



SPIRITUAL INTELLIGENCE AND ACADEMIC PERFORMANCE OF COLLEGE STUDENTS: MEDIATION OF PSYCHOLOGICAL CAPITAL

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Abstract

The study was carried out to examine the relationships among the attributes of spiritual intelligence and psychological capital (PSYCAP) and also how PSYCAP mediates between spiritual intelligence and academic performance of college students. Participants were 360 college students in the age group of 18 to 20. They were administered the questionnaires of spiritual intelligence and PSYCAP. The GPA in their last university examination was used as academic performance score. All the correlations between the attributes of spiritual intelligence, PSYCAP and GPA were significant. Hence, the results implied for multiple and hierarchical regression analyses to examine the extent of prediction of the PSYCAP from the attributes of spiritual intelligence. It is observed that each of the four attributes of spiritual intelligence significantly predicted the PSYCAP variables as well as GPA. Spiritual intelligence explained 35%, 38%, 41%, and 39% of variances of hope, optimism, resiliency, and self-efficacy respectively. Each attribute of spiritual intelligence and PSYCAP also significantly predicted the GPA. Further, when PSYCAP variables were introduced in the 2nd step of the hierarchical regression analyses, the variances of GPA explained was increased by 8% to suggest the significant mediation of PSYCAP. Sobel's test also confirmed the mediation of PSYCAP with each of the attributes of spiritual intelligence.

Keywords: Hope, Optimism, Resilience, self-efficacy, PSYCAP, GPA



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Introduction

Seligman and Csikszentmihalyi (2000) in the article 'Introduction to positive psychology' noted that academic advancement is a complicated subject affected by the students' cognitive, social and psychological attributes, which can be explained by various structures. Some of the psychological structures, which can improve the educational performance of students, are spiritual intelligence and psychological capital (Sisk & Torrance, 2009). Psychological capital is identified as a state of development of the student characterized by believing in his abilities in achieving goals, persevering toward goals,

creating positive attitudes about him, and being able to endure problems. Extensive research on psychological capital (PSYCAP) has found four major domains of the construct as hope, optimism, resiliency, and self-efficacy. Hope implies persevering towards goal and, when necessary, redirecting paths to goals in order to succeed. Optimism implies making a positive reference about succeeding now and also in future. Resilience is shown when beset by problems and adversity by sustaining and bouncing back and even beyond to attend success. Self-efficacy refers to having confidence to take on and put in necessary effort to succeed at challenging tasks. According to the results of several studies conducted in this area, students with higher levels of psychological capital experience more satisfaction, joy, and welfare, and obtain better grades in the learning environment. Studies have reported that each attribute of psychological capital has significant impact on the academic achievement of the students. Mohebbi (2014) reported that each of the attributes of psychological capital has characteristic impact on the formulation of achievement goals and perseverance for achievement among the college students.

In addition, researchers have also pointed to the importance of spiritual intelligence in the academic life of the students. Spiritual intelligence is indicative of a series of abilities, capacities and resources, which can lead to increased adaptability of students. In the available definitions, the main focus of spiritual intelligence is on solving the present problems and finding a purpose in actions and events of everyday life. Spiritual intelligence is used to increase well-being and develops abilities and behaviors in individuals to adapt effectively and solve problems. According to Vaughan (2002), spiritual intelligence is regarded as the ability to deeply understand existential questions and have insights into different levels of consciousness. Some factor analytic studies (Emmon, 2004) have identified four components of spiritual intelligence namely; Critical Existential Thinking, Personal Meaning Production, Transcendental Awareness, and Conscious State Expansion. (i) Critical Existential Thinking is the capacity to contemplate the nature of existence, reality, the universe, space, time, and other existential/metaphysical issues; also the capacity to contemplate non-existential issues in relation to one's existence. (ii) Personal Meaning Production refers to the ability to derive meaning and purpose from all physical and mental experiences, including the capacity to create a purpose of life. (iii) Transcendental Awareness is the capacity to transcend the dimensions of the self and to identify their relationship to one's self and to the physical. (iv) Finally, Conscious State Expansion refers to the ability to enter and exit into the higher states

of conscientiousness as in deep contemplation, meditation prayer etc. Molazade (2013) has observed that spiritual intelligence has also significant impact on the academic behavior, attitude and performance of college students.

Although, several studies have reported strong positive relationships of academic behavior, performance and attitude with spiritual intelligence as well as with psychological capital, there is gap in the research literature as to whether psychological capital mediates the relationship between spiritual intelligence and academic performance. The explication of the constructs of spiritual intelligence and psychological capital suggest that people are only likely to grow in spiritual intelligence through the enriching their psychological capital. Hence, it is reasonable to assume that academic performance of the college students as influenced by their spiritual intelligence should have to be mediated by their psychological capital. The rationale for this assumption can also be derived from the study of Seifolahi and Karimianpour (2016). While studying the mediating role of psychological capital on the relationship between spiritual intelligence and job burnout, Seifolahi and Karimianpour reported significant path relationship of spiritual intelligence to psychological capital and observed that the mediation of psychological capital reduced the burn out by 14%. This finding indicates an underlying relationship between spiritual intelligence and psychological capital, and hence, is suggestive to inquire into the mediating role psychological capital between spiritual intelligence and academic performance of college students.

Objectives

Arising out of the above discussions, the following objectives were for the study.

1. To examine the nature of relationships among the attributes of spiritual intelligence, psychological capital, and academic performance.
2. To examine the extent to which the attributes of spiritual intelligence predict and explain the attributes of psychological capital.
3. To examine the extent to which attributes of spiritual intelligence independently predict and explain the academic performance of the students.
4. To examine the extent to which attributes of psychological capital independently predict and explain the academic performance of the students.
5. To find out the extent to which the relationship between spiritual intelligence and academic performance is mediated by the psychological capital.

Method of Study

Participants were 360 undergraduate students in the age group of 18 to 20, including boys and girls from six different colleges of Odisha. All of them completed the Spiritual Intelligence Self Inventory (SSRI-24; King, 2008). The SSRI-24 consisted of 24 items to be responded in a five-point Likert scale to assess the four domains of spiritual intelligence namely; Critical existential thinking (7 items), Personal meaning production (5 items), Transcendental awareness (7 items), and Conscious state expansion (5 items). The reliability of the questionnaire was reported by King (2008) to be 0.95 and the reliability of this test has been reported as 0.89 by Varadwaj (2015) in Odisha. Further, Luthans's Psychological Capital Questionnaire was used to measure the attributes of psychological capital of the students (Luthans, 2004). The questionnaire consisted of 24 items to be responded in a six-point Likert scale, and six items each to measure hope, optimism, resilience, and self-efficacy of the students. The reliability of the questionnaire was reported to be 0.85 by Bahadoriet. el. (2012) and internal consistency of the test was obtained to be 0.84 using the Cronbach's alpha. Finally, the GPA of each student in his or her previous university examination was taken as the measure of their academic performance.

Results

(I) Correlational analyses: A number of significant relationships were observed from correlational analyses (Table 1). Hope, optimism, resilience, and self-efficacy, all the four attributes of psychological capital are positively and significantly correlated with each of the four attributes of spiritual intelligence, which very precisely indicated that the two constructs are strongly related one another. The average correlation (using Fisher's Z) of each attribute of PSYCAP with all the attributes of spiritual intelligence is also found to be significant. With the attributes of spiritual intelligence, the average correlation of hope is 0.37 (df-359, $p < .01$); of optimism is 0.41 (df-359, $p < .01$); of resilience is 0.38 (df-359, $p < .01$); and of self-efficacy is (df-359, $p < .01$). Likewise, each of the four attributes of PSYCAP and also each of the attributes of spiritual intelligence were significantly correlated with GPA. Hence, the results of correlational analyses are clearly suggestive of regression and mediation analyses for further understanding of the intricate relationships among these variables.

Table 1 Correlations Between Attributes of Spiritual Intelligence, Psychological Capital and GPA

Attributes of Spiritual Intelligence		Attributes of PSYCAP				GPA
		Hope	Optimism	Resiliency	Self-efficacy	
Critical Thinking	Existential	0.34**	0.40**	0.45**	0.35**	0.31**
Personal Production	Meaning	0.37**	0.36**	0.36**	0.41**	0.32**
Transcendental Awareness		0.42**	0.47**	0.39**	0.44**	0.29**
Conscious State Expansion		0.35**	0.41**	0.32**	0.44**	0.48**
Average correlation using Fisher's Z		0.37**	0.41**	0.38**	0.41**	0.35**
GPA		0.46**	0.34**	0.29**	0.45**	

(II)Regression Analyses: The extent to which attributes of spiritual intelligence predicted each of the four psychological capitals was first examined (Table 2). It is observed that each of four attributes of spiritual intelligence significantly predicted each of the attributes of psychological. Further, combindly, critical existential thinking, personal meaning production, transcendental awareness, and conscious state expansion explained 35% of the variances in hope, $F(4, 355) = 37.64, p < .01$; 38% of variances in optimism, $F(4, 355) = 30.86, p < .01$; 41% of variances in resilience, $F(4, 355) = 39.23, p < .01$; and 39% of variances in self-efficacy $F(4, 355) = 27.44, p < .01$. Arising out of this result, then, which specific attribute of spiritual intelligence and PSYCAP explained significant variations in GPA were examined (Table 3). The attributes of spiritual intelligence combindly explained 36% of the variances in GPA with each of the four measures of spiritual intelligence being significant predictors and conscious state expansion emerging as the most significant predictor, $F(4, 355) = 36.28, p < .01$. On the other hand, PSYCAP explained 38% of the variances in GPA with also each of the four measures of PSYCAP being significant predictors of GPA, $F(5, 355) = 42.33, p < .01$.

Now, to investigate how PSYCAP explained significant variations in GPA, hierarchical regression analyses were conducted (Table 4). The four measures of spiritual intelligence that previously emerged as significant were entered in the first step and in the second step all the four measures of PSYCAP were included because all of them emerged significant previously. Attributes of spiritual intelligence independently explained 24% of variances in GPA with all the four traits coming out as significant predictors. On the other hand, attributes of spiritual intelligence and PSYCAP together explained 32% of the variances of GPA, lending that an additional 8% of the variances were explained by the four attributes of PSYCAP $F(7, 352) =$

9.61, $P < .01$. Hence, the results clearly implied the mediation of PSYCAP between spiritual intelligence and academic performance. Hence, mediation analysis was used to further analyze the mediation effect.

Table 2 Multiple Regression Analyses With Spiritual Intelligence Regressed on the Psychological Capital

Criterion	Predictor	Beta	R ²	Adjusted R ²
Hope	Critical Existential Thinking	0.33	0.35	0.33
	Personal Meaning Production	0.36		
	Transcendental Awareness	0.36		
	Conscious State Expansion	0.29		
Optimism	Critical Existential Thinking	0.37	0.38	0.34
	Personal Meaning Production	0.35		
	Transcendental Awareness	0.38		
	Conscious State Expansion	0.34		
Resiliency	Critical Existential Thinking	0.40	0.41	0.37
	Personal Meaning Production	0.28		
	Transcendental Awareness	0.38		
	Conscious State Expansion	0.40		
Self-efficacy	Critical Existential Thinking	0.44	0.39	0.38
	Personal Meaning Production	0.42		
	Transcendental Awareness	0.36		
	Conscious State Expansion	0.32		

(III) Mediation analyses: To understand the intricate relationship between spiritual intelligence and PSYCAP as predictors of academic performance, the extent to which attributes of PSYCAP mediated the relationship between spiritual intelligence and GPA were examined using multiple regression analyses (Table 3) and hierarchical multiple regression analyses (Table 4). The results showed that when PSYCAP such as hope, optimism, resiliency and self-efficacy were included in hierarchical regression analysis; the relationship between critical existential thinking and GPA was reduced from 0.33 to 0.27; between personal meaning production and GPA from 0.31 to 0.25; between transcendental awareness and GPA from 0.28 to 0.27; and between conscious state expansion and GPA from 0.39 to 0.24. The mediation analyses by Sobel's test pointed out that hope (Sobel's test- 3.95, $p < .01$), optimism (Sobel's test- 3.28, $p < .01$), resiliency (Sobel's test- 2.17, $p < .01$), and self-efficacy (Sobel's test- 3.24, ($p < .05$)) each partially mediated the relationship between critical existential thinking and GPA. Similarly, results of Sobel's test pointed out that hope, optimism, resiliency and self-efficacy each one also partially mediated the relationships between personal meaning production and GPA, and between conscious state expansion and GPA. On the other hand, the results of Sobel's test showed that only optimism (Sobel's test-

2.41, $p < .01$) partially mediated the relationship between transcendental awareness and GPA while the other three measures of PSYCAP did not mediate the relationship.

Table 3 Two Separate Multiple Regression Analyses with Spiritual Intelligence Regressed on GPA and the Four Psychological Capitals Regressed on GPA.

Criterion	Predictor	Beta	R ²	Adjusted R ²
GPA	Critical Existential Thinking	0.33	0.36	0.34
	Personal Meaning Production	0.31		
	Transcendental Awareness	0.28		
	Conscious State Expansion	0.39		
GPA	Hope	0.37	0.38	0.35
	Optimism	0.35		
	Resiliency	0.30		
	Self-efficacy	0.38		

Table 4 Hierarchical Multiple Regression Analyses with the Significant Big Five Personality Traits and Academic Self-Concept Subscales Regressed on GPA

Criterion		Predictor	Beta	R ²	Adjusted R ²
GPA	Step 1	Critical Existential Thinking	0.27	0.24	0.24
		Personal Meaning Production	0.25		
		Transcendental Awareness	0.27		
		Conscious State Expansion	0.24		
GPA	Step 2	Hope	0.31	0.32	0.27
		Optimism	0.36		
		Resiliency	0.30		
		Self-efficacy	0.31		

Discussion

The results of the study established a number of interesting relationships between attribute of spiritual intelligence, psychological capital, and academic achievement. Taken as a whole, these findings yielded many insights with potential practical implications on the dynamic interplay between spiritual intelligence, and psychological capital, as well as their joint influence on academic achievement. First of all, the results of spiritual intelligence have several implications for students, teachers and parents. The results established that each of the four attributes of spiritual intelligence is critical for learning and performance, and conscious state expansion is of utmost importance for learning and performance. Secondly, each of the four attributes of PSYCAP explained significant variances in GPA to point out that each one of them is important for learning and performance. Optimism is the most needed PSYCAP for learning. Growing in resiliency and self-efficacy and having the right hope are also essential constructs of the PSYCAP for helping students to be better learners and performers.

Further, regarding the relationship between spiritual intelligence and psychological capital, conscious state expansion as the strongest predictor of academic performance is significantly mediated by the attributes of the PSYCAP. Conscious state expansion being the ability to enter into the higher states of conscientiousness requires a positive psychological mindset of the learner which can be attained when the learner is able perceive hope and optimism in his or her learning process. It is, therefore, important from the point of view of teachers to provide positive classroom experiences to students to grow with PSYCAP rather than only trying to teach then the contents of the syllabus. Students must be helped to understand their potential and provided with opportunities to develop self-efficacy so that they become genuine learners. Critical existential thinking and personal meaning production are also found to be mediated by the attributes of PSYCAP in helping students for better academic performance. Such findings are highly implicative of the fact that addressing to the development of psychological capital among the students is more desirable for them to become sustained and continuous learners.

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