Mediation of Psychological Capital between Academic Stress and Positive Academic Behaviour of College Students

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Abstract: The study was carried out to examine the mediation of psychological capital between academic stress and academic behaviour of college students. Psychological capital included hope, efficacy, resilience, and optimism. Academic stress included frustration, pressure, conflict and anxiety. Positive academic behaviour included academic engagement, perceived academic competence, learning strategies and class room interaction. Participants were 180 randomly selected college students who responded to Luthan’s PsyCap Questionnaire, Sia’s Academic Behaviour Scale, and Rao’s Academic Stress Scale. Correlational analyses pointed out that the attributes of psychological capital have significant positive correlations with all the attributes of positive academic behaviours and negative correlations with all attributes of academic stress. Similarly, the attributes of academic stress have significant negative correlations with all the attributes of positive academic behaviours. Confirmatory factor analyses were carried out for each attribute of psychological capital and adequate model fits were obtained. The results revealed significant mediation effect of each attributes of psychological capital to reduce the negative impacts of academic stress on positive academic behaviours.

Keywords: Psychological, capital, Stress, Behaviour, College students.

I. Introduction

The college years are an important developmental period when young people have a transition from adolescence to young adulthood (Arnett, 2000; Baghurst and Kelley, 2014). During this period, they face numerous challenges in making a successful transition. Some of the salient problems specific to college students are, time pressure, fear of failure, struggle to establish identity, pressure of academic excellence and tough competitions. Common emotional problems among most of them are feeling inferior to others, not able to think adequately and properly, worrying too much about future, feeling that life is not worth living and feeling anxious without any apparent reason (Robotham and Julian, 2006). In fact, high levels of stress arising from such challenges pose serious threat to their mental health, wellbeing (Cohen et al., 2019) and academic attainment (Eicher et al., 2014). In a survey relating to stress and mental health need assessment of college students by the World Mental Health International College Student Initiative (WMH-
ICS) across nine countries reported that about two-thirds of the respondents experienced stress from problems of academic issues, and relationships with family (Alonso et al., 2019). Several other studies also using large cross-national samples for investigating stress among college students have reported that academic role performance among college students is one of the most significant sources of their stress (Mahmoud et al., 2012; Ibrahim et al., 2013). In several countries of the world; cognitive, behavioural, and mindfulness interventions are initiated to help the college students manage their stress and come out successful in their academic and social life (Regehr, 2013).

Many recent studies have reported the impact of psychological capital on the positive academic behaviours of college students. Datu et al., (2016) from their study of Filipino college students reported that PsyCap positively predicted academic engagement, flourishing, independence, happiness, and positive affect among them. Similarly, a study by Adil et al., (2019) on university students reported that PsyCap improved their flow experience and academic achievement, and reduced their self-handicapping behaviours. Further, Hazan et al., (2019) examining the role of psychological capital in academic adjustment among university students reported that psychological capital is a positive resource with a central role in students’ academic adjustment. Martinez et al., (2019) analysing the antecedents of academic engagement of university students reported that higher levels of psychological capital positively impacted the academic engagement and behaviours of undergraduate students in Spain. All these findings clearly point to the fact that psychological capital is a significant source of college students’ positive academic behaviour and academic adjustments. However, research evidences are not available as to how the psychological capital mediates between stress and positive academic behaviour of college students. Identifying this gap in the research literature, the present research was carried out to examine the mediation of psychological capital between stress and academic behaviour of college students.

Elaboration of constructs

(a) Psychological Capital

Psychological Capital (PsyCap) has been defined by Luthans et al. (2007) as a positive psychological state of development. The construct included four attributes designated by the popular acronym (HERO); (i) Hope in having perseverance to goal and when necessary, redirecting path to goals in order to succeed; (ii) Efficacy in having complete confidence that an individual can take effective steps for facing with challenges of life; (iii) Resilience as the capacity to bounce back from adversity and grow stronger from overcoming negative events; and (iv) Optimism as characterized by overall positive expectations. The Box 1 below elaborates the constructs of psychological capital as given by original authors.

<table>
<thead>
<tr>
<th>No</th>
<th>Construct</th>
<th>Definition</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hope</td>
<td>Positive motivational state that is based on an interactively derived sense of successful (a) agency (goal-directed agency) and (b) pathways (planning to meet goals)</td>
<td>Snyder et al., 1991</td>
</tr>
</tbody>
</table>
2 Efficacy  The person’s conviction or confidence about his or her abilities to mobilize the motivation, cognitive resources, or courses of action needed to successfully execute a specific task within a given context.  
Stajkovic & Luthans, 1998

3 Resilience  Positive psychological capacity to rebound, to bounce back from adversity, uncertainty, conflict, failure or even positive change, progress, and increased responsibility.  
Luthans, 2002a

4 Optimism  A positive outcome outlook or attribution of events, which includes positive emotions and motivations and has the caveat of being realistic.  
Luthans, 2002a

(b) Academic Stress

Academic stress is defined as the psycho-physiological response to academic-related demands that exceed adaptive capabilities of students. It is estimated that 30% of students experience high degree of academic stress during their academic career. Some of the things students commonly cite as causes of stress include: examinations, deadlines, returning to study, poor time management and leaving assignments to the last minute. Rao (2008) reported that students’ academic stress in higher education results in four common psychological issues such as frustration, pressure, conflict, and anxiety. On his four factor model of academic stress, he has also developed an Academic Stress Scale.

(c) Academic Behaviour

Many researches in recent years have focused on identifying the key factors that promote academic success among college students. Their demographic characteristics and college circumstances often place them at high risk of failure. Literature in the field largely supports that the students’ attitudes and behaviours play a significant role on their academic achievement. Several studies have found that academic engagement, learning empowerment, perception of competence, academic motivation, academic expectations, and relationships with teachers and peers are positive academic attitudes and behaviours, which determine their academic success. Sia (2012) has developed a scale to measure the above academic behaviour and attitude of college students. In the present research, it is proposed to use the scale for measuring the academic behaviour of the students not only for identifying the limitations in their academic behaviour but also to relate them to their psychological capital, wellbeing and mental health.
II. Method of Study

Participants were 180 undergraduate college students, including equal number of boys and girls. All the participants were administered three questionnaires. Luthans (2006) PCQ-24 was administered to measure the four attributes of PsyCap; Rao’s Academic Stress Scale was used to measure the four dimensions of academic stress; and Sia’s (2012) Academic Attitude and Behaviour Rating Scale was used to measure the six dimensions of positive academic behaviours of the participants. While the 24 item PsyCap scale was responded by the participants on a 6-point scale, the other two tests were responded on 5-point scales. The age of the participants was between 18 to 21 years and all of them were reading in the +3 degree classes. The participants were randomly selected from three different autonomous colleges of Odisha having approximately 2500 student strength in each of the colleges. The data were collected having availed the permission of the principals and consent of the participants.

III. Results and Discussion

The theoretical framework of the study is presented in Figure 1. The framework suggests examining the direct effect of each of the four attributes of psychological capital and of the four attributes of academic stress on academic behaviour of the students. Further, it also suggests to examine the mediating effect of each attribute of PsyCap on academic behaviour of students through their academic stress. Hence, the results are analysed separately for each attribute of psychological capital.

![Theoretical framework of the study](#)
Correlations: Means and standard deviations (per item) and correlations of academic behaviour with PsyCap variables and attributes of academic stress are reported in Table 1. The results of correlation point out that all PsyCap variables are significantly correlated with academic behaviour of the students. Hope has a significant positive correlation with academic behaviour ($r = 0.424$, df-178). On the other hand, each dimension of academic stress such as frustration ($r = -0.515$, df-178), pressure ($r = 0.389$, df-178) conflict ($r = -0.274$, df-178), and anxiety ($r = -0.379$, df-178) are significantly negatively correlated with academic behaviour. Further, hope has also has significant negative correlation with each of four measures of academic stress. Hence, results of correlation confirmed the direct positive relationship of the four attributes of academic behaviour with hope and negative relationships of the four attributes of academic stress with hope. Based on the results of this correlation, the mediating relationship of hope between academic behaviour variables and academic stress variables were examined. Therefore, confirmatory factor analysis was carried out first to examine the model fit of the data and when it was found that the data were reasonably model fit, structural equation modelling was carried out with the data.

Table 1: Means, standard deviations (per item) and correlations of academic behaviour with PsyCap variables and attributes of stress

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>AB</th>
<th>Fru</th>
<th>Pre</th>
<th>Con</th>
<th>Anx</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB</td>
<td>3.21</td>
<td>0.57</td>
<td>-0.516</td>
<td>-0.389</td>
<td>-0.274</td>
<td>-0.379</td>
<td></td>
</tr>
<tr>
<td>Frustration</td>
<td>2.17</td>
<td>0.62</td>
<td>\</td>
<td>\</td>
<td>\</td>
<td>\</td>
<td></td>
</tr>
<tr>
<td>Pressure</td>
<td>2.58</td>
<td>0.44</td>
<td>\</td>
<td>\</td>
<td>\</td>
<td>\</td>
<td></td>
</tr>
<tr>
<td>Conflict</td>
<td>2.07</td>
<td>0.78</td>
<td>\</td>
<td>\</td>
<td>\</td>
<td>\</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>2.93</td>
<td>0.86</td>
<td>\</td>
<td>\</td>
<td>\</td>
<td>\</td>
<td></td>
</tr>
<tr>
<td>Hope</td>
<td>4.12</td>
<td>0.77</td>
<td>0.424</td>
<td>-0.591</td>
<td>-0.384</td>
<td>-0.462</td>
<td>-0.511</td>
</tr>
<tr>
<td>Efficacy</td>
<td>4.26</td>
<td>0.63</td>
<td>0.455</td>
<td>-0.583</td>
<td>-0.438</td>
<td>-0.337</td>
<td>-0.397</td>
</tr>
<tr>
<td>Resilience</td>
<td>4.27</td>
<td>0.81</td>
<td>0.374</td>
<td>-0.544</td>
<td>-0.379</td>
<td>-0.409</td>
<td>-0.339</td>
</tr>
<tr>
<td>Optimism</td>
<td>4.18</td>
<td>0.74</td>
<td>0.462</td>
<td>-0.482</td>
<td>-0.493</td>
<td>-0.463</td>
<td>-0.482</td>
</tr>
</tbody>
</table>

Note: There is no problem of multicollinearity among the independent variables because the correlation coefficients are below the cut off value of 0.75. Correlation coefficient higher than 0.234 is significant above .01 levels.

(a) Hope

Confirmatory factor analysis: Anderson and Gerbing (1988) recommended CFA for the assessment of unidimensionality and model fit of the measurements. The analysis of CFA model fitness of the data about hope resulted in ratios (Table 2), which indicated that the model is reasonably fit with the data. Hence, structural equation modelling was carried out on the data.

Table 2: Fitness ratios of the model with critical existential thinking

<table>
<thead>
<tr>
<th>Model (R)</th>
<th>CMIN/DF</th>
<th>GFI</th>
<th>NFI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.814</td>
<td>0.962</td>
<td>0.968</td>
<td>0.972</td>
<td>0.036</td>
</tr>
</tbody>
</table>
Structural equation modelling: As observed in the resultant structural equation (Figure 2), frustration is negatively related to academic behaviour directly ($\beta = -0.31$), and indirectly through hope ($\beta = -0.25$). Hence, the findings clearly point out that hope as a PsyCap variable reduces the negative impact of frustration on the academic behaviour of college students. Likewise, pressure, conflict and anxiety have significant negative effects on the academic behaviour of college students and such factors when rooted through hope, the negative impacts get considerably reduced. Finally, the negative effect of academic stress is substantially reduced to only a beta coefficient -0.09 by the mediation of hope between academic behaviour and measures of academic stress.

![Figure 2: Resultant structural equation model for hope](image)

(b) Efficacy

The analysis of CFA model fitness of the data relating to efficacy resulted in ratios (Table 3), which indicated that the model is reasonably fit with the data. Hence, structural equation modelling was carried out on the data.

<table>
<thead>
<tr>
<th>Fitness ratios of the model with efficacy</th>
<th>CMIN/DF</th>
<th>GFI</th>
<th>NFI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model (R)</td>
<td>2.892</td>
<td>0.971</td>
<td>0.966</td>
<td>0.978</td>
<td>0.036</td>
</tr>
</tbody>
</table>

Structural equation modelling: As observed in the resultant structural equation (Figure 3), frustration is negatively related to academic behaviour directly ($\beta = -0.38$), and indirectly through efficacy ($\beta = -0.22$). Hence, the findings point out that like hope, efficacy also reduces the negative impact of frustration on the academic behaviour of college students. Similarly, pressure, conflict and anxiety have also negative effects on the academic behaviour of students and when such factors are mediated by efficacy, the negative impacts reduce substantially. The negative effect is reduced from -0.37 to -0.22 for pressure, from -0.32 to -0.16 for conflict, and from -0.31 to -0.19 for anxiety. Further, the negative effect of academic stress is also substantially reduced to only a beta coefficient -0.06 by the mediation of efficacy between academic behaviour and measures of academic stress.

![Figure 3: Resultant structural equation model for efficacy](image)
(c) **Resilience**

The analysis of CFA model fitness of the data relating to resilience resulted in ratios (Table 4), which also indicated that the model is reasonably fit with the data. Hence, structural equation modelling was carried out on the data.

<table>
<thead>
<tr>
<th>CMIN/DF</th>
<th>GFI</th>
<th>NFI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model (R)</td>
<td>3.184</td>
<td>0.971</td>
<td>0.968</td>
<td>0.974</td>
</tr>
</tbody>
</table>

**Structural equation modelling:** As observed in the resultant structural equation (Figure 4), frustration is negatively related to academic behaviour directly ($\beta = -0.43$), and indirectly through resilience ($\beta = -0.25$). Hence, the findings point out that like hope and efficacy, resilience also reduces the negative impact of frustration on the academic behaviour of college students. Similarly, pressure, conflict and anxiety have also negative effects on the academic behaviour of students and when such factors are mediated by resilience, the negative impacts decrease substantially. The negative effect is decreased from -0.49 to -0.24 for pressure, from -0.38 to -0.26 for conflict, and from -0.46 to -0.22 for anxiety. Further, the negative effect of academic stress is also substantially decreased to only a beta coefficient -0.02 by the mediation of resilience between academic behaviour and measures of academic stress.

![Figure 4: Resultant structural equation model for resilience](image)

(d) **Optimism**

The analysis of CFA model fitness of the data relating to optimism resulted in ratios (Table 4), which also indicated that the model is reasonably fit with the data. Hence, structural equation modelling was carried out on the data.

<table>
<thead>
<tr>
<th>CMIN/DF</th>
<th>GFI</th>
<th>NFI</th>
<th>CFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model (R)</td>
<td>3.088</td>
<td>0.975</td>
<td>0.962</td>
<td>0.971</td>
</tr>
</tbody>
</table>
**Structural equation modelling:** As observed in the resultant structural equation (Figure 5), frustration is negatively related to academic behaviour directly ($\beta = -0.39$), and indirectly through resilience ($\beta = -0.17$). Hence, the findings point out that like hope, efficacy and resilience, optimism also reduces the negative effects of frustration on the academic behaviour of college students. Similarly, pressure, conflict and anxiety have also negative effects on the academic behaviour of students and when such factors are mediated by optimism, the negative impacts decrease substantially. The negative effect is decreased from -0.47 to -0.18 for pressure, from -0.32 to -0.16 for conflict, and from -0.48 to -0.15 for anxiety. Further, the negative effect of academic stress is substantially decreased to only a beta coefficient -0.14 by the mediation of optimism between academic behaviour and measures of academic stress.

![Figure 5: Resultant structural equation model for conscious state expansion](image)

**Conclusion**

1. Each of the four attributes of academic stress has strong negative relationship with positive academic behaviors of the college students. Frustration has the strongest negative effect while conflict has the weakest effect (as observed from correlation). It may be due to the fact that frustration is the resultant of some deeper conflicts.

2. Similarly, each of the four attributes of psychological capital has strong positive relationship with positive academic behavior of college students. Observation of means point to the fact that all the four PsyCap attributes have been well developed among the college students.

3. The negative impacts of each of the academic stress on positive academic behaviors is substantially reduced by the mediation of psychological capital as evidenced from the results of the structural equation models.

**References**


