The Role of Peer Support in Promoting EFL Achievement: Academic Self-Concept as the Mediator

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ABSTRACT

For secondary school students, peer support is an essential component of social support, which might significantly influence their academic achievement. However, the mediating mechanism between peer support and academic achievement needs to be further explored, especially in teaching English as a foreign language (EFL). The present study explored the relationship between peer support, foreign language (FL) self-concept, and EFL achievement based on the data of 499 Chinese secondary EFL learners. Structural equation modelling (SEM) and mediation analysis results demonstrated that peer support positively affected EFL achievement. FL self-concept fully mediated the relationship between peer support and EFL achievement after controlling for gender and age. The direction and strength of the mediating effect of FL self-concept between peer support and EFL achievement clarify the complex relationship between peer support and EFL achievement and helps EFL teachers and educators take intervention measures. Implications, limitations and directions for future research are discussed.

Keywords: *Peer Support, Foreign Language Self-Concept; EFL Achievement; Mediating Mechanism; Chinese Secondary EFL Learners.*

ABSTRAK

Untuk siswa sekolah menengah, dukungan teman sebaya merupakan komponen penting dari dukungan sosial, yang mungkin secara signifikan mempengaruhi prestasi akademik mereka. Namun, mekanisme mediasi antara dukungan teman sebaya dan prestasi akademik perlu dieksplorasi lebih lanjut, terutama dalam pengajaran bahasa Inggris sebagai bahasa asing (EFL). Studi ini mengeksplorasi hubungan antara dukungan teman sebaya, konsep diri bahasa asing (FL), dan pencapaian EFL berdasarkan data dari 499 pelajar EFL menengah Cina. Hasil pemodelan persamaan struktural (SEM) dan analisis mediasi menunjukkan bahwa dukungan teman sebaya berpengaruh positif terhadap pencapaian EFL. Konsep diri FL sepenuhnya memediasi hubungan antara dukungan teman sebaya dan pencapaian EFL setelah mengontrol jenis kelamin dan usia. Arah dan kekuatan efek mediasi dari konsep diri FL antara dukungan teman sebaya dan pencapaian EFL mengklarifikasi hubungan kompleks antara dukungan teman sebaya dan pencapaian EFL dan membantu guru dan pendidik EFL mengambil tindakan intervensi. Implikasi, keterbatasan dan arah untuk penelitian masa depan dibahas.

Kata Kunci: *Dukungan rekan, Konsep Diri Bahasa Asing; Prestasi EF;, Mekanisme Mediasi; Pembelajar EFL Sekunder Cina.*

INTRODUCTION

Adolescents in secondary schools tend to build close relationships with their peers and often share or ask for help from peers (Parada et al., 2008). As an essential component of social support, peer support strongly influences an adolescent's physical and mental development (Shalaby & Agyapong, 2020; Willoughby et al., 2000). Existing studies have also indicated that positive peer support is beneficial for adolescents to maintain good mental health and achieve good school grades (Bergey et al., 2019; Ciarrochi et al., 2017; Liem & Martin, 2011). Teenagers in secondary schools spend much time with peers, and the interpersonal relationships developed based on shared activities and mutual cooperation were even more important than the parent-child relationship. Furthermore, Ghaith (2003) found that peer support had a more substantial predictive effect on academic achievement than teacher support. With positive peer support, students might receive more academic encouragement, and it would be easier to solve the academic problems they encounter (Thompson & Mazer, 2009).

Given the positive impact of peer support on academic performance, the direct and indirect effects of peer support on academic performance have been extensively explored (Bergey et al., 2019; Kaynak & Kaynak, 2023; Wang et al., 2019). For example, in a study with middle grades students, Kaynak and Kaynak (2023) documented that motivation fully mediated the association between peer support and academic achievement. However, the prior studies ignored the domain specificity of peer support (Leung et al., 2013), and research on peer support in the EFL education context needed to be improved. Also, considering the complex relationship between peer support and academic achievement, the mediating mechanisms between the two variables need to be further explored. To fill these knowledge gaps, the present study aimed to examine the mediating effect of academic self-concept between peer support and academic achievement in a sample of Chinese secondary EFL learners.

Peer Support

Peer support refers to peer social support, a system of giving and receiving help based on respect, shared responsibility, and mutual support (Dennis, 2003). There is tangible and intangible peer support (Kelly et al., 2014). Tangible support concerns the physical assistance

provided by peers, including instrument and information support (Cutrona & Suhr, 1992), while intangible support refers to the sense of security experienced from the love and care by their peers, such as emotional or self-esteem support (Feeney & Collins, 2015). Leung et al. (2013) figured out that the domain specificity of peer support should be considered. In this research, peer support was explored in the academic domain of EFL education and defined as the academic help received from peers while learning English.

Considering the importance of peer support, the correlation between peer support and the key indicators of school outcomes has been increasingly studied. For example, in a study with Canadian college students, Bergey et al. (2019) documented that peer support was positively correlated with academic achievement. In another study with Chinese college students, Yu et al. (2021) found that peer support was positively associated with psychological capital. In addition, the association between peer support and academic self-concept was also confirmed (Marsh et al., 2011; Way & Chen, 2000). Although the relationship of peer support to vital academic indicators has been explored, few studies addressed the domain specificity of peer support. Specifically, only some studies concentrated on the relationship between EFL-related peer support and EFL achievement in the EFL learning context in China.

Foreign Language Self-Concept

Academic self-concept is an important psychological component affecting academic learning, which can be defined as students' relatively stable cognitions, perceptions, and evaluation concerning their academic strengths, capabilities and knowledge (Bailey, 2003). Considering that academic self-concept is subject-specific (Burns et al., 2018), academic self-concept should be explored in specific subject domains (e.g., English). Accordingly, this research defined FL self-concept as students' perception of their English competence. The higher the FL self-concept is, the more confident the EFL learners are in their English competence.

Given the importance of self-concept, the antecedents and consequences of self-concept have been explored. For example, Yang et al. (2023) found that self-concept mediated the relationship between grit and self-assessment among youths aged 12-18. A meta-analysis by Huang (2011) concentrating on the relationship between self-concept and academic achievement found that the mean correlations between these two variables ranged from 0.20 to 0.27. In another study with Australian high school students, Marsh et al. (2011) documented that peer support positively correlated with academic self-concept.

The predictive effect of peer support on academic self-concept (e.g., Marsh et al., 2011) and the predictive effect of academic self-concept on achievement (Huang, 2011) have been

verified. Taken together, the present research hypothesized that FL self-concept might mediate the linkage between EFL-related peer support and FL achievement.

The Present Study

Based on the literature, this research aimed to test the following three hypotheses in a sample of 499 Chinese secondary EFL learners (see Figure 1).

H_1: EFL-related peer support has a positive predictive effect on FL achievement.

H_2: EFL-related peer support is positively correlated with FL self-concept.

H_3: EFL-related peer support can indirectly affect FL achievement via the mediator of FL self-concept.

Figure 1. The Proposed Model
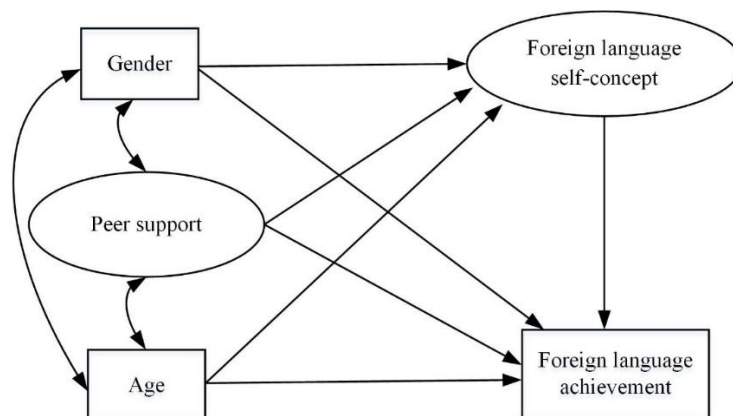
METHOD

Participants

Based on convenience sampling, four hundred and ninety-nine participants from one middle school in Foshan City, Guangdong Province, China, were recruited to participate in this questionnaire survey. Participants comprised seventh-grade students (206, accounting for 41.3%) and eighth-grade students (293, accounting for 58.7%). Among these were two hundred and sixty-two male participants (52.5%) and two hundred and thirty-seven female students (47.5%). Participants were between 12 and 15 years old, with an average age of 13.66 ($SD = 0.62$). Judging from the family socioeconomic status, the participants were mainly from middle-class families. Before conducting the questionnaire survey, the participants' written informed consent and their parents' verbal informed consent were collected with the help of the English teachers. Only data for which informed consent was provided could be used for analysis.

Measures

Peer Support Scale

      To assess peer support, the 8-item peer support was adapted from the child and adolescent social support scale (Malecki & Demaray, 2002). Example items were "When I encounter difficulties in English learning, I can ask my friends for help" or "Many of my friends are good at English". Participants were asked to rate their agreement with the statements on a 5-point Likert scale (1 = strongly disagree and 5 = strongly agree). In this research, the psychometric properties of the peer support scale were good, with Cronbach's α equalled 0.78. In the SEM analysis, peer support was treated as a latent variable.

Foreign Language Self-Concept Scale

      Participants' FL self-concept was measured by the five items adapted from the program for international student assessment 2015 (OECD, 2016). One example item was "English has always been one of my best subjects". Participants rated their agreement with the five statements on a 5-point Likert scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The psychometric properties of this scale have been confirmed in previous studies (Kang & Wu, 2022; Wu & Kang, 2023). In this study, the internal consistency of the FL self-concept scale was good (Cronbach's α = 0.86).

Foreign Language Achievement

      Participants' English scores were collected to represent the FL academic achievement. The examination-orientedness of the Chinese education system determines that students and their significant others (i.e., teachers and parents) place particular importance on examination scores. In the Chinese education system, objective scores demonstrate fairness and are the main or even the only factor determining whether a student can continue higher education. In order to guarantee face validity, the examination papers were traditionally developed by the local municipal education bureau. The total score is 120 points, and the higher the score, the higher the FL achievement of the participants.

Covariates

      This research investigated the relationship between peer support, FL self-concept, and FL achievement. However, existing literature documented gender and age differences in academic self-concept and achievement (Chyung, 2007; Denies et al., 2022; Wilgenbusch & Merrell, 1999). Thus, gender and age were controlled as covariates when examining the relationship between peer support, FL self-concept, and FL achievement.

Procedure

      First, the original scales were translated from English to Chinese, and a back-translation procedure was utilized to guarantee face validity. More specifically, the source version of the

studied scales was translated into Chinese and then back-translated into English to ensure the item-equivalence. Second, written and verbal informed consent was obtained before the questionnaire survey. Third, participants who signed the informed consent were invited to answer the questionnaire in the traditional paper-and-pencil manner with the help of English teachers. Fourth, the questionnaire survey was conducted in the English class, and the entire questionnaire survey lasted about 20 minutes. The English teachers collected the finished questionnaires and checked for missing items. Lastly, the researchers entered the survey data into a spreadsheet for further analysis.

Data Analysis

Data analysis in the present research consisted of five steps to answer research hypotheses. First, the data were all participant-reported, common method bias was assessed to rule out possible common method bias. Second, descriptive statistics (e.g., skewness and kurtosis) were collected to assess the maximum likelihood (ML) estimation normality. Third, confirmatory factor analysis (CFA) was carried out to evaluate the properties of the measurement model. Fourth, SEM was conducted to investigate the relationship between peer support, self-concept, and achievement. Fifth, the mediating effect of academic self-concept between peer support and FL achievement was explored by conducting a mediation analysis.

RESULTS

Common Method Bias

Since participants reported all data, Harman's single-factor test was conducted to evaluate the potential common method variance (Podsakoff et al., 2003). Specifically, all items of the latent variables (i.e., peer support and self-concept) were treated as a single-factor construct, and the model fit of this construct was poor, with $\chi^2(27) = 502.081$, $p < .001$, CFI = .734, TLI = .645, RMSEA = .188, 90% CI [.174, .203], SRMR = .122. This result suggested that common method variance did not affect the data analysis of the present study.

Descriptive Statistics

Descriptive statistics of the studied variables are presented in Table 1. First, the criteria of skewness and kurtosis (i.e., |skewness| < 2 and |kurtosis| < 2) proposed by Roever and Phakiti (2017) were adopted to evaluate the normality for ML estimation. According to these criteria, as shown in Table 1, all three studied variables had satisfactory normality for the ML estimation. Besides, the factor loadings of the two latent variables (i.e., peer support and self-concept) were higher than 0.35 (Byrne, 2010), showing that the convergent validity was appropriate. This study converted FL achievement into standardized z-scores in the following analyses.

Table 1. Descriptive Statistics of the Studied Variables

	Mean	*SD*	Skewness	Kurtosis	Cronbach's α	Factor loadings
Peer support	3.66	.72	-.20	.15	.78	.54-.82
FL Self-concept	2.59	.61	.06	-.26	.86	.58-.86
FL achievement	.00	.99	-.86	-.08	-	-

Measurement Models and Latent Bivariate Correlations

CFA of the measurement models, bivariate correlations, and SEM analyses were all carried out by applying Mplus 8.3 (Muthén & Muthén, 2013). Comparative fit index (CFI ≥ .90), Tucker-Lewis index (TLI ≥ .90), root mean square error of approximation (RMSEA ≤ .06), and standardized root mean square residual (SRMR ≤ .08) were the criteria to evaluate the model fit (Chen, 2007; Hu & Bentler, 1999). The measurement model without covariates and observational variables fit the data well: $\chi^2(26) = 74.319$, $p < .001$, CFI = .973, TLI = .962, RMSEA = .039, 90% CI [.045, .078], SRMR = .039. When FL achievement, gender, and age were added, the measurement model also demonstrated a good fit: $\chi^2(47) = 125.303$, $p < .001$, CFI = .962, TLI = .946, RMSEA = .058, 90% CI [.046, .070], SRMR = .040, showing that the hypothesized measurement model fit the data well.

Table 2. Results of Correlations Matrix for the Variables

|	1	2	3	4	5
1 Peer support	-				
2 FL self-concept	.42***	-			
3 FL achievement	.24***	.64***	-		
4 Gender	.04	.05	.10*	-	
5 Age	.09	-.02	-.08	-.06	-

*$p < .05$; ***$p < .001$.

The bivariate correlations between the studied variables are reported in Table 2. It was found that EFL-related peer support was positively correlated with FL self-concept and FL achievement. Besides, the positive correlation between FL self-concept and FL achievement was also verified. The significant correlation between gender and FL achievement indicated that gender should be controlled while examining the relationship between peer support, self-concept and achievement.

Structural Equation Modelling

The model fit set out in Figure 1 was assessed by conducting SEM. The proposed model had excellent fit: $\chi^2(49) = 129.728$, $p < .001$, CFI = .961, TLI = .948, RMSEA = .058, 90%

CI [.046, .070], SRMR = .045. All the correlations and path coefficients shown in Figure 2 are standardized. There are four findings. First, EFL-related peer support positively predicted FL self-concept (β = .43, SE = .06, p < .001). Second, FL self-concept was positively correlated with FL achievement (β = .66, SE = .04, p < .001). Third, gender (0 = male and 1 = female) was found to be positively correlated with FL achievement (β = .07, SE = .04, p < .05), indicating that the FL achievement of female secondary school students is better than that of male counterparts. Fourth, EFL-related peer support explained an 18.5% variance in FL self-concept (R^2 = 18.5%) and a 42.6% variance in FL achievement (R^2 = 42.6%).

Figure 2. Structural Equation Model Testing the Relationship between Peer Support, FL Self-Concept and Achievement.
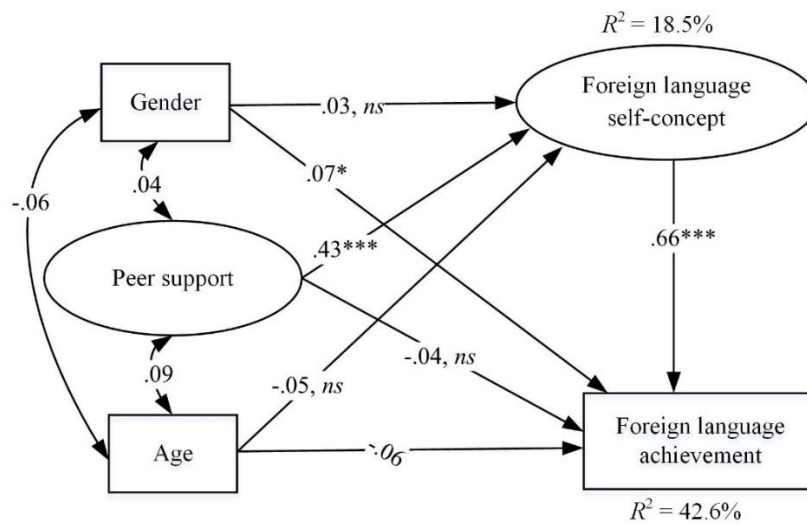
*** p < .001; * p < .05.

The bootstrap procedure conducted mediation analysis with 5000 re-samples to investigate the mediating effect of FL self-concept. The results of the mediation analysis are presented in Table 3. The bootstrap confidence interval (CI) was applied, and the mediating effect was significant if zero was not contained in the 95% CIs (Efron, 1988). According to this criterion, the indirect path of "peer support→FL self-concept→FL achievement" was significant with 95CIs [.20, .37], showing that FL self-concept mediated the association between peer support and FL achievement. Moreover, the direct effect of peer support on FL achievement was insignificant, with 95% CIs [-.13, .06], suggesting that FL self-concept fully mediated the relationship between peer support and FL achievement.

Table 3. Results of Mediation Analysis

Model path	Effect	SE	Bias-corrected CIs 95%	
			Lower	Upper
Total effect	.24	.05	.13	.34
Indirect effect: peer support →self-concept →achievement	.28	.04	.20	.37
Direct effect	-.04	.05	-.13	.06

DISCUSSION

The importance of peer support to adolescent secondary school students' achievement and well-being outcomes has been widely recognized (e.g., Bergey et al., 2019; Van Ryzin et al., 2009). However, the mediating mechanisms between peer support and academic achievement need to be further explored. Moreover, existing literature failed to consider the domain specificity of the variables (e.g., peer support), and few studies have explored the variables' relationship in the field of EFL education. Focusing on EFL education, the present study explored the relationship between peer support, self-concept, and achievement in a sample of Chinese secondary EFL learners.

First, it was found that EFL-related peer support was positively correlated with FL achievement, indicating that H_1 was supported. On the one hand, this finding is congruous with social support theory, which suggests that social support plays a vital role in academic achievement or failure (Hupcey et al., 1998). On the other hand, these findings are consistent with previous empirical studies (Bergey et al., 2019; Lee & Smith, 1999; Liem & Martin, 2011). In addition to providing empirical evidence for social support theory, this study contributes to the literature by exploring the relationship between peer support and academic achievement in the context of EFL education.

Second, the predictive effect of peer support on self-concept was also confirmed, showing that H_2 was supported. From the perspective of social support theory, the correlation between social support (e.g., peer support) and the key psychological components (e.g., academic self-concept) was explored in existing literature (Ellis et al., 2009; Fernández-Zabala et al., 2020; Marsh et al., 2011; Way & Chen, 2000). Taking into account the domain specificity of peer support and self-concept, this present study explored the relationship between them in EFL education, which provides empirical evidence from the field of EFL education for research on the relationship between peer support and self-concept.

Third, this study found that FL self-concept fully mediated the relationship between EFL-related peer support and FL achievement, suggesting that H_3 was supported. Given that peer support has a significant predictive effect on academic achievement, scholars have begun to explore the mediating mechanism between the two constructs. For example, academic engagement (Liem & Martin, 2011), self-efficacy and study strategies (Bergey et al., 2019), and academic resilience (Fang et al., 2020) were verified to be the mediators between peer support and academic achievement. The present study contributes to the literature by identifying that FL self-concept fully mediated the relationship between EFL-related peer support and FL achievement, further expanding the research on the mediating mechanism between peer support and academic achievement.

There are at least three areas for improvement in the present study. First, the cross-sectional design of the present study prevents us from drawing a causal relationship between the three constructs of peer support, FL self-concept and achievement. Future research is recommended to further explore the relationship between the three constructs based on longitudinal data. Second, the participants in this study were all Han Chinese, which might limit the generalizability of the findings. In addition to the Han Chinese, there are fifty-five ethnic minorities (accounting for 8.89% of the total population of China) in China. Future studies could use data from more ethnic groups to enhance the representativeness of the sample. Third, the data of the present study were all self-reported. Although common method bias was ruled out, future research could consider collecting data from teachers, parents, and peers to enhance the objectivity of the data further.

Despite the above deficiencies, the present study has theoretical and practical implications. First, the present study provides empirical evidence for the social support theory, demonstrating that peer support has a favorable effect on both self-concept and academic achievement. Second, the mediating effect of FL self-concept between EFL-related peer support and FL achievement shows that peer support plays a beneficial role in improving academic achievement by enhancing a student's self-concept. These findings suggest that EFL educators could enhance EFL learners' achievement by improving the level of peer support (e.g., creating a relaxed classroom atmosphere and forming collaborative groups) (Kasperski & Blau, 2023; Strom et al., 2019).

CONCLUSION

The primary objective of the present study was to examine the direct and indirect effects of peer support on academic achievement among Chinese secondary EFL learners. We found that EFL-related peer support could affect FL achievement directly or indirectly via FL self-concept. The present study contributes to the literature on the mediating mechanisms between peer support and academic achievement. Theoretically, the findings provide empirical evidence for the social support theory. Practically, EFL educators are suggested to take measures to reap the beneficial effects of peer support on FL achievement. In this approach, we also found that FL self-concept is the practical mechanism for EFL-related peer support to act upon FL achievement.

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REFERENCES

Bailey, J. A. (2003). Self-image, self-concept, and self-identity revisited. *Journal of the National Medical Association*, *95*(5), 383–386.

Bergey, B. W., Parrila, R. K., Laroche, A., & Deacon, S. H. (2019). Effects of peer-led training on academic self-efficacy, study strategies, and academic performance for first-year university students with and without reading difficulties. *Contemporary Educational Psychology*, *56*, 25–39. https://doi.org/10.1016/j.cedpsych.2018.11.001

Burns, R. A., Crisp, D. A., & Burns, R. B. (2018). Competence and affect dimensions of self-concept among higher education students: A factorial validation study of an academic subject-specific self-concept. *European Journal of Psychology of Education*, *33*(4), 649–663. https://doi.org/10.1007/s10212-018-0369-x

Byrne, B. M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. New York: Routledge.

Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal*, *14*(3), 464–504. https://doi.org/10.1080/10705510701301834

Chyung, S. Y. (2007). Age and gender differences in online behavior, self-efficacy, and academic performance. *The Quarterly Review of Distance Education*, *8*(3), 213–222.

Ciarrochi, J., Morin, A. J. S., Sahdra, B. K., Litalien, D., & Parker, P. D. (2017). A longitudinal person-centered perspective on youth social support: Relations with psychological wellbeing. *Developmental Psychology*, *53*(6), 1154–1169. https://doi.org/10.1037/dev0000315

Cutrona, C. E., & Suhr, J. A. (1992). Controllability of stressful events and satisfaction with spouse support behaviors. *Communication Research*, *19*(2), 154–174. https://doi.org/10.1177/009365092019002002

Denies, K., Heyvaert, L., Dockx, J., & Janssen, R. (2022). Mapping and explaining the gender gap in students' second language proficiency across skills, countries and languages. *Learning and Instruction*, *80*, 101618. https://doi.org/10.1016/j.learninstruc.2022.101618

Dennis, C. L. (2003). Peer support within a health care context: A concept analysis. *International Journal of Nursing Studies*, *40*(3), 321–332. https://doi.org/10.1016/S0020-7489(02)00092-5

Efron, B. (1988). Bootstrap confidence intervals: Good or bad? *Psychological Bulletin*, *104*(2), 293–296. https://doi.org/10.1016/0167-7152(88)90042-9

Ellis, L. A., Marsh, H. W., & Craven, R. G. (2009). Addressing the challenges faced by early adolescents: A mixed-method evaluation of the benefits of peer support. *American Journal of Community Psychology*, *44*, 54–75. https://doi.org/10.1007/s10464-009-9251-y

Fang, G., Chan, P. W. K., & Kalogeropoulos, P. (2020). Social support and academic achievement of Chinese low-income children: A mediation effect of academic resilience.

International Journal of Psychological Research, *13*(1), 19–28.
https://doi.org/10.21500/20112084.4480

Feeney, B. C., & Collins, N. L. (2015). A new look at social support: A theoretical perspective
on thriving through relationships. *Personality and Social Psychology Review*, *19*(2),
113–147. https://doi.org/10.1177/1088868314544222

Fernández-zabala, A., Ramos-díaz, E., & Rodríguez-fernández, A. (2020). Sociometric
popularity, perceived peer support, and self-concept in adolescence. *Frontiers in
Psychology*, *11*, 1–10. https://doi.org/10.3389/fpsyg.2020.594007

Ghaith, G. (2003). The relationship between forms of instruction, achievement and
perceptions of classroom climate. *Educational Research*, *45*(1), 83–93.
https://doi.org/10.1080/0013188032000086145

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure
analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling:
A Multidisciplinary Journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Huang, C. (2011). Self-concept and academic achievement: A meta-analysis of longitudinal
relations. *Journal of School Psychology*, *49*(5), 505–528.
https://doi.org/10.1016/j.jsp.2011.07.001

Hupcey, J. E., Crnp, R., & Rnc, E. (1998). Clarifying the social support theory-research
linkage. *Journal of Advanced Nursing*, *27*, 1231–1241. https://doi.org/10.1046/j.1365-
2648.1998.01231.x

Kang, X., & Wu, Y. (2022). Academic enjoyment , behavioral engagement, self-concept,
organizational strategy and achievement in EFL setting: A multiple mediation analysis.
PLoS ONE, *17*(4), e0267405. https://doi.org/10.1371/journal.pone.0267405

Kasperski, R., & Blau, I. (2023). Social capital in high-schools: Teacher-student relationships
within an online social network and their association with in-class interactions and
learning. *Interactive Learning Environments*, *31*(2), 955–971.
https://doi.org/10.1080/10494820.2020.1815220

Kaynak, Ü., & Kaynak, S. (2023). The pathway from perceived peer support to achievement
via school motivation in girls and boys: A moderated-mediation analysis. *RMLE Online*,
46(3), 1–13. https://doi.org/10.1080/19404476.2023.2171655

Kelly, J. F., Stout, R. L., Greene, M. C., & Slaymaker, V. (2014). Young adults, social
networks, and addiction recovery: Post treatment changes in social ties and their role as
a mediator of 12-step participation. *PLoS ONE*, *9*(6), 1–7.
https://doi.org/10.1371/journal.pone.0100121

Lee, V. E., & Smith, J. B. (1999). Social support and achievement for young adolescents in
Chicago: The role of school academic press. *American Educational Research Journal*,
36(4), 907–945. https://doi.org/10.3102/00028312036004907

Leung, K. C., Marsh, H. W., Craven, R. G., Yeung, A. S., & Abduljabbar, A. S. (2013).
Domain specificity between peer support and self-concept. *The Journal of Early
Adolescence*, *33*(2), 227–244. https://doi.org/10.1177/0272431611436130

Liem, G. A. D., & Martin, A. J. (2011). Peer relationships and adolescents' academic and non-academic outcomes: Same-sex and opposite-sex peer effects and the mediating role of school engagement. *British Journal of Educational Psychology*, *81*(2), 183–206. https://doi.org/10.1111/j.2044-8279.2010.02013.x

Malecki, C. K., & Demaray, M. K. (2002). Measuring perceived social support: Development of the child and adolescent social support scale (CASSS). *Psychology in the Schools*, *39*(1), 1–18. https://doi.org/10.1002/pits.10004

Marsh, H. W., Nagengast, B., Morin, A. J. S., Parada, R. H., Craven, R. G., & Hamilton, L. R. (2011). Construct validity of the multidimensional structure of bullying and victimization: An application of exploratory structural equation modeling. *Journal of Educational Psychology*, *103*(3), 701–732. https://doi.org/10.1037/a0024122

Muthén, L. K., & Muthén, B. (2013). *Mplus version 8.3: User's guide*. Los Angels: Muthén & Muthén.

OECD. (2016). *PISA 2015 results (Volume I):Excellence and equity in education*. Paris: OECD Publishing.

Parada, R. H., Craven, R. G., & Marsh, H. W. (2008). The beyond bullying secondary program: An innovative program empowering teachers to conteract bullying in schools. In H. W. Marsh, R. G. Craven, & D. M. McInerney (Eds.), *Self-processes, learning, and enabling human potential: Dynamic new approaches* (pp. 373–426). Charlotte: Information Age Publishing.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Roever, C., & Phakiti, A. (2017). *Quantitative methods for second language research: A problem-solving approach*. New York: Routledge.

Shalaby, R. A. H., & Agyapong, V. I. O. (2020). Peer support in mental health: Literature review. *JMIR Mental Health*, *7*(6), e15572. https://doi.org/10.2196/15572

Strom, P. S., Hendon, K. L., Strom, R. D., & Wang, C. (2019). How peers support and inhibit learning in the classroom: Assessment of high school students in collaborative groups. *School Community Journal*, *29*(2), 183–202.

Thompson, B., & Mazer, J. P. (2009). College student ratings of student academic support: Frequency, importance, and modes of communication. *Communication Education*, *58*(3), 433–458. https://doi.org/10.1080/03634520902930440

Van Ryzin, M. J., Gravely, A. A., & Roseth, C. J. (2009). Autonomy, belongingness, and engagement in school as contributors to adolescent psychological well-being. *Journal of Youth and Adolescence*, *38*(1), 1–12. https://doi.org/10.1007/s10964-007-9257-4

Wang, Y., Pei, F., Zhai, F., & Gao, Q. (2019). Academic performance and peer relations among rural-to-urban migrant children in Beijing: Do social identity and self-efficacy matter? *Asian Social Work and Policy Review*, *13*(3), 263–273. https://doi.org/10.1111/aswp.12179

Way, N., & Chen, L. (2000). Close and general friendships among African American, Latino, and Asian American adolescents from low-income families. *Journal of Adolescent Research*, *15*(2), 274–301. https://doi.org/10.1177/0743558400152005

Wilgenbusch, T., & Merrell, K. W. (1999). Gender differences in self-concept among children and adolescents: A meta-analysis of multidimensional studies. *School Psychology Quarterly*, *14*(2), 101–120. https://doi.org/10.1037/h0089000

Willoughby, C., Polatajko, H., Currado, C., Harris, K., & King, G. (2000). Measuring the self-esteem of adolescents with mental health problems: Theory meets practice. *Canadian Journal of Occupational Therapy*, *67*(4), 230–238. https://doi.org/10.1177/000841740006700040

Wu, Y., & Kang, X. (2023). Perceived teacher support and EFL achievement: The mediating roles of academic enjoyment and self-concept. *International Journal of Linguistics and Translation Studies*, *4*(2), 38–53. https://doi.org/10.36892/ijlts.v4i2.320

Yang, L., Yan, Z., Zhang, D., Boud, D., & Datu, J. A. (2023). Exploring the roles of academic self-concept and perseverance of effort in self-assessment practices. *Assessment in Education: Principles, Policy & Practice*, *00*(00), 1–26. https://doi.org/10.1080/0969594X.2023.2191161

Yu, J., Wang, Y., Tang, X., Wu, Y., Tang, X., & Huang, J. (2021). Impact of family cohesion and adaptability on academic burnout of Chinese college students: Serial mediation of peer support and positive psychological capital. *Frontiers in Psychology*, *12*, 1–11. https://doi.org/10.3389/fpsyg.2021.767616