Psychological Capital and Academic Burnout in Students of Clinical Majors in Iran

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SUMMARY

The present study was conducted to investigate the relationship between psychological capital (PsyCap) and academic burnout in medical students in Iran.

The relationship between PsyCap and academic burnout is not, however, clearly investigated in the clinical education.

This analytical study was conducted on 172 medical students of a major medical university in Iran, selected through randomized stratified sampling. A demographic section together with PCQ-24 and Academic Burnout Inventory were used for data collection. Statistical analysis was performed with SPSS software.

Mean academic burnout and PsyCap values were 45.79 and 95.70, respectively. A negative significant correlation were observed between them (r = 0.963, p < 0.001). Stepwise linear regression suggested the predictability of PsyCap by the components of academic burnout (p < 0.001).

The results suggested a relationship between students’ academic burnout and their PsyCap; in other words, their academic burnout can be controlled by enhancing their PsyCap. This will bear implications for educationists.

Key words: psychological capital, academic burnout, clinical majors, Iran

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INTRODUCTION

Among the missions of academic institutions, particularly those training medical and paramedical workforce, preparation of healthy, efficient and responsible graduates for future occupational undertakings stands out. Fulfilling these occupational expectations is their personal and social preparation, which may all start from the academic life as a university student (1). Exhaustion, cynicism and academic inefficiency are among factors impeding academic training and effective preparation of competent practitioners. The medical community currently requires empowerment of novice practitioners by enhancing their psychological assets throughout their education. Scholars believe in academic burnout, which is defined as lack of interest, low motivation, and exhaustion (2). Traditionally, burnout is also considered as a syndrome comprising three components: emotional exhaustion, depersonalization, and reduced personal accomplishment (3); other definitions characterize it as the exhaustion due to educational requirements, undesirable feelings, lowered interest in fulfilling one's tasks and a feeling of inefficiency (4). There is evidence that students suffering from burnout show the symptoms of lowered interest in studies, continuous lack of concentration on classroom assignments, minimized classroom participation, incapability in acquiring the intended knowledge and a feeling of deconceptualized learning (5).

Academic burnout is generally considered to be the main cause of an array of behaviors such as unwillingness to do educational tasks; it is also likely to influence the relationship between teachers and students; therefore, the resultant discouragement from educational settings may predispose the victim to express incivility in due course (6), which is expected and predictable in cases to see graduates with low caregiving attention and capacity in the clinical environments when they start to take occupational responsibilities (7). In China, 86.6% of students are exposed to severe academic stress which ultimately leads to burnout (8). In Iran, Sahrififard and colleagues report sixth-year medical students' burnout to be 76.8% (severe exhaustion) and 71.7% (severe stress), which mainly originate from concerns about the future, fear of harming the patients, incapability in performing medical techniques and high expectations of the family (9). In Europe, 1,702 nursing students with academic burnout were followed up one year after their graduation in Sweden, where they were less capable in their occupational duties, benefitted less from research findings, and showed more inclination to quit jobs (10). Serbian students of managerial sciences were also shown to experience average burnout (54.4%) (11). Also, data on the study-related burnout (SRB) among Finnish university students was collected in 2009 based on a nationwide survey of nine Finnish universities (n = 3,031); findings revealed that 45 percent of all respondents had an increased risk of burnout; while as many as 19 percent had an obviously increased risk (12). Therefore, as it is indicated, in most academic contexts around the world, the prevalence of academic burnout or study-related burnout appears to involve at least half of the target population, and finding a way to deal with this problem with its consequential effects cannot be ignored.

As stated above, academic burnout is prevalent, and this will bring negative experiences such as demotivation, low academic performance, and even physical outcomes. In other words, university experiences will be of a negative impact for the sufferers. Therefore, a number of studies have already been conducted to prevent and intervene in the burnout process, where personal and environmental factors are taken into account (13, 14). Also, predictive factors are investigated in academic burnout, especially for clinical graduates, who often confront undesirable consequences such as illness, absenteeism, and attrition (15). For clinical occupations, such experiences are associated with dilemmas as to whether to drop out or to suffer the rest of the course with undesirable outcomes (16); the degree of such experiences, however, varies for students with different coping capabilities (17).

Psychological capital as a major construct involves four major subcategories: hope, optimism, flexibility, and self-efficiency (18); relevant research shows distinctive convergence among these categories. The psychological capital (PsyCap) is the appositive psychological development characterized by the following states: commitment and struggling with challenges to gain success (self-confidence and self-efficiency), positive documentation of present and future accomplishment (optimism), sustained effort and change of route if necessary (hope), and resistance against challenges (resilience) to achieve goals. A combination of these four components provides the individual with synergistic power in a way that the total PsyCap is much larger than the added components; on a developing basis, it addresses the two major questions: Who are you? (your actual self) and Who do you want to be? (your potential self)(19). Accordingly, the individual will
be highly motivated to achieve personal and organizational goals. The proponents of PsyCap recommend it as an effective strategy for manpower management, too (20). Researchers found people with low PsyCap to be predisposed to depression, and hence to quit jobs to find other employment opportunities. It was also found that PsyCap is negatively correlated with occupational stress and burnout but positively correlated with higher zeal (21).

In sum, despite numerous studies on PsyCap and occupational stress and depression, the relationship between PsyCap and academic burnout is not clearly investigated in clinical education. As stated earlier, this hassle is on the top list of medical educationists since those graduated in clinical majors will be dealing with human beings as well as their mind and body, affecting family and society at large. Academic burnout is closely associated with disentanglement from studying, leading to occupational disqualification despite graduation from that major. From another perspective, employees' PsyCap is in effect the organizational and manpower capitals of every institute; its importance for organizations becomes more paramount when scholars recommend enhancing this capital by training programs. Therefore, taking all these into consideration, we decided to investigate the relationship between PsyCap and academic burnout in students of medical and paramedical majors in Sabzevar University of Medical Sciences, Iran.

METHODS

This descriptive analytical study involved 172 students at a major medical university in Iran in 2015 in order to investigate the relationship between burnout and psychological capital. Sampling was conducted through randomized stratified sampling; the sample size was calculated by Cochran's sample size formula to be 172. In order to start sampling, a list of all majors at Sabzevar University of Medical Sciences, Iran was listed; proportionate to their current list of enrollment and on the basis of the random number table, the final sample size was determined. Initially, 200 participants were selected to fill out the questionnaires; a number of them provided incomplete questionnaires, and some refrained from filling them out. History of psychological disorders, referral to the university disciplinary committee, and being graduated were among the exclusion criteria. Finally, the remaining completed questionnaires were 172, as the desired sample size.

To the beginning of the two major questionnaires (i.e. PCQ-24 and burnout inventory), a demographic section was added including their age, gender, marital status, residence status (either with parents or dormitory), parents' employment, their level of education, participants' parity, socioeconomic status, and their grade-point average.

Study instruments

Two major data collection instruments were used. First, PsyCap was measured with the PCQ-24, which comprises four subscales: (1) hope, (2) optimism, (3) self-efficacy and (4) resilience; each subscale consists of six items with response options on a six-point Likert scale ranging from 1 ('strongly disagree') to 6 ('strongly agree') (20). The scores obtained were considered across four constructs by the following measures: 1-6 meaning zero, 7-12 meaning very low, 13-18 meaning low, 19-24 meaning average, 25-30 meaning high, and 31-36 meaning very high. In order to calculate the final score of the PCQ-24, the score obtained from each subscale was separately calculated and their total was considered as each participant's PsyCap score (20). It was observed that the chi-square ratio was 24.6; also, CFI and RMSEA values were 0.97 and 0.08, respectively.

The second questionnaire was Bresó and colleagues' questionnaire of academic burnout, used for determining burnout in the participants (22). The questionnaire includes 15 questions for measuring emotional exhaustion (5 items), cynicism (4 items) and academic efficiency (6 items); the Likert scale starts with strongly disagree (value 0) through strongly agree (value 4). Burnout scores were considered across three dimensions by the following measures: 1-5 meaning very low, 6-10 meaning low, 11-15 meaning average, 16-20 meaning high, and 20-25 meaning very high. Validity and reliability of this instrument are already established; the reliability of its subcomponents (i.e. emotional exhaustion, cynicism and academic inefficiency) was calculated to be 0.7, 0.82 and 0.75, respectively.

Since the translated version of the questionnaires were administered to the participants, the rendered text was submitted to verification by a number of scholars for the accuracy of translation and wording; for investigating reliability, the translated versions were given to 49 students; the obtained Cronbach's alpha was 0.81 (for academic burnout) and 0.79 (for PsyCap), indicating good internal consistency; therefore, the final versions were considered as the data collection instruments.
Data analysis

Statistical analysis was performed with SPSS software. Indexes of dispersion and central tendency were used. Also, for confirming or rejecting the research hypothesis, Pearson’s correlation coefficient (CI: 95%, p < 0.05), Chi-square and multiple linear regression were used.

Ethical considerations

Relevant permissions for conducting the study were obtained from the university committees, and the study was approved by the Ethics Committee of Sabzevar University of Medical Sciences, Iran; the researchers conducted the study in adherence with ethical policies. Prior to the completion of the questionnaires, the participants were reassured of the confidentiality of data; also, all participants were given explanations on the nature of the study, and that their data will not be disclosed and that they will be used exclusively for the present research purposes. Their identities were concealed throughout the study period, even during the completion of the questionnaires.

RESULTS

Two questionnaires, i.e. PCQ-24 developed by Luthans and colleagues (23) and Bresó and colleagues’ questionnaire of academic burnout (22) were given to 73 male (42.4%) and 99 female (57.6%) students (n=172) from a major medical university in Iran; the students majored in medicine (25% in basic sciences and 22.7% clinical training), nursing (19.8%), operation room technologists and anesthesiology (21.5%) and laboratory sciences (11%), with an age range of 18 to 33 years (mean = 20.63 ±0.2 years); most of them were 19 years old (28.5%). In fact, they responded to two self-administered, closed-format questionnaires; also, they reported their details on age, gender, parity, marital status, their majors, terms, their grade-point average, parents’ job, parents’ education, residence type, parity, and their family socioeconomic level. As for their marital status, 143 were single (83.1%) and the rest (16.9%) were married. Most participants lived in dormitories (68%) and the rest lived with their families. Most (49.5%) declared to be from a middle socioeconomic background. As for their parity, the participants reported ranks of 1 to 9, where the most common parity was reported from the first child of families (35.4%).

Table 1. Mean and standard deviation of the academic burnout and PsyCap (together with their components)

<table>
<thead>
<tr>
<th>Study variables</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic burnout</td>
<td>45.79 ± 5.95</td>
</tr>
<tr>
<td>Emotional exhaustion</td>
<td>14.1 ± 0.28</td>
</tr>
<tr>
<td>Cynicism</td>
<td>10.7 ± 0.26</td>
</tr>
<tr>
<td>Academic inefficiency</td>
<td>20.9 ± 0.26</td>
</tr>
<tr>
<td>Psychological capital</td>
<td>95.73 ± 15.59</td>
</tr>
<tr>
<td>Self-efficiency</td>
<td>24.2 ± 0.37</td>
</tr>
<tr>
<td>Resilience</td>
<td>24.2 ± 0.37</td>
</tr>
<tr>
<td>Hope</td>
<td>22.7 ± 0.34</td>
</tr>
<tr>
<td>Optimism</td>
<td>22.7 ± 0.32</td>
</tr>
</tbody>
</table>
As Table 2 indicates, there was a significant negative correlation between academic burnout and PsyCap ($r = -0.693$, $p < 0.05$). Also, the correlation between PsyCap and the components of academic burnout (i.e. emotional exhaustion, cynicism, and academic inefficiency) were -0.762, -0.740, and 0.190, respectively ($p < 0.001$). In order to predict the participants’ PsyCap, stepwise multiple regression was run (see Table 3).

**Table 2. Correlation coefficient between academic burnout (and its components) and PsyCap**

<table>
<thead>
<tr>
<th>Study variables</th>
<th>Academic burnout</th>
<th>Emotional exhaustion</th>
<th>Cynicism</th>
<th>Academic inefficiency</th>
<th>Psychological capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic burnout</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional exhaustion</td>
<td>0.762**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cynicism</td>
<td>0.740**</td>
<td>0.577**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic inefficiency</td>
<td>0.190</td>
<td>-0.316**</td>
<td>-0.327**</td>
<td>-0.821**</td>
<td>1</td>
</tr>
<tr>
<td>Psychological capital</td>
<td>-0.693**</td>
<td>-0.730**</td>
<td>-0.982**</td>
<td>-0.821**</td>
<td>1</td>
</tr>
</tbody>
</table>

**p<0.001  * p<0.05**

Table 3 indicates a predictability model of PsyCap by the components of academic burnout through stepwise multiple linear regression; it is shown that in the first step, emotional exhaustion solely represents 53% of the variance of PsyCap scores ($R^2 = 0.53$, $p < 0.001$). In the second step, cynicism represents 96.5% of the variance of PsyCap scores ($R^2 = 0.965$, $p < 0.001$). In the third step, academic inefficiency represents 67% of the variance of PsyCap scores ($R^2 = 0.674$, $p < 0.001$). The negative coefficients of the calculated beta values for emotional exhaustion, cynicism and educational inefficiency were -0.715, -1.52 and -0.732, respectively, suggesting that by one SD increase in the values of these components, the PsyCap values decreased by 0.715, 1.52 and 0.732, respectively. Other variables such as field of study, family income, parents, education, parity and educational stage were excluded from the study since they had no predictability value for PsyCap.

**Table 3. Multiple linear regression analysis of PsyCap by academic burnout components**

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>Beta</th>
<th>Sig.</th>
<th>$F$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>one</td>
<td>Academic burnout</td>
<td>-1.54</td>
<td>0.001</td>
<td>105.73</td>
<td>0.928</td>
</tr>
<tr>
<td></td>
<td>Emotional exhaustion</td>
<td>-0.715</td>
<td>0.001</td>
<td>128.99</td>
<td>0.533</td>
</tr>
<tr>
<td></td>
<td>Cynicism</td>
<td>-1.52</td>
<td>0.001</td>
<td>183.96</td>
<td>0.965</td>
</tr>
<tr>
<td></td>
<td>Academic inefficiency</td>
<td>0.732</td>
<td>0.001</td>
<td>146.85</td>
<td>0.674</td>
</tr>
</tbody>
</table>

DISCUSSION

The aim of the present study was to investigate the relationship between PsyCap and academic burnout components in university students at a medical
university in Iran. The results indicated an average level of academic burnout in the sample we investigated; also, the participants reported average PsyCap scores in four components (i.e. hope, optimism, resilience and self-efficacy). As for burnout, average emotional exhaustion and high cynicism in most participants corresponded with average and high burnout, respectively. Earlier research reports from other contexts reveal similar findings about burnout ranging from 10.3% to 76.8% (12, 23-25), which seems consistent with the findings of the present study. As for the PsyCap components, all components were observed to be negatively correlating with academic efficiency. Self-efficacy also negatively correlated with cynicism (of the burnout).

In a similar study, Aliyev and Karakus contended that PsyCap can minimize the stress by lowering the negative feelings; consequently, burnout will be lowered (26). In their study, students with higher levels of PsyCap experienced less negative emotions such as worry, stress, depression and academic burnout (26). In line with our findings, Salanova and colleagues found that perception of self-efficacy as a PsyCap subcomponent can enhance the levels of happiness and efficiency, and reduce academic burnout (27). Similarly, in another study, it was observed that positive PsyCap can play a vital role in reducing and preventing burnout, and that there was a negative correlation between two PsyCap components (i.e. resilience and optimism) and emotional exhaustion (as a of the burnout); Cetin and colleagues also showed dimensions of PsyCap to be negatively correlating with burnout (28), which is in line with the findings of the present study; they found that self-efficiency and hope are more dominantly influential among PsyCap components. Similarly, Herbert observed negative correlation between PsyCap and its components (29), which is consistent with the present study.

Numerous other studies have been conducted on the relationship between PsyCap and job satisfaction, which mostly indicate that PsyCap enhances job satisfaction (18, 30); a logical consequence of job satisfaction is the minimized burnout, which may apply to academic settings and medical students, too. PsyCap can accordingly increase job satisfaction and reduce burnout by enhancing one’s self-efficacy in the long run. Relevant studies may also involve coping strategies which help the individual develop self-efficacy, too (31). For instance, Nikodijevic and colleagues conducted a study on students of management and information technology, where they found that 54.4% suffered from average burnout (32).

**Limitations of the study**

The study was a descriptive investigation and there was no possibility of accurately measuring and testing the PsyCap dimensions as they influenced the burnout components. Therefore, the authors wish to recommend longitudinal and interventional studies in future. Also, the participants were selected from one university; in order to increase the generalizability of the findings, at least in the Iranian context, we suggest stratified cluster sampling across all 65 medical universities in Iran, to cater for various cultural and regional characteristics. Similar studies in other countries may also reveal unattended areas.

**CONCLUSION**

The findings of the present study indicated a significant negative correlation between academic burnout (and its components) and PsyCap. Universities are basically involved in training professionals for meeting the needs of the community members; therefore, the quality of medical education systems can be enhanced by lowering its participants’ academic burnout. Enhancement of the psychological capital can be a priority for the target groups of students in the short and long term plans and workshops.

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References


Psihološki kapital i sindrom izgaranja kod studenata orijentisanih na kliničke predmete u Iranu

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SAŽETAK

Ova studija je sprovedena kako bi se utvrdio odnos između psihološkog kapitala (PsyCap-eng.) i sindroma izgaranja kod studenata medicine u Iranu.

Međutim, odnos između PsyCap i sindroma izgaranja u kliničkom obrazovanju još uvek nije dovoljno ispitao.

Analitička studija je uključila 172 studenta glavnog medicinskog univerziteta u Iranu, koji su odabrani metodom randomizovanog stratifikovanog uzorkovanja. Za prikupljanje podataka korišćen je demografski presek sa PCQ-24 kao i skala za procenu sindroma izgaranja. Statistička analiza je urađena u SPSS programu.

Srednje vrednosti za sindrom izgaranja i psihološki kapital bile su 45,79 i 95,70. Između ovih vrednosti uočena je značajna negativna korelacija \(r = 0,963, p < 0,001\). Višestepena linearna regresiona analiza je ukazala na predvidljivost PsyCap na osnovu komponenti sindroma izgaranja \(p < 0,001\).

Rezultati ukazuju na odnos između sindroma izgaranja i psihološkog kapitala, odnosno sindrom izgaranja se može kontrolisati uvećanjem psihološkog kapitala. Ovi zaključci će biti od značaja za ljude u obrazovanju.

Ključne reči: psihološki kapital, sindrom izgaranja, klinički predmeti, Iran