

RESUMEN

Construct validity properties of the Beck Anxiety and Depression Inventories in Kichwa-speaking Cañari adolescents in Ecuador

Propiedades de validez del constructo de los Inventarios de Ansiedad y Depresión de Beck en adolescentes cañaris kichwa-hablantes del Ecuador

Ángel Chucho-Cuvi¹  Carlos Andrade-Bayona² 

¹Centro Educativo Comunitario Intercultural Bilingüe “Daniel Clavijo Iglesias” del Sistema de Educación Intercultural Bilingüe del Ecuador, Comunidad de Cebadas, Cañar, Ecuador.

²Asesoría en Investigación Académica (AiA) de Cabrera y Andrade Cía. Ltda., Edif. Cámara de Industrias de Cuenca, Av. Florencia Astudillo s/n., Cuenca, Ecuador.

Correspondence: angel.chucho@educacion.gob.ec;
andrade_carlos31@hotmail.com

Reception: January 1st, 2023 – **Acceptance:** July 4th, 2023 – **Publication:** July 4th, 2023

ABSTRACT

Epidemiological evidence suggests that anxiety disorders and depression are prevalent and often evaluated through self-reports. However, the content validity of self-reports can vary across cultures, which is pertinent to our study's objectives. Thus, our study aimed to assess construct validity using Confirmatory Factor Analysis among 230 bilingual students from the cantons of El Cañar, El Tambo, and Suscal, who speak Kichwa, an indigenous language of Ecuador. We conducted the analysis of the results using the R statistical platform and the Lavaan package. The findings demonstrated that both instruments exhibited construct validity in the Kichwa language, as indicated by an RMSEA of 0.025, SRMR of 0.049, TLI of 0.920, CFI of 0.924, and X2/g1 of 1.15. Moreover, the reliability level was high, with a McDonald's ω coefficient of 0.964 for the depression inventory and 0.952 for the anxiety inventory. Based on these results, we recommend the utilization of these instruments for assessing anxiety and depression in Kichwa-speaking adolescents within bilingual educational institutions. In summary, validating assessment instruments is crucial to ensure the accuracy and reliability of obtained results, particularly when dealing with different cultures and language groups. This study offers evidence regarding the validity and reliability of two self-report scales for assessing anxiety and depression in Kichwa-speaking adolescents, thereby contributing to the enhancement of care and treatment for these conditions within this specific population group.

Key words: anxiety, depression, Beck inventory, Kichwa.

La evidencia epidemiológica sugiere que los trastornos de ansiedad y depresión son comunes, y que a menudo se evalúan mediante autoinformes. Sin embargo, la validez del contenido de los autoinformes puede variar entre diferentes culturas, lo que es relevante para los objetivos del presente estudio. Por lo tanto, el propósito de este estudio fue evaluar la validez del constructo mediante Análisis Factorial Confirmatorio en una muestra de 230 estudiantes bilingües de los cantones El Cañar, El Tambo y Suscal, que hablan kichwa, una lengua indígena del Ecuador. El análisis de los resultados se realizó utilizando la plataforma estadística R y el paquete Lavaan. Los resultados demostraron que ambos instrumentos tienen validez de constructo en la lengua kichwa, con un RMSEA de 0,025, SRMR de 0.049, TLI de 0.920, CFI de 0.924 y X2/g1 de 1.15. Además, el nivel de fiabilidad fue alto, con un coeficiente ω de McDonald de 0,964 para el inventario de depresión y 0,952 para el inventario de ansiedad. Por lo tanto, los autores del estudio recomiendan su uso para evaluar la ansiedad y la depresión en adolescentes en instituciones educativas bilingües que hablan kichwa. En resumen, la validación de instrumentos de evaluación es fundamental para garantizar la precisión y la fiabilidad de los resultados obtenidos, especialmente en culturas y grupos lingüísticos diferentes. El presente estudio proporciona evidencia de la validez y la fiabilidad de dos escalas de autoinforme para evaluar la ansiedad y la depresión en adolescentes que hablan kichwa, lo que puede ayudar a mejorar la atención y el tratamiento de estas condiciones en este grupo de población.

Palabras clave: ansiedad, depresión, inventario de Beck, kichwa.

INTRODUCTION

Background

Until now, to measure anxiety and depression in adolescents, inventories in Spanish have been used, which makes it difficult to implement linguistic policies, as established in numeral 9, article 347 of the Constitution of the Republic of Ecuador (2008): "The State shall guarantee education according to the language of its nationality" (p.107); in this case, the Kichwa language. Given the absence of an instrument that responds to the cultural and linguistic conditions of this population, the objective of this study is to adapt the Beck Inventory for measuring anxiety and depression in Kichwa adolescents to Kichwa, in order to respond to the social problems that these disorders represent in adolescents of the native peoples of the cantons of El Cañar, El Tambo and Suscal.

Anxiety and depression are disorders that have a significant prevalence in the stages of childhood and adolescence, where age is a determining factor in their clinical expression (Sanchez and Cohen, 2020). COVID-19 health conditions have had an important impact on mental health, with 27% of cases of anxiety and 15% of depression in adolescents and young people between 13 and 29 years of age being recorded in Latin America and the Caribbean (UNICEF, 2020).

According to the DSM, depression and anxiety in adolescents should be assessed with validated instruments in the native language (Creswell et al., 2014). However, in Ecuador, a diverse country with 18 indigenous nationalities and 14 peoples whose mother tongue is Kichwa, the loss of communication in this language is increasingly observed, which extends to the psychological care processes provided to this population.

Kichwa-speaking adolescents in Cañar, El Tambo and Suscal cantons are evaluated by psychologists who only work in Spanish. The mother tongue (Kichwa), which would allow a better observation of the psychoemotional profile of an adolescent, is not taken into account. Therefore, it is urgent to have a tool to assess anxiety and depression in the mother tongue of these students.

This area helps to strengthen the intercultural bilingual education system in the bilingual institutions distributed in the Cañar, El Tambo and Suscal cantons, thus complying with art. 57, which states:

Se reconoce y garantizará a las comunas, comunidades, pueblos y nacionalidades indígenas de conforme con la Constitución y con los pactos, convenios, declaraciones y demás instrumentos internacionales de derechos humanos, el derecho a mantener, desarrollar y fortalecer libremente su identidad, sentido de pertenencia, tradiciones ancestrales y formas de organización social (Constitución de la República del Ecuador, 2008, p. 26).

Due to this provision, indigenous peoples and nationalities possess the entitlement to receive essential services, including healthcare, in their native language. Consequently, the absence of a psychological evaluation instrument translated into Kichwa undermines the effective assessment, identification, and treatment of mental health issues among Kichwa adolescents, hindering their proper development in this regard.

Justification

Article 29 of the Constitution of the Republic of Ecuador (2008) stipulates that the "Estado garantizará el derecho de las personas a aprender en su propia lengua y ámbito cultural" (p. 17) - "The State shall guarantee the right of individuals to learn in their own language and cultural context." Similarly, article 343 emphasizes that "el sistema nacional de educación integrará una visión intercultural acorde con la diversidad geográfica, cultural y lingüística del país y el respeto a los derechos de las comunidades, pueblos y nacionalidades" (p. 106) - "The national education system shall incorporate an intercultural perspective in accordance with the geographic, cultural, and linguistic diversity of the country, while respecting the rights of communities, peoples, and nationalities." However, both the Student Counseling Department (DECE) and the professionals working in the field of education provide services exclusively in Spanish, thereby impeding a thorough evaluation of anxiety and depression disorders among Kichwa-speaking students.

Among the numerous scales available for identifying depression and anxiety in adolescents, the Beck et al. Depression Inventory (1961) and the Beck Anxiety Inventory (1988) have demonstrated substantial empirical evidence. Since the 1960s, both instruments have exhibited high effectiveness in assessing anxiety and depression (Ambrosini et al., 1991; Teri, 1982), being utilized in adolescent populations by both general psychology and clinical

psychology practitioners (Bennett et al., 1997). Several studies have explored the validity of these instruments for use in diverse adolescent communities worldwide and across different languages (Byrne et al., 2004). For instance, the Spanish version of the Beck Anxiety Inventory has exhibited sound psychometric properties (Sanz et al., 2012; Melipillán Araneda et al., 2008).

However, no studies have yet examined the adaptation of these instruments specifically for Kichwa-speaking adolescents. The only existing adaptation to assess anxiety and depression in a similar language is the Quechua version of the DASS-21, which is designed exclusively for the adult population.

Theoretical framework

The term adolescence, derived from the Latin word *adolescere*, meaning "growing into adulthood" (Gaete, 2015, p. 437), represents the transitional stage between childhood and adulthood within the complex process of human development. It is characterized by the progressive maturation of physical, psychological, and social aspects, ultimately leading to the formation of independent adults (Gaete, 2015). In Ecuador, the adolescent population aged 12 to 17 years is estimated to be approximately 1.9 million (Instituto Nacional de Estadísticas y Censos [INEC], 2010).

Anxiety and depression disorders often emerge during childhood and adolescence, progressing gradually and potentially becoming persistent and chronic (Riordan and Singhal, 2018). Globally, depression ranks as the leading cause of illness and disability within this age group, with suicide ranking third among causes of mortality (WHO, 2014).

Anxiety can arise when individuals experience worry, unease, or fear regarding anticipated or hypothetical future events (Rector et al., 2008). It can be likened to fear, as it emerges when children or adolescents perceive an immediate threat, whether real or imaginary. While anxiety can serve as an adaptive response to prepare individuals to face danger and adapt to changes, it can also become pathological when it occurs disproportionately or without justifiable factors (Sanchez and Cohen, 2020).

Anxiety disorders have a significant impact on the physical and mental well-being of individuals, resulting in increased utilization of healthcare services, higher levels of school absenteeism, and imposing a substantial economic burden on families (Fineberg et al., 2013; Gómez and Calderón, 2017). Ultimately, anxiety disorders significantly and negatively affect an individual's quality of life and are associated with deterioration in personal and social functioning, often co-occurring with other disorders and increasing the risk of suicide (Martínez and López, 2011; Hoge et al., 2012).

The symptoms of anxiety primarily manifest at two levels: a) physical symptoms, such as dizziness, fatigue, palpitations, muscle pain, muscle tension, tremors, dry mouth, excessive sweating, difficulty breathing, abdominal pain, nausea, headache, and insomnia; and b) psychological symptoms, including restlessness, feelings of dread, difficulty concentrating, irritability, a constant state of vigilance, avoidance of certain situations, and social isolation (Martínez and López, 2011; Remes et al., 2016).

According to the annual State of the Population report published by the United Nations Population Fund (UNFPA,

2014), there are approximately 1.8 billion young people aged 10 to 24 worldwide, accounting for nearly 25% of the total global population. Many of these individuals face developmental challenges that require attention, with anxiety being the most prevalent form of psychopathology, surpassing rates of depression and conduct disorders, and exhibiting prevalence rates ranging from 10% to 20% (Ochando and Peris, 2016; Riordan and Singhal, 2018; Guerrero and Sanchez, 2019).

Among adolescents aged 15 to 19, elevated levels of depression (including suicide) are associated with psychiatric disorders and dissatisfaction with body image, contributing to the three leading causes of mortality and illness worldwide. In 2012 alone, an estimated 1.3 million adolescents worldwide died from suicide related to depression (Pan American Health Organization, 2014).

Early detection and treatment of these disorders are crucial to minimize their impact on various aspects of an adolescent's life, including their family, social interactions, and academic performance, as well as to prevent their persistence into adulthood (Guerrero & Sanchez, 2019). Therefore, it is essential to have assessment tools that can evaluate these symptoms in adolescents across different contexts.

For instance, in Kenya, an adaptation of the Swahili version of the Beck Depression Inventory-II was conducted through in-depth interviews with 29 adult community members to gain insights into their understanding of depression and identify aspects of the BDI-II that required adjustments. The validity assessment revealed culturally relevant idioms and symptoms such as "thinking too much" and "Kuchoka moyo" (having a tired heart), necessitating modifications in the administration of the BDI to accommodate the low literacy levels of the participants (Abubakar et al., 2016).

The importance of using validated psychological instruments becomes evident from the aforementioned examples. Validated instruments ensure the reliability and validity of the results, enabling healthcare professionals to make informed clinical decisions and recommend appropriate treatments. Moreover, the use of validated instruments can help reduce the stigma and discrimination associated with these conditions, creating a more comfortable environment for adolescents and facilitating better treatment outcomes (Argibay, 2006). Hence, it is crucial for healthcare professionals to utilize validated instruments when assessing depression and anxiety in adolescents.

Previous research has examined the adaptation and validation of instruments like the BDI and the DASS-21 in various linguistic and cultural contexts. For instance, Alansari (2006) assessed the appropriateness and consistency of the BDI-II in an Arabic version developed by Ghareeb (2000). The coefficient alphas were examined using samples of university students from different Arab countries, demonstrating favorable feasibility and consistency in the Arab context, indicating its potential use in cross-cultural research. Similarly, Giannakou et al. (2013) evaluated the psychometric properties of the BDI-II in the Greek population, showing high internal consistency, test-retest reliability, and validity. Factor analysis revealed two factors that accounted for 42.54% of the total variance, and a cutoff score based on patient data was proposed. In another study, Batistelli and Marcassa (2014) adapted and validated the DASS-21 scale in Brazilian Portuguese, obtaining positive

results in terms of model adequacy, internal consistency, and correlations with other depression, anxiety, and stress scales. Although limitations were noted regarding the representation of subjects over 65 years of age in the sample, the findings support the usefulness and reliability of the DASS-21 in the Brazilian context.

Within this context, we propose to examine the validity and reliability of Beck's anxiety and depression constructs in the Kichwa language among Cañari students in Ecuador.

METHODS

El presente estudio emplea un diseño de investigación instrumental, específicamente un análisis factorial confirmatorio, con el propósito de adaptar un instrumento a un contexto específico (Cabrera-Tenecela, 2023). El análisis factorial confirmatorio es una técnica estadística ampliamente utilizada para evaluar la validez de constructo de un instrumento de medición.

A total of 880 adolescent students who are bilingual in Kichwa and Spanish, residing in Cañar, El Tambo, and Suscal cantons, were included in the population. From this population, a sample of 230 students was selected based on their preference to respond in Kichwa when given the option to choose between Kichwa and Spanish. The average age of the participants is 15 years old (SD 3.09), with a minimum age of 13 and a maximum age of 18. These students are enrolled in the ninth and tenth grades of general basic education, as well as the first, second, and third grades of high school.

The questionnaire used in the study consists of 21 items to assess anxiety and 21 items to assess depression. The authors translated these items into Kichwa and had them reviewed by linguists who are experts in the language. The translation aimed to maintain fidelity to the original English versions formulated by Beck.

Data collection was conducted using the online program KoboToolbox, and the collected information was processed in the R Studio platform. To analyze the construct validity, Confirmatory Factor Analysis from the Lavaan package (Rosseel, 2012) was employed. This analysis allowed for the calculation of robust fit indices, such as the diagonally weighted least squares (DWLS) for small samples and non-normally distributed data. The program facilitated the determination of robust model fit measures, including RMSEA (Root Mean Error), SRMR (Standardized Residual Square Root), TLI (Tucker-Lewis Index), CFI (Comparative Fit Index), and χ^2/df (Chi-square Fit Index divided by degrees of freedom). Additionally, Cronbach's alpha (α) and McDonald's omega (ω) reliability coefficients were computed to assess the internal consistency of each scale.

RESULTS

The analysis conducted on the validity properties demonstrates that the construct proposed by Beck et al. remains intact when translating the instrument into the Kichwa language. The achieved fit indices exhibit exceptionally high values in all cases, indicating a significant p-value for the exact chi-square statistic test, albeit not extremely low ($p=0.002$). Regarding the root mean error of approximation (RMSEA), it is expected to be below 0.08,

even in its upper interval. In this instance, the upper interval is 0.033, the lower interval is 0.016, and the attained value is 0.025. The standardized square root residual (SRMR), which is also anticipated to be below 0.08, is observed to be 0.049 in this study. While the Comparative Fit Index (CFI) is anticipated to equal or exceed 0.950, it falls slightly short of

this threshold, reaching a value of 0.924. The Tucker-Lewis Index also demonstrates a similar level to the CFI, with a value of 0.920. Lastly, the X^2/df ratio yields a value below 2 points (specifically, 1.15), indicating successful fulfillment of its purpose. Table 1 presents the attained indices.

Table 1

Analysis of absolute, incremental and parsimony indices for the generated models

Model	$X^2 (df)$	p	RMSEA [IC 90%]	SRMR	TLI	CFI	X^2/df
	936.991 (818df)	.002	0.025 [.016 .033]	0.049	0.920	0.924	1.15

Note. RMSEA = Root mean error of approximation; SRMR = standardized root mean residual; TLI = Tucker-Lewis Index; CFI = Comparative fit index; X^2/df = Chi-square fit index divided by degrees of freedom

Figure 1 displays the factor loadings obtained during the validation process, where each item exhibits a contribution greater than or equal to 0.60. This signifies that all the items provide substantial support for evaluating anxiety and depression using the Kichwa questionnaire. Furthermore, an inter-correlation level of 0.72 is observed between the two scales, underscoring the importance of assessing both aspects in non-clinical populations, although separate evaluations are also possible.

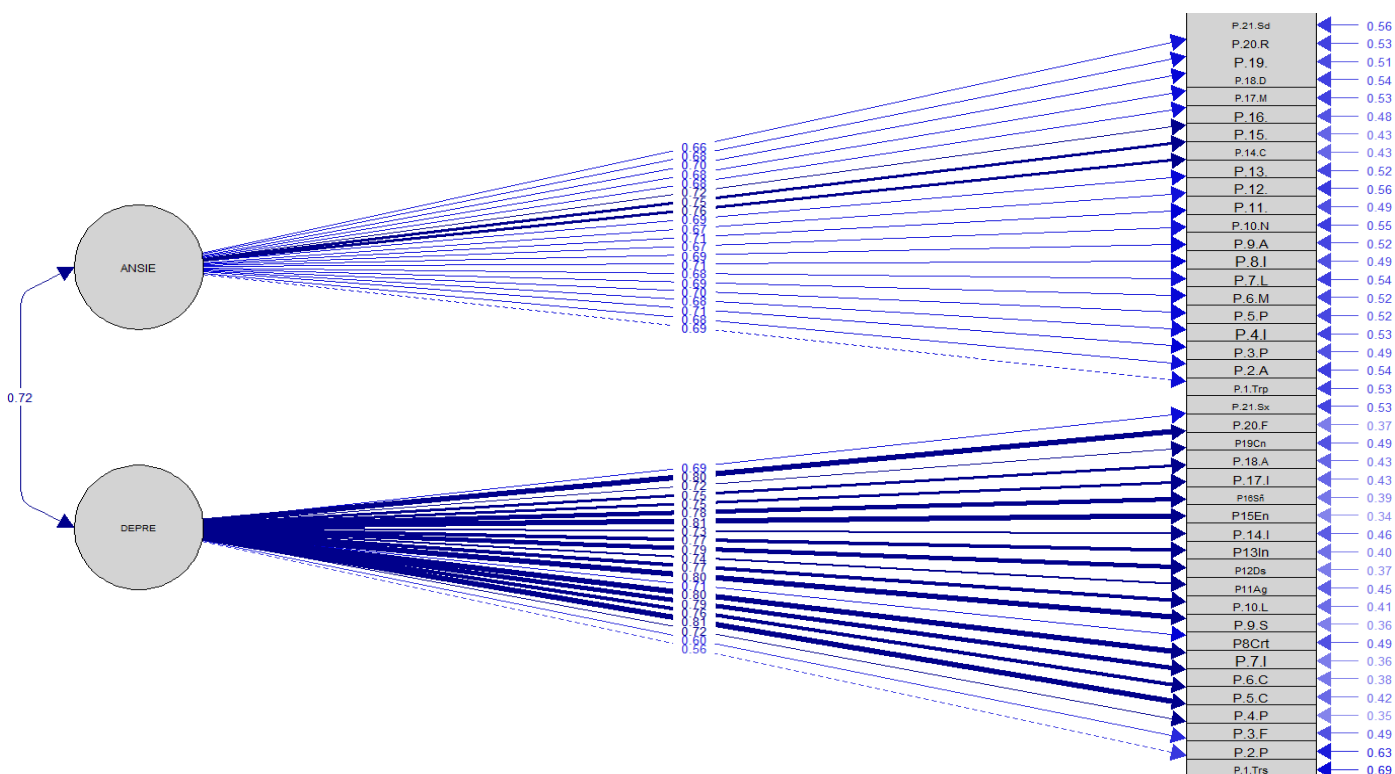
Table 2 presents the outcomes of the construct's internal consistency, revealing a high reliability for both depression and anxiety. This is evidenced by the Cronbach's α and McDonald's ω reliability coefficients, both of which exceed

0.950 in this study. Hence, depending on the circumstances, it is feasible to evaluate each disorder individually or collectively, as was done in this particular investigation.

It is important to note that the assessment of these constructs should be conducted by a psychologist who can interpret the results by summing the item scores and utilizing cut-off points. For anxiety, the minimum levels are as follows: minimal anxiety (0-7 points), mild anxiety (8-15 points), moderate anxiety (16-25 points), and severe anxiety (26-63 points). For depression, the minimum levels are: minimal depression (0-13 points), mild depression (14-19 points), moderate depression (20-28 points), and severe depression (29-63 points).

Figura 1

Path analysis of the standardized values for the factor loadings for the Beck anxiety and depression scales



Note. ASIE means Anxiety and DEPRE means depression. P means item or question.

Table 2

Internal consistency analysis of the Beck Anxiety and Depression Inventory in Kichwa language.

Factors	α de Cronbach	ω de McDonald
Depression (DEPRE)	0.961	0.964
Anxiety (ANSIE)	0.952	0.952

DISCUSSION

Hence, we can conclude that the translation of the Beck Anxiety and Depression Inventory into Kichwa with the Cañari dialect is a significant initiative that enhances access to psychological care for indigenous peoples in Ecuador. The application of the inventory among Kichwa-speaking adolescents from Cañar, El Tambo, and Suscal cantons involved the active participation of students who culturally identify with Kichwa as their mother tongue ($n=230$) as well as those who primarily identify with Spanish ($n=210$). Similar to adaptations made in languages with limited speakers and scarce textual resources in other countries (Abubakar et al., 2016), it was necessary to consult Kichwa and language experts to ensure the translation and interpretation processes preserved the meaning and reference of the original scale.

The scale has demonstrated satisfactory construct validity in terms of dimensionality and reliability, as evidenced by the exploratory factor analysis conducted among the two population groups. Consequently, it is recommended to offer the population under study the option to choose psychological assessment instruments in the language they primarily identify with. In this case, the Kichwa version has exhibited an even better fit across all the validated and reliable indices, while the Spanish version has shown levels comparable to those tested in other studies. The scale's validity aligns with Beck's original proposition, which aimed to measure anxiety (Beck et al., 1988) and depression (Beck et al., 1961) in children and adults.

When analyzing the results obtained in our study, it is notable to observe anxiety levels surpassing those reported in other studies. Several authors have indicated anxiety prevalence ranging from 10% to 20% (Ochando and Peris, 2016; Riordan and Singhal, 2018; Guerrero and Sanchez, 2019), figures lower than the 35% found within the analyzed Cañari population. This disparity underscores the significance of assessing these behaviors, as they often have severe repercussions on the population when associated with self-injurious behaviors and even suicide (PAHO, 2014; WHO, 2015).

Regarding the adaptation and validation of instruments in languages other than English, our study, similar to those conducted by Alansari (2006) and Batistelli and Marcassa (2014), focuses on this aspect. Encouragingly, both Alansari (2006) and Batistelli and Marcassa (2014) obtained reliability values above 0.90, indicating high internal consistency in the adapted instruments.

However, notable differences exist among these studies. While our approach targeted non-clinical populations, Alansari (2006) and Giannakou et al. (2013) included samples of university students and patients from a mental health center, respectively. Furthermore, Batistelli and Marcassa (2014) assessed the DASS-21 scale, which measures not only depression but also anxiety and stress, unlike the other studies that specifically focused on depression assessment.

In summary, although there are similarities in terms of adapting and validating instruments for assessing depression and anxiety in diverse cultural contexts, it is crucial to acknowledge the differences concerning the assessed languages, reported fit indices, and sample types. These differences emphasize the importance of considering the cultural and linguistic context when adapting and validating psychological assessment instruments to obtain more precise and meaningful results.

Limitations

The main limitation of our study is the size of the sample selected. This sample may not be completely representative of the total population, which limits the generalizability of our findings to a broader context. Another limitation to consider is the specificity of the population studied. Our study focused on adolescent students in basic general education and high school in the aforementioned cantons. This limits the applicability of our results to other populations, such as adults or people from different geographical contexts. In summary, although our study has provided valuable information on the adaptation and validation of depression and anxiety assessment instruments in the Kichwa language, it is important to take into account the limitations of the sample size, the specificity of the population studied, the translation of the items, the assumptions of the factor analysis, and the reliability assessment. These limitations highlight the need for future research to address these issues and expand the applicability of the instruments to different populations and contexts.

CONCLUSION

The adaptation and validation of the Beck Depression and Anxiety Inventory to the Kichwa language has provided promising results. The fit indices obtained indicate good validity of the instrument, supporting its usefulness and reliability for assessing depression and anxiety in non-clinical populations of bilingual Kichwa-speaking and Spanish-speaking adolescent students from Cañar, El Tambo and Suscal cantons. Cronbach's alpha and McDonald's omega reliability coefficients demonstrated high internal consistency of the scales, and a significant inter-correlation was found between them.

The results differ from other studies in terms of the prevalence of anxiety in the population studied, with a percentage of 35% that exceeds the findings reported in previous research. However, it is important to consider the limitations of the study, such as the size of the sample selected and the specificity of the population studied, which limits the generalizability of the results to other contexts and age groups.

Despite these limitations, the study has contributed to the field of cross-cultural psychological assessment by

adapting and validating the inventory in a language other than English, thus expanding its usefulness in different cultural and linguistic contexts. These findings support the importance of considering cultural and linguistic context when adapting and validating psychological assessment instruments.

In future research, it is recommended to expand the sample and consider other populations, as well as to conduct additional reliability analyses, such as temporal stability. In addition, it would be relevant to further explore the factors that contribute to the high prevalence of anxiety found in the population studied, as well as the possible implications and repercussions of these disorders on the health and well-being of bilingual Kichwa-speaking and Spanish-speaking adolescents.

BIBLIOGRAPHY

- Abubakar, A., Biry, R., Katana, K., Kabunda, B., Hassan, A., & Newton. (2016). Adaptación y Estructura Latente de la Versión Swahili del Inventario de Depresión de Beck-II en una Población con Baja Alfabetización en el Contexto del VIH. *PLoS One*, 11(6), 1-15. <https://doi.org/10.1371/journal.pone.0151030>
- Alansari, B. (2006). Internal consistency of an Arabic adaptation of the Beck Depression Inventory-II with college students in eighteen Arab countries. *Social Behavior and Personality: an international journal*, 34(4), 425-430. <https://doi.org/10.2224/sbp.2006.34.4.425>
- Argibay, J. (2006). Técnicas psicométricas. Cuestiones de validez y confiabilidad. *Subjetividad y Procesos Cognitivos*(8), 15-33. http://dspace.uces.edu.ar:8180/dspace/bitstream/handle/123456789/765/T%C3%A9cnicas_psicom%C3%A9tricas.pdf?sequence=1
- Arrieta, K., Díaz, S., & González, F. (2014). Síntomas de depresión y ansiedad en jóvenes universitarios: prevalencia y factores relacionados. *Rev Clin Med Fam*, 7(1), 14-22. <https://dx.doi.org/10.4321/S1699-695X2014000100003>
- Asociación Psiquiátrica Americana. (2018). DSM-5. Manual Diagnóstico y Estadístico de los Trastornos Mentales.
- Batistelli, R. & Marcassa, A. (2014). Adaptation and validation of the depression, anxiety and stress scale (DASS) to Brazilian Portuguese. *Journal of affective disorders*, 155, 104-109. <http://dx.doi.org/10.1016/j.jad.2013.10.031>
- Beck, A. T., Epstein, N., Brown, G., & Steer, R. (1988). An Inventory for Measuring Clinical Anxiety: Psychometric Properties. *Journal of Consulting and Clinical Psychology*, 56(6), 893-897.
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An Inventory for Measuring Depression. *Archives of General Psychiatry*, 4(6), 561-571. <https://doi.org/10.1001/archpsyc.1961.01710120031004>
- Cabrera-Tenecela, P. (2023). New organization of research designs. *South American Research Journal*, 3(1), 37-51. <https://www.sa-rj.net/index.php/sarj/article/view/37>
- Contreras, J., Hernández, L., & Ángel, M. (2015). Validez de constructo del Inventario de Depresión de Beck II para adolescentes. *Terapia Psicológica*, 33(3), 195-203. <https://scielo.conicyt.cl/pdf/terpsicol/v33n3/art04.pdf>
- Gaete, V. (2015). Desarrollo psicosocial del adolescente. *Revista Chilena de Pediatría*, 86(6), 436-443. <http://dx.doi.org/10.1016/j.rchipe.2015.07.005>
- Giannakou, M., Roussi, P., Kosmides, M., Kiosseoglou, G., Adamopoulou, A., & Garyfallos, G. (2013). Adaptation of the Beck Depression Inventory-II to Greek population. *Hellenic Journal of Psychology*, 10(2), 120-146.
- Gómez, C., Bohórquez, A., Tamayo, N., Rondón, M., & Bautistac, N. (2016). Trastornos depresivos y de ansiedad y factores asociados en la población de adolescentes colombianos. Encuesta Nacional de Salud Mental 2015. *Rev Colomb Psiquiat.*, 45(51), 50-57. <http://www.scielo.org.co/pdf/rcp/v45s1/v45s1a08.pdf>
- Guerrero, F., & Sánchez, P. (2019). Trastornos por ansiedad y trastorno obsesivo-compulsivo en la infancia y la adolescencia. En M. Hidalgo, y P. Rodríguez (Eds), *Curso de psiquiatría del niño y del adolescente para pediatras* (pp. 135-162). Sociedad Española de Medicina de la Adolescencia. <https://www.cursopsiquiatriasema.com/tema-6-trastornos-por-ansiedad-y-trastorno-obsesivo-compulsivo-en-la-infancia-y-la-adolescencia/>
- Hidalgo, M., & Ceñal, M. (2014). Hablemos de... adolescencia. Aspectos físicos, psicológicos y sociales. *An Pediatr Contin.*, 12(1), 42-46.
- Huarcaya, J. (2020). Consideraciones sobre la salud mental en la pandemia de COVID-19. *Rev. perú. med. exp. salud pública*, 37(2), 327-334. <http://dx.doi.org/10.17843/rpmesp.2020.372.5419>
- Melipillán Araneda, R., Cova Solar, F., Rincón González, P., & Valdivia Peralta, M. (2008). Propiedades Psicométricas del Inventario de Depresión de Beck-II en Adolescentes Chilenos. *Terapia psicológica*, 26(1), 59-69. <https://doi.org/10.4067/S0718-48082008000100005>
- Ochando, G., & Peris, S. (2016). Actualización de la ansiedad en la edad pediátrica. *Pediatría Integral*, 21(1), 39-45. <https://www.adolescenciasema.org/ficheros/PEDIATRIA%20INTEGRAL/Ansiedad%20en%20la%20edad%20pediatrica.pdf>
- Organización Panamericana de la Salud. (2014). *La OPS/OMS llama a que se preste mayor atención a la salud de los adolescentes para evitar muertes y mejorar su salud*. http://www.paho.org/hq/index.php?option=com_content&view=article&id=9579%3A2014-pahowho-adolescents-health-prevent-deaths-improve-health&Itemid=1926&lang=es
- Ospina, F., Hinesrosa, M., Paredes, M., Gasmán, Y., & Granados, C. (2011). Síntomas de ansiedad y depresión en adolescentes escolarizados de 10 a 17 años en Chía, Colombia. *Rev. salud pública*, 13(6), 908-920. <http://www.scielo.org.co/pdf/rsap/v13n6/v13n6a04.pdf>
- Riordan, D., & Singhal, D. (2018). Anxiety-related disorders: An overview. *J Paediatr Child Health*, 54(10), 1104-1109. <https://doi.org/10.1111/jpc.14167>
- Rodríguez, E., & Farfán, D. (2015). Propiedades Psicométricas del Inventario de Depresión de Beck en estudiantes de 5to año de secundaria de Huancayo, 2013. *Revista de Investigación Universitaria*, 4(2), 71-78. <http://dx.doi.org/10.17162/riu.v4i2.688>
- Sánchez, P., & Cohen, D. (2020). Ansiedad y depresión en niños y adolescentes. *Revista de Formación Continuada de la Sociedad Española de Medicina de la Adolescencia*, 8(1), 16-27. <https://www.adolescenciasema.org/ficheros/REVISTA%20ADOLESCERE/vol8num1-2020/2%20Tema%20de%20revision%20-%20Ansiedad%20y%20depresion%20en%20ninos%20y%20adolescentes.pdf>
- Rosell, Y. (2012). Lavaan: An R Package for Structural Equation Modeling | Journal of Statistical Software. *Journal of Statistical Software*, 48(2), 1-36. <https://doi.org/10.18637/jss.v048.i02>

Annex

Questionnaire in Kichwa language

Response options:

DEPRESSION UNKUYMANTA RIKUCHIKUNA

- 1.- Shuk
- 2.- Ishkay
- 3.- Kimsa
- 4.- Chusku
- 5.- Pichka
- 6.- Sukta
- 7.- Kanchis
- 8.- Pusak
- 9.- Iskun
- 10.- Chunka
- 11.- Chunka Shuk
- 12.- Chunka Ishkay.
- 13.- Chunka kimsa
- 14.- Chunka Chusku
- 15.- Chunka Pishka
- 16.- Chunka Sukta
- 17.- Chunka Kanchis.
- 18.- Chunka Pusak
- 19.- Chunka Iskun
- 20.- ish kay Chunka
- 21.- Ishkay Chunka Shuk

ANXIETY MANCHAY UNKUY RIKUCHIKKUNA

1. Sinchiyashka, mana sayti
2. Piña
3. Chanka Chukchuywan
4. Aychata umata mana samachiy ushay
- 5.- Ashtawan llaki tukuna manchaywan
- 6.- Urmarik shinalla uma muyuywan
7. Yurak shunku sinchi utka kuyurikunawan
- 8.- Yapa shuktakyarik
9. - Pinkaywan manchaywan
- 10.- Chukchuywan
- 11.- Yuyay chinkarikuk shina
- 12 - Makikuna chukchuywan
- 13.- Mana kasilla mancharishkalla.
- 14.- Yuyayta chinkachik shina yuyaywan
- 15.- Chukarinalla yuyaywan
- 16.- Wañuna manchaywan
17. -Manchaywan
- 18.- Wiksa wakllirishkawan
19. Yuyay chinkariyan
- 20.-Ñawipi suktak kuskakunapi rupariyan
- 21.-Chiri ashtawanpash rupachik humpiwan

In the case of anxiety, the levels are minimum (0-7 points), mild (8-15 points), moderate (16 to 25 points) and severe (26-63 points). While, in the case of depression it is minimum depression (0-13 points), mild depression (14-19), moderate depression (20-28) and severe depression (29-63).