



# Examining the Relationship Between Academic Psychological Capital Profiles and Coping with Academic Stress and Time Management Among Undergraduate Students

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## ABSTRACT

*Academic psychological capital (A-PsyCap) is a core construct integrated by four psychological resources (hope, efficacy, resilience, and optimism). Little is known about A-PsyCap profiles and their relationship with desirable academic outcomes. This study aims to identify A-PsyCap profiles among Chilean undergraduate students and explore the relationship between A-PsyCap and Coping with Academic Stress and Time Management. A sample of 102 Chilean undergraduate students was considered to achieve these research objectives. A cluster analysis identified four A-PsyCap profiles. The Optimal Profile (P1) scores highest on all four psychological resources; the complementary profile (P2) shows average scores on all four psychological resources; the functional profile (P3) has medium efficacy scores and low scores in hope, resilience, and optimism; and the latent profile (P4) has lower scores on all four psychological resources. The results explain that these A-PsyCap profiles relate differently to Coping with Academic Stress and Time Management. Additionally, constraints and possibilities for further research are explained.*

**Keywords:** Academic psychological capital, A-PsyCap profiles, coping with academic stress, time management, undergraduate students.

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It has been established that psychology has moved away from a negative focus toward emphasising positive features of individuals during the last two decades (Seligman et al., 2005; Williams et al., 2017). This line of research, referred to as

positive psychology, is an umbrella concept for researching positive individual and organisational outcomes (Seligman et al., 2005). Hence, the primary aim of positive psychology is to provide comprehensive and balanced scientific knowledge to build and enhance individuals, families, and organisations (Seligman & Csikszentmihalyi, 2000).

On the one hand, positive institution pillars of positive psychology are positive organisational scholarship (POS) and positive organisational behaviour (POB) (Reichard et al., 2014). POS and POB share the exact origin of the positive psychology movement and highlight the importance of rigorous scientific processes in developing their practices (Donaldson & Ko, 2010). These approaches are parallel and complementary, but they have theoretical and methodological differences (Youssef & Luthans, 2007). POS is a "movement in organisational science that focuses on the dynamics leading to exceptional individual and organisational performance such as developing human strength, producing resilience and restoration, and fostering vitality" (Cameron & Caza, 2004, p. 731). Hence, POS research is focused on a macro level of analysis, to discover organisational strengths.

On the other hand, POB aims to understand human strengths and resources at the individual level of study and improve an employee's performance within the organisational context (Luthans, 2002b). The following five definitional criteria have been established to further distinguish POB from prevalent self-helped guidance, personal development literature and other positive guidance paradigms, which require a psychological capacity: 1) grounded in theory and practical research; 2) have valid measurement; 3) be relatively unique to organisational behaviour research; 4) be related to work-related outcomes; and 5) be "state-like" and therefore open to development (Luthans, 2002a; Luthans & Avolio, 2009).

Among the various psychological resources studied and empirically tested for inclusion in the POB, hope, efficacy, resilience, and optimism (acronym HERO) most effectively meet their criteria (Luthans et al., 2006; Luthans et al., 2007a). The psychological resources of HERO have been studied individually, but more importantly, substantial research has focused on the higher-core construct compromising these psychological resources, known as psychological capital or PsyCap (Luthans et al., 2007a; Youssef & Luthans, 2007).

PsyCap is "an individual's positive psychological state of development, characterised by self-efficacy, optimism, hope and resilience" POB has proposed that PsyCap yields significant benefits in workplace settings, including job satisfaction, organisational commitment and performance (Larson & Luthans, 2006; Luthans et al., 2007b). Furthermore, there is evidence that positive relates to PsyCap and employee mental well-being, and negative relates to employee psychological distress (Avey et al., 2010b; Harms et al., 2017; Krasikova et al., 2015; Roberts et al., 2011). These positive relations between PsyCap and desirable outcomes have been mainly studied in the workplace context, and less in different settings, including academic ones. Thus, the purpose of this empirical research is to explore the role that PsyCap may have on undergraduate students' coping with academic stress and time management. The aim is more specifically

to identify PsyCap profiles in the academic settings in a sample of Chilean undergraduate students.

It has been proposed that PsyCap is more than just a summation of its resources (Avey et al., 2011a). It means that PsyCap synergically combines the coping mechanisms that hope, efficacy, resilience, and optimism have in common. Though a single resource might have discriminant and predictive validity, it may be more beneficial to consider it an indicator of something more core, such as PsyCap (Luthans et al., 2007a; Roche et al., 2014). However, a different line of research has proposed that these four positive resources are independent and have discriminating validity so that individuals may have different scores across hope, efficacy, resilience and optimism (Ferradás et al., 2019). Research about individuals' PsyCap profiles is not widely known and requires more attention (Dawkins et al., 2013).

Studies have focused on the identification of PsyCap profiles, relying mainly on workplaces and not so much in academic settings. For example, Bouckenooghe et al. (2019), in a sample of 171 Pakistani clerical employees, identified six profiles (P1 low optimism; P2 low PsyCap; P3 low resilience; P4 moderate PsyCap; P5 high PsyCap; and P6 high moderate PsyCap). Djorouva et al. (2019), in a sample of 1,752 Spanish employees, identified four profiles (P1 low hope and efficacy with high resilience and optimism; P2 low resilience and optimism with high hope and efficacy; P3 low efficacy with high hope, optimism and resilience; and P4 high the four psychological resources). Finally, Ferradás et al. (2019), in a sample comprised 1,379 Spanish teachers, identified seven profiles (P1 minimum the four psychological resources; P2 high the four psychological resources; P3 high optimism and resilience with low efficacy and hope; P4 minimum efficacy and resilience with low hope and optimism; P5 minimum hope and optimism with low efficacy and resilience; P6 high hope and optimism with low efficacy and resilience; and P7 moderate efficacy and resilience with low hope and optimism). It has been suggested that PsyCap profile research must be conducted in academic settings (Ferradás et al., 2019).

In this line of research, international studies have considered the inclusion of academic PsyCap (A-PsyCap) profiles. Geremias et al. (2022) have proposed four profiles of PsyCap in a sample of 480 Angolan students from higher educational institutions. The authors reported that P1 (Empty PsyCap) had lower scores for all psychological resources; P2 (fully PsyCap) had higher scores for all psychological resources; P3 (Based PsyCap) had high optimism, low efficacy, hope and resilience; and P4 (Hopeful-Efficacy Based PsyCap) had high efficacy and hope, low optimism and resilience. These results prove the existence of PsyCap profiles in the academic setting. However, more research efforts are needed to continue developing this kind of research to have a more comprehensive understanding of PsyCap profiles (Geremias et al., 2022). Therefore, our study seeks to identify PsyCap profiles in Chilean undergraduate students.

## LITERATURE REVIEW

### Academic PsyCap

The studies described above reflect the diversity of PsyCap profiles identified in previous research. However, more research on PsyCap in the academic setting is needed, and more attention is required. PsyCap is a novel discussion in the academic setting (Sweet & Swayze, 2020). Considering that the relationship between PsyCap and desirable work outcomes has been proven, it makes sense that PsyCap would be related to desirable academic outcomes (Luthans et al., 2014). A-PsyCap occupies a pivotal place at the intersection between student and institutions and has the potential to influence student performance positively (Luthans et al., 2019; Sweet & Swayze, 2023). Previous empirical research has positively related the psychological resources of A-PsyCap with desirable academic outcomes (Luthans et al., 2014). The positive resource of hope, for example, is a "positive motivational state based on an interactively derived sense of successful agency (willpower) and pathways (waypower) (Snyder et al., 1991, p. 287). Hope is positively related to grade points in undergraduate students; students with high levels of hope are more likely to stay in school and successfully graduate (Snyder et al., 2002). Efficacy has been defined as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3). Significant and positive relationships have been reported between higher efficacy levels and academic performance (Richardson et al., 2012). Optimism is defined as an expectation of future success; optimists are individuals who expect to have positive occurrences (Scheier & Carver, 1985). Optimist students significantly outperform pessimistic students in the classroom (Solberg et al., 2009). Finally, resilience refers to the "positive psychological capacity to rebound, to bounce back from adversity, uncertainty, conflict, failure, or even positive change, progress, and increased responsibility" (Luthans, 2002b, p. 702). Research has demonstrated that resilient students are more likely to enjoy their studies, have active class involvement and have high general self-esteem (Martin & Marsh, 2006).

This body of research has demonstrated that the psychological resources that compromise A-PsyCap help undergraduate students create alternative pathways to pursue and reach their academic objectives and successfully face academic issues. However, little is known about A-PsyCap and it requires more academic effort to reach broad conclusions. In a recent systematic literature review conducted by Li et al., (2023), the authors described 43 studies that have highlighted the relevance of A-PsyCap in academic settings. This review reports that only one such study was carried out in Chile, which is currently the only study conducted in Latin America. The lower number of empirical studies conducted reveals the need for further research about A-PsyCap and its relationship with student outcomes due to its positive influence.

Undergraduate student life is generally related to academic success and student mental well-being (Saklofske et al., 2012). Nonetheless, achieving academic responsibilities is also associated with mental stress due to the study requests and challenging objectives (de la Fuente et al., 2020). The American Psychological Association (2019) has stated that on a worldwide level, student mental stress has become the worst barrier for undergraduate students to achieving their academic goals. Student mental stress results from continuous and self-imposed academic pressure that reduces students' psychological resources (Misra et al., 2000; Neseliler et al., 2017).

### **Coping with Academic Stress**

Coping with Academic Stress is paramount in undergraduate students' ability to manage university duties and face academic stress successfully (Yuan et al., 2017). There is a difference between avoidance coping stress strategies and the approach to coping with academic stress. Students who engage with avoidance coping stress strategies focus on emotions and make similar efforts to avoid thinking about the stressors and undesirable consequences (Gustems & Calderón, 2013; Moos & Moos, 1988). Avoidance coping stress strategies might lead students to undesirable consequences, including higher academic stress, substance abuse, study withdrawal, and suicidal ideation (Polman et al., 2010; Sun et al., 2011; Zhang et al., 2012). While some students can effectively use approaches to coping with academic stress, others cannot control the emotional impact of stressors and tend to use avoidance coping stress strategies (Youssef & Luthans, 2007).

In contrast, the academic stress-coping approach is an adaptative coping strategy in which students focus on the problem by attempting to control or rule out possible threats (Folkman, 2008; Prasath et al., 2021). Cabanach et al. (2010), state that Coping with Academic Stress comprises three factors. First, it is positive reappraisal, and students can give new meaning to the problematic situation by highlighting positive aspects or activating positive expectations. This process constitute a positive reappraisal strategy. Second is the search for social support. Research has proposed that social support seeking and coping planning are effective stress- coping strategies (Crego et al., 2016; Devonport & Lane, 2006). Social support seeking refers to received reinforcement, including informational, emotional, or instrumental, that enhances the student's self-esteem or provides stress-related interpersonal help (Dummont & Provost, 1999; Kim et al., 2010). Third, coping planning refers to devising a plan to overcome anticipated problems that may hinder students from implementing their intentions (Norman & Conner, 2017). The literature suggests that these students have higher levels of psychological resources, such as A-PsyCap (Rabenu et al., 2015; Riolli et al., 2012). Hence, this study seeks to identify whether A-PsyCap positively correlates with Coping with Academic Stress in Chilean undergraduate students.

## **Time Management**

Time Management has been positioned as a desirable skills for undergraduate students to achieve their academic goals and reduce undesirable outcomes, including stress. International literature has proposed that Time Management positively correlates with Coping with Academic Stress (Macan et al., 1990; Misra & McKean, 2000). It has been suggested that academic psychological stress occurs when students feel pressure from their university duties due to disorganisation and inefficient Time Management (Adebayo, 2015). The Time Management concept was coined by Frederick Taylor, who was widely known for his research focused on improving industrial efficiency (Razali et al., 2017). Time Management is defined as self-management with an explicit emphasis on time in choosing what to do, the time spent performing activities, how to perform tasks efficiently and finding the optimal time to perform them (Mercanlioglu, 2020). Time Management in academic settings is a multidimensional concept integrated by setting goals, prioritising, meeting deadlines, coping with changes, effectively organising one's time, and planning (Adebayo, 2015; Nadinloyi et al., 2013).

According to Ortega-Bastidas et al. (2018), Time Management positively correlates with academic performance and success in studies. These authors have suggested that Time Management is compromised by time planning and time use evaluation. The first one refers to students' specific actions to organise their daily activities in the short term. Similarly, students can produce the conditions to perform as planned. Likewise, time use evaluation reflects the students' perception of how functional their time management is. Even with the limited research on the relationship between A-PsyCap and Time Management, a positive relationship between these constructs has been proposed (Amadi et al., 2022; Saman & Wirawan, 2021). However, this research was executed with students from different cultural background that the Chilean students. Cultural background is a relevant factor to consider in PsyCap research, including A-PsyCap, and its relationship with desirable outcomes (Luthans & Youssef-Morgan, 2017).

## **Objectives**

Therefore, two main objectives have been established based on the above concerns.

1. First, the present study will identify A-PsyCap profiles among Chilean undergraduate students.
2. Second, the relationship between A-PsyCap and Coping with Academic Stress and Time Management will be explored.

## METHOD

### Participants

A sample of 102 Chilean undergraduate students was achieved using convenience sampling. The sample consisted of 70 women (68,6%) and 32 men (31,4%), aged between 18 and 57 ( $M=21,2$ ;  $SD=4,806$ ), from public (88,2%) and private (11,8%) institutions, and with academy seniority ranging between 1 to 9 semesters ( $M=3,97$ ;  $SD=2,357$ ). The criterion for eligibility was that participants should be enrolled at the undergraduate level in any Chilean university. Participants were given written informed consent to participate in the study, informing them of its objectives. It was established that participation in the study was voluntary and did not imply academic credits or any incentive to participants. Moreover, participants were not asked to provide personal or identifying information (e.g., names or email addresses). Finally, participants were informed that they could withdraw from the research at any stage.

### Measurements

A-PsyCap was measured using an adaptation of the original Psychological Capital Questionnaire – Short Version, PCQ-12 (Avey et al., 2011b) to the academic context developed by Carmona-Halty et al. (2019) in the Spanish language version. Twelve items were integrated into the questionnaire. Each item is rated using a 6-point Likert scale (1=strongly disagree, 6=strongly agree). The original structure of the scale is integrated with four factors: hope (four items), efficacy (three items), resilience (three items), and optimism (two items). The average of the 12 items determined an overall A-PsyCap score.

Coping with Academic Stress was measured using the coping scale of the academic stress questionnaire, A-CEA, developed by Cabanach et al. (2010) in the Spanish language. Twenty-three items integrate the scale, each item rated using a 5-point Likert scale (1= never, 5 = always). Three factors integrate the scale: positive reevaluation (9 items) is based on problem-focused coping, seeking social support (7 items), and planning (7 items).

Time management was measured using the time management questionnaire, developed by Ortega-Bastidas et al. (2018) in the Spanish language. Fifteen items were integrated into the scale, and each item was rated using a 5-point Likert scale (1= never, 5 = always). Two factors integrate the scale: time planning (10 items) and time use evaluation (5 items).

Finally, participants were asked to answer sociodemographic information. This information included gender, age, type of university (public or private), and the number of semesters completed.

## **Procedure**

An exploratory study with a cross-sectional design was conducted to identify A-PsyCap profiles among Chilean undergraduate students and to establish the relationship between A-PsyCap and Coping with Academic Stress and Time Management. This design is handy for conducting exploratory research and providing initial evidence about the variables of interest (Spector, 2019). A self-report survey was decided to be the most suitable methodology to proceed with this study (Liamputtong, 2017). This kind of survey helps identify and describe participants' psychological features from their perspectives, including subjective experiences, such as A-PsyCap, Coping with Academic Stress and Time Management (Paulhus & Vazire, 2007). Finally, an online survey was the data collection mode chosen in this study. Online surveys are increasingly popular in academia due to their low cost, easy distribution of multiple measures, fast data collection, and enhanced participant anonymity (Das et al., 2018).

## **Data analysis**

Profile identification of the A-PsyCap was obtained by cluster analyses with the SPSS version 27 software, using k-means methods. This technique aims to obtain an optimal division of  $m$  entities into  $n$  clusters of  $k$ -mean cluster analysis is. The technique groups the data objects into clusters based on equal types of data objects and according to the application's requirements (Kumar et al., 2013). In this study, the four psychological resources of the A-PsyCap were used to obtain its clusters. In this study cluster analysis was a way of grouping cases of data based on the similarity coefficients of A-PsyCap's factors according to participant responses. The principle behind this method begins with all cases being treated as a cluster in its own right.

Additionally, a discriminant analysis was carried out to assess the general fit of the clusters obtained. This analysis aimed to provide a method for classifying an object in a defined population of objects (Huberty, 1975). A Pearson correlation analysis between these variables and the A-PsyCap was performed to explore the relationship between Coping with Academic Stress and Time Management. Additionally, the same analysis was performed between these variables and the A-PsyCap profiles. Finally, a scatterplot was used to chart the observed relationship between the variables of interest from the A-PsyCap profiles.

## **RESULTS**

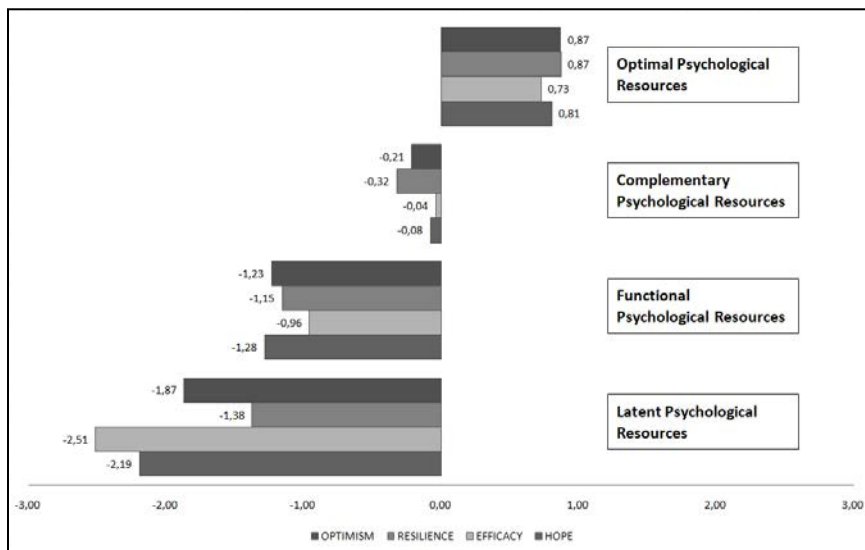
Based on the A-PsyCap factors, the cluster analysis yielded four groups, which were classified based on the four psychological resources exhibited by the participants in each mentioned factor (Table 1). Profile 1 corresponded to Latent<sup>PR</sup> (7 cases, 6.86% of the sample); Functional<sup>PR</sup> (12 cases, 11.76% of the sample); Complementary<sup>PR</sup> (41 cases, 40.20% of the sample); and Optimal<sup>PR</sup> (42 cases,



41.18% of the sample). Subsequently, a discriminant analysis was performed to assess the general fit of the 4-cluster model. The results indicate a correct classification for each cluster in 98.0% of the 102 participants, with a Wilk's lambda of 0.08 ( $p < 0.001$ ) in its first function of three, explaining 96.7% of the variance. Thus, the psychological resources of the participants -based on the A-PsyCap- differ significantly between the participants according to the cluster of belonging.

**Table 1: Means and standard deviation of the 4 A-PsyCap factors according to the 4 cluster's profiles (N = 102)**

|            | Optimal <sup>PR</sup> |     | Complementary <sup>PR</sup> |     | Functional <sup>PR</sup> |      | Latent <sup>PR</sup> |      |
|------------|-----------------------|-----|-----------------------------|-----|--------------------------|------|----------------------|------|
|            | Mean                  | SD  | Mean                        | SD  | Mean                     | SD   | Mean                 | SD   |
| Hope       | 5.43                  | .46 | 4.35                        | .58 | 2.89                     | .67  | 1.79                 | .54  |
| Efficacy   | 5.36                  | .57 | 4.47                        | .48 | 3.41                     | .72  | 1.62                 | .59  |
| Resilience | 5.19                  | .56 | 3.85                        | .73 | 2.91                     | .75  | 2.67                 | .88  |
| Optimism   | 5.47                  | .57 | 4.15                        | .51 | 2.91                     | .730 | 2.14                 | 1.02 |



**Figure 1: Standardized Score of the A-PsyCap Factors, according to profiles (Psychological Resources)**

Table 1 presents the mean and standard deviation of the four A-PsyCap factors according to the four cluster profiles. Likewise, the means and standard deviations of each group were calculated to facilitate the characterization of the profiles obtained and standardise the values for their graphical representation (Figure 1).

Figure 1 shows the set of significant clusters obtained in this study. Accordingly, and reassigning the participants from the discriminant analysis, the Optimum Profile<sup>PR</sup> (41 cases) presented High Hope, High Efficacy, High Resilience, and High Optimism; the Complementary Profile<sup>PR</sup> (42 cases) reached Medium Hope, Medium Efficacy, Medium Resilience, and Medium Optimism; the Functional Profile<sup>PR</sup> (11 cases) had Low Hope, Medium Efficacy, Low Resilience, and Low Optimism; and finally, the Latent Profile<sup>PR</sup> (8 cases) presented Low Hope, Low Efficacy, Low Resilience, and Low Optimism. The four profiles obtained are discriminant between them.

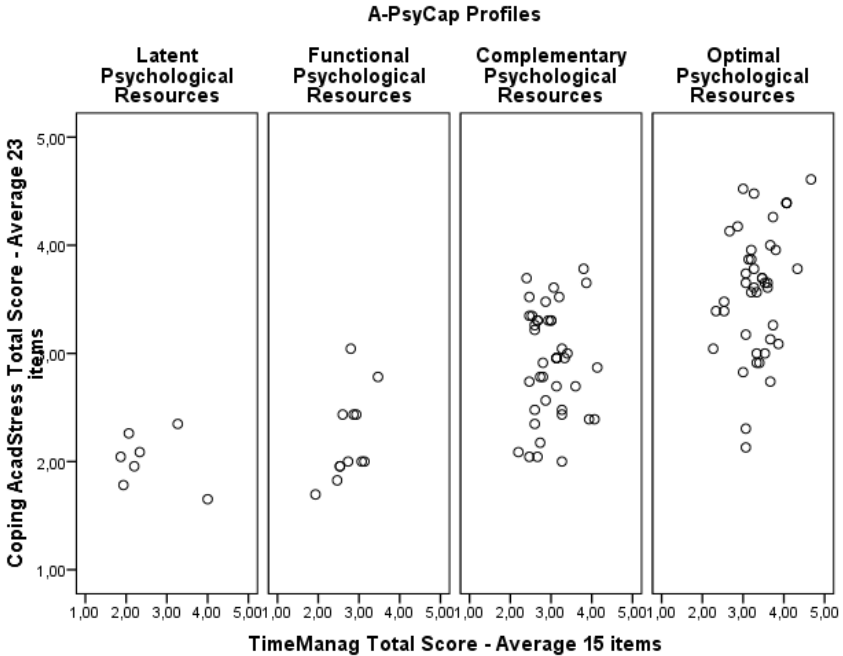
Additionally, correlation analyses were conducted to establish the relationship between A-PsyCap and Coping with Academic Stress and Time Management, achieving the second objective of this study: exploring these relationships. Table 2 presents the means, standard deviation, and Pearson correlation matrix for the sample of Chilean undergraduate students.

**Table 2: Means, standard deviation, and Pearson correlation matrix ( $N = 102$ ).**

|                                       | <i>M</i> | <i>SD</i> | <i>1</i> | <i>2</i> | <i>3</i> |
|---------------------------------------|----------|-----------|----------|----------|----------|
| <i>1. A-PsyCap</i>                    | 4.40     | 1.07      | --       |          |          |
| <i>2. Coping with Academic Stress</i> | 3.05     | .74       | .77**    | --       |          |
| <i>3. Time Management</i>             | 3.09     | .56       | .44**    | .48**    | --       |

*Note.* \*\* $p < .01$  level (2-tailed).

This finding corroborates the proposal idea of Dancey & Reidy's (2020), who suggested that A-PsyCap had a positive, significant, and strong relationship with Coping with Academic Stress and a positive, significant, and moderate relationship with Time Management. Likewise, Coping with Academic Stress has a positive, significant, and moderate relationship with Time Management. A dispersion graph was generated to show the segmentation of the A-PsyCap profiles into Coping with Academic Stress and Time Management (Figure 2) for a better understanding of these results.



**Figure 2: Segmentation of A-PsyCap profiles into Coping with Academic Stress and Time Management**

Participants with profiles with high psychological resources, Optimal<sup>PR</sup> and Complementary<sup>PR</sup>, are located -mainly- in the upper right part of the graph, which shows a more significant consistency between the highest scores in both constructs. Conversely, participants with low psychological resources profiles, Functional<sup>PR</sup> and Latent<sup>PR</sup>, are in the lower left area, which means that they show lower performance on the constructs, as mentioned earlier.

## DISCUSSION

The main focus of this study was to identify A-PsyCap profiles among Chilean undergraduate students. Similarly, it aimed to explore the relationship between A-PsyCap and Coping with Academic Stress and Time Management. These aims are in line with the interest of previous research, which called for developing more empirical research to better understand A-PsyCap profiles and the relationship of this construct with desirable academic outcomes (Dawkins et al., 2013; Li et al., 2023).

In light of the results, the main contributions of this study suggest that there are interpretable profiles of A-PsyCap. These results confirm the existence of undergraduate students' profiles that differ in their A-PsyCap, which is consistent with the theory proposed by Luthans and Youssef-Morgan (2017). The results reveal the presence of four distinctly different A-PsyCap profiles.

Furthermore, the results further support the idea that these profiles are differently related to other variables such as Coping with Academic Stress and Time Management. These results align with previous international research interests (Ferradás et al., 2019; Geremias et al., 2022), identifying A-PsyCap profiles and their relationship with variables that could improve student outcomes. First, as indicated in Table 1 and Figure 1, this study's results confirm the existence of four A-PsyCap profiles in a sample of Chilean undergraduate students, which differ between them. The first A-PsyCap profile identified was the Optimal Psychological Resources profile, which performs better than the other four. This profile has higher levels of the four psychological resources. These higher levels mean that these students would persevere in achieving their academic goals and, if necessary, redirect their paths (hope). Also, these students would be confident to make the effort to achieve challenging academic tasks (efficacy). Furthermore, students with this profile could be beset by adversities, sustaining, and bouncing back to achieve their academic goals (resilience). Finally, this kind of student can positively attribute their success in the present and the future (optimism; Luthans et al., 2007a).

The second A-PsyCap profile identified was denominated Complementary Psychological Resources. This profile has medium levels of the four psychological resources. For this profile, resilience is the factor that presents the lowest performance and would be complemented by the rest of the personal resources. The third A-PsyCap profile identified was denominated Functional Psychological Resources. This profile has low levels of hope, resilience and optimism and medium levels of efficacy. For this profile, efficacy is the attribute that would maintain functionality among diminished resources. Finally, the Latent Profile was identified which has lower levels of the four psychological resources: hope, efficacy, resilience, and optimism. Students in this profile show a restricted A-PsyCap concerning the rest of the clusters. These differences supported the idea that undergraduate students may have different levels of psychological resources (Ferradás et al., 2019; Geremias et al., 2022), as a consequence they differ in their A-PsyCap levels. These positive psychological resources may imply that these could be developed and influence desirable academic outcomes

Second, as indicated in Table 2, the general results show that A-PsyCap positively correlates with Coping with Academic Stress. This positive relationship suggests that the four psychological resources synergically work together to help students cope with academic stress by facing uncertainties or problems in their academic lives. Indeed, the psychological resources theory developed by Hobfoll (2002) proposed that psychological resources are likely to positively influence coping with stress and psychological well-being. In particular, it has been proposed that higher PsyCap levels allow individuals to cope with stressful situations (Rabenu et al., 2017). On the one hand, this condition is seen in Figure

2, in which students with the A-PsyCap profile Optimal Psychological Resources show higher levels of Coping with Academic Stress than the other profiles. On the other hand, students with the A-PsyCap Latent Profile, which has lower levels of the four psychological resources, show lower levels of Coping with Academic Stress.

Third, as indicated in Table 2, the general results show that A-PsyCap has a positive relationship with Time Management. This positive relationship indicates that students with high levels of A-PsyCap could adequately self-administrate their time, and coordinate their learning and commitment to learning (You, 2016). As shown in Figure 2, students with the A-PsyCap profile Optimal Psychological Resources show higher levels of Time Management. Conversely, students with the A-PsyCap Latent profile show lower levels of Time Management. The relevance of this relationship is based on students who can implement adequate Time Management and are expected to have better academic achievements (MacCann et al., 2012). These results could be interpreted as implying that, in the absence of positive psychological resources, students with low A-PsyCap profiles, do not have the capacity to develop strong time management skills. Finally, as indicated in Table 2, the general results show that Coping with Academic Stress and Time Management have a positive relationship between them. This finding is consistent with previous studies, which have explained that undergraduate students who can effectively manage their time may cope with academic stress better (Amadi et al., 2022; Grissom et al., 2015; Kaya et al., 2012). Furthermore, the results explain that students with low A-PsyCap profiles presented the lowest Coping with Academic Stress scores. On another hand, results support the idea that students with high levels of A-PsyCap (Optimal Profile) have a positive impact on their Coping with Academic Stress scores. Thus, this finding provides evidence that the positive combination of the four A-PsyCap resources correlates more strongly with desirable academic outcomes, supporting that these positive psychological resources create a synergistic motivational effect that enables students to manage their time, and coping with academic stress effectively.

## Conclusions

Considering the results, this study confirms that A-PsyCap is a second-order construct integrated by four psychological resources: hope, efficacy, resilience, and optimism. However, the cluster analyses also revealed that scores of these psychological resources might differ in and among individuals. Furthermore, the study's results are according to previous research (Carmona-Halty et al., 2019; Luthans et al., 2012; Rabenu et al., 2017; You, 2016), a favourable combination of the four positive psychological resources (Profile Optimal Psychological Resources), allows students to cope with academic stress and effectively manage their time. Conversely, students with low levels of psychological resources (Latent Profile), might face difficulties that require further assistance to overcome academic difficulties and adequately manage academic time (Luthans et al., 2012). Considering these findings, it is plausible to argue that the detrimental

combination of the four psychological capabilities does not allow for achieving high rates of Time Management skills and Coping with Academic Stress ability in undergraduate students.

These results have theoretical and practical future implications. First, from a theoretical point of view, this study offers a cluster analysis methodology to understand A-PsyCap profiles. Furthermore, the study has explained that the four A-PsyCap identified profiles are differently related to two variables of interest in the academic field: Coping with Academic Stress and Time Management. Students with higher psychological resources identified in A-PsyCap profiles are positively related to Coping with Academic Stress and Time Management than students with higher psychological resources. Eventually, based on the study's results, future research should isolate the A-PsyCap via controlled experimentation to adequately understand its relationship with Academic Stress Coping and Time Management.

Second, from a practical standpoint, universities should consider the A-PsyCap as a potential factor for improving their student's ability to Cope with Academic Stress and improve Time Management skills among their students. Universities could be advised to implement the A-PsyCap intervention as a part of the curriculum or a particular unit. Previous research in the organisational field has successfully demonstrated the effectiveness of micro-interventions to develop PsyCap among workers, which has a positive impact on desirable individual outcomes (Luthans et al., 2006; Luthans et al., 2008; Zhang et al., 2014). These interventions could be administered to all or selected students, such as those with lower A-PsyCap profiles.

### **Limitations**

Although this research is the first to provide empirical evidence regarding the A-PsyCap profile in a sample of Chilean undergraduate students and the relationship between A-PsyCap and Coping with Academic Stress and Time Management, it is encumbered by several limitations. Firstly, as with any empirical research that does not use an experimental research design, it is unfeasible to argue from the present findings that A-PsyCap is causally related to Coping with Academic Stress and Time Management. Secondly, as cross-sectional data were collected from a homogenous sample at one point, causal inferences based on correlations must be guarded. A homogeneous convenience sample reveals valuable information for the circumscribed population of interest, but just a little about the non-target population (Jager et al., 2017). While the evidence presented here suggests meaningful relationships between the variables of interest, causality cannot be inferred. Researchers need to use experimental or longitudinal designs to establish the causal order of relationships accurately (Liu, 2011). Finally, there were relatively few participants in the current study. This reduced number has had an impact on the A-PsyCap profiles. Future studies could test the same model by giving special attention to these limitations and including larger samples.

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The raw data that support this article's findings will be made available by the corresponding author without undue reservation.

### **Ethics statement**

As this study involved human participants, its procedure was according to the ethics committee of a university in the North of Chile. The privacy rights of human subjects were consistently observed.

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## **REFERENCES**

- Adebayo, F. (2015). Time management and students academic performance in higher institutions, Nigeria a case study of Ekiti state. *International Research in Education*, 3(2), 1-12.
- Amadi, W., du Plessis, M., & Solomon, S. (2022). Will working students flourish or give up? Exploring the influence of academic psychological capital, grit, and time management. *South African Journal of Higher Education*, 36(6), 192-209.
- American Psychological Association, A. (2019). Mental health increased significantly in young adults over last decade.
- Avey, J. B., Avolio, B. J., & Luthans, F. (2011b). Experimentally analysing the impact of leader positivity on follower positivity performance. *Leadership Quarterly*, 22(2), 282-294.
- Avey, J. B., Luthans, F., Smith, R. M., & Palmer, N. F. (2010b). Impact of positive psychological capital on employee well-being over time. *Journal of occupational health psychology*, 15(1), 17-28.
- Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011a). Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. *Human Resource Development Quarterly*, 22(2), 127-152.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

- Bouckenooghe, D., De Clercq, D., & Raja, U. (2019). A person-centered, latent profile analysis of psychological capital. *Australian Journal of Management*, 44(1), 91-108.
- Cabanach, R., Valle, A., Rodríguez, S., Piñeiro, I., & Freire, C. (2010). Escala de afrontamiento del estrés académico (A-CEA). *Revista Iberoamericana de Psicología y Salud*, 1(1), 51-64.
- Cameron, K. S., & Caza, A. (2004). Contributions to the discipline of positive organizational scholarship. *American Behavioral Scientist*, 47(6), 731-739.
- Carmona-Halty, M., Schaufeli, W., & Salanova, M. (2019). Good Relationships, Good Performance: The Mediating Role of Psychological Capital – A Three-Wave Study Among Students. *Frontiers in psychology*, 10(306).
- Crego, A., Carrillo-Díaz, M., Armfield, J. M., & Romero, M. (2016). Stress and academic performance in dental students: The role of coping strategies and examination-related self-efficacy. *Journal of Dental Education*, 80(2), 165-172.
- Das, M., Ester, P., & Kaczmirek, L. (2018). *Social and behavioral research and the internet: advances in applied methods and research strategies*. Taylor & Francis.
- Dawkins, S., Martin, A., Scott, J., & Sanderson, K. (2013). Building on the positives: A psychometric review and critical analysis of the construct of Psychological Capital. *Journal of Occupational & Organizational Psychology*, 86(3), 348-370.
- de la Fuente, J., Amate, J., González-Torres, M. C., Artuch, R., García-Torrecillas, J. M., & Fadda, S. (2020). Effects of levels of self-regulation and regulatory teaching on strategies for coping with academic stress in undergraduate students. *Frontiers in psychology*, 11, 22.
- Devonport, T., & Lane, A. (2006). Relations between self-efficacy, coping and student retention. *Social Behavior and Personality*, 34(2), 127-138.
- Djorouva, N., Rodríguez, I., & Lorente-Prieto, L. (2019). Individual profiles of psychological capital in a Spanish sample. *Journal of Social Science Research*, 14, 3029-3047.
- Donaldson, S. I., & Ko, I. (2010). Positive organizational psychology, behavior, and scholarship: A review of the emerging literature and evidence base. *Journal of Positive Psychology*, 5(3), 177-191.
- Dummont, M., & Provost, M. (1999). Resilience in adolescents: Protective role of social support, coping strategies, self-esteem, and social activities on experience of stress and depression. *Journal of Youth and Adolescence*, 28, 343-363.
- Ferradás, M. d. M., Freire, C., García-Bértoa, A., Núñez, J. C., & Rodríguez, S. (2019). Teacher profiles of psychological capital and their relationship with burnout. *Sustainability*, 11(18), 5096.
- Folkman, S. (2008). Positive Psychological States and Coping with Severe Stress. *Social Science and Medicine*, 45(8), 1207-1221.
- Geremias, R. L., Lopes, M. P., & Soares, A. E. (2022). Psychological capital profiles and their relationship with internal learning in teams of undergraduate students. *Frontiers in psychology*, 13.



- Grissom, J., Loeb, S., & Mitani, H. (2015). Principal time management skills: Explaining patterns in principals' time use, job stress, and perceived effectiveness. *Journal of Educational Administration*, 53(6), 773-793.
- Gustems, J., & Calderon, C. (2013). Coping strategies and psychological well-being among education students. *European Journal of Psychology of Education*, 28(4), 1127-1140.
- Harms, P. D., Vanhove, A., & Luthans, F. (2017). Positive projections and health: an initial validation of the implicit psychological capital health measure. *Applied Psychology: An International Review*, 66(1), 78-102.
- Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General Psychology*, 6(4), 307-324.
- Huberty, C. J. (1975). Discriminant Analysis. *Review of Educational Research*, 45(4), 543-598.
- Jager, J., Putnick, D. L., & Bornstein, M. H. (2017). More than just convenient: The scientific merits of homogeneous convenience samples. *Monographs of the Society for Research in Child Development*, 82(2), 13-30.
- Kaya, H., Kaya, N., Palloş, A. Ö., & Küçük, L. (2012). Assessing time-management skills in terms of age, gender, and anxiety levels: A study on nursing and midwifery students in Turkey. *Nurse Education in Practice*, 12(5), 284-288.
- Kim, J., Han, Y., Shaw, B., Mctavish, F., & Gustafson, D. (2010). The roles of social support and coping strategies in predicting breast cancer patients' emotional well-being: Testing mediation and moderation models. *Journal Health Psychology*, 15(4), 543-552.
- Krasikova, D., Lester, P. B., & Harms, P. D. (2015). Effects of Psychological Capital on mental health and substance abuse. *Journal of Leadership & Organizational Studies*, 22(3), 280-291.
- Kumar, N., Verma, V., & Saxena, V. (2013). Cluster analysis in data mining using k-means method. *International Journal of Computer Applications*, 76(12), 11-14.
- Larson, M., & Luthans, F. (2006). Potential added value of psychological capital in predicting work attitudes. *Journal of Leadership & Organizational Studies*, 13(2), 75-92.
- Li, R., Che Hassan, N., & Saharuddin, N. (2023). Psychological capital related to academic outcomes among university students: A systematic literature review. *Psychology Research and Behavior Management*, 16, 3739 - 3763.
- Liamputtong, P. (2017). *Research methods in health: foundations for evidence and practice*. Oxford University Press, Australia & New Zealand, Third Edition.
- Liu, C. (2011). Cross-sectional data. In book: *Encyclopedia of Survey Research Methods*. Edited by: Paul Lavrakas.
- Luthans, B., Luthans, K., & Jensen, S. (2012). The impact of business school students' psychological capital on academic performance. *Journal of Education for Business*, 87, 253-259.

- Luthans, B. C., Luthans, K. W., & Avey, J. B. (2014). Building the leaders of tomorrow: The development of academic psychological capital. *Journal of Leadership & Organizational Studies*, 21(2), 191-199.
- Luthans, F. (2002a). Positive organizational behavior: Developing and managing psychological strengths. *Academy of Management Executive*, 16(1), 57-72.
- Luthans, F. (2002b). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior*, 23(6), 695-706.
- Luthans, F., Avey, J. B., Avolio, B. J., Norman, S., & Combs, G. (2006). Psychological capital development: toward a micro-intervention. *Journal of Organizational Behavior*, 27(3), 387-393.
- Luthans, F., Avey, J. B., & Patera, J. L. (2008). Experimental analysis of a web-based training intervention to develop positive psychological capital. *Academy of Management Learning and Education*, 7(2), 209-221.
- Luthans, F., & Avolio, B. J. (2009). The "point" of positive organizational behavior. *Journal of Organizational Behavior*, 30(2), 291-307.
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. (2007b). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology*, 60(3), 541-572.
- Luthans, F., Youssef, C. M., & Avolio, B. J. (2007a). *Psychological capital: developing the human competitive edge*. Oxford University Press.
- Luthans, K., Luthans, B., & Chaffin, D. (2019). Refining grit in academic performance: The mediational role of psychological capital. 2019, 43(1), 35-61.
- Luthans, F., & Youssef-Morgan, C. M. (2017). Psychological capital: An evidence-based positive approach. *Annual Review of Organizational Psychology and Organizational Behavior*, 4, 339-366.
- Macan, T. H., Shahani, C., Dipboye, R. L., & Phillips, A. P. (1990). College students' time management: Correlations with academic performance and stress. *Journal of Educational Psychology*, 82(4), 760-768.
- MacCann, C., Fogarty, G. J., & Roberts, R. D. (2012). Strategies for success in education: Time management is more important for part-time than full-time community college students. *Learning and Individual Differences*, 22(5), 618-623.
- Martin, A., & Marsh, H. (2006). Academic resilience and its psychological and educational correlates: A construct validity approach. *Psychology in the Schools*, 43, 267-281.
- Mercanlioglu, A. (2020). The relationship of time management to academic performance of master level students. *International Journal of Business and Management Studies*, 2(1), 25-36.
- Misra, R., & McKean, M. (2000). College students' academic stress and its relation to their anxiety, time management, and leisure satisfaction. *American Journal of Health Studies*, 16(1), 41-51.
- Misra, R., McKean, M., West, S., & Russo, T. (2000). Academic stress of college students: Comparison of student and faculty perceptions. *College Student Journal*, 34(2).
- Moos, R. H., & Moos, B. S. (1988). *Coping responses inventory*. ETS m 1991.

- Nadinloyi, K. B., Hajloo, N., Garamaleki, N. S., & Sadeghi, H. (2013). The study efficacy of time management training on increase academic time management of students. *Procedia - Social and Behavioral Sciences*, 84, 134-138.
- Neseliler, S., Tannenbaum, B., Zacchia, M., Larcher, K., Coulter, K., Lamarche, M., . . . Dagher, A. (2017). Academic stress and personality interact to increase the neural response to high-calorie food cues. *Appetite*, 116, 306-314.
- Norman, P., & Conner, M. (2017). Health Behavior. In Reference module in neuroscience and biobehavioral psychology. Elsevier.
- Ortega-Bastidas, J., Pérez-Villalobos, C., Parra-Ponce, P., Matus-Betancourt, O., Arellano-Vega, J., Márquez-Urrizola, C., & Bustamante-Durán, C. (2018). Cuestionario de gestión del tiempo: estructura factorial y confiabilidad en estudiantes universitarios de Chile. *Rev Educ Cienc Salud*, 15(2), 99-103.
- Paulhus, D., & Vazire, S. (2007). The self-report method. In R.W. Robins, R.C. Fraley, & R.F. Krueger (Eds), *Handbook of research methods in personality psychology* (pp.224-239). New York: Guilford.
- Polman, R., Borkoles, E., & Nicholls, A. R. (2010). Type D personality, stress, and symptoms of burnout: The influence of avoidance coping and social support. *British Journal of Health Psychology*, 15(3), 681-696.
- Prasath, P., Mather, P., Bhat, C., & James, J. (2021). University student well-being during COVID-19: The role of psychological capital and coping strategies. *The Professional Counselor*, 11(1), 46-60.
- Rabenu, E., Elizur, D., & Yaniv, E. (2015). The structure of coping with stress. In: A. Roazzi, B.C. Souza, & W. Bilsky (Eds.). *Facet Theory: Searching for Structure in Complex Social, Cultural & Psychological Phenomena*.
- Rabenu, E., Yaniv, E., & Elizur, D. (2017). The relationship between psychological capital, coping with stress, well-being, and performance. *Current Psychology*, 36(4), 875-887.
- Razali, S., Rusiman, M., Gan, W., & Arbin, N. (2017). The impact of time management on students' academic achievement. *Journal of Physics*, 995(012042), 1-7.
- Reichard, R., Dollwet, M., & Louw-Potgieter, J. (2014). Development of cross-cultural psychological capital and its relationship with cultural intelligence and ethnocentrism. *Journal of Leadership and Organizational Studies*, 21(2), 150-164.
- Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin*, 138, 353-387.
- Rioli, L., Savicki, V., & Richards, J. (2012). Psychological capital as a buffer to student stress. *Psychology*, 3(12), 1202-1207.
- Roberts, S. J., Scherer, L. L., & Bowyer, C. J. (2011). Job stress and incivility: what roles does Psychological Capital play? *Journal of Leadership & Organizational Studies*, 18(4), 449 - 458.

- Roche, M., Haar, J., & Luthans, F. (2014). The role of mindfulness and psychological capital on the well-being of leaders. *Journal of occupational health psychology, 19(4)*, 476-489.
- Saklofske, D. H., Austin, E. J., Mastoras, S. M., Beaton, L., & Osborne, S. E. (2012). Relationships of personality, affect, emotional intelligence and coping with student stress and academic success: Different patterns of association for stress and success. *Learning and Individual Differences, 22(2)*, 251-257.
- Saman, A., & Wirawan, H. (2021). Examining the impact of psychological capital on academic achievement and work performance: The roles of procrastination and conscientiousness. *Congent Psychology, 8(1)*.
- Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association, 4(3)*, 219-247.
- Seligman, M., & Csikszentmihalyi, M. (2000). Positive Psychology: An introduction. *American Psychologist, 55(1)*, 5-14.
- Seligman, M., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress. Empirical validation of interventions. *American Psychologist, 60(5)*, 410-421.
- Snyder, C., Irving, L., & Anderson, J. (1991). Hope and health. In C. R. Snyder & D. R. Forsyth (Eds.), *Handbook of social and clinical psychology: The health perspective* (pp. 285-305). Elmsford, NY: Pergamon Press.
- Snyder, C., Shorey, H., Cheavens, J., Pulvers, K., Adams, V., & Wiklund, C. (2002). Hope and academic success in college. *Journal of Educational Psychology, 94*, 820-82
- Solberg, N., Evans, D., & Swgerstrom, S. (2009). Optimism and college retention: Mediation by motivation, performance, and adjustment. *Journal of Applied Social Psychology, 39*, 1887-1912.
- Spector, P. (2019). Do not cross me: optimizing the use of cross-sectional designs. *Journal of Business and Psychology, 34*, 125-137.
- Sun, J., Buys, N., Stewart, D., & Shum, D. (2011). Mediating Effects of Coping, Personal Belief, and Social Support on the Relationship among Stress, Depression, and Smoking Behavior in University Students. *Health Education, 111*, 133-146.
- Sweet, J., & Swayze, S. (2020). Academic psychological capital: A novel approach to freshmen retention. *Journal of College Student Retention: Research, Theory & Practice, 25(2)*, 235-253.
- Williams, P., Kern, M. L., & Waters, L. (2017). The role and reprocessing of attitudes in fostering employee work happiness: An intervention study. *Frontiers in psychology, 8*.
- You, J. W. (2016). The relationship among college students' psychological capital, learning empowerment, and engagement. *Learning and Individual Differences, 49*, 17-24.

- Youssef, C. M., & Luthans, F. (2007). Positive organizational behavior in the workplace: The impact of hope, optimism, and resilience. *Journal of Management*, 33(5), 774-800.
- Yuan, W., Zhang, L.-F., & Fu, M. (2017). Thinking styles and academic stress coping among Chinese secondary school students. *Educational Psychology*, 37(8), 1015-1025.
- Zhang, X., Li, Y., Ma, S., Hu, J., & Jiang, L. (2014). A structured reading material based intervention program to develop the psychological capital of Chinese employees. *Social Behavior and Personality*, 42(3), 503-515.
- Zhang, X., Wang, H., Xia, Y., Liu, X., & Jung, E. (2012). Stress, coping and suicide ideation in Chinese college students. *Journal of Adolescence*, 35(3), 683-690.

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