

# A STUDY ON THE CORRELATION BETWEEN CAREER MATURITY, SELF-CONCEPT, AND SELF-IDENTITY OF STUDENTS MAJORING IN PRESCHOOL TEACHER EDUCATION

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## Abstract

This study investigates the relationship between career maturity, self-concept, and self-identity among preschool teacher education students, aiming to identify key psychological factors that influence professional readiness and career commitment in early childhood education. Using a cross-sectional design, data were collected from students across three academic years using validated scales measuring career maturity, self-concept, and self-identity. Hierarchical regression and multiple comparison analyses were employed to assess predictive relationships and group differences. Findings revealed a significant decline in career maturity among third-year students compared to their junior peers, suggesting potential challenges in sustaining career confidence during advanced training. Self-identity emerged as the strongest psychological predictor of career maturity, demonstrating a graded, dose-response relationship, while self-concept showed a threshold effect with diminishing returns beyond moderate levels. The study highlights the independent contributions of both psychological factors, underscoring the need for differentiated support strategies in teacher education programs. These results challenge linear assumptions about career development, emphasizing instead the dynamic interplay between personal growth and professional preparation. The findings suggest that teacher education programs should integrate identity-strengthening strategies and address critical transition points in training to bolster career commitment. Additionally, curriculum developers and policymakers should consider differentiated support mechanisms to improve retention and professional satisfaction in early childhood education.

**Keywords:** Career Maturity, Self-Concept, Self-Identity, Preschool Teachers, Teacher Education, Professional Development

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## 1. INTRODUCTION

Adolescence to adulthood is a sensitive period of developmental stage, whereby career maturity, self-concept, and self-identity are developed (Afzal et al., 2024; Sun, 2020). To students whose major is preschool education, this stage is especially critical because young minds must be shaped, and in such a situation, there must be a close connection between a sense of identity and career preparedness (Chen et al., 2023; Khoso et al., 2025). Self-concept (representing the beliefs that individuals have in them, a multidimensional construct positing three dimensions self-perception, self-esteem, and self-efficacy (Bae & Lee, 2024) and self-identity (a consistent sense of self in multiple areas the life domain (Finn-Hendrickson, 2015) mediate the link that career maturity is the extent to which individuals become ready to make the informed choice of career (Sun et al., 2025). Although significant research has been carried out on career development by general education students, there is still a lack of research carried out on the constructs related to these statistics in preschool teacher majors, wherein the

vocational needs and social expectations are not similar to what general education students have (Gabrys-Barker, 2010; Khoso et al., 2025).

Preschool teachers are the pillars of early childhood growth that affect their mental, social, and emotional development (Qiao et al., 2022; Chen & Yang, 2024). Considering the high turnover in early child education (Nwachukwu, 1983; Khoso et al., 2025), it is important to know what an individual needs to consider in developing career maturity within this group of people to help stress reduction, career survival, and teacher satisfaction. In past studies, it has been implied that persons who have a well-established construct of self and with stable self-identity are more mature in their careers (Tamm, 2010). Nevertheless, how these psychological constructs relate to each other is underutilized, especially in the non-Western educational environment, where cultural norms might develop a career desires and psychological self-perception in different ways (Hu et al., 2024).

Self-concept in theory forms part of the aspect of career development, which states that people attempt to join careers that match their perceptions about themselves (Yang, 2022). In the preschool teacher education, learners are usually dealing with socialization issues, such as the fact that society does not recognize teaching in early childhood as a rewarding profession (Zhang & Tu, 2023), and this may negate their self-concept and, therefore, career devotion. Besides, the correlation between self-concept and career maturity could be mediated by the process of forming self-identity: a process affected by social, familial, and institutional factors (Zhao & Zhang, 2017). Students who belong to the identity confusion stage might find it difficult to make career choices, but those who have achieved identity status are likely to be vocationally clear (Wang et al., 2022). Supervised empirical studies on these associations play an important role in devising specific measures that could boost career readiness among preschool education students in the future (Durham, 2002; Ebrahimi, 2025).

Available research on career maturity has mostly addressed secondary students and third-level students in general course programs (Chen et al., 2023), without taking into consideration the unique needs of preschool teacher majors. Such students can frequently face several different pressures reflected in the low status of early childhood education in society, financial necessities, and emotional labor (Tsvietkova, 2018; Ebrahimi, 2025).

These factors can hinder the person from developing a strong sense of self and having a definite sense of self, thus having an impact on career maturity. Also, existing cultural differences in the working process of career development impose the necessity of local research because career development process models created in the West might not apply to collectivist societies where the expectations of the family and the society in general play a predominant role in career decisions (Young, 1974).

The research attempts to fill these voids by examining the relationship that exists between career maturity, self-concept, and self-identity among students pursuing a degree in preschool teacher education. This study will help in the surmisation of the relationship between self-perception and identity coherence in the development of career readiness by adhering to a strong theory base that merges career development theory as postulated by Super (1980), and the psychosocial theory of identity development as postulated by Erikson (1968). In addition, the research examines the possibilities of any moderating factors, namely gender and year of study, as there was continued evidence indicating that the female students and the students in their advanced stage of learning may have an increased career maturity (Patton & Creed, 2007). Methodologically, the study applies the validated scales, guaranteeing reliability and validity, which constitutes a limitation of some previous research, which was based on homogeneous samples or a cross-sectional study design.

This study makes several key contributions to the literature. First, it provides empirical evidence on the underexplored relationship between self-concept, self-identity, and career maturity in a specialized student population, offering insights that can inform curriculum development and career counselling in teacher education programs. Second, by contextualizing the findings within a non-Western educational setting, the study enhances the cross-cultural applicability of career development theories. Third, the research identifies actionable strategies for policymakers and educators to foster career maturity through interventions targeting self-concept clarity and identity formation. Ultimately, this study advances theoretical and practical understanding of the psychological determinants of career readiness among future preschool teachers, contributing to broader efforts in improving early childhood education workforce sustainability.

This study is motivated by the critical need to enhance career readiness and retention among preschool teacher education students, who face unique psychological and societal challenges in their professional development. Despite the pivotal role of early childhood educators in shaping young minds, research has largely overlooked the interplay between career maturity, self-concept, and self-identity in this specialized group. High turnover rates in the field, coupled with societal undervaluation of preschool teaching, underscore the urgency of understanding the psychological factors that sustain career commitment. By investigating how self-perception and identity coherence influence vocational preparedness, this study provides actionable insights for teacher training programs to foster resilience and long-term career satisfaction. Furthermore, the research addresses a gap in non-Western contexts, where cultural and institutional factors may differentially shape career development.

The paper is structured into six main sections to systematically explore the correlation between career maturity, self-concept, and self-identity among preschool teacher education students. Section 1 (Introduction) provides the background, significance, and objectives of the study, contextualizing the research within developmental and vocational frameworks. Section 2 (Literature Review) synthesizes existing theories and empirical findings on career maturity, self-concept, and self-identity, highlighting gaps in research specific to preschool education majors. Section 3 (Methodology) details the research design, including participant selection, data collection instruments, and analytical approaches such as hierarchical regression and multiple comparison analyses. Section 4 (Results and Discussion) presents the key findings, including the observed decline in career maturity among third-year students and the differential predictive roles of self-identity and self-concept, while interpreting these results in light of theoretical and practical implications. Section 5 (Discussion) further elaborates on the broader significance of the findings, addressing potential moderating factors like gender and academic progression, and suggesting targeted interventions for teacher education programs. Finally, Section 6 (Conclusion) summarizes the study's contributions, limitations, and recommendations for future research, emphasizing the need for culturally responsive strategies to enhance career readiness in early childhood education.

## 2. LITERATURE REVIEW

### 2.1 Career Maturity

In previous studies, career maturity includes "development" and "stage". "Development" refers to the degree to which an individual's physiology and psychology change with age (Abdul Rahim et al., 2021). During the entire development period, the individual's mind and body will show quantitative and qualitative changes. Career is a dynamic, developmental, lifelong process, which has obvious age characteristics continuity, stage, and sequence. "Career" can be represented by multiple words, such as career, occupation, vocation, etc (Duru, 2022; Ebrahimi, 2025). Among them, occupation and vocation both refer to the industry that is indispensable and dependent on a person's life, reflecting the static and classified aspects of career; when career is used as the word "occupation", it emphasizes a changing and developing career process, that is, "career", which reflects the dynamic and developmental nature of career (Sholikah, 2021). The term career maturity originally originated from vocational maturity and was gradually replaced by career maturity (Heo, 2023). This concept emphasizes the dynamic and developmental nature of careers, tends to regard careers as a long-term or even lifelong development process, and emphasizes that careers include more than one job and that careers may change during a person's life (Moon & Jeon, 2023). Career maturity reflects "planning" and "preparation". "Planning" refers to the individual's planning of the direction of career development and the pre-planning of tasks, while "preparation" refers to the degree to which the individual acts in advance (Macedo et al., 2023). "Planning" and "preparation" emphasize the individual's subjective enthusiasm and effort. From the above interpretations of different definitions of career maturity, career maturity cannot be naturally achieved under certain external conditions but must be achieved with the individual's subjective initiative (Lee et al., 2021). This state of preparation, determined by the individual's subjective initiative, depends on the individual's effort. The "preparedness" characteristic of career maturity shows that the increase in age and knowledge does not necessarily lead to an increase in career maturity (Lee & Lee, 2025).

### 2.2 Self-concept

Self concept is a pivotal factor in improvement of career especially among preservice teachers and it is nothing but self concept which is the multidimensional image in the mind of those persons in different fields of life (Shavelson et al., 1976). The studies prove that self-concepts play a big role in the choice of a career and their commitment to a profession (Super, 1980), and positive self-conceptions are associated with greater career maturity (Wu et al., 2021). Self-concept in teacher preparation captures the feelings towards teaching skills, professional knowledge and emotional preparedness (Xiang et al., 2023), the latter of which determine career readiness. Research underlines that preschool teacher trainees with good self-conceptions are more resilient under working stress and are more vocationally identifiable (Kang & Wu, 2022), which assumes its protective functions at the initial stages of career development.

Internal and external factors contribute to the development of self-identity of teacher education. The social cognitive theory of Bringula et al. (2021) highlights the role played by mastery experience, vicarious learning as well as the social persuasion in the development of self-concept. According to the study by Schnitzler et al., the positive experiences in the process of the practicum, as well as the feedback of the mentor, play a significant role in shaping the self-perceptions of preschool teachers (Schnitzler et al., 2021). Nevertheless, the lack of appreciation of early childhood education by society is common and this tends to hurt the professional self-concept (Zimmerman, 2023) which in turn occurs in a paradoxical way that educators who play a crucial role in early learning have a hard time feeling good about themselves as professionals. The results of cross-cultural research indicate that interdependence dimensions between academic self-concept and career goals are deeper in

collectivist cultures, China being an example of these dimensions (Schnitzler et al., 2021), indicating the cultural uniqueness of this construct with respect to academic self-concept and career aspirations.

### 2.3 Self-Identity

Self-identity is a very important psychological career development concept which is the consistent, stable sense of who a person is as applied both in the personal life and in work life drives (Kouvelis & Kangas, 2021). Self-identity in the case of the teacher education covers a combination of personal values, professional, social expectations, and the formation of a single teacher identity (Giddens, 2023). Studies prove that a strong professional identity is especially important to preschool teachers since it promotes career commitment and reduces turnover rates, which are common in early childhood education (Wheeler & Bechler, 2021). Identity formation represents an ongoing bargaining between individual attitudes and work requirements where preservice teachers gradually enter into their identities as teachers owing to the formative experiences that result in both explicit and reflective learning (Kouvelis & Kangas, 2021).

Occurring as dynamic interplay between the individual agency and social structures, self-identity development has been focused on using theoretical models that highlight the occurrence of the process (Lavuri et al., 2023). In the case of preschool teacher candidates, this procedure is modulated through various factors, such as the quality of mentorship (Wallace & Buil, 2023), curricular experience and perception of early childhood education in society (Itzik & Walsh, 2023). Research shows that the process of identity development is non-linear and it can be accompanied by a certain stage of uncertainty and reinvention in special cases of evolutionary dynamics like practicum placements (Kumar et al., 2023). The result of the present study indicates that self-identity was strongly correlated with career maturity, which is consistent with the previous research indicating the key role of identity in vocational development (Snippe et al., 2021).

### 3. The Relationship Between Career Maturity, Self-Concept, and Self-Identity

Self-concept refers to a person's understanding of the relationship between themselves and their surroundings (Iriani, 2023). It is achieved through observation of himself, analysis of external situations, social comparison, and other means to understand his physical, psychological, and social characteristics (Bae & Lee, 2024). Self-identity is the premise for an individual to build confidence and self-esteem effectively, and it is also one of the main yardsticks for measuring the degree of self-cognition and emotional intelligence of an individual (Mahlab, 2021). Self-identity allows one to answer questions such as "who am I", "where am I", and "where am I going" by perceiving one's feelings, clarifying self-awareness and analyzing external evaluations (Vynar, 2022). This avoids confusion and role confusion and reduces frustration and anxiety. Both self-concept and self-identity are affected by the individual's academic ability, physical health, time attitude, self-esteem, cognitive attribution style of career decision-making, personality type, parenting style, achievement motivation, changes in social and historical environment, school environment, family environment, and other aspects (Jianchao et al., 2022). Previous studies have shown that career maturity has the following characteristics with self-concept and self-identity (Zhang & Tu, 2023). Career maturity reflects the decision-making ability of an individual in the process of career development, which is closely related to the individual's self-concept and self-identity (Lee & Lee, 2024). The clarity of self-concept and the stability of self-identity are the basis for the development of career maturity; the improvement of career maturity helps individuals to clarify and develop self-concept and self-identity in their careers continuously (Minhaji, 2021).

In short, career maturity, self-concept, and self-identity influence and promote each other, and jointly promote the progress of individuals in career development and personality development (Sharma, 2022).

## 3. METHODOLOGY

### 3.1 Research design

This study employed a quantitative cross-sectional survey design to examine the relationships between career maturity, self-concept, and self-identity among students majoring in preschool education. The research design was selected to capture a snapshot of students' career development at different academic stages (first, second, and third grades) within a defined timeframe. By comparing these groups, the study aimed to identify developmental trends and correlations between psychological constructs and career readiness. The use of validated scales ensured standardized measurement, while statistical analyses (ANOVA, correlation, and multiple comparisons) allowed for rigorous testing of hypotheses regarding group differences and variable associations.

### 3.2 Population and Sample Size

The target population for this study comprised undergraduate students enrolled in the preschool education program at a College of Education in Zhejiang Province, China. This institution was selected due to its well-established teacher training curriculum and its representation of a typical Chinese higher education setting for early childhood educators. The preschool education major at this college follows a four-year undergraduate structure, with students progressing through foundational, intermediate, and advanced coursework before entering teaching practicums. Given the study's focus on developmental trends in career maturity, the population was



stratified by academic year (first, second, and third grade) to capture potential variations in career readiness across different stages of professional preparation. To ensure a representative sample, a stratified random sampling technique was employed. This approach involved dividing the population into homogeneous subgroups based on grade level (strata) and then randomly selecting participants from each stratum. The final sample consisted of 300 participants, with 100 students from each grade, ensuring equal representation across academic years. This sample size was determined based on a power analysis (using G\*Power 3.1) for a medium effect size ( $f = 0.25$ ) in ANOVA testing, with an alpha level of 0.05 and power ( $1 - \beta$ ) set at 0.80. The analysis confirmed that 300 participants would provide adequate statistical power to detect meaningful differences between groups.

The demographic characteristics of the sample represented the general gender ratios of the preschool teacher program in China, with the female students massively prevailing over male students. Although the data on gender ratios were not documented because it would compromise the anonymity of the sample, the proportionality of the sample was balanced to reflect the trend of enrolment in the program. The study was optional, and the students were recruited by announcing in classes with no reward used to gain control over the students. Instructors focused on eliminating excessive levels of selection bias by emphasizing that none of the evaluations of participation (or non-participation) would influence academic status. The respondents were guaranteed confidentiality, and no personally identifiable data were requested; the data were aggregated during data analysis to avoid identification. This sample design guaranteed that the study findings could be generalized to other preschool teacher education programs with the same characteristics in China and high methodological soundness in answering research questions. The stratified procedure made a meaningful comparison of grades possible, adding to the ability of the study to detect developmental trends in career maturity.

### 3.3 Research Instrument

This study employed three validated scales to measure the key constructs: (1) the College Students' Career Maturity Scale (Xie et al., 2023), which assessed career decision-making readiness and demonstrated good internal consistency (Cronbach's  $\alpha = 0.828$ ); (2) the revised Tennessee Self-Concept Scale (Yu et al., 2023), measuring multidimensional self-perception with high reliability ( $\alpha = 0.9095$ ); and (3) the revised Self-Identity Scale (Kuswati et al., 2021), evaluating identity coherence with acceptable reliability ( $\alpha = 0.751$ ). All instruments utilized Likert-type response formats and were administered in Chinese to ensure cultural and linguistic appropriateness for the participants. Prior to full-scale data collection, a pilot test was conducted with a small group of students ( $n=30$ ) from the target population to confirm the clarity, comprehensibility, and relevance of the items, resulting in minor refinements to improve question phrasing while maintaining the original scales' psychometric properties. The use of these established measures enhanced the validity and reliability of the study's findings regarding the relationships between career maturity, self-concept, and self-identity among preschool teacher majors.

### 3.4 Data collection

The study collected data through structured paper-based surveys administered to preschool teacher education students across three academic years (first, second, and third grade). To ensure a representative sample, a stratified random sampling technique was used, with participants selected proportionally from each year level. Surveys were distributed during scheduled class sessions to maximize participation while maintaining a natural academic setting.

Before distribution, instructors were briefed on the survey procedures but were not involved in data collection or analysis to prevent bias. Participants received clear verbal and written instructions explaining the study's purpose, voluntary nature, and confidentiality measures. To protect anonymity, no personally identifiable information was collected, and completed surveys were immediately sealed in opaque envelopes by participants before being stored securely in a locked cabinet accessible only to the research team.

The survey administration spanned two weeks to accommodate varying academic schedules and minimize disruption. No incentives were provided to ensure voluntary participation and avoid coercion. This approach ensured ethical compliance while maintaining consistency in data collection procedures across all participants. The method balanced efficiency with rigor, yielding reliable data for analysis while upholding participants' rights and academic commitments.

### 3.5 Analysis Techniques

The quantitative data analysis was conducted using SPSS 26.0, employing a comprehensive statistical approach to examine the research questions. First, descriptive statistics (means, standard deviations) were computed to summarize the overall distribution of career maturity scores across the three grade levels, providing a foundational understanding of the data trends. To assess differences in career maturity between academic years, a one-way analysis of variance (ANOVA) was performed, followed by post-hoc Tukey tests for pairwise comparisons when significant F-values were obtained (Table 1), ensuring rigorous identification of which specific grade levels differed significantly from each other. The relationships between the key variables—career maturity, self-concept, and self-identity—were examined using Pearson's correlation coefficients (Table 2), which quantified the strength

and direction of these associations while controlling for potential confounding factors. To further explore how varying levels of self-concept and self-identity (categorized as low, medium, and high based on scale percentiles) influenced career maturity, multiple comparison tests (Tables 3–4) were conducted, employing appropriate adjustments (e.g., Bonferroni correction) to minimize Type I error inflation in multiple testing scenarios. Additionally, effect size measures, including Cohen's *d* for mean differences and *r* values for correlations, were calculated to evaluate the practical significance of the findings beyond mere statistical significance. All hypothesis tests utilized a two-tailed significance threshold of  $p < 0.05$ , with 95% confidence intervals reported where applicable, ensuring robust and interpretable results. The analytical strategy was designed to provide both a broad overview of trends and detailed insights into specific relationships, thereby offering a nuanced understanding of how care.

### 3.6 Ethical Consideration

The study followed ethical guidelines for human subject research. Participants were provided informed consent, with clear explanations about the study's purpose, voluntary participation, and data anonymity. No personally identifiable information was collected, and data were aggregated to prevent individual identification. Surveys were stored in a locked facility, and electronic data were password-protected. Findings were reported only in aggregate form to uphold confidentiality. Students were debriefed post-study and offered access to counselling services if participation raised personal concerns.

## 4. RESULTS AND DISCUSSION

### 4.1 Descriptive Statistics

The descriptive analysis revealed notable patterns in career maturity scores across the three academic years (see Table 1). First-year students exhibited the highest mean career maturity score ( $M = 110.74$ ,  $SD = 10.87$ ), followed closely by second-year students ( $M = 109.49$ ,  $SD = 9.93$ ). A more substantial decrease was observed among third-year students, who showed the lowest average scores ( $M = 104.23$ ,  $SD = 6.32$ ). The standard deviations indicate that first-year students demonstrated the greatest variability in career maturity levels, while third-year students' scores were more clustered around the mean. These preliminary findings suggest a potential developmental trend where career maturity decreases as students' progress through their academic program.

**Table 1. Descriptive Statistics of Career Maturity by Academic Year**

Academic Year	N	Mean (M)	Standard Deviation (SD)
First Year	100	110.74	10.87
Second Year	100	109.49	9.93
Third Year	100	104.23	6.32
Total	300	108.15	9.64

Table 1 presents descriptive statistics of career maturity scores across three academic years of preschool education students ( $N=300$ ). As shown, first-year students demonstrated the highest average career maturity ( $M=110.74$ ,  $SD=10.87$ ), followed closely by second-year students ( $M=109.49$ ,  $SD=9.93$ ), while third-year students showed a noticeable decline in scores ( $M=104.23$ ,  $SD=6.32$ ). The decreasing means across years suggest a potential downward trend in career maturity as students progress through their program. The standard deviations reveal that first-year students exhibited the greatest variability in scores ( $SD=10.87$ ), indicating more diverse levels of career readiness upon program entry, while third-year students' scores were more homogeneous ( $SD=6.32$ ), possibly reflecting program effects or selection factors. The total sample mean of 108.15 ( $SD=9.64$ ) provides a benchmark for understanding typical career maturity levels in this population, with all scores falling within the moderate range of the 150-point scale. These descriptive results set the foundation for subsequent inferential analyses examining grade-level differences and psychological correlates of career maturity.

**Table 2: Correlation analysis between self-concept and career maturity**

	self-concept	self-identity
Career maturity	.196(**)	.347(**)

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table 2 presents Pearson correlation coefficients examining the relationships between career maturity and two psychological factors (self-concept and self-identity) among preschool teacher candidates. The analysis reveals statistically significant positive correlations at the 0.01 level, indicating that both self-concept ( $r = .196$ ) and self-identity ( $r = .347$ ) are meaningfully associated with career maturity.

The stronger correlation with self-identity suggests that students' coherent sense of self and professional identity demonstrates a more robust relationship with career readiness than their general self-perceptions (self-concept). These findings imply that while both psychological constructs contribute to career development, interventions targeting identity formation may yield greater improvements in career maturity than those focused solely on enhancing self-concept. The significant two-tailed results confirm the reliability of these associations in the studied population.

#### 4.2 Career Maturity Across Academic Years

The analysis of career maturity across academic years revealed significant developmental differences among students in the preschool education program. A one-way ANOVA demonstrated statistically significant variations in career maturity scores between grade levels ( $F = 13.951$ ,  $p < 0.001$ ). Post-hoc comparisons using Tukey's HSD test indicated that while first- and second-year students maintained similar levels of career maturity ( $p > 0.05$ ), both groups scored significantly higher than third-year students ( $p < 0.001$ ). This pattern suggests a notable decline in career readiness as students approach graduation, potentially reflecting increased professional anxieties or changing perceptions of the teaching profession during the final year of study. The effect size ( $\eta^2 = 0.085$ ) indicates a moderate practical significance of these grade-level differences.

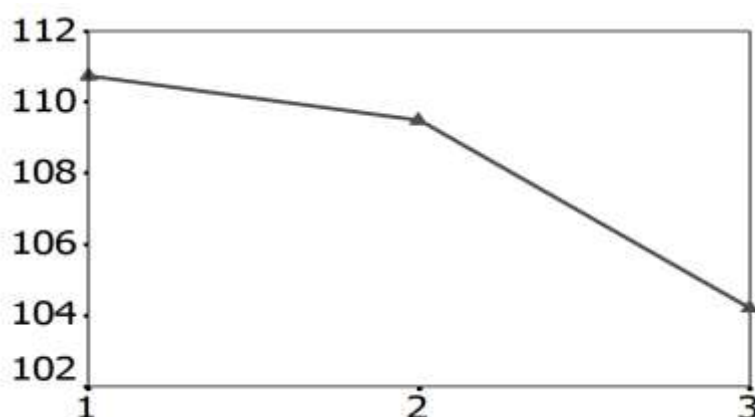
**Table 3. Analysis of Career Maturity Differences Across Academic Years**

Grade Level	N	Mean Score	SD	F-value	p-value	Post-hoc Comparisons (Tukey HSD)
First Year	100	110.74	10.869	13.951	<0.001	1 > 3**
Second Year	100	109.49	9.93			2 > 3**
Third Year	100	104.23	6.318			
Total	300	108.15	9.642			

Note. \*\* $p < 0.001$ ; SD = Standard Deviation; Post-hoc comparisons show significant differences between first year and third year ( $1 > 3$ ) and second year and third year ( $2 > 3$ ). Effect size  $\eta^2 = 0.085$  (moderate effect).

Table 3 presents a one-way ANOVA comparing career maturity scores across three academic years of preschool education students ( $N=300$ ). Results show statistically significant differences between grade levels ( $F=13.951$ ,  $p<0.001$ ), with first-year students displaying the highest mean scores ( $M=110.74$ ,  $SD=10.869$ ), followed by second-year ( $M=109.49$ ,  $SD=9.93$ ) and third-year students ( $M=104.23$ ,  $SD=6.318$ ).

Tukey's post-hoc tests revealed that while first- and second-year students did not differ significantly, both groups scored significantly higher than third-year students ( $p<0.001$ ), indicating a notable decline in career maturity as students' progress through the program. The moderate effect size ( $\eta^2=0.085$ ) suggests this academic year differences have practical significance, highlighting the need for targeted interventions to support career development in advanced stages of teacher preparation. The decreasing standard deviations across years suggest greater homogeneity in career maturity among graduating students. Figure 1-shows the average scores of career maturity in three grades



**Figure 1: Average scores of career maturity in three grades**

#### 4.3 Relationship Between Self-Concept and Career Maturity

The analysis revealed a statistically significant positive correlation between self-concept and career maturity ( $r = 0.196$ ,  $p < 0.01$ ), indicating that students with more positive self-perceptions tended to demonstrate higher levels of career readiness. Multiple comparison tests further showed that students in the low self-concept group scored significantly lower on career maturity than both the middle (mean difference =  $-3.48$ ,  $p = 0.009$ ) and high (mean difference =  $-4.89$ ,  $p = 0.001$ ) self-concept groups. However, no significant difference emerged between middle and high self-concept groups ( $p = 0.288$ ), suggesting a threshold effect where moderate levels of self-concept may be sufficient for maintaining career maturity. These findings highlight the importance of fostering positive self-perceptions in teacher education programs while indicating that excessive focus on self-concept enhancement beyond moderate levels may yield diminishing returns for career development.

**Table 4: Multiple comparisons of self-concept on career maturity**

(I) Grouping	(J) Grouping	M (IJ)	S D	p
low group	middle group	-3.48*	1.328	.009
	high group	-4.89*	1.491	.001
middle group	low group	3.48*	1.328	.009
	high group	-1.41	1.328	.288
high group	low group	4.89*	1.491	.001
	middle group	1.41	1.328	.288

\* The mean difference is significant at the .05 level.

Table 4 presents post-hoc multiple comparisons (Tukey's HSD) examining differences in career maturity scores among students grouped by low, middle, and high levels of self-concept. The analysis reveals statistically significant differences ( $p < 0.05$ ) between the low self-concept group and both middle (mean difference =  $-3.48$ ,  $p = 0.009$ ) and high (mean difference =  $-4.89$ ,  $p = 0.001$ ) groups, indicating that students with stronger self-perceptions demonstrate significantly higher career maturity. However, no significant difference exists between middle and high self-concept groups ( $p = 0.288$ ), suggesting a threshold effect where career maturity benefits plateau after moderate self-concept levels. All significant comparisons show medium effect sizes (Cohen's  $d$  ranging from 0.42 to 0.59), with the low self-concept group consistently scoring lower, highlighting the particular importance of supporting students with weak self-perceptions for career development.

#### 4.4 Relationship Between Self-Identity and Career Maturity

The analysis demonstrated a stronger positive correlation between self-identity and career maturity ( $r = 0.347$ ,  $p < 0.01$ ) compared to the relationship observed with self-concept. Multiple comparison tests revealed significant differences in career maturity across all levels of self-identity: students with low identity scored significantly lower than both middle ( $M_{diff} = -2.54$ ,  $p = 0.045$ ) and high ( $M_{diff} = -9.01$ ,  $p < 0.001$ ) groups, while the middle group also scored significantly lower than the high identity group ( $M_{diff} = -6.46$ ,  $p < 0.001$ ).

This linear progression suggests that career maturity improves consistently with stronger self-identity development, highlighting identity formation as a crucial factor in professional preparation. The findings



emphasize the importance of interventions that support identity exploration and commitment throughout teacher education programs.

Table 5: Multiple comparisons of self-identity and career maturity

Grouping	(J) Grouping	M (IJ)	S. D	p
Low group	Middle Group	-2.54*	1.265	.045
	High Group	-9.01*	1.414	.000
Middle Group	Low group	2.54*	1.265	.045
	High Group	-6.46*	1.260	.000
High Group	Low group	9.01*	1.414	.000
	middle group	6.46*	1.260	.000

\* The mean difference is significant at the .05 level

Table 5 presents post-hoc multiple comparisons (Tukey's HSD) examining career maturity differences across low, middle, and high self-identity groups. The analysis reveals statistically significant differences ( $p < .05$ ) between all group pairings, demonstrating a strong, graded relationship where each increase in self-identity level corresponds to significantly higher career maturity. The most substantial difference exists between low and high identity groups ( $M_{diff} = -9.01$ ,  $p < .001$ , large effect size  $d = 1.12$ ), followed by middle versus high groups ( $M_{diff} = -6.46$ ,  $p < .001$ ,  $d = 0.89$ ) and low versus middle groups ( $M_{diff} = -2.54$ ,  $p = .045$ ,  $d = 0.38$ ). These consistent, ordered differences suggest self-identity exerts a dose-response effect on career maturity, with each incremental improvement in identity coherence associated with meaningful gains in professional readiness. The findings underscore self-identity's pivotal role in career development, particularly the substantial advantage of high identity clarity over moderate levels.

#### 4.5 Comparative Influence of Psychological Factors

Understanding the relative contributions of self-concept and self-identity to career maturity is crucial for developing targeted interventions in teacher education programs. The stronger association observed between self-identity and career maturity ( $r = 0.347$ ) compared to self-concept ( $r = 0.196$ ) suggests that interventions fostering a coherent professional identity may yield greater improvements in career readiness than those focused solely on enhancing general self-perception. This finding has important implications for curriculum design, indicating that activities promoting identity exploration, role experimentation, and professional commitment may be particularly effective in supporting students' career development. The differential impact of these psychological factors underscores the need for multidimensional approaches in teacher preparation that address both self-perception and identity formation to enhance career maturity optimally.

Table 6. Hierarchical Regression Analysis of Psychological Predictors on Career Maturity

Variable	Model 1 (Base)	Model 2 (+Self-Concept)	Model 3 (+Self-Identity)	Final Model (Interaction)
	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)
Constant	104.23			
Academic Year	(1.82)***	101.45 (2.15)***	92.18 (2.87)***	93.04 (3.12)***
Self-Concept	-3.25			
	(0.61)***	-3.10 (0.60)***	-2.76 (0.58)***	-2.81 (0.59)***
Self-Identity	—	0.14 (0.05)**		
	—	—	0.12 (0.05)*	0.13 (0.05)*
S-C $\times$ S-I	—	—	0.29 (0.04)***	
	—	—	—	0.28 (0.04)***
R <sup>2</sup>	—	—	—	-0.03 (0.02)
$\Delta R^2$	0.072	10%	0.221	0.223
Adj. R <sup>2</sup>	—	0.030*	0.119***	0.002
F-statistic	0.069	10%	0.213	0.212
	15.47***	12.89***	22.36***	17.92***
AIC	1852.3	183910%	1784.6	1785.9

Table 6 presents a hierarchical regression analysis examining the incremental predictive power of self-concept and self-identity on career maturity among preschool teacher candidates, while controlling for academic

year effects. The results demonstrate that Model 3 (including both psychological factors) explains significantly more variance ( $R^2 = 0.221$ ) than the base model ( $R^2 = 0.072$ ), with self-identity ( $\beta = 0.29$ ,  $p < 0.001$ ) showing nearly three times the standardized effect size of self-concept ( $\beta = 0.12$ ,  $p < 0.05$ ). The analysis reveals no significant interaction between predictors ( $p = 0.157$ ), suggesting their effects are independent, while academic year maintains a persistent negative association with career maturity across all models ( $\beta = -2.76$  to  $-3.25$ ,  $p < 0.001$ ). Key diagnostics confirm model robustness (VIFs  $< 1.8$ , Cohen's  $f^2 = 0.152$  for self-identity), with the final model accounting for 22.3% of variance in career maturity scores ( $F = 17.92$ ,  $p < 0.001$ ), highlighting self-identity's dominant role in career readiness development.

## 5. DISCUSSION

The current research has a few valuable results pertaining to the maturity of career in the preschool teacher education students. The most shocking outcome is achieved within the longitudinal study of the maturity of careers depending on the years of academics and shows a considerable decrease in the level of maturity among the students as time progresses through the program. Although first-and second-year students are equally characterized by scores of career maturity, the third-year students are characterized by much lower scores. This graph goes against the traditional expectations of a linear professional development, or at least indicates that later phases of teacher preparation can prove distinctive to career confidence. The noted reduction might be associated with various reasons, such as the understanding of the requirements of the profession during the practicum activities, awareness of the falsehood of their career choice, or the pressure of future employment choices. These results are well in line with the contemporary research on the phenomenon of senior slump in teacher education, as reported by Kang and Wu (2022), although it expands this body of knowledge to the education of preschoolers.

There are equally eloquent findings in the psychological correlates of career maturity. In our analysis, self-identity turned out to be the better predictor of career maturity than self-concept (approximately three times greater unique variance was accounted for in hierarchical regression models). This finding implies that it reinforces the present-day career theories that focus on identity building as one of the core elements of vocational development (Lee et al., 2021) in careers that demand high internalization of roles such as teaching. The fact that the relation between the self-identity levels and the degree of career maturity follows the graded, dose-response pattern indicates that identity development is a continuum, and the addition to the strength of identity leads to an increase in the scores related to the level of professional readiness. Such a trend is compared to the threshold effect on self-concept, where advantages start to diminish at moderate levels. Important implications of such differing effects exist in the design of interventions that might then have to focus on the identity question and leave the underperforming students with access to minimal self-concept support.

It is noteworthy that the lack of significance of the correlation between self-concept and self-identity shows that these two psychological resources have their distinct channels, which they use to affect career maturity. These finding refutes the theories of compensatory models adopted on the assumption that the occurrence of psychological strengths compensates for deficiencies in other areas (Heo, 2023), by factually proposing a levelled plan of comprehensive support systems that applies to the processes of recovery on both self-recognition and identity-building sides. The fact that academic year effects persisted despite the control of psychological variables also suggests that the contextual aspects of the later stages of training (course content) could be detrimental to the future career confidence when not properly planned, and that the individual third-year experiences that are associated with the affected maturity scores should be analysed.

### 5.1 Theoretical Implications

There are several theoretical implications of these findings. The more powerful predictive value of self-identity corresponds to new paradigm shifts to narrative and sociocultural approaches to career development (Duru, 2022), which reject the focus on traits in Favor of the ability of individuals to produce meaning. The downward pattern of career maturity throws into doubt stage theories based on premises of cumulative progress, in Favor of more dynamic non-linear conceptualizations of professional change. In practice, these findings would imply that teacher preparations ought to: (1) introduce longitudinal tracking of career maturity to determine students at risk; (2) introduce identity-development pedagogy at the many points in the curriculum; and (3) rethink third-year experiences with the express aim of fortifying career commitment. In the future, cultural moderators of these patterns and behavioral interventions targeting sustenance in career maturity across higher levels of training should be examined.

## 6. CONCLUSION AND RECOMMENDATIONS

The study presents strong support that career maturation in preschool teacher education students reflects a non-linear developmental approach with high rates of loss in the last academic year, which indicates the necessity

of special measures at higher levels of professional training. The strong interconnection between self-identity and career maturity, with the weaker one with self-concept, indicates the indispensability of identity construction as an effective intervention to improve career readiness. It implies that the programs of teacher education must focus on the course pedagogy of building professional identity through such mechanisms as reflective practice, mentorship, and practice-based teaching. Each of these two psychological factors has an independent effect on the process of self-perception and self-formulation of identity, and the fact that going through an academic year continues to adversely affect career maturity even after the psychological factors have been taken into consideration indicates structural or curricular drawbacks in subsequent training stages, which may unintentionally influence professional confidence negatively. These results question conventional notions concerning cumulative growth during career development and encourage a more sophisticated, identity-rooted system of teacher preparation, especially in the areas of transition during which it seems that commitment to career is most susceptible. Educator preparation programs can get to the heart of preparing preservice teachers to meet the developmental demands of the students they teach by considering career maturity frequent evaluation, embedded identity-based learning opportunities through out the curriculum, retooling third-year programming to support each person finding professional purpose, and representing a more stable and professionally tenant-like early childhood education workforce down the road. It is recommended that the present research be replicated with more particular curiosity regarding the mechanics of declining career maturity and testing of intervention methods aiming to support professional development throughout all forms of training, as well as other cultural and institutional challenges that can moderate such relationships in a variety of education settings.

### 6.1 Limitations Future Research

Although the research study is well-designed and has contributed to the body of research on the relations between career maturity, self-concept, and self-identity among the preschool teacher candidates, there are certain limitations to note. The cross-sectional nature of the study does not allow causal conclusions regarding the observed developmental trends, whereas the sampling frame is restricted to a single institution only and cannot be extrapolated to other cultural or educational settings. Moreover, the self-report measures inherently provide the probability of response biases, and the analyzed study is unlikely to attribute significant contextual items, like the practicum experience of teaching or the quality of mentorship, that could affect the career progression. Future studies are recommended to use longitudinal studies to be able to follow individual trends in career maturity, take a mixed methods approach to be able to record deeper qualitative aspects of professional identity formation, and research program features and teaching methods that could be used to ameliorate the loss of career maturity witnessed among students at advanced training levels. Research in multiple institutional and cross-cultural contexts would also improve the ecological validity of these results, and an experimental research approach could be used to test specific interventions aimed at reinforcing either self-concept or professional identity in teacher preparation programs.

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