, anxiety, sadness, or frustration, and to display behaviors such as passivity, distraction, and psychological disengagement [31]. Importantly, this study highlights the significant contribution of teacher confirmation to freshmen students' learning indicators. This finding aligns with previous research emphasizing the role of positive teacher–student interaction in fostering academic engagement and motivation [9; 16]. Similarly, Pham et al. found that student self-confidence enhances proactive learning and that teacher confirmation interacts with this trait to improve both engagement and academic outcome [36].

In the current study, teacher confirmation did not significantly predict learning indicators among students with high self-esteem. However, for students with low to moderate self-esteem, teacher confirmation emerged as a significant predictor of learning outcomes. These results suggest that students with lower self-esteem may be more receptive to affirming behaviors from instructors, possibly due to a greater need for external validation and encouragement, which effective instructional practices can leverage to enhance their academic achievement [37]. In contrast, students with high self-esteem may rely more heavily on internal motivation and self-regulatory strategies, thereby reducing the observable effect of teacher confirmation on their academic engagement.

These insights underscore the importance of creating a psychologically responsive classroom environment, particularly for students with lower or moderate self-esteem. Teacher behavior, such as responding to student questions, demonstrating genuine interest, and employing interactive teaching strategies, can help students feel recognized and valued as meaningful contributors to the learning process [22].

CONCLUSION

The present study revealed several significant findings concerning learning indicators among Vietnamese freshmen. Students from Khmer ethnic minority groups exhibited higher learning indicator scores compared to those from the ethnic majority. Furthermore, students with leadership experience demonstrated substantially greater learning engagement than their counterparts. Students who graduated from high school with excellent academic performance also displayed higher learning indicators during their first year than those with lower prior academic achievement. However, no gender differences were observed during the first three months.

The study highlighted the influence of self-esteem on perceived cognitive learning. Students with low self-esteem demonstrated significantly lower learning indicators than their moderate to high self-esteem. Additionally, teacher confirmation emerged as a vital positive predictor for students with low and moderate self-esteem, whereas this relationship was non-significant for those with high self-esteem.

These findings indicate that universities should prioritize support for students with low and moderate self-esteem, especially during their first year, by cultivating a psychologically responsive classroom environment. Teacher confirmation, characterized by affirming communication, responsiveness, and supportive interaction, is essential for improving students' learning outcomes and fostering equitable engagement across diverse student groups.

LIMITATIONS AND STUDY FORWARD

Although the present study offers valuable insights, several limitations must be acknowledged. First, data were collected from a single institution, Tra Vinh University. Consequently, the generalizability of the findings to other universities, especially those in different regions or with distinct institutional profiles, may be constrained. Second, the study was conducted during the initial three months of students' transition to university, a period that primarily captures their early adjustment phase. Therefore, the measurement of learning indicators focused solely on cognitive aspects and did not include actual academic performance data, such as grade point average.

Considering these limitations, future research should seek to broaden the scope of inquiry to include multiple universities, thereby enhancing external validity. Additionally, subsequent studies could assess students' learning indicators at the end of the first semester, when grade point average data become available, to provide more comprehensive insights into the relationship between learning indicators and actual academic performance over time. Furthermore, future investigations may benefit from employing longitudinal research designs to track changes in learning indicators across academic years and from considering the influence of non-cognitive variables, such as learning motivation or cultural factors, which may interact with teacher confirmation and self-esteem to shape first-year students' academic experiences.

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