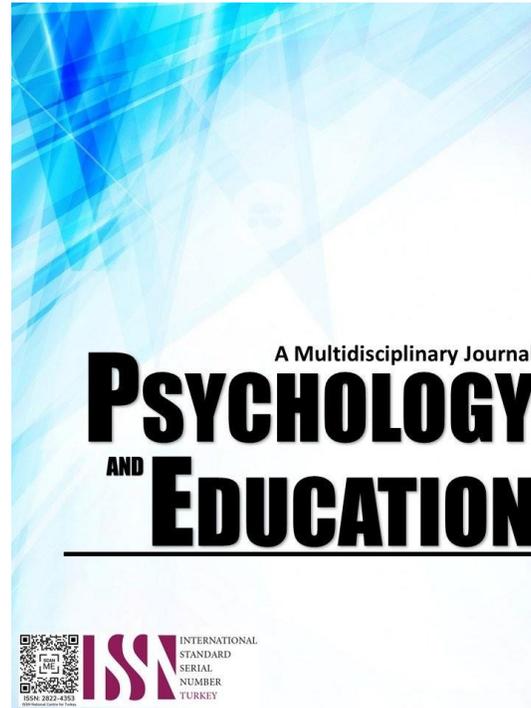


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The Mediating Effect of Belongingness on Self-Esteem and Positive Mental Health of College Students

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Abstract

Mental health crises among college students have been reported to be increasing exponentially year after year. This non-experimental quantitative study investigated the correlates of positive mental health of college students to better explore and understand the positive mental health among students, specifically in the context of Region XI, Philippines. Specifically, the study considered the mediating role of belongingness in the relationship between self-esteem and positive mental health. The data were gathered through online surveys using adapted questionnaires to measure the constructs. The 431 respondents enrolled from various universities and colleges within the region were identified using stratified random sampling. The data were analyzed using Jamovi 2.0 for descriptive statistical analyses and SmartPLS 4.0 software to assess the hypothesized mediation model using bootstrapping. The findings revealed that college students have moderate levels of self-esteem, belongingness, and positive mental health. Further, the indices for direct effects suggest strong links between these variables, leading to a significant partial mediation of belongingness on self-esteem and positive mental health. Recommendations and implications of the research were provided in the paper.

Keywords: *belongingness, positive mental health, self-esteem, mediation analysis, Philippines*

Introduction

Positive mental health (PMH) is a condition characterized by the World Health Organisation (WHO, 2018) as "a state of well-being in which an individual recognizes their own capabilities, can effectively manage the typical pressures of life, can engage in productive and successful work, and can make meaningful contributions to their community." Further, Self-esteem, optimism, a sense of mastery and coherence, fulfilling personal connections, and resilience, which refers to the capacity to handle challenges and confront stressors, encompass several dimensions of positive mental health (PMH) (Huppert, 2009; Lehtinen, 2008; & Vaillant, 2012).

In the context of college students, numerous research studies have emphasized the significant rise of mental health problems such as depression, loneliness, stress, psychological distress, and anxiety (Association of Colleges, 2017; Bayram & Bilgel, 2008; Campbell et al., 2022; Gibbons et al., 2019; Hughes & Spanner, 2019; Macaskill, 2013; Sivertsen et al., 2019). Maung et al. (2023) reported various factors that influence mental health, including living region, residence, academic year, and parental income, were found to have a notable impact. Maung et al. (2023) highlighted the necessity for enhanced mental health education and assistance on campus. However, only a minority of those students with experiences related to mental health issues were seeking and undergoing treatment (Macaskill, 2013).

In the Philippines, it has also been reported that mental health-related issues have been growing exponentially year after year and are common among youths (Cleofas, 2019; Serrano & Reyes, 2022). Bautista and Manuel (2020) examined students' psychological well-being amidst the pandemic and found that the communal quarantine exacerbated the problem. Moreover, Alejandria-Gonzalez et al. (2022) pinpointed sociocultural elements, including household dynamics and academic pressure, as significant factors influencing the mental health challenges of Filipino youths.

Belongingness has been observed to mediate the connection between self-esteem and positive mental health in different situations. Arslan (2021) and Begen and Turner-Cobb (2015) discovered that a sense of belonging in educational and social environments substantially impacts mental health and overall well-being. Barr et al. (2016) provided additional evidence by demonstrating that the sense of belonging within the transgender community played a role in connecting the strength of transgender identification to overall well-being. Regardless of whether or not one's worldview is confirmed, Gailliot and Baumeister (2007) highlighted the specific impact that belongingness has on one's sense of self-esteem. Based on these findings, it appears that a sense of belonging is essential in the relationship between self-esteem and mental health that is functioning correctly.

Several studies have conducted in-depth investigations into various aspects of positive mental health (PMH). These investigations have focused on various topics, such as the efficacy of interventions (Teixeira et al., 2019b), the occupational outlook for young people (Hall et al., 2015), and identifying and evaluating factors that contribute to PMH. These factors include well-being, life satisfaction, personal well-being, and flourishing (Singh & Junnarkar, 2015). In addition, studies have investigated the complex connections between PMH and several characteristics, including gender, perceived family economy, self-appearance satisfaction, physical activity, sleep quality,

stress, social trust, motivation to learn, and support from teachers and parents (C. Guo et al., 2018). Furthermore, research on the relationship between need satisfaction, character traits, benefit discovery, engagement, and nature involvement and their ability to predict positive mental health has substantially contributed to the existing body of knowledge (Howell et al., 2013). Despite these commendable efforts, a noticeable void exists in scholarly discourse concerning the links between belongingness, self-esteem, and positive mental health, with a specific dearth of studies focusing on the college student demographic. Consequently, this research endeavors to address this gap by examining the mediating effect of belongingness on the relationship between self-esteem and positive mental health among college students in Region XI, Philippines.

The value of this research in the field of psychology and education rests in its comprehensive examination of the connection between belongingness, self-esteem, and positive mental health (PMH) among college students in Region XI, Philippines. By focusing on college students in Region XI, the study takes into account the cultural and contextual elements that may influence the well-being of this demographic. The findings from this research could give valuable insights into creating specific interventions and support systems for college students, addressing the unique issues they confront regarding self-esteem, belongingness, and overall mental health. This study not only increases our understanding of the psychological processes at play in the college context but also has practical implications for educators, counselors, and policymakers working to enhance the well-being of students in the Philippines.

Research Questions

1. What is the status of students' belongingness, self-esteem, and positive mental health?
2. What is the significance of the mediating effect of belongingness on the relationship between self-esteem and positive mental health?

Research Methodology

The current study employed a quantitative research methodology, specifically the non-experimental correlational approach, to investigate the relationship between variables. As described by Creswell & Creswell (2018), the quantitative research strategy involves the methodical collection, analysis, and interpretation of data and information, typically obtained through experimental investigations or surveys. The current study utilized mediation analysis to investigate the mediating function of belongingness (B) in the relationship between positive mental health (PMH) and self-esteem (SE) among college students.

The purpose of conducting a mediation analysis was to investigate and understand the impact that a mediator variable has on the connection between variable X and variable Y (Cohen et al., 2003). Furthermore, belongingness serves as a mediator, acting as an intermediate between an outcome and independent causal elements, such as self-esteem, which is a positive feature of the mental well-being of an individual. The purpose of this experiment is to reproduce the manner in which a variable Z (B) influences Y (PMH) in response to X (SE), as described by Baron and Kenny (1986). MacKinnon (2008) emphasized that the mediator variable functions as a middleman between variables X and Y, giving light to their connection rather than creating a straight cause-and-effect relationship between the two variables. Taking into consideration the circumstances of this investigation, it is essential to note that belongingness (B) interferes with the direct connection that exists between positive mental health (PMH) and self-esteem (SE).

The research instruments used to measure the variables were adopted from Rosenberg (1965) for the self-esteem construct, Malone G. et al. (2012) for the belongingness construct, and Lukat et al. (2016) for the positive mental health. The questionnaires were in the form of a 5-point Likert scale and were primarily utilized in collecting the data through online surveys (Google Forms) among tertiary students enrolled in various programs across different universities and colleges in Region XI, Philippines. Stratified random sampling was used in selecting the respondent. This technique involves chosen groups from one population based on classification and random selection. Stratified sampling is a probability sampling method that is implemented in sample surveys, per Parsons (2017). The constituents of the target population are partitioned into distinct strata or groups, with elements within each stratum possessing comparable survey-relevant attributes. Stratification is additionally employed to enhance the effectiveness of a sample design with respect to survey costs and estimate accuracy.

A priori power analysis using G*Power 3.1.9.6 (Faul et al., 2007) determined that a sample size of $N = 89$ is required to achieve 80% power for detecting a medium effect ($f^2 = 0.15$) at a significance level of 5% in testing the hypothesis about the role of belongingness in mediating the relationship between self-esteem and positive mental health among college students. The computed noncentrality parameter was 3.6537652 with two predictors in the model, critical t was 1.9879342, and degrees of freedom (Df) were 86. Our actual sample size of $n = 431$ exceeds this threshold, enhancing the robustness of our study in investigating the complex links between the mentioned variables/constructs.

Pilot testing and expert validation were performed on these instruments. In addition, Cronbach's alpha was utilized to determine the instruments' reliability, Average Variance Extracted (AVE) was employed to evaluate convergent validity, and the Hetero-Monotrait Ratio (HTMT) was implemented to assess discriminant validity. Additionally, descriptive statistics, including the mean and standard deviation, were utilized in conjunction with Jamovi software version 2.0 to characterize the status of positive mental health,

belongingness, and self-esteem among college students. The bootstrapping standardized algorithm was utilized in conjunction with SmarPLS 4.0 software to evaluate the hypothesized mediation model, which incorporated the total, direct, and indirect effects of the model and the impact sizes of each path.

Results and Discussion

Prior to conducting the mediation analysis, the researchers first secured the reliability and validity of the measurement model. According to Hair et al. (2019), it is critical to first ascertain the measurement model's validity and reliability in performing mediation analysis. As shown in Table 1, the reliability of the constructs is deemed acceptable, as manifested by Cronbach's alpha values ranging from 0.771 - 0.909. Cronbach's alpha is a widely used measure of reliability in psychometric tests, with a value of 0.70 or higher generally considered acceptable (Kılıç, 2016; Oviedo, 2005).

Also shown in the table is the average variance extracted (AVE), which was used to measure the convergent validity of the constructs. The Average Variance Extracted (AVE) is a measure used in construct validation in structural equation models, indicating the amount of variance captured by a construct in relation to measurement error (Santos & Cirillo, 2021). It is a crucial indicator in exploratory factor analysis, aiding model selection (Raykov, 2020). The AVE is particularly useful in formative structural models, which can be improved using adaptive linear regression (Santos & Cirillo, 2021). As manifested in the table, all constructs met the acceptable indices for AVE, which should be ≥ 0.50 . An AVE value of 0.50 or above signifies that the construct accounts for 50 percent or more of the variability in the construct's elements (Fornell & Larcker, 1981; Hair et al., 2019).

The heterotrait-monotrait ratio (HTMT) was also employed to assess the discriminant validity of the constructs. HTMT is a concept used in the field of psychometrics, which refers to the ratio of the correlation between two different traits to the average correlation of the same trait. It is used to assess the discriminant validity of a measurement instrument, with a higher ratio indicating more substantial discriminant validity (Sue, 2015). As illustrated in the table below, all constructs have HTMT indices of less than 0.85, indicating that they have good discriminant validity (Henseler et al., 2015). Furthermore, some items from the scales were considered for deletion for not meeting the acceptable criteria for validity and reliability measures.

Table 1. Construct Reliability and Validity of the Measurement Model

Variables	Cronbach's alpha	Composite reliability (rho_a)	Average variance extracted (AVE)
Belongingness	0.909	0.918	0.629
Positive Mental Health	0.909	0.912	0.529
Self-Esteem	0.771	0.775	0.457
<i>Discriminant Validity - Heterotrait-monotrait ratio (HTMT)</i>			
Positive Mental Health <-> Belongingness	0.631		
Self-Esteem <-> Belongingness	0.662		
Self-Esteem <-> Positive Mental Health	0.822		

Table 2 presents an overview of the status of self-esteem, belongingness, and positive mental health among university students. The sample, comprising 431 respondents, exhibited a mean self-esteem score of 2.61 (SD = 0.494), indicating a moderate level of self-esteem. Prominent factors contributing to college students' self-esteem are the fulfillment of relatedness and autonomy demands, as described by Ümmet (2015), and the negative consequences of a disconnect between one's physical and virtual selves, as emphasized by Parimal (2020). Family influences, which include background and relations, were additionally recognized by Fang et al. (2023) as having an impact. Further, Yu et al. (2012) highlighted the negative correlation between self-esteem and mental health, arguing in favor of therapies that boost self-esteem to benefit mental well-being.

The variable of belongingness yielded a mean score of 2.85 (SD = 1.253), indicating a moderate sense of social connectedness. Existing research, notably Gopalan and Brady (2019), suggests that college students generally report a moderate level of belongingness, with variations contingent upon institutional and student characteristics. Environmental factors, including the college environment, residence hall climate, and campus racial climate, were identified as influential by Johnson et al. (2007). Notably, the COVID-19 pandemic was found to have a cohort effect, increasing belongingness among college students (Graf & Bolling, 2022).

Analysis of positive mental health revealed a mean score of 2.94 (SD = 0.685), indicating a moderate level of overall mental well-being. Suicidal conduct and academic impairment are both diminished in kids with a moderate degree of positive mental health, according to research by Keyes et al. (2012). Beasley et al. (2020) identified stigma, self-efficacy, and mental health literacy as critical factors, with increasing self-efficacy being connected with more significant stigma reduction and improved mental health literacy. Notwithstanding these variables, the incidence of mental health issues among collegiate populations persists significantly, with variations observed among subgroups and campuses (Eisenberg et al., 2013). In order to mitigate this issue effectively, mental health education must adopt a positive psychology approach (Jian-Qiang, 2010).

Table 2. Status of college students' self-esteem, belongingness, and positive mental health.

Variables	N	Mean	SD	Description
Self-Esteem	431	2.61	0.494	Moderate
Belongingness	431	2.85	1.253	Moderate
Positive Mental Health	431	2.94	0.685	Moderate

Figure 1 summarizes the outcomes of the mediation analysis conducted in SmartPLS 3.0, employing bootstrapping, to examine the relationships among belongingness (B), self-esteem (SE), and positive mental health (PMH). Direct effects are first considered, revealing statistically significant associations. Specifically, the path coefficient (B) from belongingness to positive mental health is 0.277 ($f^2 = 0.110$, $t = 5.725$, $p = 0.000$), supporting Hypothesis 1. Similarly, the path coefficient from self-esteem to belongingness ($\beta = 0.568$, $f^2 = 0.476$, $t = 15.931$, $p = 0.000$) and from self-esteem to positive mental health ($\beta = 0.531$, $f^2 = 0.403$, $t = 11.889$, $p = 0.000$) both attain statistical significance, thereby confirming Hypotheses 2 and 3, respectively.

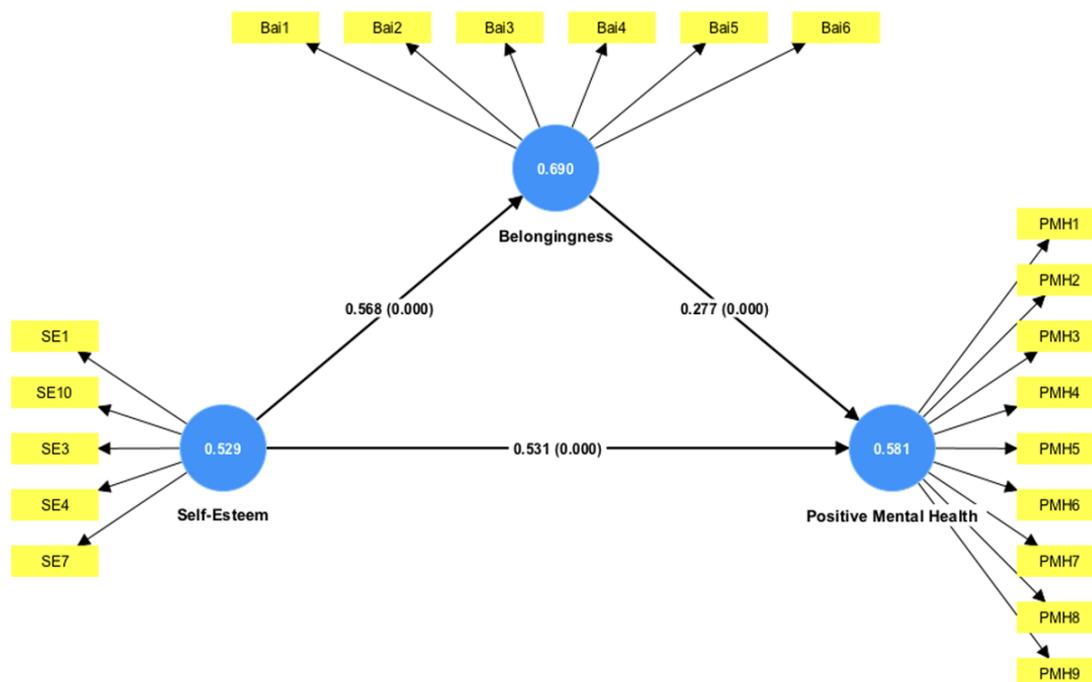


Figure 1. Mediators Impact-Results using SmartPLS 3.0

Regarding the indirect effect, Hypothesis 4 is supported by the significant path coefficient of 0.157 (T statistics = 5.195, $p = 0.000$) along the path from self-esteem to belongingness to positive mental health. Thus, a sense of belongingness partially mediates the relationship between self-esteem and positive mental health. The research outcomes offer empirical validation for the theoretical framework, incorporating the contributions of Maslow (1943) and Walberg (1981). Maslow's theory of human motivation places significant emphasis on fulfilling fundamental needs, with particular attention paid to the importance of belongingness as a psychological need.

The examination of total effects extends these findings, with the total effect of self-esteem on positive mental health (via belongingness)

being 0.688 (T statistics = 23.018, $p = 0.000$). This signifies a substantial combined impact, supporting the notion of partial mediation in the relationship. This is consistent with Maslow's hierarchy of needs, which states that people strive to fulfill their most fundamental needs first, with a sense of belongingness fundamental to their overall well-being. The overall model demonstrates a commendable explanatory power, as evidenced by an R-squared of 0.526 and an adjusted R-squared of 0.523.

The relationship seen in the research backs up the theoretical framework's focus on how belongingness and self-esteem affect each other. According to Maslow, belongingness is a social need that makes it possible for people to get approval and affirmation, which helps them build self-esteem. The study's real-world data supports the idea that acceptance and value from social interactions raise self-esteem by making people feel like they are essential and valuable in their communities.

The study also fits with Walberg's (1981) theory on educational productivity, which says that people, especially college students, are affected by outside factors. The results show that psychological traits and the psychological environment around someone are essential factors in maintaining positive mental health. The study's focus on self-esteem, belongingness, and positive mental health is similar to Walberg's research on how psychological factors affect mental, behavioral, and cognitive outcomes.

Table 3. Direct effects, indirect effects, and total effects of the variables.

Hypothesis	Path Coefficient (B)	Sample Mean	Standard deviation (STDEV)	T statistics	f^2	P values	Remark
a. Direct Effects							
B -> PMH	0.277	0.278	0.048	5.725	0.110	0.000	<i>H₁ is supported</i>
SE -> B	0.568	0.570	0.036	15.931	0.476	0.000	<i>H₂ is supported</i>
SE -> PMH	0.531	0.532	0.045	11.889	0.403	0.000	<i>H₃ is supported</i>
b. Indirect Effect							
SE -> B -> PMH	0.157	0.158	0.030	5.195		0.000	<i>H₄ is supported</i>
c. Total Effect							
SE -> B -> PMH	0.688	0.691	0.030	23.018		0.000	<i>Partial Mediation</i>
$R^2 = 0.526$							
$Adjusted R^2 = 0.523$							

Legend: B (belongingness), PMH (Positive Mental Health), SE (Self-Esteem)

Conclusion

In light of the findings of the study, it can be inferred that the constructs- belongingness, self-esteem, and positive mental showed a substantial degree of validity and reliability. Further, the respondents demonstrate moderate levels of these constructs. This suggests that there's still much room for improvement among college students in terms of these constructs. Moreover, their average levels of sense of belongingness, self-esteem, and positive mental health could have been brought about by several factors such as academic stress (Austria-Cruz, 2019), household dynamics and academic pressure (Alejandria-Gonzalez et al., 2022).

The findings of this research also strongly supports the hypothesized links between belongingness, self-esteem, and positive mental health. Specifically, the direct effects, indirect effects, and total effects were all found significant thus supporting the four hypotheses of the study. The explanatory power of the whole model was substantial, as evidenced by the R-squared and adjusted R-squared values. This underscores the significance of the psychological constructs of the study-belongingness and self-esteem in shaping and predicting students' positive mental health. Furthermore, belongingness was found to partially mediate the relationship between self-esteem and positive mental health. It can be inferred that belongingness play a crucial role in translating the predictive power of self-esteem on the positive mental health of college students.

The aforementioned empirical findings and conclusions contribute significantly to the extant body of knowledge concerning psychological well-being by illuminating the intricate interplay between positive mental health, self-esteem, and belongingness. Further, the insights gained from this research may inform interventions and strategies aimed at enhancing the mental health of individuals by addressing the interconnected dynamics of belongingness and self-esteem. Additionally, future studies may explore the effectiveness of specific interventions, such as group-based programs fostering a sense of community and individualized approaches to bolster self-esteem, to refine further evidence-based practices for promoting psychological well-being.

Despite the valuable contributions of this research, several limitations warrant consideration. Firstly, the study relied on self-reported measures, introducing the possibility of social desirability bias and response inaccuracies. Furthermore, the cross-sectional design makes it harder to establish causal relationships, so it is essential to be careful when assuming that the observed associations are caused by something. Also, the results may not be applicable to all situations because the sample was mostly made up of people from a particular group. Future research should look into how the results change in different groups. Lastly, using a single measurement method for all variables might not fully capture the complexity of constructs like belongingness, self-esteem, and positive mental

health. This suggests that future studies should use a more thorough assessment method.

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