



Confidence Makes the Difference: The Role of Academic Self-Efficacy in the Optimism-Achievement Relationship

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ABSTRACT

Objective: This study examined the relationship between dispositional optimism and academic achievement among university students, with a specific focus on the explanatory role of academic self-efficacy.

Method: A group of 250 students of the University took the Life Orientation Test-revised (LOT-R) to check the dispositional optimism, Academic Self-efficacy subscale of Motivated Strategies of Learning (MSLQ) to check academic self-efficacy and self-reported Cumulative Grade Point Average (CGPA) as a measure of academic performance. Hayes PROCESS macro (Model 4) with 5,000 bootstrap resamples was used to perform a mediation analysis.

Results: Dispositional optimism was positively related with academic self-efficacy ($r = .45, p < .01$) and CGPA ($r = .32, p < .01$). CGPA was found to be positively related to academic self-efficacy ($r = .51, p < .01$). Academic self-efficacy mediates the indirect effect of dispositional optimism on CGPA with significant impact ($B = 0.023, \text{BootSE} = 0.005, 95\% \text{ CI } [0.014, 0.034]$) being significant. Direct impact of optimism on CGPA was still important following academic self-efficacy ($c' = 0.011, p = .031$) and this tends to indicate that although a considerable part of the impact of optimism is attributed to the contribution of academic self-efficacy, there are other ways in which optimism impacts academic achievement.

Conclusion: The findings reveal that academic self-efficacy is an important element in the manner in which dispositional optimism is transformed into academic achievement. To foster student achievement, the university educators and student support services should find interventions that would foster both optimistic dispositions as well as academic confidence.

1. Introduction

Optimism is an essential endowment of the psyche that influences how people many challenges, goals, and how they navigate through the school setting. Being referred to as the personality characteristic of the propensity to possess generalized positive expectancies regarding future events (Carver and Scheier, 2014), optimism has always been associated with adaptive coping styles, persistence in goals-focused behavior and increased well-being in different spheres of life (Carver et al., 2010). When

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applied in the education context, positive minded students are more likely to continue to work and be engaged even in the cases of academic challenges, and this attitude towards success might be one of the characteristics that may contribute to academic success greatly (Solberg Nes et al., 2009).

The social cognitive theory also offers a complementary theory to academic achievement based on self-efficacy beliefs. According to Bandura (1997), self-efficacy is the conviction held by an individual on their abilities to plan and implement courses of actions that are necessary to get specified attainments. In academic contexts, academically high students with better academic self-efficacy gain an inclination to participate in learning exercises, have an additional tenacity to endure successive hurdles, and eventually attain stronger academic success (Honicke and Broadbent, 2016). The empirical research has continuously determined that academic self-efficacy is one of the most effective predictors of academic performance, and it is likely to outperform other motivational and cognitive variables in attributing variability in grades (Mejri et al., 2026; Diseth, 2025).

Even though each of the two constructs has been independently related to academic achievement, the connection between the two constructs and their joint impact on academic attainments needs to be explored further. Studies indicate that the impact of dispositional optimism on academic achievement can occur in a variety of different ways, and academic self-efficacy can be one of the important explanatory variables (Usán et al., 2022). Academic self-efficacy was found to be the strongest mediator between optimism and intellectual engagement among college students, with the authors concluding that optimistic students gain a sense of confidence in their skills, and therefore, academic engagement is enhanced (Azila-Gbette et al., 2023). Handrianto et al. (2026) also showed a moderate mediating effect of life satisfaction, which pointed to student work engagement through academic self-efficacy and the mediating role of optimism is significantly high among students in the lower optimism category, showing the subtle interactions between these two variables.

Nonetheless, there are some inconsistencies in the literature. Rand, Martin and Shea (2011) discovered that hope, and not optimism, was uniquely predictive of academic performance with neither optimism nor general self-efficacy showing specific impacts on grade-point average. In a similar study, it was reported that generalized hope made predictive holder of academic-specific hope and academic self-efficacy, whereas optimism and general self-efficacy did not predict academic expectancy variables as well as GPA in the path model that was tested (Feldman et al., 2015). These ambivalent predictors indicate that the relationship between optimism and achievement might be more complicated in the sense that it has particular mediating variables and that these mediating variables differ across situations and among groups of people.

1.1. Significance of the Study

The current research adds to the current body of literature in a number of significant ways. To begin with, by utilizing academic self-efficacy as a plausible mediator between dispositional optimism and CGPA, this study elucidates the process through which optimism could be converted into academic success. The theoretical implications of understanding whether academic self-efficacy mediates between optimism and achievement are that it can be used to inform the social cognitive theory of motivation and the dispositional optimism theory, as well as provide the practical implications of interventions in education. Second, the Motivated Strategies for Learning Questionnaire (MSLQ) academic self-efficacy subscale is used in this research to investigate academic self-efficacy, but it includes domain-specific academic confidence as opposed to the broader self-efficacy. Such specificity is essential because according to the research, domain-specific expectancy scales are the ones that show high predictive validity in academic performance in contrast to generic measures (Rand et al., 2011; Feldman et al., 2015). Third, the literature has gaps that the framework of study fill in by investigating these connections with university students, who is a population where education succeed or failure has vital consequences to their future career and life performance for future generations.

1.2. Hypotheses

Based on social cognitive theory (Bandura, 1997) and the dispositional optimism framework (Carver & Scheier, 2014), the following hypotheses were tested:

- **H1:** Dispositional optimism will be positively associated with academic self-efficacy.
- **H2:** Academic self-efficacy will be positively associated with CGPA.
- **H3:** Dispositional optimism will be positively associated with CGPA.
- **H4:** Academic self-efficacy will mediate the relationship between dispositional optimism and CGPA, such that the indirect effect will be significant.

2. Method

2.1. Research Design

In this study, a cross-sectional, correlational research design was used to test the relationships between dispositional optimism, academic self-efficacy, as well as, academic achievement among university students. A mediation type of study was conducted, where academic self-efficacy was recommended to be between dispositional optimism and CGPA.

2.2. Participants

The population of the sample was 250 university students who were recruited in a Pakistan university in the public sector. Participants ranged in age from 18 to 26 years ($M = 20.54$, $SD = 1.87$). It contained 135 female students (54%) and 115 male students (46) in the sample. They were entered into different academic fields, by proportion 42% till social sciences, 31% till natural sciences, 27% till humanities. All four years of the Academic were also represented with 28, 25, 24, and 23 of the sample.

2.3. Measures

2.3.1. Dispositional Optimism

Dispositional optimism was assessed with the 10-item scale Life Orientation Test-Revised (LOT-R; Scheier et al., 1994) that is used to evaluate the differences among individuals based on their generalized optimism and pessimism. The LOT-R has six targeted items (three directed towards a positive response and three toward a negative response) and four filler items. The scale that the participants answered items on was a 5-point Likert scale, which had 0 (strongly disagree) as the lowest and 4 (strongly agree) as the highest. Such items as "During a person's troubled times, he/she tends to anticipate everything to work out well" and "I seldom hope the problem will turn out well (reverse-scored) are sample items. The negatively-coded items were inverted and a total score of optimism calculated by adding up the six target items with higher score indicating the presence of more dispositional optimism. Cronbachs alpha coefficients indicate that the LOT-R has good internal consistency in past studies with coefficients of alpha between .72 and .84 (Scheier et al., 1994). The LOT-R displayed good internal consistency (0.78) in the current study.

2.3.2. Academic Self-Efficacy

The Academic Self-Efficacy subscale of Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich et al., 1991) was used in the measurement of academic self-efficacy. The subscale has eight items to measure the beliefs of students in their capacity to excel in academic activities. The respondents were asked to answer in 7-points Likert-scale where 1 (not at all true of me) was the lowest and 7 (very true of me) was the highest. Some of the sample items will involve "I am sure that I will get a good grade in this course" and "I am sure that I will be able to master even most difficult piece of material covered in reading assignments on this course. By adding up all the eight items, a total academic self-efficacy score was obtained with higher scores signifying higher academic self-efficacy. MLEQ academic self-efficacy subscale has high psychometric reliability between various samples, where the Cronbach alpha coefficients are mostly greater than .90 (Pintrich et al., 1991). The MSLQ had good internal consistency in the current study ($\alpha = .86$).

2.3.3. Academic Achievement

Academic Achievement measured academic achievement by Cumulative Grade Point Average (CGPA) that was self-reported by students. The participants were requested to give their current CGPA on a 4.0 scale. The validity of the self-reported academic achievement has been supported by correlation relationships of GPA and self-reported GPA, which were consistently strong (.80 to .90) (Kuncel et al., 2005).

2.4. Procedure

In-class announcements were used to recruit the participants. Routine classes were chosen in which colleges granted access to data collection. Before determining the respondents, an information sheet was given to the students on the purpose of the study, voluntary nature of the participation and provisions of secrecy and anonymity of information. Informed consent was given by all the participants before the questionnaire was filled in. The survey packet comprised of LOT-R, MSLQ academic self-efficacy subscale, and demographic questions (gender, age, academic year, and discipline). The current CGPA of the participants was also reported self-administered. The survey was conducted in English since English is the language of instruction in the university. The entire process of data collection lasted about 15-20 minutes.

2.5. Data Analysis

SPSS Version 27.0 was used in the analysis of the data. Descriptive statistics (means and standard deviations), reliability coefficients (Cronbach's alpha) and Pearson product-moment correlations between all the variables of the study were analyzed in advance. The indirect effects of dispositional optimism on CGPA were tested via academic self-efficacy through Hayes (2018) PROCESS macro of SPSS (Model 4) with 5,000 bootstrap resamples, based on mediating the effect of academic self-efficacy. Bootstrapping is a non-parametric resampling method that gives confidence intervals of indirect effects, and the interval will not include zero meaning that mediation is statistically significant (Preacher and Hayes, 2008). All the direct and indirect effects were tested with the help of 95% confidence interval in order to determine their statistical significance. The statistical significance of the indirect effect was in the case when 95% bootstrap confidence interval never contained zero.

3. Results

Table 1: Descriptive Statistics, Internal Consistency, and Correlations Among Study Variables

Variable	M	SD	α	1	2	3
1. Dispositional Optimism	18.42	3.76	.78	—		
2. Academic Self-Efficacy	29.58	5.18	.86	.45**	—	
3. CGPA	3.03	0.41	—	.32**	.51**	—

Note. N = 250. M = mean; SD = standard deviation; α = Cronbach's alpha; CGPA = Cumulative Grade Point Average. **p < .01.

Table 1 provides descriptive statistics, reliability coefficients, or bivariate correlations between dispositional optimism and academic self-efficacy, and CGPA. Dispositional optimism had a mean of 18.42 (SD = 3.76), while academic self-efficacy had a mean of 29.58 (SD = 5.18). The mean CGPA was 3.03 (SD = 0.41). The LOT-R and MSLQ-8 were found to have good internal consistency with Cronbach that is .78 and .86 respectively.

Academic self-efficacy had a positive relationship with dispositional optimism $r = .45$, $p < .01$. CGPA was associated with academic self-efficacy, $r = .51$, $p = .01$. CGPA was also positively correlated with dispositional optimism $r = .32$, $p < .01$.

Table 2: Simple Linear Regression Summary for Dispositional Optimism Predicting CGPA

Predictor	B	SE	β	t	p	95% CI
Constant	2.395	0.175	—	13.69	<.001	[2.050, 2.740]
Dispositional Optimism	0.034	0.010	.32	5.34	<.001	[0.021, 0.047]

Note. N = 250. $R^2 = .102$, $F(1, 248) = 28.51$, $p < .001$. B = unstandardized coefficient; SE = standard error; β = standardized coefficient; CI = confidence interval.

Simple linear regression model was used to assess whether dispositional optimism was a predictor of CGPA. The regression model was statistically significant, $F(1, 248) = 28.51$, $p < .001$, explaining 10.2% of the variance in CGPA ($R^2 = .102$). Dispositional optimism significantly and positively predicted CGPA, $B = 0.034$, $SE = 0.010$, $\beta = .32$, $t = 5.34$, $p < .001$, 95% CI [0.021, 0.047].

3.1. Predicting Academic Self-Efficacy

Table 3: Simple Linear Regression Summary for Dispositional Optimism

Predictor	B	SE	β	t	p	95% CI for
Constant	18.05	1.43	—	12.62	<.001	[15.23, 20.87]
Dispositional Optimism	0.626	0.076	.45	8.24	<.001	[0.476, 0.776]

Note. N = 250. $R^2 = .203$, $F(1, 248) = 67.90$, $p < .001$. B = unstandardized coefficient; SE = standard error; β = standardized coefficient; CI = confidence interval.

Examination of the prediction of the academic self-efficacy by dispositional optimism was done by a simple linear regression analysis that tested whether the two were related to each other. This regression model was found to be statistically significant, $F(1, 248) = 67.90$, $p < .001$ which explains 20.3 percent of academic self-efficacy variance ($R^2 = .203$). Dispositional optimism significantly and positively predicted academic self-efficacy, $B = 0.626$, $SE = 0.076$, $\beta = .45$, $t = 8.24$, $p < .001$, 95% CI [0.476, 0.776].

Table 4: Multiple Linear Regression Summary for Dispositional Optimism and Academic Self-Efficacy Predicting CGPA

Predictor	B	SE B	β	t	p	95% CI for B
Constant	1.721	0.186	—	9.25	<.001	[1.355, 2.087]
Dispositional Optimism	0.011	0.005	.10	2.17	.031	[0.001, 0.021]
Academic Self-Efficacy	0.037	0.006	.47	6.32	<.001	[0.025, 0.049]

Note. N = 250. $R^2 = .292$, $F(2, 247) = 50.91$, $p < .001$. B = unstandardized coefficient; SE = standard error; β = standardized coefficient; CI = confidence interval.

This was done through a multiple regression analysis which tested the concurrent influence of dispositional optimism and academic self-efficacy on CGPA. The overall regression model was statistically significant, $F(2, 247) = 50.91$, $p < .001$, explaining 29.2% of the variance in CGPA ($R^2 = .292$).

Academic self-efficacy significantly positively predicted CGPA while controlling for dispositional optimism, $B = 0.037$, $SE = 0.006$, $\beta = .47$, $t = 6.32$, $p < .001$, 95% CI [0.025, 0.049]. Dispositional optimism was also still a significant positive predictor of CGPA, but its impact decreased when academic self-efficacy was also accounted for, $B = 0.011$, $SE = 0.005$, 95% CI [.10], $t = 2.17$, $p = .031$.

Table 5: Bootstrapped Indirect Effects of Dispositional Optimism on CGPA via Academic Self-Efficacy

Effect	B	Boot SE	Boot LLCI	Boot ULCI
Total effect (c)	0.034	0.010	0.021	0.047
Direct effect (c')	0.011	0.005	0.001	0.021
Indirect effect (a $\times$ b)	0.023	0.005	0.014	0.034

Note. N = 250. Bootstrap resamples = 5,000. Boot SE = bootstrap standard error; LLCI = lower limit of 95% confidence interval; ULCI = upper limit of 95% confidence interval.

The PROCESS Model 4 with 5000 bootstrap resamples was made to conduct a mediation analysis. The total effect of dispositional optimism on CGPA was significant, $B = 0.034$, 95% CI [0.021, 0.047]. The direct relation between dispositional optimism and CGPA became $B = -0.011$, 95% CI [0.001, 0.021] with the description of their effect on CGPA after academic self-efficacy was added as part of the model.

$B = 0.023$ (BootSE = 0.005) and 95% bootstrap confidence value [0.014, 0.034], reflected the indirect effect of dispositional optimism on CGPA through academic self-efficacy. Since the bootstrap confidence interval excluded zero the indirect effect was not zero. The findings point out that the relationship between dispositional optimism and CGPA is partly explained by academic self-efficacy and also that there is a substantial direct correlation between dispositional optimism and CGPA that is not mediated by academic self-efficacy.

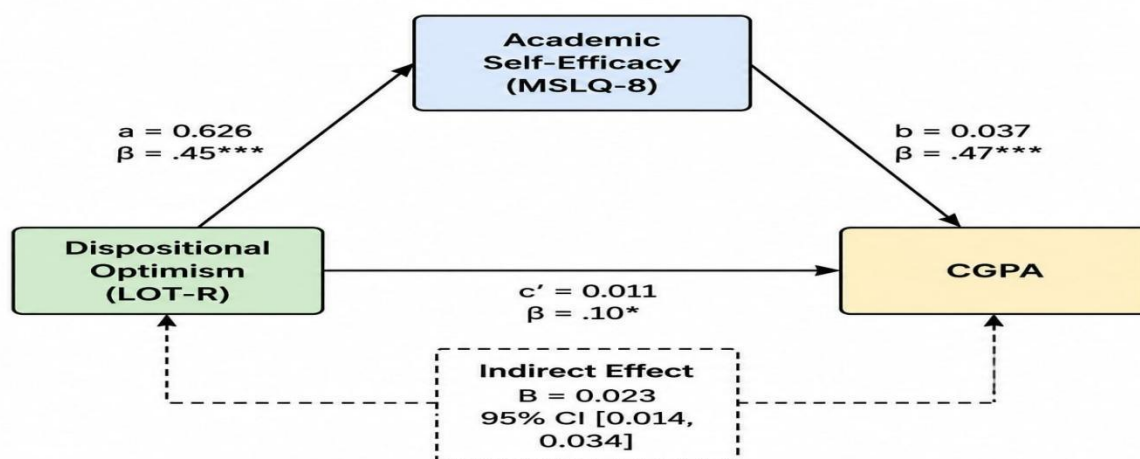
Figure 1: Conceptual Mediation Model Examining the Role of Academic Self-Efficacy in the Relationship Between Dispositional Optimism and CGPA

Figure 1. Conceptual mediation model examining the role of academic self-efficacy in the relationship between dispositional optimism and CGPA. Values represent unstandardized regression coefficients. Path a = optimism → academic self-efficacy;

Path b = academic self-efficacy $\rightarrow$ CGPA controlling for optimism; c' = direct effect of optimism on CGPA controlling for academic self-efficacy. $N = 250$. * $p < .05$. *** $p < .001$.

Figure 1 shows path coefficients of mediation conceptual model. As indicated, dispositional optimism greatly correlated with academic self-efficacy ($a = 0.626, 0.45, p < .001$) and academic self-efficacy had a strong relationship with CGPA and having optimism was controlled ($b = 0.037, 0.47, p.001$). Optimism had a smaller though significant impact on CGPA when the mediator was added ($c = 0.011, 0.10, p.031$). The indirect effect ($B = 0.023, 95\% \text{ CI } [0.014, 0.034]$) did confirm the role of the academic self-efficacy in granting the optimism-CGPA relation.

4. Discussion

The current paper analyzed the correlation between dispositional optimism, academic self-efficacy and academic achievement (CGPA) with among university students. It was found that, both optimism and academic self-efficacy were positively correlated with CGPA, and academic self-efficacy partially mediated the positive relationship between optimism and achievement. These findings are consistent with and build upon previous studies in a variety of significant manners.

In line with the social cognitive theory, the academic self-efficacy proved to be the most influential direct predictor of CGPA ($=.47, p < .001$) that could significantly explain the academic achievement. This observation substantiates the claim, by Bandura (1997) that academic success depends on the belief in the capabilities. A meta-analysis study by Honicke and Broadbent (2016) established that academic self-efficacy has remained a predictor of academic performance at all educational stages and the effect sizes of academic self-efficacy remain similar to the current study. On the same note, Usan et al. (2022) discovered academic self-efficacy to show statistical significant positive relations with optimism and academic performance among students, which highlights the primary importance of self-efficacy in academic situations.

The positive association between dispositional optimism and CGPA ($r = .32, p < .01$) is in line with the previous studies carried out on optimism and academic performance. Positive personalities will have approach-oriented coping strategies and will continue engaging in goal-oriented behavior which helps in the attainment of academic success. Basing their work on the self-regulation theory by Carver and Scheier, (2014) indicate that optimists continue with the work and interest despite academic setbacks. A study conducted by Solberg Nes et al. (2009) showed that optimistic students have a greater degree of motivation, better performance, and adjust to college better and all these lead to academic success. In a study of high school students, Carmona-Halty et al. (2019) have shown that positive emotions related to the study were strong predictors of academic performance via psychological capital, indicating the existence of the direct relationship between optimism and academic performance in the current study.

Nevertheless, a study by Rand et al. (2011) concluded that hope, as opposed to optimism, can be a more direct predictor of academic performance under certain circumstances. According to Rand et al., only hope and not optimism affected the grade expectations of students and in no case did hope or optimism have a unique direct effect on academic performance. In a similar way, Fischer et al. (2020) discovered that grade expectancy was predicted by hope and not optimism that in turn predicted final grades indicating the task of studying mediating mechanisms that might explain the optimism-achievement linkage.

The main conclusion of this experiment is that the academic self-efficacy played an important mediating role in the correlation between optimism and CGPA (indirect effect $B = 0.023, 95\% \text{ CI } [0.014, 0.034]$). This implies that optimism has an impact on academic performance partly due to the positive impact of optimism on the confidence of students about their academic performance. Students who have optimism have higher chances of thinking that they can achieve well in school and consequently this encourages them to take up actions and persistence that will yield them higher grades.

The mediation exercise was not complete but partial in that optimism had a considerable direct influence on CGPA, even when it was considered alongside self-efficacy ($c = 0.011, p = .031$). This suggests that optimism leads to academic success in other ways, which may be due to adaptive coping, increased involvement, or decreased academic burnout. The conclusions of Usan et al. (2022) are as follows: academic self-efficacy is also an important mediator of the relationship between optimism and academic performance, and in this case, it plays a key role in facilitating adaptive classroom behaviors. A study conducted by Latifah et al. (2026) among Pakistani undergraduate students also proved that academic self-efficacy has a significant role in predicting academic achievement. Furthermore, a study by Chemers et al. (2001) showed that in first year students in college, academic self-efficacy mediated the relationship between optimism and academic success, based on the fact that optimistic students had higher self-efficacy beliefs which in-turn predicted higher grades.

Moreover a more recent study by Su et al. (2024) established that self-efficacy was a strong mediator between growth mindset and math achievement among Chinese university students, donning positivity that a growth mindset positively predicted self-efficacy, which in turn raised the academic performance, and Li and Luo (2025) established that positivity ratio mediates the relationship between knowledge strengths and academic self-confidence. Together, these researches highlight the crucial role of self-efficacy as one of the channels in which positive psychological qualities lead to educational achievements. Such cross-

cultural replication enhances the generalizability of the current results as well as helps corroborate the strength of the optimism-self-efficacy-achievement pathway in various educational contexts.

5. Practical Implications

These results have implications on practice to university teachers and student support. Mastery experience, vicarious learning, and verbal persuasion may be also effective in changing the optimistic outlook of students into concrete academic achievements in terms of the intervention (Bandura, 1997). Since academic self-efficacy is alterable, educational interventions aimed at creating academic self-efficacy might help more optimistic and less optimistic students. Honicke and Broadbent (2016) have proposed academic self-efficacy as a central focus of interventions to enhance the academic performance and especially to those students who are at risk of performing below their potential. Moreover, different methods of establishing optimism with the help of cognitive-behavioral tools might indirectly influence academic self-efficacy and consequent performance.

6. Limitations and Future Directions

The study is limited in a number of aspects such as the cross sectional nature which cannot give any causal inference, making use of self report of CGPA that is prone to bias and a sample size that is restricted to a single institution and circumstances which are not generalizable to a larger population and in a different educational setting. Future studies must utilize longitudinal designs to draw time precedence, use objective indicators of academic performance, increase sampling using numerous institutions and other cultural settings, and consider other intermediaries, including academic engagement, intrinsic motivation, and coping mechanisms to further elucidate how optimism is related to academic performance.

7. Conclusion

This research shows that academic self-efficacy is the partial explanation of the connection of dispositional optimism and academic achievement among college students. Although optimism does have a positive correlation with improved grades, much of its impact is realized by the fact that students believe that they can succeed in their academic endeavors. These results point to the need to encourage positive dispositions and academic confidence to be able to nurture a successful student in college or university.

References

- Azila-Gbetteor, E. M., Mensah, C., Abiemo, M. K., & Agbodza, M. (2023). Optimism and intellectual engagement: A mediating moderating role of academic self-efficacy and academic burnout. *Journal of Applied Research in Higher Education*, 15(5), 1370–1391. <https://doi.org/10.1108/JARHE-01-2022-0003>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.
- Carver, C. S., & Scheier, M. F. (2014). Dispositional optimism. *Trends in Cognitive Sciences*, 18(6), 293–299. <https://doi.org/10.1016/j.tics.2014.02.003>
- Carmona-Halty, M., Salanova, M., Llorens, S., & Schaufeli, W. B. (2019). How psychological capital mediates between study-related positive emotions and academic performance. *Journal of Happiness Studies*, 20(2), 605–617. <https://doi.org/10.1007/s10902-018-9963-5>
- Carver, C. S., Scheier, M. F., & Segerstrom, S. C. (2010). Optimism. *Clinical Psychology Review*, 30(7), 879–889. <https://doi.org/10.1016/j.cpr.2010.01.006>
- Chemers, M. M., Hu, L. T., & Garcia, B. F. (2001). Academic self-efficacy and first-year college student performance and adjustment. *Journal of Educational Psychology*, 93(1), 55–64. DOI: [10.1037/0022-0663.93.1.55](https://doi.org/10.1037/0022-0663.93.1.55)
- Diseth, Å. (2025) Motivation and learning strategies among students in upper secondary education: grade level differences and academic outcomes. *Front. Educ.* 10:1679954. doi: 10.3389/feduc.2025.1679954
- Feldman, D. B., Rand, K. L., & Kahle-Wroblewski, K. (2015). Hope, self-efficacy, optimism, and academic achievement: Distinguishing constructs and levels of specificity in predicting college grade-point average. *Learning and Individual Differences*, 37, 210–216. <https://doi.org/10.1016/j.lindif.2014.11.022>
- Fischer, I. C., Rand, K. L., Shanahan, M. L., & Fortney, S. K. (2020). Hope and optimism as predictors of academic performance and subjective well-being in college students. *Learning and Individual Differences*, 81, 101906. <https://doi.org/10.1016/j.lindif.2020.101906>
- Handrianto, C., Kenedi, A. K., & Rasool, S. (2026). Conditional indirect influence of the satisfaction with life and student work engagement mediated by academic self-efficacy of undergraduate students. *Acta psychologica*, 264, 106525. DOI: <https://doi.org/10.1016/j.actpsy.2026.106525>
- Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). Guilford Press.
- Honick, T., & Broadbent, J. (2016). The influence of academic self-efficacy on academic performance: A systematic review. *Educational Research Review*, 17, 63–84. <https://doi.org/10.1016/j.edurev.2015.11.002>

- Kuncel, N. R., Credé, M., & Thomas, L. L. (2005). The validity of self-reported grade point averages, class ranks, and test scores: A meta-analysis and review of the literature. *Review of Educational Research*, 75(1), 63–82. <https://doi.org/10.3102/00346543075001063>
- Latifah, N., Iqbal, T., & Akhter, M. (2026). Undergraduate students' self-efficacy and attitudes toward technology as predictors of academic achievement. *The Knowledge*, 5(1), 70–82. <https://doi.org/10.55737/tk/v5i1.51127>
- Li, S., & Luo, M. (2025). From wisdom to efficacy: The mediating role of positivity ratio in the relationship between university students' knowledge strengths and academic self-efficacy. *Frontiers in Psychology*, 16. <https://doi.org/10.3389/fpsyg.2025.1705454>
- Mejri, S., Muhammad, A., & Abdulrazzaq, H. (2026). Examining cognitive and metacognitive predictors of the self-efficacy and motivation of undergraduate students at a research-intensive university in the UAE. *Journal of International Students*, 16(1), 23–44. DOI: <https://doi.org/10.32674/aojwtt34>
- Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). A manual for the use of the Motivated Strategies for Learning Questionnaire (MSLQ). National Center for Research to Improve Postsecondary Teaching and Learning.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. <https://doi.org/10.3758/BRM.40.3.879>
- Rand, K. L., Martin, A. D., & Shea, A. M. (2011). Hope, but not optimism, predicts academic performance of law students beyond previous academic achievement. *Journal of Research in Personality*, 45(6), 683–686. <https://doi.org/10.1016/j.jrp.2011.08.004>
- Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*, 67(6), 1063–1078. <https://doi.org/10.1037/0022-3514.67.6.1063>
- Solberg Nes, L., Evans, D. R., & Segerstrom, S. C. (2009). Optimism and college retention: Mediation by motivation, performance, and adjustment. *Journal of Applied Social Psychology*, 39(8), 1887–1912. <https://doi.org/10.1111/j.1559-1816.2009.00508.x>
- Su, A., Zhang, Y., & Xu, X. (2024). Can growth mindset always promote students' math achievement? Perspectives from Chinese university students. *Psychology in the Schools*, 1(10), 3926–3941. DOI: [10.1002/pits.23264](https://doi.org/10.1002/pits.23264)
- Usán, P., Salavera, C., & Quílez-Robres, A. (2022). Self-efficacy, optimism, and academic performance as psychoeducational variables: Mediation approach in students. *Children*, 9(3), 420. <https://doi.org/10.3390/children9030420>