

Emotional regulation and mental health: Emotional over-control and under-control as predictive variables in Peruvian university students

Regulación emocional y salud mental: El sobrecontrol y subcontrol emocional como variables predictoras en universitarios peruanos

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Fecha de recepción: 17.06.2025

Fecha de aprobación: 04.08.2025

Fecha de publicación: 20.12.2025

Cómo citar: Amau-Rios, E. N.; Jara-Chuquihuara, M. A.; Tintaya-Pelaes, M. E.; Velasquez-Huiza, M.; Burga-León, A. y Okumura-Clark, A. (2025). Emotional regulation and mental health: Emotional over-control and under-control as predictive variables in Peruvian university students. *Psiquemag* 14 (2), e140202. <https://doi.org/10.18050/psiquemag.v14i2.3591>

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Abstract

The emotional over-control and under-control traits as predictive factors based on contemporary psychotherapeutic perspectives are relatively scarce proposals in current scientific literature. This study aimed to determine the predictive quality that these personality traits have on cognitive emotional regulation strategies and symptoms of anxiety and depression in Peruvian college students. 353 people participated as a sample (M= 19.77 years, SD= 2.08, females = 67.7%, males = 32.0%, others = 0.3%). The psychometric properties of instruments designed to measure emotional overcontrol and undercontrol traits were assessed in accordance with current standards. Over-controlled patterns were significant predictors for strategies associated with rationalization and hyperfocusing in cognitive distress, while under-controlled traits were predictors for catastrophizing strategies and anxious-depressive symptomatology. These results match the theoretical proposals of this conceptualization. These aspects are analyzed in consideration of their implications for psychological intervention.

Keywords: Emotional overcontrol and undercontrol, cognitive emotion regulation, anxious-depressive symptomatology, college students.

Resumen

Los rasgos de sobrecontrol y subcontrol emocional como factores predictores bajo perspectivas psicoterapéuticas contemporáneas son propuestos relativamente escasos en la literatura científica actual. El objetivo de este estudio consistió en determinar la calidad predictiva de estos rasgos de personalidad sobre las estrategias de regulación emocional cognitiva y síntomas de ansiedad y depresión en universitarios peruanos. Participaron 353 personas (M= 19.77 años, DS= 2.08, mujeres = 67.7%, varones = 32.0%, otros = 0.3%). Se obtuvieron propiedades psicométricas de acuerdo con los estándares actuales de los instrumentos construidos para medir rasgos de sobrecontrol y subcontrol emocional. El sobrecontrol demostró ser un predictor de las estrategias asociadas a la racionalización e hiperfocalización en el malestar cognitivo, mientras que el subcontrol predice estrategias de catastrofización y sintomatología ansioso-depresiva. Estos resultados concuerdan con los postulados teóricos de los modelos de base. Se analizan estos aspectos, además de las implicancias a nivel de la intervención psicológica.

Palabras clave: sobre-control y sub-control emocional, regulación emocional cognitiva, sintomatología ansioso-depresiva, estudiantes universitarios.

INTRODUCTION

Adolescence is characterized by high levels of emotional stress as major physical, psychological, emotional, and social changes occur in a short period of time (Díaz Santos & Santos Vallín, 2018). Similarly, during emerging adulthood (ages 18 to 30), new complex demands arise, such as those related to university life. The pursuit of academic success, identity consolidation, independence, and the fulfillment of family obligations can lead to significant emotional exhaustion in young people (United Nations Office on Drugs and Crime, 2013). The university years are a time of transition, new challenges, and adaptation to new changes, which can cause stress and emotional exhaustion (Herrera Torres et al., 2016) due to excessive academic workload and dissatisfaction with not achieving goals, leading to emotional exhaustion, fatigue, and loss of energy (Estrada et al., 2022). In addition, certain psychosocial factors are linked to mental health deterioration (e.g., depression, anxiety, and stress) affecting university students, some of which are the excessive demands associated with greater academic success (Gutiérrez Rodas et al., 2010). On the other hand, personality is a relevant factor, since, in the university setting, higher levels of neuroticism and emotional instability are associated with anxiety, concern and irritability in stressful situations, as well as ineffective coping mechanisms when faced with stress (Herrera Torres et al., 2016).

According to Gross, emotional regulation is the process whereby individuals influence their own emotions, how they are experienced, manifested, or presented (as cited in Vargas Gutiérrez & Muñoz-Martínez, 2013). Similarly, cognitive emotional regulation (CER) strategies refer to the cognitive alternatives used to deal with emotional information, in order to enable individuals to better manage their emotions during and after stressful or challenging events (Garnefski & Kraaij, 2007). The CER is a fundamental strategy for adolescent and emerging adult development, as it is related to the emotional problems of both age groups. For example, the results of the study by Zagaria et al. (2023) indicate that maladaptive cognitive emotional regulation strategies, such as rumination and catastrophizing, are consistently associated with poor mental health in both age groups. On the other hand, adaptive strategies, such as positive refocusing and positive reappraisal, were associated with

better mental health only in young adults. As for adolescents, cognitive reappraisal and acceptance are cognitive emotional regulation strategies that may be useful in preventing emotional complications (Anniko et al., 2018).

Within this frame of reference, there are various studies that evaluate the factors associated with CER in the Peruvian university context. First, there are direct relationships between neuroticism and various dimensions of emotional dysregulation in psychology students (García Alzamora, 2021). Similarly, the study by Prada-Chapoñán et al. (2020) showed that personality traits—neuroticism, extraversion, and responsibility—significantly predict emotional exhaustion in business and accounting students. Another study showed higher prevalence rates of emotional dysregulation in public institutions (73%) compared to private institutions (52%), which was primarily attributed to high academic demands and social pressure (Mendoza Coronel, 2022).

Theoretical and therapeutic foundations of personality according to DBT and RDBT

Initially, Dialectical Behavior Therapy (DBT) conceptualized emotional dysregulation (ED) as a key pattern within its framework. According to this perspective, ED develops through transactional processes involving biological components (i.e., emotional vulnerability) and environmental components (i.e., invalidating contexts) (Linehan, 1993). In cases where an individual presents these biological dispositional conditions (e.g., greater sensitivity to stimuli, greater manifestation of emotional intensity, slow return to emotional baseline), plus an aversive invalidating environment (e.g., contingencies in which what the subject feels, thinks, and does is invalid), the likelihood of manifesting ED increases (Boggiano & Gagliosi, 2020). Specifically, this pattern manifests itself at the emotional level (expression of intense and overwhelming emotions, as well as difficulty managing them), cognitive level (polarized thinking and distrust of one's own internal responses), behavioral level (impulsivity and, in more severe cases, suicidal behavior), interpersonal level (unstable relationships and fear of abandonment by others), and identity level (construction of a diffuse self-image) (Linehan, 2020).

Years later, another coping style called emotional over-control was conceptualized. Through a

review of the literature, it was identified that a large percentage of chronic mental disorders with comorbidities had these traits associated with resistance to treatment, greater self-control in their emotional and behavioral responses, emotions of shyness and risk aversion, as well as consequences for their patterns, such as social exclusion and difficulties in forming relationships (Lynch, 2018). In response to this, Lynch (2018) divides two common personality patterns/traits among the population, conceptualizing them as tendencies toward under-control (ED) or over-control. In light of this review, it can be added that most research positively relates emotional regulation to self-control; however, extreme levels of self-control can be harmful. In this sense, an over-controlled coping pattern is characterized by rigid behaviors, emotional inhibition, a tendency toward perfectionism, and unusually high levels of uncertainty (Gilbert et al., 2020).

This conceptualization was developed by Radically Open-Dialectical Behavior Therapy (RO-DBT; Lynch, 2018), which is aimed at people who exhibit an excessively controlling temperament and coping style, including treatment-resistant affective and anxiety disorders such as depression and chronic social phobia, obsessive-compulsive disorder (OCD), eating disorders (EDs) such as anorexia nervosa, and personality disorders such as avoidant, paranoid, dependent, and obsessive-compulsive patterns (Sainz-Maza, 2022). On the other hand, emotional under-control traits consist of patterns based on impulsive behavioral manifestations, difficulties in emotion regulation, as well as the presentation of mood-dependent behaviors, low inhibitory control, interpersonal relationships categorized as chaotic, and unstable, uninhibited, and dramatic personality patterns (Gilbert et al., 2020; Linehan, 1993). These personality patterns have been identified as having significant impacts on mental health manifestations, including anxiety-depressive symptoms (Sebastián, 2020).

Features of emotional over-control and under-control and cognitive emotional regulation

Although research linking these variables has not yet been identified, relationships can be assumed based on the proposals of various authors. According to Hempel et al. (2018), people with over-control patterns constantly use compulsive planning, rehearsal, and premeditation strategies, also exhibiting patterns of criticism and blame

toward themselves and others in response to events that cannot always be controlled by the individual. On the other hand, within their thought processes, they continuously identify the possible negative consequences of their actions. The manifestation of pleasant moods is usually associated with consequences based on achievements, experiencing these experiences as events that should not be celebrated for the achievement itself, but rather as an obligation. The overcontrolled tend to have an over-tolerance for discomfort due to rigid cognitive patterns, as well as compulsive behaviors focused on goals, which can sometimes be unsustainable. On the other hand, people with undercontrol find it easier to express their discomfort in public contexts (e.g., with people who are not family members or strangers), compared to overcontrolled people, who have greater inhibitory control over public expressions. Other key characteristics associated with undercontrol focus on instability in interpersonal relationships, a lack of planning for alternative solutions, and dysregulation of emotions related to anger, despair, betrayal, and abandonment (Boggiano & Gagliesi, 2020; Hempel et al., 2018; Linehan, 1993).

Features of emotional under-control and over-control and their association with mental health

As mentioned previously, recent studies have conceptualized two clearly noticeable personality patterns in terms of coping styles. In this regard, overcontrol and undercontrol traits are theoretical proposals recently put forward under the RODB (Lynch, 2018). Despite this, the results of associations between these coping patterns (or associated variables) and mental health indicators are proposed below.

In the first place, in the case of under-control, this could be conceptualized as emotional dysregulation (Linehan, 1993), or in other therapeutic models as psychological inflexibility (Hayes et al., 2014). Based on these proposals, psychological distress consists of the inability to be in contact with proximal contingencies (i.e., being present), since behavior is a function of various internal events perceived as aversive (e.g., emotions, thoughts, memories), which give rise to interpretations not based on facts, promoting as a consequence a lack of clarity and avoidance of unwanted internal experiences (Garcia Herrera, 2021). Likewise, psychological inflexibility and emotional dysregulation include components

of neuroticism, which has been associated with higher levels of depression in adolescent and adult populations (Paulus et al., 2016). Emotional dysregulation is a risk factor for several emotional disorders, but specifically for depression, where there is a deficit in the regulation of emotions associated with negative events (Paulus et al., 2016). In addition, emotional regulation deficit is a predictor of disorders such as anxiety or depression. The emotional dysregulation model (EDM) states that people with GAD experience intense emotional reactions and difficulty understanding them, with three central emotional characteristics in these individuals: difficulties in understanding, negative reactions through fear/anxiety responses, and inadequate management of these through strategies such as suppression (González-Larsson, 2020).

On the other hand, with regard to over-control, people who exhibit this coping style are distinguished by a marked tendency toward involuntary inhibition of their behavior (Clemente & Adrián, 2004). This type of repressive control manifests itself from early stages of development through a need for structure and rules, cognitive rigidity, a detail-oriented approach, limited emotional expression, and poor interpersonal connection (Sainz-Maza, 2022), under which behaviors whose purpose is mainly social isolation are adopted (Lynch et al., 2015, as cited in Sainz-Maza, 2022). Traits of over-control are central characteristics of various mental disorders such as anorexia nervosa, obsessive-compulsive personality disorder, treatment-resistant depression, clinical pediatric anxiety, and generalized anxiety disorder (Behar et al., 2009; Gilbert et al., 2020). Specifically, certain anxiety disorders have an etiology based on emotional over-control in response to affective states conceptualized as aversive, according to the emotion dysregulation model proposed by Behar et al. (2009). For example, individuals with GAD may display an excessive fixation on emotional experiences, thereby promoting the use of maladaptive strategies to minimize these affective states (Turk et al., 2005).

Cognitive emotional regulation and mental health

Most mental disorders corresponding to axis I and all disorders corresponding to axis II of the DSM show some type of difficulty in relation to emotional regulation (Gross & Levenson, 1997),

which is why intervention programs consider it essential to incorporate this aspect into their content in order to ensure the effectiveness of treatment (Barlow et al., 2004). With regard to depression, numerous studies have reported that the presence of depressive symptoms is associated with a reduced frequency of adaptive strategies and a high prevalence of maladaptive strategies, such as rumination and catastrophizing (Andrés et al., 2015; Del Valle et al., 2021; Domínguez-Lara & Merino-Soto, 2015).

Likewise, it has been observed that emotional regulation strategies work differently for people with depressive episodes, since mechanisms that may be effective for non-clinical samples, such as trying to improve mood through pleasant memories, are not effective for them (Joorman et al., 2007). With regard to generalized anxiety disorder (GAD), some researchers point out that affected individuals show emotional deficiencies in four areas: high emotional intensity, reduced cognitive understanding of emotions, rejection of their own emotional experience, and use of dysfunctional emotional regulation strategies (Hervás, 2011). Similarly, it is important to note that there is little consistency regarding which specific strategies predict anxiety symptoms (Del Valle et al., 2018). Some strategies that have been considered include rumination, self-blame, positive reinterpretation, catastrophizing, and blaming others; however, there are currently no clear patterns.

Objective of the study

In light of this review of the literature, several gaps in research on over-control/under-control traits, emotional regulation, and anxiety-depression symptoms have been identified. In this regard, DBT and RODBT are relatively novel intervention approaches, which have not yet developed instruments to assess these self-control traits in Spanish. Therefore, both the evaluation and the identification of associations with other core components within clinical practice, such as cognitive emotional regulation strategies and anxiety-depressive symptomatology, would be innovative proposals in both the Peruvian and Latin American contexts. On the other hand, by verifying how these variables interact, they could provide evidence for these therapies and promote the use of these intervention proposals in developing populations, such as adolescents and emerging adults.

Considering all these aspects, the general objective is to identify the degree of prediction of emotional undercontrol and overcontrol traits on cognitive emotional regulation strategies and anxiety-depressive symptoms. Complementarily, since there are no Spanish-language instruments that assess emotional overcontrol and undercontrol, a secondary objective was to construct and obtain the psychometric properties of preliminary scales, referred to as the Emotional Under-control Trait Scale (RSUB-E) and Emotional Over-control Trait Scale (RSOB-E).

METHOD

Type and design of research

The research has a quantitative approach, as well as a cross-sectional design, since the instruments were administered during a specific period of time and it is non-experimental, because the study focuses on analyzing the variables as they are presented, without being manipulated (Hernández-Sampieri & Mendoza, 2018). Primarily, a correlational design was considered to identify the degree of association between variables. Specifically, it is a predictive study (Whitley & Kite, 2018). Regarding the construction of tests and psychometric analyses, this part of the research is considered to apply an instrumental design (Ato et al., 2013).

Participants

The final sample consisted of 353 individuals ($M = 19.77$ years, $SD = 2.08$). The sample could be described as predominantly female (67.7%, male = 32.0%, other = 0.3%), single (71.7%) or in a relationship (28.0%), from private universities (93.2%), without employment status (83.9%), and a large percentage being a non-clinical sample (66.6%). With this sample size, and considering a minimum acceptable power in social sciences of .80 (Wright, 2003), a two-tailed significance of .05, and eight predictors in the multiple regression model, it is possible to detect at least an effect size equal to or higher than $f^2 = .022$ in any of the predictors, according to calculations made with G*Power (Buchner et al., 2020). This value is considered small, according to Cohen's criteria (1988).

The inclusion criteria were (a) being an undergraduate university student, (b) being between 18 and 30 years old, (c) living in Metropolitan Lima during data collection, and (d) being a Peruvian national. In view of this, it is important to note that the initial sample consisted of 357 participants; however, four people did not meet the inclusion criteria.

Sampling was non-probabilistic and intentional, based on participant availability. A snowball sampling method was also used via digital media, with the aim of collecting the minimum required sample size (Hernández-Sampieri & Mendoza, 2018).

Instruments

Sociodemographic data sheet. Personal data such as gender, age, marital status, place of residence, university studies, university type (public or private), employment status, and receipt of psychological and/or psychiatric treatment during the last 12 months were requested.

Emotional Under-control (RSUB-E) and Emotional Over-control (RSOB-E) Trait Scales. Preliminary proposals were developed with the aim of assessing personality patterns associated with emotional under-control and over-control conceptualized under the postulates of DBT (Linehan, 1993) and RODBT (Lynch, 2018). Originally, each scale consisted of 10 items, which were adjectives describing personal characteristics (e.g., "emotional," "reserved") and were based on an assessment format used in RODBT called the Word Pair List - Coping Styles. Both psychometric tools presented five response options ranging from *Does not describe me* (1) to *Describes me completely* (5). Evidence of content validity was obtained through review by two expert judges in personality traits and these therapeutic approaches in Spanish. Based on their observations, the version used for data collection was obtained. The psychometric properties associated with internal structure (validity) and reliability were obtained as part of the results of this study.

Cognitive Emotional Regulation Questionnaire - 18 (CERQ-18). This test was originally developed by Garnefski et al. (2002) and adapted to the Peruvian context by Dominguez-Lara and Merino-Soto (2015) for university students. This version consists of 18 items with five response options based on a Likert scale ranging from Never (1)

to Always (5). It evaluates nine cognitive coping strategies, namely Self-blame, Acceptance, Rumination, Positive refocusing, Focusing on plans, Positive reinterpretation, Putting into perspective, Catastrophizing, and Blaming others. In the Peruvian version, adequate fit indices were identified when performing confirmatory factor analysis (CFI = .982; RMSEA = .036, 90% CI = .019 - .050), in addition to acceptable internal consistency coefficients (ω = .52 - .68).

Patient Health Questionnaire - 9 (PHQ-9). It is a self-administered instrument created by Kroenke and Spitzer (2002) and validated for the Peruvian context by Huarcaya-Victoria et al. (2020). It assesses depressive symptoms through nine items, which are based on the diagnostic criteria of the DSM-IV, expressing the severity of symptoms in a Likert response format from 0 = never to 3 = almost every day. The goodness-of-fit indices of the unidimensional model met the minimum required standards (χ^2 = 85.129, p < .001; CFI = .942; GFI = .900; RMSEA = .110), and acceptable internal consistency was identified (α = .903) (Huarcaya-Victoria et al., 2020).

Generalized Anxiety Disorder Scale - 7 (GAD-7). It is a self-report instrument created by Spitzer et al. (2006) and validated by Franco-Jimenez and Núñez-Magallanes (2022) in Peru. It assesses anxiety symptoms through seven items in accordance with the DSM-IV diagnostic criteria. It is a self-report instrument created by Spitzer et al. (2006) and validated by Franco-Jimenez and Núñez-Magallanes (2022) in Peru. It assesses anxiety symptoms through seven items in accordance with the DSM-IV diagnostic criteria. The instrument is presented using a 4-point Likert scale that indicates how often symptoms occur on a scale of 0 = *never* to 3 = *almost every day*. The total score for the GAD-7 ranges from 0 to 21, and a score greater than or equal to 10 indicates generalized anxiety disorder. Similarly, acceptable fit indices have been identified ($\chi^2(14)$ = 31.717, CFI = .995, TLI = .992, RMSEA = .056, SRMR = .026) and an acceptable internal consistency coefficient (ω = .89).

Data analysis

With regard to psychometric analysis, the first step was to obtain content-based validity evidence for the preliminary proposals for the scales in this study. To this end, judges were sought who were therapists trained in DBT and RDBT and who were professionals whose native language

was Spanish. Since, during the development of this stage of the study, the RDBT was only recently being implemented in Latin America, only two Latin American specialist psychologists were considered as expert judges. All observations and qualitative assessments were taken into account to obtain the final versions used in data collection (AERA et al., 2014).

To analyze the internal structure of the tests, exploratory factor analysis was applied to the new measurement scales created for this study (RSUB-E and RSOB-E) with the aim of evaluating traits of emotional under-control and over-control. The use of polychoric correlation matrices was considered when working with variables (items) that are ordinal in nature (Burga-León, 2006). *Unweighted Least Squares (ULS)* was used as the extraction method and parallel analysis as the method for determining the number of factors, these strategies having shown the greatest evidence in simulation studies (Ferrando & Anguiano-Carrasco, 2010). In the case of identifying more than one factor, the Promin rotation was used, as it assumes the relationship among factors (Lorenzo-Seva, 1999). With regard to factor loadings, coefficients higher than .30 were considered acceptable (Kline, 2020). Finally, coefficients higher than or equal to .70 to determine the degree of reliability were considered acceptable for the scores derived from the tests (Kline, 2020).

In the case of regression analysis, categorical variables (gender, partner, university management, employment status, and clinical status) were coded as 0 and 1 (see Table 3). The seemingly unrelated regression method was used to perform the analyses. This approach was chosen because it was considered that the errors in the regression equation could be associated (Fiebig, 2001). In addition, the adjustment strategy known as the bootstrap method was used, applying 1,000 replicates and taking into account a 95% confidence interval, estimated by a BCA (bias-corrected and accelerated) method. This method has demonstrated the feasibility of correcting biases identified in other methods for estimating confidence intervals with regard to bootstrap (Efron, 1987; Puth et al., 2015).

Procedure and ethical aspects

In the first place, authorization was obtained in advance from the authors of the Peruvian adaptation to use the CERQ-18 scale in this

research. In addition, institutional permission was obtained to construct the RSUB-E and RSOB-E scales based on a test used in the RODBT, which is described in the section on instruments. The other scales have been classified as open-access tests by their original authors.

The psychological tests were administered online between August and November 2023. Google Forms was used to collect data. The tests were promoted on social media (e.g., WhatsApp, Instagram, LinkedIn) and in academic settings (during class time). The order in which the instruments were administered was as follows: RSUB-E, RSOB-E, CERQ-18, PHQ-9, GAD-7, and sociodemographic form. No incentive or compensation was offered for participating in the study. Student participants who did not meet the inclusion criteria were excluded, with four protocols considered as deleted data for not meeting the inclusion criteria.

The study was reviewed and approved by the Research and Ethics Committee (CIE, from their Spanish initials) of the Faculty of Psychology at the University of Lima on July 12, 2023. All participants provided informed consent prior to the administration of the instruments, in accordance with the ethical principles of the Declaration of Helsinki (World Medical Association, 2017). It was specified that participation was voluntary and that they could withdraw from the evaluation at any time if they deemed it appropriate. In addition, it was ensured that the information collected was anonymous, as the data was only used for research purposes, in accordance with ethical standards.

RESULTS

Psychometric properties

First, content validity evidence was obtained through review by two expert judges who met the criteria for professional expertise at the DBT and RODBT levels, in addition to being native

Spanish speakers in a Latin American context. The judges reviewed the 10 items per scale, offering relevant observations. In this regard, for the RSUB-E, it was considered to change the item “distracted” to “emotional,” as it was not considered a representative and central description for the under-controlled pattern. On the other hand, for the RSOB-E, it was decided to modify the items “serious” to “meticulous” and ‘attentive’ to “perfectionist,” taking into account the same reasons referred to for the under-control scale. After making these changes, data collection proceeded with these final versions.

For the RSUB-E, various exploratory factor analyses were performed, taking into account the number of items and factors. Table 1 specifies the comparisons of results among the three analyses, in addition to the factor loadings. The first analysis consisted of obtaining a single-factor proposal with the 10 items. However, the parallel analysis suggested the existence of two underlying latent variables. Based on this, a second analysis was performed considering two factors with the same items. Although a better factorial proposal was observed, the second dimension was not clearly conceptualized within a under-controlled pattern, as it mainly considered adjectives associated with responsibility and order management, which is a separate construct according to the postulates of the Big Five theory (Costa & McCrae, 1992). It is decided to perform an analysis of a third model considering only the 7 items in a single dimension (without items 5, 9, and 10). The parallel analysis supported a unidimensional structure, in addition to finding factor loadings greater than .30 (Kline, 2020). It was decided to use the third model for subsequent analyses. Regarding this last proposal, it is important to note that coefficients were obtained that determine the suitability for performing the AFE ($X^2 [21] = 668.3, p < .05$; KMO = .822), in addition to the fact that the seven-item proposal explains 46% of the total variance. Evidence of reliability was obtained through internal consistency coefficients acceptable for research contexts ($\alpha = .778, \omega = .778$).

Table 1
Exploratory Factor Analysis of RSUB-E

Statistical	Model 1	Model 2	Model 3	
X²	1121.2	1121.2	668.3	
df	45	45	21	
p	< .001	< .001	< .001	
KMO	.812	.812	.822	
Factor loadings of items	F1	F1	F2	F1
1. Emotional	.465	.728	-	.580
2. Dramatic	.620	.710	-	.679
3. Unstable	.676	.696	-	.699
4. Impulsive	.613	.530	-	.595
5. Disorganized	.481	-	.689	-
6. Susceptible	.523	.688	-	.607
7. Dependent	.630	.585	-	.615
8. Reactive	.486	.405	-	.470
9. Careless	.528	-	.880	-
10. Undisciplined	.471	-	.722	-

Note. Model 1 = One-factor analysis with 10 items; Model 2 = Two-factor analysis with 10 items; Model 3 = One-factor analysis with 7 items; X² = Bartlett's sphericity test; df = degrees of freedom; p = significance level; KMO = Kaiser-Meyer-Olkin test; F1 = Factor 1; F2 = Factor 2.

Likewise, an exploratory factor analysis was initially performed for the RSOB-E. In the first instance, the aim was to identify a proposal for a factor with 10 items. Although a relatively satisfactory proposal was found, supported by parallel analysis, regarding factor loadings, coefficients lower than .30 were obtained in items 1 and 7 (see Table 2). As a result, a second unifactorial model with eight items (excluding items 1 and 7), which presented factor loadings

greater than .30 (Kline, 2020 was proposed), and this was used for subsequent analyses. The second model presents coefficients that determine the suitability for performing the AFE (X² [28] = 660.5, $p < .05$; KMO = .806), in addition to the fact that the seven-item proposal explains 39.859% of the total variance. Evidence of reliability was obtained through internal consistency coefficients acceptable for research contexts ($\alpha = .751$, $\omega = .756$).

Table 2
Exploratory Factor Analysis of RSOB-E

Statistical	Model 1	Model 2
X ²	750.4	660.5
df	45	28
p	<.001	<.001
KMO	.800	.806
Item factor loadings	F1	F1
1. Reserved	.291	-
2. Tolerant	.366	.323
3. Meticulous	.581	.595
4. Careful	.659	.696
5. Perfectionist	.556	.579
6. Rational	.653	.623
7. Controlled	.264	-
8. Persevering	.604	.628
9. Orderly	.546	.552
10. Independent	.431	.425

Note. Model 1 = analysis with 1 factor with 10 items; Model 2 = analysis with 1 factor with 8 items; X² = Bartlett's sphericity test; df = degrees of freedom; p = degree of significance; KMO = Kaiser-Meyer-Olkin test; F1 = Factor 1.

Regression analysis

On the other hand, regression analyses were performed taking into account under-control traits and sociodemographic variables (age, gender, having a partner, university management, employment status, and receiving psychological/psychiatric treatment) as criterion variables, and cognitive emotional regulation strategies, anxiety, and depression as result variables. Table 3 shows that under-control traits have a direct (positive) relationship with cognitive emotional regulation strategies known as blaming others, self-blaming, rumination, catastrophizing, and putting things into perspective, as well as anxiety disorders and depression.

The same analysis was performed, with the only difference being that over-control traits were considered as a criterion variable. Table 3 shows the direct relationship between overcontrol traits and cognitive emotional regulation strategies known as acceptance, rumination, putting into perspective, positive reinterpretation, focusing on plans, and positive focalization.

Complementarily, female gender was identified as a significant predictor for anxiety-depressive symptoms and rumination, while not having a partner and undergoing psychological/psychiatric treatment are significant predictors for using catastrophizing regulation strategies, in addition to manifesting symptoms of depression (see Table 3).

Table 3

Análisis de regresión considerando rasgos de subcontrol y sobre control como variables predictoras

Variables	Criterion	Predictor Variables								R ² ajust
		RSUB-E	RSOB-E	Age	Gender ¹	Partner ²	University management ³	Employment status ⁴	Treatment ⁵	
CERQ - F1	Blaming others	0.32* [.21,-.44]	-0.10 [-.21,.01]	-0.06 [-.16,.03]	-0.19 [-.45,.02]	-0.06 [-.26,.18]	-0.02 [-.05,.38]	0.15 [-.13,.45]	0.07 [-.16,.29]	0.10
CERQ - F2	Self-blame	0.34* [.23,-.44]	0.04 [-.07,.15]	0.05 [-.04,.14]	-0.44 [-.64,-.22]	-0.15 [-.37,.09]	0.20 [-.20,.57]	-0.22 [-.57,.06]	0.08 [-.12,.28]	0.15
CERQ - F3	Acceptance	-0.02 [-.13,.08]	0.29* [.18,.39]	-0.05 [-.18,.06]	-0.10 [-.31,.12]	0.02 [-.24,.27]	0.37 [-.01,.90]	-0.04 [-.36,.24]	-0.01 [-.21,.22]	0.07
CERQ - F4	Rumination	0.39* [.30,.48]	0.10* [.00,.21]	0.00 [-.11,.08]	0.22* [.00,.42]	0.02 [-.23,.22]	-0.18 [-.55,.18]	-0.04 [-.34,.26]	0.18 [-.07,.38]	0.18
CERQ - F5	Catastrophizing	0.42* [.33,.51]	0.00 [-.10,.09]	-0.06 [-.17,.04]	-0.03 [-.23,.19]	-0.05 [-.25,.16]	-0.21 [-.58,.19]	-0.15 [-.43,.10]	0.28* [.07,.47]	0.20
CERQ - F6	Put into perspective	0.14* [.03,.25]	0.17* [.06,.28]	-0.03 [-.13,.07]	-0.22 [-.44,.02]	-0.17 [-.42,.05]	0.19 [-.27,.55]	0.05 [-.23,.30]	-0.07 [-.35,.17]	0.04
CERQ - F7	Positive reinterpretation	-0.08 [-.19,.03]	0.21* [.11,.32]	0.09 [-.01,.20]	-0.19 [-.39,.04]	-0.12 [-.36,.11]	0.13 [-.31,.61]	0.13 [-.16,.39]	-0.08 [-.30,.19]	0.06
CERQ - F8	Focusing on plans	-0.06 [-.16,.05]	0.24* [.13,.36]	0.10 [-.01,.19]	-0.03 [-.24,.20]	0.11 [-.12,.35]	0.10 [-.29,.55]	0.12 [-.13,.38]	0.01 [-.21,.26]	0.07
CERQ - F9	Positive focus	0.02 [-.09,.13]	0.16* [.04,.27]	0.06 [-.07,.17]	-0.04 [-.26,.16]	-0.02 [-.42,.05]	0.02 [-.36,.42]	-0.16 [-.46,.11]	-0.10 [-.34,.15]	0.02
GAD7	Anxiety	0.42* [.31,.51]	-0.03 [-.13,.07]	-0.05 [-.15,.04]	0.23* [.05,.44]	-0.15 [-.37,.07]	-0.31 [-.63,.09]	0.06 [-.15,.34]	0.22 [.01,.41]	0.20
PHQ9	Depression	0.40* [.28,.50]	-0.03 [-.11,.06]	-0.07 [-.18,.06]	0.20* [.00,.39]	-0.23* [-.45,.00]	-0.38 [-.73,.02]	0.06 [-.21,.35]	0.25* [.02,.45]	0.19

Note. Beta, *sig. 95%, Bootstrap; 95% confidence intervals. 1Gender was coded as 0=male, 1=female; 2Partner was coded as 0=no partner, 1=with partner; 3University management was coded as 0=public, 1=private; 4Employment status was coded as 0=not working, 1=working; 5Treatment was coded as 0=currently in treatment, 1=not currently in treatment.

DISCUSSION

Adolescence and emerging adulthood are stages of life characterized by significant changes, which leads to them being classified as vulnerable age groups. Among the most relevant components to consider is mental health, as it is an underlying factor in a series of protective elements for a better quality of life. In this sense, the study of personality traits and strategies used to manage emotions takes on great relevance. Although various studies confirm the covariation between personality traits and emotional regulation strategies, especially when it comes to neuroticism (Paulus et al., 2016), new approaches to the analysis of personality related to over-control have been developed in the field of mental health (Lynch, 2018). In light of this, we sought to identify the predictive power of emotional over-control and under-control

traits on various cognitive emotional regulation strategies and mental health indicators (anxiety and depression) in Peruvian university students.

Firstly, most of the instruments used in this research have obtained acceptable psychometric properties according to current standards in Peruvian university samples (Dominguez-Lara & Merino-Soto, 2015; Franco-Jimenez & Núñez-Magallanes, 2022; Huarcaya-Victoria et al., 2020). On the other hand, because we wanted to evaluate traits of emotional overcontrol and undercontrol and there were no tests that evaluated such constructs in Spanish, we opted to construct and obtain psychometric properties for the scales called RSUB-E and RSOB-E, which were constructed within this study. Under these premises, evidence of validity related to content was obtained in the first instance through review by Latin American psychologists who are experts in DBT and RDBT, taking into account

their qualitative assessments to obtain the best version in terms of content (AERA et al., 2014). Subsequently, the exploratory factor analysis was used to determine the internal structure of both tests (Ferrando & Anguiano-Carrasco, 2010), identifying that both instruments worked better with a unifactorial approach at both the theoretical and methodological levels. Subsequently, as evidence of the reliability of the scores derived from the tests, internal consistency coefficients with acceptable values were obtained (McNeish, 2018).

It is important to note that the findings of this study allowed us to assess the degree to which patterns of emotional over-control and under-control predict cognitive emotional regulation strategies and anxiety-depressive symptoms in university students, which was the main objective of this study. First, under-control has been identified as a significant predictor for a series of cognitive emotional regulation strategies. Specifically, rumination is identified as a highly associated variable, which can possibly be explained by the fact that people with emotional instability tend to overfocus on their emotional distress, making it extremely difficult to consider other contextual elements (Linehan, 1993). Blaming others, self-blaming, and catastrophizing have also been identified as a series of patterns as outcome variables in the face of emotional undercontrol. These coping styles could be related to difficulties in planning alternative solutions to external problems, as well as difficulties in regulating emotions when they are perceived as highly intense (Hempel et al., 2018). On the other hand, putting things into perspective was considered a result variable, which can possibly be explained by the fact that people with poor emotional self-control tend to view events from a highly individualized perspective, so that explanations for situations are usually associated with their own interpretation of their emotional experiences. This style is sometimes maladaptive when a high degree of emotional vulnerability is manifested (Linehan, 1993). Finally, anxiety and depression have been strongly linked to emotional instability, neuroticism, and emotional undercontrol (Del Valle et al., 2021), so these results are consistent with the underlying theory.

On the other hand, overcontrol has been identified as a significant predictor of various emotional regulation strategies, notably the technique of putting things into perspective, which involves

minimizing and comparing the severity of a current event with previous experiences (Dominguez-Lara & Merino-Soto, 2015). This strategy is intrinsically related to the overcontrolled coping style, as this personality type is defined by a rigid pattern in response to aversive affective states (Behar et al., 2009), which leads to limited emotional expression (Sainz-Maza, 2022). This way of operating leads to excessive self-criticism and self-blame in situations that are often beyond individual control; therefore, those with an overcontrolled style tend to show excessive tolerance for discomfort (Hempel et al., 2018). This explains why overcontrolled students make unhealthy comparisons between their own discomfort and that of others or even their own previous experiences, minimizing their current emotional state in order to moderate it. Likewise, overcontrol also proved to be a significant predictor of positive focus, which consists of having pleasant and cheerful thoughts, rather than focusing on the stressful event (Dominguez-Lara & Merino-Soto, 2015). The over-controlled personality shows significant behavioral inhibition (Clemente & Adrián, 2014) and is mainly limited to the expression of mood considered positive, fundamentally linked to the consequences of their achievements (Hempel et al., 2018). Consequently, these types of traits indicate a prioritization of positive thoughts over negative ones, with the latter being perceived as only causing harm. Likewise, an association was found with the positive reinterpretation strategy, which involves having thoughts with positive meanings during unpleasant events (Dominguez-Lara & Merino-Soto, 2015). Once again, they show patterns of avoidance strategies as a coping style, since they resort to emotional inhibition as part of dealing with discomfort (Gilbert et al., 2020).

On the other hand, rumination is understood as thinking excessively about feelings and thoughts related to the unpleasant event, being a counterintuitive alternative to the previous avoidance strategies. This could be explained by patterns of rigid control over one's own feelings. Similarly, Gilbert et al. (2020) point out that one of the coping patterns of people with high levels of overcontrol is excessive uncertainty, which promotes greater efforts to control their emotions and thoughts, so these students have significant rumination. In other words, uncertainty could lead them to continually reflect on their negative experiences in an attempt to gain

greater control over them in a future scenario. In addition to the above, there is an established predictive relationship with the strategy of focusing on plans, which consists of carefully considering the steps necessary to solve a problem affecting the person (Dominguez-Lara & Merino-Soto, 2015). This aligns with what was previously explained about overcontrolled traits, which are distinguished by a tendency toward perfectionism (Gilbert et al., 2020). Specifically, Hempel et al. (2018) point out that people with excessive control tend to compulsively employ methods of planning, practice, and advance reflection. Finally, an association with the acceptance strategy was evident. Among the causes of this is the lack of adequate adaptive strategies for cognitive emotional regulation, which allow individuals to manage their emotions during and after challenging events (Garnefski & Kraaij, 2007). In this case, when faced with demands, students do not show flexibility and overexert themselves without being able to deal with their emotions adequately.

LIMITATIONS

Although relevant findings have been identified in the present research, it is also important to take into account some limitations. First, the measurement instruments known as RSUB-E and RSOB-E are quite preliminary, having been developed during the course of this research, and they were evaluated in terms of content by only two expert judges due to the specialized nature of the subject in Spanish. All these aspects may have influenced the analysis of the construct, so further studies will be needed to evaluate its psychometric properties and underlying theoretical bases in greater detail.

On the other hand, in terms of sampling, given its non-probabilistic and snowball nature, the results cannot be generalized to other contexts or to the population as a whole. These results are not representative of the Peruvian university community and may generate sampling bias. In view of this, it is recommended that future research projects obtain clinical and even international samples in order to promote external validation.

Finally, more complex proposals can be considered, especially when considering other variables such as criterion factors within a structural equation model. Among those relevant variables would be contextual factors (e.g., invalidation of the environment) as well as individual factors (e.g., resilience, experiential avoidance).

CONCLUSIONS

This research has a number of important implications. This would be a first proposal at the Latin American level, as this study has created instruments to assess emotional under-control and over-control traits from the perspectives of DBT and RDBT intervention, in addition to considering how these characteristics predict cognitive emotional regulation strategies and anxiety-depressive symptoms. Thanks to these results, it has been possible to analyze how these patterns relate to highly prevalent mental health issues, which provides a degree of support for basic theories and research in this field of psychology. In light of this, it is recommended that future research proposals be developed. These could include other relevant factors (e.g., impulsivity, aggression/violence, interpersonal difficulties, among others). It is concluded that this work is a central foundation for the analysis of over-control and under-control traits and their implications for mental health components.

Funding:

This project did not receive any financial support.

Competing interests:

The authors declare that there is no conflict of interest.

Authors' Roles:

ENAR, MAJC, METP, MVH, and AOC participated in the initial conceptualization of the research proposal, in drafting the introduction, methodology, discussion, and were responsible for data collection. ABL was responsible for data analysis and the presentation and drafting of the results. All authors reviewed and participated in the drafting of the final version of the manuscript, which was approved by them all.

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