Emotional State During the Post-Pandemic Period: Psychological Capital and Academic Engagement in University Students

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This research aimed to analyze the relationship between psychological capital and the academic commitment of the university students of Madre de Dios (Peru) during the post-pandemic period. The approach was quantitative, the design was non-experimental and the type was descriptive-correlational of cross-sectional nature. The sample was made of 344 students to whom the Psychological Capital Questionnaire and the UWES-S Scale were applied, instruments with adequate levels of validity based on content and reliability. According to the results, the Spearman’s rho coefficient between the variables psychological capital and academic engagement was 0.786 and the p-value was lower than the significance level (p <0.05). In the same sense, it was determined that the correlation coefficients between psychological capital and the dedication, vigor and absorption dimensions were 0.802; 0.736 and 0.748 respectively, being statistically significant in all cases (p <0.05). Finally, it was concluded that a direct and significant relationship exists between psychological capital and academic engagement.

Keywords: psychological capital, academic engagement, post-pandemic, university students, mental health

INTRODUCTION

In December 2019, some cases of atypical pneumonia caused by a new type of coronavirus were reported in Wuhan (China), called Sars-COV-2, the cause of the COVID-19. Due to the rapid spread throughout the world, the accelerated increase in infections and the number of fatalities that caused, the World Health Organization (WHO) characterized this disease as a pandemic (Estrada, 2022). This decision caused a series of health, social, economic, cultural and, of course educational repercussions. In the educational field, academic activities in universities were interrupted. However, to guarantee the continuity of the educational service, the teaching-learning modality migrated and went from being face-to-face or semi-presential to being strictly virtual. This unusual educational reform caused great concern in the students, since many of them were not prepared or familiar to face this alternating form of learning.

In the second half of 2022, the number of infections and deaths caused by COVID-19 have decreased significantly worldwide due mainly to vaccination campaigns. In that sense, many activities carried out virtually are developing in person. In the case of the Peruvian university educational service, they also gradually returned to face-to-face. Therefore, it is important to analyze the factors that promote that students can face adverse contexts such as those described, such as psychological capital (PC) and academic engagement (AE).

Psychological Capital

Traditionally, psychology was focused on studying the negative aspects of people, organizations and societies, leaving aside positive or functional aspects. However, since the beginning of the 21st century, positive psychology has focused on investigating human positive characteristics and strengths to provide comprehensive and balanced scientific knowledge that allows for building a better society (Ramírez, 2022). In that sense, one of the issues that has been studied for very little under this approach is the PC.

The PC was widely investigated in the work context. However, being a psychological state that is characterized by the positive self-assessment of circumstances and the possibility of success based on perseverance and effort, it is possible to apply it to other contexts of life, such as the academic one (Schönfeld & Mesurado, 2020). In fact, since as it is known, during university education there are academic demands (tasks, exhibitions, exams, etc.), and students must develop them in a timely manner so that they have adequate academic performance and can culminate their professional career. Therefore, it is necessary to promote the development of the PC of the university student so that they can successfully face all their academic responsibilities.

The PC is defined as a positive psychological state that people develop and is characterized by having the confidence to develop challenging tasks, having a positive attribution about the present and future success, persevering to the objectives, when necessary, direct the way to reach them to succeed and when there are adverse situations, maintaining and recovering to face them (Luthans et al., 2007).
In addition, it follows that the PC comprises 4 dimensions: self-efficacy, optimism, hope and resilience (Carmona & Villegas, 2018). Self-efficacy refers to the individual trust that raises the levels of motivation and cognitive resources, which results in excellent performance. Optimism is an increase in positive attributes and expectations regarding future events. Hope is a cognitive set derived from the interaction between the determination oriented to objectives and directional plans. Finally, resilience is defined as the ability that allows individuals to face adversity or adapt to it positively. In that sense, combining the four previously mentioned factors provides a high level of PC that allows people to focus on performing tasks and seeking success when completing them.

Few investigations have pointed out relevant ideas about the PC in the academic context. In that order of ideas, it is affirmed that the PC improves students' resources, is directly related to self-concept, adequate coping with academic stress and academic performance. On the other hand, it has been suggested that the PC could improve the student's potential, maintaining their academic objectives, increasing their satisfaction and increasing the persistence of students in their online studies (Ramírez, 2022).

Academic Engagement

The term AE was also initially implemented in labor contexts and then it was decided it to include the academic context. In addition, there are demands that must be met, since if they do not, they can affect their permanence in that institution (Schaufeli et al., 2002).

Then, some years before 2000 in which the participation of university students began to be investigated, this concept became an important factor in determining their learning and personal development achievements (Casuso et al., 2013). Actually, this is consistent with the arguments of Egbert (2020), who said that successful learning occurs when students get enthusiastically involved in the learning process and passionate to take advantage of opportunities to achieve this purpose.

The AE is considered a psychological state characterized by the sense of belonging that students have, who give a special value to the educational process, which encourages their active participation in the activities developed in the university (Glanville & Wildhagen, 2007). On the other hand, it was also conceptualized as a multifactorial construct related to students' effort to specify positive academic objectives (Cavazos & Encinas, 2016). Although there are definitions such as those expressed, it is argued that conceptualizing the AC still requires a lot of debate and understanding to enrich the state of art of the variable above (Tacca et al., 2021).

The interest in studying AE is increasing every time. This is partly due to the fact that it has been evidenced that the high levels of participation of young people in academic activities promote their skills and values necessary for academic success while reducing the probability that they develop negative behaviors such as acts criminals and violence, consumption of substances and depressive symptoms (Wang & Fredricks, 2014). Other authors reported that people who had adequate levels of AE had a greater emotional and energetic connection, felt more self-efficient, had better results and allocated more time and dedication to their academic responsibilities (Loscalzo & Giannini, 2019). However, people with low levels of AE constantly lacked classes, were not motivated, their academic performance was regular and sometimes they felt ineffective (Jorquera & Guerra, 2021).

According to Schaufeli et al.'s (2002) proposal, AE is made up of three components: dedication, vigor and absorption. Dedication is associated with the level of involvement that students show with their studies, that is, at the level in which they are involved in the development of academic activities and the meaning they give, which will allow them to obtain better results. Vigor refers to energy levels, mental resistance and resilience evidenced by students during the development of academic activities, even when adverse difficulties and situations appear. Finally, absorption implies students' concentration, immersion and joy regarding academic activities. This means that they do not realize the passage of time and get carried away by the development of their responsibilities.

According to Egbert (2020), it is possible to promote students' AE through certain learning strategies, such as relating the activities students engage in to their real life, maintaining constant communication with them to provide timely feedback, socializing necessary learning resources to complement teaching, designing activities that are of interest to the involved students, fostering their autonomy, and crafting tasks...
with a level of difficulty beyond the students’ current abilities, as it will enable them to perceive the need to exert effort in order to complete the given task.

Finally, the objective of the present research was to analyze the relationship between the PC and the AE of the university students of Madre de Dios (Peru) during the post-pandemic period.

**METHODOLOGY**

The research approach was quantitative, with a non-experimental design falling under the descriptive-correlational cross-sectional type (Hernández & Mendoza, 2018).

The population was constituted by 3250 students from the universities that provide educational service in the Madre de Dios region, Peru: Universidad Nacional Amazónica de Madre de Dios (UNAMAD) and the subsidiaries of the Universidad Andina del Cusco (UAC) and Universidad Nacional de San Antonio Abad del Cusco (UNSAAC). On the other hand, the sample was made of 344 students, quantity obtained through a stratified probabilistic sampling with a 95% confidence level and a significance level of 5%. Of the total participants, 59.6 were women and 40.4% were male. Regarding the age group of students, 57.3% were from 16 to 20 years old, 26.7% from 21 to 25 years old, 12.5% from 26 to 30 years old and 3.5% older than 30 years old. Finally, in terms of the University of origin, 73.6% studied at UNAMAD, 21.5% in the UAC and 4.9% in UNSAAC.

Data collection was given through the use of a virtual survey structured on Google Forms, which was made up of three sections. In the first section, the participants were requested to be informed consent and sociodemographic information (gender, age group and university of origin).

In the second section the Psychological Capital Questionnaire was applied (Luthans et al., 2007) adapted to the academic context (Schönfeld & Mesurado, 2020). It is constituted by 12 Likert type items (very disagree, disagree, not agree nor disagree, agree and very agree) and distributed in four dimensions: Self-efficacy (items from 1 to 3), hope (items of 4 to 7), resilience (items from 8 to 10) and optimism (items 11 and 12). The questionnaire's psychometric properties were determined through the processes of validity based on content and reliability. After the evaluation of three experts, it was determined that the questionnaire had adequate validity based on the content (V of Aiken = 0.863). Likewise, it was found that reliability, determined by means of a pilot test to 35 students, was also adequate (α = 0.890).

In the third section the Utrecht Work Scale (UWES-S) scale was applied, which was originally prepared and translated into Spanish by Schaufeli et al. (2002). However, was adapted to Peruvian reality by Tacca et al. (2021). This scale consists of 16 Likert-type items (totally disagree, disagree, not agree nor disagree, agree and totally agree) and evaluates three dimensions: dedication (items from 1 to 5), vigor (items from 6 to 11) and absorption (items from 12 to 17). Its psychometric properties were also determined by the process of validity based on content and reliability. In that sense, it was determined that the scale had an adequate level of validity based on the content (V of Aiken = 0.802) and reliability (α = 0.821).

For data collection, authorizations were managed to the corresponding university authorities. Then, by applying WhatsApp messenger, students were invited to participate in the research and the survey link was shared. The purpose was explained there, their informed consent was requested, and the orientations were given so the questions could develop. This procedure had an approximate duration of 25 minutes and after guaranteeing the participation of the 344 students, access to the instruments was disabled.

The statistical analysis was performed at descriptive and inferential level. The descriptive analysis was developed using frequency and percentage tables obtained through the use of SPSS V.25 software. As for the inferential results, they were obtained by using the Spearman’s rho coefficient. This statistic was relevant to know if the variables and dimensions were significantly related (p <0.05).

Regarding ethical aspects, approval was obtained from the Institutional Ethics Committee. It's important to highlight that detailed information about the objectives and nature of the research was provided to the students, ensuring confidentiality and voluntariness of their participation throughout the study. Ultimately, the students granted their informed consent.
RESULTS

According to Table 1, 41.9% of the students had a high level of PC development, 29.1% had a moderate level, 13.9% showed a low level, 9.3% had a very high level and 5.8% had a very low level. As can be seen, the predominant level of the PC was high, as well as the dimensions of self-efficacy (36.3%), hope (37.8%), and optimism (37.2%). However, in the resilience dimension predominated the moderate level (38.1%).

TABLE 1
DESCRIPTIVE RESULTS OF THE PSYCHOLOGICAL CAPITAL VARIABLE AND ITS DIMENSIONS

<table>
<thead>
<tr>
<th>Variable and dimensions</th>
<th>Very high</th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
<th>Very low</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological capital</td>
<td>32</td>
<td>9.3</td>
<td>144</td>
<td>41.9</td>
<td>100</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>19</td>
<td>5.5</td>
<td>125</td>
<td>36.3</td>
<td>118</td>
</tr>
<tr>
<td>Hope</td>
<td>26</td>
<td>7.6</td>
<td>130</td>
<td>37.8</td>
<td>120</td>
</tr>
<tr>
<td>Resilience</td>
<td>10</td>
<td>2.9</td>
<td>123</td>
<td>35.7</td>
<td>131</td>
</tr>
<tr>
<td>Optimism</td>
<td>24</td>
<td>7.0</td>
<td>128</td>
<td>37.2</td>
<td>115</td>
</tr>
</tbody>
</table>

Source: Own elaboration

According to Table 2, the AE level of 41.6% was high, 34.9% was moderate, 11.3% was very high, 7.6% were low and 4.6% were very low. It can be seen that the predominant level of the AE was also high, as well as the dedication dimensions (42.7%) and absorption (38.4%). However, in the vigor dimension the moderate level predominated (38.9%).

TABLE 2
DESCRIPTIVE RESULTS OF THE ACADEMIC ENGAGEMENT VARIABLE AND ITS DIMENSIONS

<table>
<thead>
<tr>
<th>Variable and dimensions</th>
<th>Very high</th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
<th>Very low</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic engagement</td>
<td>39</td>
<td>11.3</td>
<td>143</td>
<td>41.6</td>
<td>120</td>
</tr>
<tr>
<td>Dedication</td>
<td>49</td>
<td>14.2</td>
<td>147</td>
<td>42.7</td>
<td>98</td>
</tr>
<tr>
<td>Vigor</td>
<td>29</td>
<td>8.4</td>
<td>131</td>
<td>38.1</td>
<td>134</td>
</tr>
<tr>
<td>Absorption</td>
<td>33</td>
<td>9.6</td>
<td>132</td>
<td>38.4</td>
<td>120</td>
</tr>
</tbody>
</table>

Source: Own elaboration

Table 3 presents the data obtained through the Kolmogorov-Smirnov normality test. In this regard, the test's error for all variables and study dimensions was lower than the significance level (p < 0.05), indicating that the scores did not conform to a normal distribution. Consequently, considering the above and considering the nature of the variables and their level of measurement (ordinal), the decision was made to employ the Spearman’s rho coefficient.
As seen in Table 4, the Spearman’s rho coefficient between the PC and AE variables was 0.786 and the p-value was lower than the significance level (p <0.05). Therefore, you can affirm that both variables are directly and significantly related. On the other hand, it was determined that the PC variable was also directly related to the dedication dimensions (rho = 0.824), vigor (rho = 0.772) and absorption (rho = 0.750), being statistically significant in all cases (p <0.05).

**DISCUSSION**

At present, university education aims to integrate integrally with students so that they develop competently in their profession. To achieve this goal, universities must promote, from the first cycle, the development of psychological resources that strengthen the mental health of students, a basic condition so that they can fulfill their academic responsibilities during their professional training. In fact, this research sought to analyze the relationship between the PC and the AE of Madre de Dios (Peru) university students during the post-pandemic period.

An initial finding indicates that the level of PC that characterized students was high, that is, they had an adequate assessment about the context and the possibility of success in the adverse situations of university higher education. Although the described result is encouraging, it is striking that more than a
third of students had partially developed their PC level, which could be explained by the COVID-19 pandemic and the multiple repercussions that caused in the different areas of the life of the people.

A similar result was reported in Portugal, where they determined that there were adequate levels of PC in students, which translated into positive ideas that they had to favor their emotional state and learning achievements (Lutete et al., 2021). Similarly, in China it was also determined that the PC of the majority of students was in good condition during the pandemic, however, in a considerable percentage it remained at low and moderate levels, which leaves a significant margin of improvement (Ren et al., 2022).

The PC of people can become a significant facilitator by offering resistance to pictures of psychological anguish. In that understanding, previous studies suggest that the development of self-efficacy, optimism, hope and resilience (components of the PC) can also become protective factors against impotence, anxiety, depression, loneliness and stress (Estrada et al., 2023).

In relation to the AE, it was found that the predominant level was high, which means that the students had developed the sense of belonging to their professional career and positively valued the educational process. Therefore, they generally actively participated in the curricular and extracurricular academic activities that were developed in the university. This situation would favor improving their academic performance, promoting the concretion of their objectives as students (advance and culminate their studies successfully). However, it is also necessary to emphasize that more than a third of students show some displeasure and disassembly for the professional career they chose, which was reflected on certain occasions when they showed little disposition and openness to make efforts that allow them to improve its performance.

The exposed result coincides with what was reported in an investigation carried out in Cuba, where they determined that most university students manifested adequate levels of AE, which generated a favorable impact on the conditions of distance education, the quality of the integral training, and the fulfillment of varied activities (García et al., 2022). In the same way, it coincides with the findings in an investigation carried out in Peru, where they concluded that the students of the National University of the Altiplano had a strong commitment to their academic objectives, which in turn indicated that the health emergency would not have significantly affected the dedication, motivation, and concentration for studies and the development of academic activities (Medina et al., 2020).

In this regard, it should be noted that every time the important of understanding the AE of the students and the problem of separation to university academic activities since they influence their adaptation and trajectory in the medium and long term. Therefore, it is imperative to detect these factors to develop differentiated strategies that improve student performance, progress and retention (Casuso et al., 2013).

An important finding realizes that there is a direct and significant relationship between the PC and the AE of the university students of Madre de Dios (Peru) during the context of post-pandemic. In that sense, the Spearman’s rho coefficient between both variables was 0.786 with a p-value lower than the level of significance (p <0.05). By virtue of the above, it can be affirmed that the high PC levels correspond to the high AE levels or vice versa.

There are researches that corroborates the exposed finding. In Chile they developed a study to examine how the PC and AE were associated and concluded that there was a directly and statistically significant association between both variables (r = 0.652; p <0.01). The above implied that the increase in positive emotions related to studies could strengthen personal resources, such as commitment to studies (Carmona et al., 2019). In the Philippines an investigation was conducted to know the role that the PC fulfilled in the AE of university students and concluded that both variables were directly related, and even determined that the PC positively predicted the AE (Datu & Valdez, 2016). In Malaysia, a group of researchers investigated the relationship between the PC and the AE and concluded that there was a direct and significant relationship between both variables. Likewise, it was found that the PC had a positive and significant effect on the AE (Salem et al., 2022).

There are coherent reasons that would explain why the PC may be related to optimal results in students, as is the case of the AE. First, Luthans et al. (2007) pointed out that the PC works as a positive motivational orientation that allows people to achieve a successful life translated into greater positive emotions, satisfaction with life, commitment towards the development of academic responsibilities and better
academic performance. On the other hand, there is the theory of the conservation of resources, which indicates that the development of multiple psychological resources (such as the PC) would empower people to achieve academic goals and well-being despite the challenges and demands that they are always face in life (Hobfoll, 2002). In that order of ideas, students would have advantages if they develop their PC because they would potentially improve their ability to express positive reactions and participate dynamically in learning activities.

Another relevant finding indicates that the PC was also directly and significantly related to the dimensions of the AE: dedication, vigor, and absorption ($p<0.05$). The Spearman’s rho coefficient was 0.824; 0.772 and 0.750; respectively. The above means that, to the extent that the students have high PC levels, they will positively assess the professional career they chose, giving it meaning and feeling pride and satisfaction. They will also have enough energy to attend classes and will be focused on developing their academic activities.

The described result coincides with what was reported in Argentina, where they studied the association between the PC and the dimensions of the AC (engagement) and concluded that there was a direct, low but statistically significant association ($p<0.05$) between the PC and vigor ($r = 0.319$), dedication ($r = 0.279$) and absorption ($r = 0.259$). Therefore, if students' positive expectations about events are favorable, they can identify with academic activities, put enthusiasm, inspire, concentrate and immerse themselves in it (Schönfeld et al., 2019).

It should be noted that this research has the strength of being one of the first that addresses both constructs in the current context of new normality. However, it was not exempt from limitations, such as the disproportion of the sample concerning the number of students according to the University of origin and the type of instrument applied, aspects that do not allow generalizations and could generate social desirability biases or subjective assessments by students. In this regard, it is recommended that the sample size increases in future research, including more UNSAAC students, and data collection instruments are used to give more objectivity to the process in question.

CONCLUSIONS

The transition by university education is usually characterized by continuous academic demands, which is why it is important that students develop the aforementioned activities promptly so that they have adequate academic performance and can continue their studies successfully until its culmination. Then, having adequate levels of PC and AE could lead to them having a better performance against these circumstances.

In the present investigation, it was determined, at the descriptive level, that the students presented high levels of PC and AE. On the other hand, at the inferential level it was established that there is a direct and significant relationship between the PC and the AE of the university students of Madre de Dios (Peru) during the context of post-pandemic period. This implies that the promotion of the PC would improve the students of the students, basic and necessary condition for the achievement of learning. In the same way, it was determined that there is a direct and significant relationship between the PC and the dimensions of dedication, vigor and absorption. This information demonstrates the importance of the PC to face, not only the academic, but personal, social and future context, the work context.

Therefore, the university authorities must establish as an institutional policy, during the present context of new normality, the promotion of the mental health of the students, translated through the development of prevention and intervention programs. In this way, protective factors will be created and strengthened, such as PC and AE, which will also allow them to effectively face mental and emotional problems associated with the development of their academic activities previously described.
REFERENCES


