

The Relationship between Perceived Social Support and Employability among Preservice Preschool Education Students: The Mediating Effect of Learning Engagement

Xinyi Cui^{1,*}

¹Faculty of Educational Science, Yangzhou University, Yangzhou, China

*Corresponding author

Abstract: Social support is an important source of support for enhancing professional commitment, learning motivation, and employability among preservice students in the field of preschool education. This study utilized relevant scales to explore the mechanisms through which perceived social support influences the employability of preservice students in preschool education. The results indicated a significant positive correlation among perceived social support, learning engagement, and employability. Moreover, perceived social support positively predicted the employability of preservice students in preschool education, and learning engagement partially mediated the relationship between perceived social support and employability.

Keywords: perceived social support, learning engagement, employability, preschool education, preservice students

1. Introduction

With the development of society and deepening educational reforms, preschool education has gained increasing attention as an essential component of basic education. Preservice students in preschool education, as future educators for young children, play a crucial role in ensuring the quality of early childhood education and meeting societal demands. Employability refers to the ability of new teachers to quickly adapt to their roles, adjust to the preschool environment, promote their professional growth, and facilitate the holistic development of young children. Enhancing the employability of preservice students in preschool education is not only beneficial for their personal development and career planning, but also essential for meeting society's need for exceptional preschool educators and promoting the development of preschool education. Currently, research on the employability of preservice students in preschool education, both domestically and internationally, primarily focuses on several aspects. Firstly, it explores the factors influencing employability, such as professional knowledge, skills, professional identity, and self-efficacy. Secondly, it evaluates the current status and gaps in employability through comparative analyses with societal demands, industry standards, and graduate expectations. Lastly, it proposes strategies and recommendations to enhance employability, such as improving the curriculum system, strengthening practical teaching, and providing career guidance. However, these studies predominantly analyze the constituent elements and influencing factors of employability from an objective perspective, paying less attention to subjective psychological mechanisms and process variables. In fact, the perception and emotions regarding their own employability among preservice students in preschool education, as well as their attitudes and behaviors demonstrated during the learning process, also significantly influence their employability.

Based on this, the present study aims to explore the relationship and mechanisms between perceived social support (PSS), learning engagement (LE), and employability (EA) among preservice students in preschool education, focusing on subjective psychological variables. It is hypothesized that PSS and LE are two important psychological variables that influence the EA of preservice students in preschool education. These variables can directly affect EA and also exert an indirect influence through mediating factors. Therefore, a questionnaire survey was conducted among preservice students in preschool education from three universities within a certain region. The survey measured their levels of PSS, LE, and EA. Data analysis was conducted using structural equation modeling and hierarchical regression analysis. The purpose of this study is to provide theoretical basis and practical guidance for the

development of EA among preservice students in preschool education from a psychological perspective, contributing to the advancement of the field of preschool education.

2. Literature review

2.1 Perceived Social Support and Employability

PSS refers to the degree to which individuals perceive respect, recognition, and support from family, friends, and significant others [1]. It is a subjective psychological experience that depends not only on objective social support resources but also on individuals' needs, expectations, and evaluations of social support. PSS has significant effects on individuals' psychological and behavioral aspects. It can enhance individuals' self-esteem, self-confidence, self-efficacy, and subjective well-being, while reducing stress, anxiety, depression, and loneliness. Moreover, it promotes individuals' psychological health and adaptive abilities [2]. Additionally, PSS can also influence individuals' learning and career development. It enhances individuals' learning motivation, learning strategies, academic performance, and satisfaction [3]. Furthermore, it increases individuals' vocational interests, vocational adaptation, and job satisfaction [4]. PSS may directly impact EA because social support provides individuals with the emotional, informational, or practical help or resources they need. It acts as a protective mechanism for individuals, buffering the negative effects of stressful events on their mental and physical well-being. It plays a regulatory role in mitigating the impact of adverse stimuli on psychological health [1]. Social support helps individuals overcome difficulties and setbacks encountered in learning and employment, enhances their confidence and affirmation of their abilities, and stimulates positive attitudes and behaviors towards learning and employment. As a result, it improves individuals' professional skills, vocational competence, psychological adaptation, and other abilities. Based on the above, this study proposes H1: PSS significantly and positively predicts EA.

2.2 The Mediating Role of Learning Engagement

LE refers to the positive attitudes and behaviors individuals demonstrate during the learning process, including enthusiasm, dedication, and concentration. It encompasses three dimensions: vigor, dedication, and absorption [5]. This study considers LE as an important mediating variable between PSS and EA. It can explain the underlying mechanisms through which PSS influences EA to some extent. On one hand, PSS positively predicts preservice students' LE. Previous research has shown that PSS directly influences students' LE [6]. According to social cognitive theory, PSS represents individuals' understanding of external support, which is equivalent to environmental cognition in social cognitive theory. LE represents individuals' behavioral choices manifested during the learning process, corresponding to individual behavior in social cognitive theory. PSS can provide emotional, informational, or practical help or resources to students, influencing their behavior through environmental influences. This enhances students' confidence and affirmation of their abilities and stimulates their interest and enthusiasm for professional knowledge and skills. It promotes active participation, proactive exploration, and sustained effort in the learning process, thus enhancing students' cognitive, affective, and behavioral engagement. On the other hand, LE significantly and positively predicts EA and achieves this effect by influencing learning outcomes [7]. According to the investment theory [8], college students' academic achievement and personal development depend on the quantity and quality of their investment in academic learning. Students with high levels of LE exhibit persistent and positive emotional and cognitive states related to learning, research, and employment [9]. They are willing to invest more effort in learning, overcome difficulties and setbacks, and experience the meaning and joy of learning. This not only improves their learning outcomes, vocational interests, and learning satisfaction but also enhances their mastery of professional knowledge and skills, thereby enhancing their EA. Based on the above, this study proposes H2: LE mediates the relationship between PSS and EA.

3. Research Design

3.1 Study Participants

This study selected preschool education students from Jiangsu kindergarten teacher training programs as the primary survey participants. The participants were recruited from three undergraduate institutions offering preschool education programs. The questionnaire collection process was facilitated with the support of the respective institutions' preschool education faculty. The questionnaires were distributed to

the students through class group links by the faculty members. A total of 253 questionnaires were collected, out of which 244 were considered valid, resulting in a valid response rate of 96.4%. Among the participants, there were 24 male students (9.8%) and 220 female students (90.2%). The participants were from one key university (51 students, 20.9%) and two comprehensive universities (193 students, 79.1%). In terms of academic year, there were 23 freshmen (9.4%), 34 sophomores (13.9%), 178 juniors (73%), and 9 seniors (3.7%). Furthermore, 182 participants (74.6%) had undergone educational internships, while 62 participants (25.4%) had not.

3.2 Research Instruments

3.2.1 Perceived Social Support Scale

The measurement of social support utilized the Perceived Social Support Scale developed and revised by Zimet et al. and translated by Jiang Qianjin [10]. The scale comprises three dimensions: family support, friend support, and significant other support, with a total of 12 items. A seven-point Likert scale was used, ranging from strongly disagree, disagree, slightly disagree, neutral, slightly agree, agree, to strongly agree. In this study, the overall Cronbach's alpha coefficient for this questionnaire was 0.96, and the Cronbach's alpha coefficients for the three dimensions were 0.89, 0.89, and 0.90, indicating good internal consistency reliability of the scale.

3.2.2 Preschool Education Students' Employability Scale

The Employability Scale for Preschool Education Students, developed by Chen Xiaocheng et al., was used to measure students' employability [11]. The scale consists of four dimensions: vocational competence, professional competence, educational passion, and personality traits, with a total of 20 items. A seven-point Likert scale was used, ranging from completely inconsistent, relatively inconsistent, basically inconsistent, uncertain, basically consistent, relatively consistent, to completely consistent, corresponding to scores from 1 to 7. In this study, the overall Cronbach's alpha coefficient for this questionnaire was 0.93, and the Cronbach's alpha coefficients for the four dimensions were 0.84, 0.87, 0.77, and 0.75, indicating good internal consistency reliability of the scale.

3.2.3 Utrecht Work Engagement Scale-Student (UWES-S)

The Utrecht Work Engagement Scale-Student (UWES-S) translated and revised by Li Xiyin was used to measure students' learning engagement [12]. The scale consists of three dimensions: vigor, dedication, and absorption, with a total of 17 items. A seven-point Likert scale was used, ranging from never, almost never, seldom, sometimes, often, very often, to always, corresponding to scores from 1 to 7. In this study, the overall Cronbach's alpha coefficient for this questionnaire was 0.94, and the Cronbach's alpha coefficients for the three dimensions were 0.87, 0.88, and 0.90, indicating good internal consistency reliability of the scale.

3.3 Research Procedure and Data Analysis

The questionnaires were distributed using the online survey platform "Questionnaire Star." The purpose and confidentiality of the study were explained, emphasizing that the test content would be strictly confidential, and the results would be used for research purposes only. The data were then entered into SPSS 26.0 for data input, and various statistical analyses were conducted, including common method bias testing, analysis of variance, correlation analysis, and mediation and moderation effect testing using the SPSS plugin Process 4.1.

4. Results and Analysis

4.1 Common Method Bias Testing

As the data in this study were collected through self-report questionnaires, there is a possibility of common method bias. To address this concern, Harman's single-factor test was conducted by performing a principal component analysis on all variables. The results indicated that the first factor explained 34.99% of the variance, which is less than the threshold of 40%. This suggests that common method bias is not a significant issue in this study [13].

4.2 Differences in Perceived Social Support, Learning Engagement, and Employability among Preschool Education Pre-Service Teachers in Demographic Variables

The results of this study revealed significant differences in PSS, LE, and EA among preschool education pre-service teachers based on demographic variables. Specifically, significant differences were found in PSS based on school level and internship experience. Differences in LE were significant based on grade, and differences in EA were significant based on internship experience and grade.

More specifically, students from the second-tier colleges exhibited significantly higher levels of PSS compared to those from the first-tier universities, particularly in terms of friend support and other support dimensions. Students with internship experience showed significantly higher levels of PSS (especially in terms of family support and friend support) and EA compared to those without internship experience. In terms of academic year, second-year students exhibited significantly lower levels of PSS compared to third-year students, with lower levels of friend support compared to third-year and fourth-year students, and lower levels of other support compared to third-year students. There were no significant differences in family support dimension across academic years. Fourth-year students demonstrated significantly higher levels of LE compared to third-year students and significantly higher levels of EA compared to second-year and third-year students (see Table 1).

Table 1: Differences in PSS, LE, and EA among Preschool Education Pre-Service Teachers in Demographic Variables

	Category	PSS	Family support	Friend support	Other support	LE	EA
School level	①first-tier university	5.08±0.55	5.17±0.63	5.11±0.59	4.94±0.59	4.60±0.68	4.80±0.61
	②second-tier college	5.31±1.13	5.26±1.28	5.35±1.17	5.31±1.16	4.82±1.00	4.95±0.88
	F	17.12*	12.29	18.52*	12.90**	3.86	2.99
Internship experience	①No	4.98±0.51	4.89±0.56	4.93±0.67	5.04±0.53	5.15±0.77	4.51±0.39
	②Yes	5.29±1.08	5.28±1.22	5.34±1.11	5.25±1.12	4.74±0.96	4.96±0.86
	F	9.54**	10.33*	5.69*	6.41	0.01	10.21***
Grade	①Sophomore	4.69±0.28	4.80±0.36	4.58±0.46	4.70±0.32	5.18±0.88	4.53±0.35
	②Junior	5.29±1.08	5.27±1.22	5.34±1.12	5.26±1.12	4.73±0.95	4.9±0.85
	③Senior	5.39±0.28	5.30±0.37	5.55±0.37	5.32±0.21	5.30±0.72	5.67±0.41
	F	2.4	1.14	3.76*	1.99	3.24*	5.93**
	LSD	②>①*	—	②>①** ③>①*	②>①*	③>②*	③>①** ③>②**

* p < 0.05
 ** p < 0.01.
 *** p < 0.001.

4.3 Correlation Analysis of Perceived Social Support, Work Engagement, and Employability

To examine the relationships between variables, descriptive statistics and Pearson correlation analysis were conducted. As shown in Table 2, preschool education pre-service teachers exhibited moderate to high levels of PSS, LE, and EA. Furthermore, significant positive correlations were found between PSS, LE, and EA.

Table 2: Descriptive analysis and bivariate correlations among key variables

	M	SD	1	2	3	4	5	6
1.PSS	5.26	1.04	1					
2. Family support	5.25	1.17	0.94***	1				
3. Friend support	5.23	1.07	0.96***	0.76***	1			
4. Other support	5.30	1.08	0.92***	0.87***	0.85***	1		
5.EA	4.91	0.83	0.58***	0.59***	0.49***	0.57***	1	
6.LE	4.78	0.95	0.56***	0.57***	0.44***	0.56***	0.74***	1

*** p < 0.001.

4.4 Direct Effect Testing of Perceived Social Support on Employability among Preschool Education Pre-Service Teachers

Using PSS as the predictor variable and EA as the outcome variable, a linear regression analysis was performed to test the direct effect of PSS on EA. The results revealed that PSS significantly and directly predicted EA among preschool education pre-service teachers. Specifically, for every unit increase in

PSS, EA increased by 0.59 units, confirming H 1. To further explore the impact of each dimension of PSS on EA, a multiple linear regression analysis was conducted, with the three dimensions of PSS as predictor variables and EA as the outcome variable. The results indicated that only the dimension of family support significantly predicted EA, with a predicted value of 0.42 (see Table 3).

Table 3: The direct predictive effect of PSS on the EA of preschool education teacher candidates

Regression equation		Fitting index			Significance	
Outcome variable	Predictor variable	R	R ²	F	β	t
EA	PSS	0.59	0.35	133.90***	0.59	11.57***
	Family support	0.60	0.36	47.91***	0.42	4.04***
	Friend support				0.02	0.18
	Other support				0.18	1.44

***p < 0.001.

4.5 Testing the Mediating Effect of Work Engagement in the Relationship between Perceived Social Support and Employability among Preschool Education Pre-Service Teachers

The previous results have demonstrated significant positive correlations between PSS, LE, and EA among preschool education pre-service teachers. As PSS can significantly and positively predict EA, the next step is to test the mediating effect. In this study, the PROCESS 4.1 plugin in SPSS was employed, using Model 4 for mediating effect analysis, and bias-corrected percentile bootstrap method (with 5000 resamples) was used to test the significance of regression coefficients.

The regression analysis results indicated that, firstly, the total effect of PSS on EA among preschool education pre-service teachers was significant ($\beta = 0.47$, $p < 0.001$). Secondly, PSS had a significant direct positive effect on LE ($\beta = 0.51$, $p < 0.001$). Finally, when both PSS and LE were included in the regression equation, both variables had a significant positive effect on EA ($\beta = 0.20$, $p < 0.001$; $\beta = 0.53$, $p < 0.001$), but the effect size of PSS decreased. Thus, it can be concluded that LE is an important mediating variable in the relationship between PSS and EA among preschool education pre-service teachers (see Table 4).

Table 4: The regression analysis of PSS, LE, and EA

Regression equation		Fitting index			Significance	
Outcome variable	Predictor variable	R	R ²	F	β	t
EA	PSS	0.58	0.34	131.01***	0.47	11.45
LE	PSS	0.56	0.31	115.64***	0.51	10.75***
EA	PSS	0.77	0.59	181.94***	0.20	5.07***
	LE				0.53	12.41***

***p < 0.001.

The results of the mediating effect analysis showed that: (1) Before introducing LE as a mediator, the direct effect of PSS on EA was significant (95% CI = [0.39, 0.55], excluding 0); (2) After including LE as a mediator, the direct effect of PSS on EA remained significant (95% CI = [0.12, 0.27], excluding 0), but the effect size decreased. The mediation analysis revealed a significant indirect effect of LE in the relationship between PSS and EA, indicating a significant mediating path of PSS → LE → EA (95% CI = [0.20, 0.33], excluding 0). The mediation effect accounted for 57.45% of the total effect (see Table 5).

Table 5: Analysis of the mediating effect of LE

	Model pathways	Effect	95%CI	t	effect account
Direct effect	PSS→EA	0.20	[0.12, 0.27]	5.07***	42.55%
Indirect effect	PSS→LE→EA	0.27	[0.20, 0.33]		57.45%
Total effect		0.47	[0.39, 0.55]	11.45***	100%

***p < 0.001.

Based on these findings, a diagram illustrating the mediating effect of LE in the relationship between social support and EA among preschool education pre-service teachers was constructed (see Figure 1).

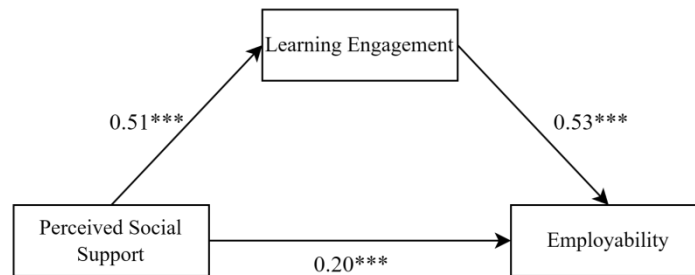


Figure 1: Diagram illustrating the mediating effect of LE

5. Discussion

5.1 Discussion on the Disparities of Societal Support, Learning Engagement, and Employability across Demographic Variables

The research findings reveal that students from second-tier colleges demonstrate significantly higher levels of PSS compared to students from first-tier universities. This difference may be attributed to the distinct educational programs offered by different types of institutions. First-tier universities place greater emphasis on academic research and theoretical knowledge development, encouraging students to pursue further studies. Consequently, they provide more academic support and research opportunities. However, such academically-oriented programs may allocate relatively fewer resources to career guidance and internship opportunities, potentially resulting in relatively weaker social support networks among students. On the other hand, second-tier colleges prioritize equipping students with vocational skills and EA, offering support and opportunities that align with practical career demands. This vocational-oriented approach helps students establish robust social support networks.

Furthermore, students with internship experiences exhibit significantly higher levels of PSS, particularly in terms of family and peer support, as well as EA. This may be attributed to the opportunities internships provide for students to interact and engage with professionals in real work environments. Through such interactions, students can receive guidance and assistance from experienced industry professionals, thereby facilitating their professional development and enhancing their EA. Moreover, internships enable students to establish meaningful interpersonal relationships with professionals in their chosen fields, expanding their social support networks and increasing their exposure to societal support.

Lastly, academic year also significantly influences the PSS, LE, and EA of pre-service early childhood education teachers. Second-year students tend to demonstrate lower levels of these variables compared to third- and fourth-year students. This may be due to the transitional period in the second year, during which students may not have a clear understanding of the skills and resources they require. Conversely, fourth-year students, who are about to face the pressures of finding employment, tend to prioritize their career preparation. They receive more guidance and resources from their educational institutions or other relevant organizations, thus experiencing greater levels of societal support and demonstrating higher levels of LE and EA.

5.2 The Impact of Perceived Social Support on Employability among Pre-Service Early Childhood Education Teachers

The results of this study demonstrate a significant positive impact of PSS on EA among pre-service early childhood education teachers, thus confirming H1. The external environment can influence individuals, and societal support can provide emotional, informational, or practical assistance or support for pre-service early childhood education teachers. This support helps them overcome difficulties and setbacks encountered during their learning and employment journeys, enhances their confidence and self-affirmation in their abilities and worth, ignites their interest and enthusiasm for professional knowledge and skills, and promotes their active engagement, proactive exploration, and sustained effort in the learning process. Consequently, their professional skills, professional ethics, psychological adaptability, and other capabilities are improved.

5.3 The Mediating Role of Learning Engagement in the Relationship between Perceived Social Support and Employability

This study found that LE partially mediates the relationship between PSS and EA, thus confirming H2. In other words, PSS not only directly influences EA but also indirectly affects it through its impact on LE. This finding aligns with the theoretical and empirical evidence mentioned in the literature review. It indicates that LE is an important underlying mechanism between PSS and EA. PSS can enhance students' LE, thereby elevating their EA. This is because PSS provides emotional, informational, or practical assistance or support to students, strengthens their confidence and self-affirmation in their abilities and worth, stimulates their interest and enthusiasm for professional knowledge and skills, and encourages their active engagement, proactive exploration, and sustained effort in the learning process. Consequently, high levels of LE promote students' in-depth understanding and mastery of professional knowledge and skills, cultivate their abilities in innovation, communication, and teamwork, and enhance their perception and evaluation of their own EA, thus improving their EA levels.

6. Reflection

The results of this study have theoretical and practical significance. From a theoretical perspective, this study expands the application of social cognitive theory in the research on EA among pre-service early childhood education teachers. It reveals the interrelationships and underlying mechanisms among PSS, LE, and EA, providing a new perspective and framework for studying EA among pre-service early childhood education teachers. From a practical standpoint, this study offers effective strategies and suggestions for enhancing the EA of pre-service early childhood education teachers. These include strengthening teachers' professional guidance and career planning for students, increasing emotional support and value recognition from families, promoting learning exchange and cooperation among friends, and enhancing students' cognitive engagement, emotional engagement, and behavioral engagement.

However, there are limitations and shortcomings in this study. Firstly, convenience sampling was used, which may lead to sampling bias and limit the generalizability of the findings. Secondly, the data were collected through self-report questionnaires, which may introduce measurement errors and subjective biases. Thirdly, the study employed a cross-sectional design, which cannot capture the dynamic changes among PSS, LE, and EA. Lastly, other potential influencing factors, such as gender, academic performance, and career interests, were not considered, leading to the omission of relevant variables.

Future research can address these limitations and expand on the current study in several ways. Firstly, future research can employ random sampling methods to increase the quantity and quality of the samples, enhancing the universality and credibility of the findings. Secondly, a variety of data collection methods, such as interviews, observations, and experiments, can be utilized to increase the diversity and richness of the data, thereby deepening and broadening the study. Thirdly, longitudinal designs can be employed to track the changes in PSS, LE, and EA over time, capturing the causal relationships and developmental patterns among the variables. Lastly, future research can consider other potential influencing factors, such as gender, academic performance, and career interests, to explore their relationships and effects on PSS, LE, and EA, thereby increasing the complexity and comprehensiveness of the study.

References

- [1] Wang Y. *A review of the relationship between social support and mental health. Psychological Science*, 2004(5), 1175-1177.
- [2] Zhao L., & Wang Y. *The core self-evaluation and psychological well-being of special education teachers: The mediating role of perceived social support. Chinese Journal of Special Education*, 2016(6), 78-83.
- [3] Song J, Bong M, Lee K, et al. *Longitudinal investigation into the role of perceived social support in adolescents' academic motivation and achievement. Journal of Educational Psychology*, 2015, 107(3): 821.
- [4] Wu F, Ren Z, Wang Q, et al. *The relationship between job stress and job burnout: the mediating effects of perceived social support and job satisfaction. Psychology, health & medicine*, 2021, 26(2): 204-211.
- [5] Schaufeli W B, Salanova M, González-Romá V, et al. *The measurement of engagement and burnout:*

- A two sample confirmatory factor analytic approach. Journal of Happiness studies, 2002, 3(1): 71-92.*
- [6] Luan L, Hong J C, Cao M, et al. *Exploring the role of online EFL learners' perceived social support in their learning engagement: a structural equation model. Interactive Learning Environments, 2020: 1-12.*
- [7] Guo J., & Ji G. *The relationship between college students' learning experience and learning outcomes: The mediating role of student engagement. Psychological Science, 2019, 42(04), 868-875.*
- [8] Astin A W. *Student involvement: A developmental theory for higher education. Journal of college student personnel, 1984, 25(4): 297-308.*
- [9] Fang L., Shi K., & Zhang F. *The reliability and validity of the Chinese version of the Utrecht Work Engagement Scale. Chinese Journal of Clinical Psychology, 2008, 16(06), 618-620.*
- [10] Jiang Q. *The perceived social support scale. Chinese Journal of Behavioral Medicine and Brain Science, 2001, 10(10), 41-43.*
- [11] Chen X., Gan L., & Hang M. *Construction and application of the employment capability model for college students majoring in early childhood education. Research on Preschool Education, 2022(06), 62-77.*
- [12] Li X., & Huang R. *Revision report of the University Student Engagement Scale (UWES-S). Psychological Research, 2010, 3(01), 84-88.*
- [13] Podsakoff P M, Mac Kenzie S B, Lee J Y, et al. *Common method biases in behavioral research: a critical review of the literature and recommended remedies. Journal of Applied Psychology, 2003, 88(5): 879.*