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ORIGINAL RESEARCH

Correlating Demographics and Well-being among Rural College Students in the Philippines

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Abstract

Background: College students' well-being is influenced by various factors such as age, gender, and socio-economic levels, but research findings on their correlation are inconsistent.
Purpose: This study aimed to investigate the relationship between age, gender, socio-economic levels, and well-being among college students in private and state colleges in Cebu and Bohol, Philippines.
Methods: The study employed a cross-sectional design and recruited 178 college students using convenient sampling. The modified Positive Emotion, Engagement, Relationship, Meaning, and Accomplishment (PERMA) profiler questionnaire was used to measure well-being. Data were analyzed using SPSS Statistics 27, and Kendall's tau and point-biserial correlation coefficient were used for data analysis.
Results: The overall PERMA score of the respondents (7.05±1.60) indicated high functioning. The analyses did not reveal a significant relationship between age and gender with well-being, but a significant association was found between socio-economic levels and the overall PERMA scores (p<0.05).
Conclusion: The study's findings suggest socio-economic levels significantly impact college students' well-being. Therefore, interventions and policies targeting socio-economic factors may effectively promote well-being among college students.

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1. Introduction

Well-being is a crucial indicator for individuals as it reflects their overall satisfaction with their lives and encompasses various factors such as their relationships, positive emotions, resilience, and realization of their potential (Centers for Disease Control and Prevention, 2018; Navarro-Carrillo et al., 2020). Policymakers need to monitor well-being as many living condition indicators do not capture individuals' subjective experiences of their lives. Additionally, global assessments of social determinants, such as age, gender, and socio-economic status, are also integral to understanding well-being (Billote et al., 2022; Villarino et al., 2023).

Research has shown that age and gender are associated with well-being, depending on the measure utilized (Biermann et al., 2022; Farwa et al., 2019). The distribution of well-being by age follows a U-shaped curve, with higher levels of well-being reported by younger and older adults than middle-aged adults (Farwa et al., 2019; Siedlecki et al., 2014; Xing & Huang, 2014). Gender differences in well-being vary with age and time, with men and women exhibiting similar levels of well-being in general (Navarro-Carrillo et al., 2020).

Socio-economic status is closely linked to well-being (Bernard et al., 2022; Montano, 2021), although research on the correlation between the two has produced mixed results (Chirwa, 2020; Navarro-Carrillo et al., 2020; Vera-Villarroel et al., 2015). While the connection between socio-economic status and well-being tends to be stronger for individuals with lower economic levels, research has also discovered effects for those with higher economic status (Centers for Disease Control and Prevention, 2018). Unemployment has been found to have a negative impact on both short- and long-term well-being, while paid employment is essential for an individual's well-being as it provides direct access to resources and fosters happiness, meaning, and purpose (Farwa et al., 2019).

Examining the correlation between age, gender, socio-economic status, and well-being is crucial for understanding health disparities, identifying risk factors, tailoring interventions, and advocating for policy changes (Ferreira, 2020; Javier et al., 2014; Montano, 2021; Villarino et al., 2021). By studying how different demographic factors impact the well-being, policymakers and healthcare professionals can better address the health needs of specific populations and work towards promoting healthier lifestyles and addressing structural inequalities (Piao et al., 2020).

While previous studies (Biermann et al., 2022; Matud et al., 2019; Nicola et al., 2020; Vera-Villarroel et al., 2015; Yang et al., 2021) have investigated the relationship between age, gender, and socio-economic status with psychological well-being and health-related factors in the general population, this study' focus is on college students, a unique and understudied population (Dalky & Gharaibeh, 2019; Hasan & Bao, 2020; Villarino, 2023). College students face unique stressors and challenges that may impact their well-being differently from the general population. Additionally, this study used the modified Positive Emotion, Engagement, Relationships, Meaning, and Accomplishments (PERMA) profiler questionnaire, which has not been widely used in previous studies. Therefore, this study's contribution is significant as it provides valuable insight into how age, gender, and socio-economic status impact the well-being of college students in rural areas of Cebu and Bohol, Philippines. Accordingly, this study aimed to investigate a correlation between age, gender, socio-economic levels, and well-being among rural college students in Cebu and Bohol, Philippines.

2. Methods

2.1 Research design

This study employed a cross-sectional research design to gather data on the socio-demographic profiles and well-being of respondents based on the PERMA construct. The study utilized a rating scale with 21 items to measure well-being, including positive emotion, engagement, relationships, meaning, and accomplishments.

2.2 Setting and samples

The study was conducted in May 2021 among college students enrolled in a state and private college in Cebu and Bohol, Philippines, for the second semester of the academic year 2020-2021. The study excluded fourth-year students on OJT (on-the-job training) and those with recognized mental health or behavioral issues. The study's sample size was determined using G*Power 3.1.9.7, setting to Cohen's medium effect size of 0.5, significance level of 0.05, and statistical power of 0.80 (Edmonds & Kennedy, 2017). Running this analysis, the achieved power is 0.83, which indicates that the sample size of 178 is sufficient to detect a medium effect size in a cross-sectional study. A convenient sampling method was used to recruit respondents, given the limitations caused by the pandemic. The study faced several challenges in selecting participant institutions due to the stringent health and governmental protocols implemented by the Inter-Agency Task Force (IATF). To address these issues, the affiliated institutions were chosen as the locale of the study, ensuring a secure and efficient way of gathering data in a Virtual Learning Environment (VLE).

2.3 Measurement and data collection

The study utilized the modified PERMA profiler questionnaire developed by Seligman and Ungar (2016) to measure the respondents' well-being. This instrument comprised of 21 items: 6 items each for positive emotion and engagement, and three items each for relationships, meaning, and accomplishments. The instrument underwent forward and backward translation for this study to ensure the questionnaire's reliability and validity among the target population. The study's reliability was assessed using Cronbach's alpha values ranging from 0.60 to 0.95 for the primary PERMA factors. The translated PERMA instrument test-retest reliability results indicate high levels of consistency for all five dimensions. The modified PERMA Profiler questionnaire demonstrates high concept validity, factorial and convergent validity, adequate reliability, and the first signs of measurement invariance of sex and nationality (Wammerl et al., 2019). The scoring procedure was anchored on PERMA (Table 1), and the midpoint of the 0-10 scale was around 6.5-7.5, based on validation studies (Butler & Kern, 2016; Seligman & Ungar, 2016).

Table 1. Scoring range for the PERMA questionnaire

Score range	Verbal description	Interpretation
9.00–10.00	Very high functioning (VHF)	Respondents' well-being is at a very high level.
8.00–8.99	High functioning (HF)	Respondents' well-being is at a high level.
6.50–7.99	Normal functioning (NF)	Respondents' well-being is normal.
5.00–6.49	Suboptimal functioning (SF)	Respondents' well-being is below the optimal (best possible) level.
0.00–4.99	Languishing (L)	Respondents' well-being is failing to make progress.

Demographic information, such as age, gender, and socio-economic status, was gathered from the participants in this study. To determine the socio-economic levels of the respondents, data from the 2018 Family and Income Expenditure Survey conducted by the Philippine Statistics Authority were utilized (Philippine Statistics Authority, 2018). The range of socio-economic levels of the participants is presented in Table 2.

Table 2. Range for the socio-economic levels of the respondents

Range	Income cluster	Per capita income	Monthly income (for a family of 5)
13-14	Rich	At least 20 times the poverty line	₱241,640 and above
11-12	High income	12 and 20 times the poverty line	₱144,984 and ₱241,640
9-10	Upper middle income	At least equal to 7 and 12 times the poverty line	₱84,574 and ₱144,984
7 – 8	Middle	4 and 7 times the poverty line	₱48,328 and ₱84,574
5-6	Lower middle income	2 and 4 times the poverty line	₱24,164 and ₱48,328
3-4	Low income	Between the poverty line	₱12,082 and ₱24,164
0-2	Poor	Less than the official poverty threshold	Less than ₱12,082

GoogleForm®(https://docs.google.com/forms/d/e/1FAIpQLSceCfHjw_m7KKx3IOti5l4c2VgHeukGX1knXBQ9g23YTiURRQ/viewform) was used to create the online instrument. After receiving the completed questionnaires, the lead researcher examined the responses for completeness and accuracy.

2.4 Data analysis

The study analyzed the socio-demographic profiles of the respondents, including age, gender, and socio-economic levels, and presented the data as frequencies and percentages. The well-being scores for positive emotion, engagement, relationships, meaning, and accomplishments were calculated using weighted means with standard deviations. Kendall's tau was used in terms of the PERMA construct to measure the relationship between age and socio-economic levels with well-being scores. The point-biserial correlation coefficient was utilized to determine the association between gender and well-being. The significance level for all relationship tests was set at $\alpha=0.05$. All statistical analyses were performed using SPSS Statistics 27.

2.5 Ethical considerations

The study was granted ethical approval by the College Research Ethics Committee (UREC) of the Cebu Technological College with a reference number: 001-2021. The research procedures, informed consent forms, and data collection instruments complied with ethical standards. Before participating in the study, the respondents were informed about the study's flow and duration and provided signed informed consent forms. After the research, the respondents received a certificate of participation.

3. Results

3.1 Socio-demographic profile of the respondents

As shown in Table 3, most of the respondents were 20-21 years old. The majority were females (76.40%) and belonged to the 5-6 socio-economic level (43.82%), indicating that they belonged to the lower middle-income group.

Table 3. Socio-demographic profile of the respondents (n=178)

Profile	Frequency	Percentage (%)
Age		
23 and above	16	8.99
20-21 years old	124	69.66
18 and below	38	21.35
Gender		
Female	136	76.40
Male	42	23.60
Socio-economic Levels		
13-14	0	0.00
11-12	0	0.00
9 – 10	10	5.62
7 – 8	50	28.09
5 – 6	78	43.82
3 – 4	21	11.80
1 – 2	19	10.67

3.2 PERMA scores of the respondents

The results of the PERMA mean scores of the respondents indicate that positive emotion (7.25±1.85), engagement (6.92±1.42), relationships (7.12±1.71), meaning (7.41±1.84), accomplishments (7.20±1.60), and overall PERMA (7.05±1.60) got an overall description of high functioning (Table 4).

Table 4. The respondents' PERMA scores

Variables	Mean	Standard Deviation	Description
Positive Emotion	7.25	1.85	High Functioning
Engagement	6.92	1.42	High Functioning
Relationships	7.12	1.71	High Functioning
Meaning	7.41	1.84	High Functioning
Accomplishments	7.20	1.60	High Functioning
Overall PERMA	7.05	1.41	High Functioning

Notes: N=178; Description: 9.00–10.00 = Very High Functioning; 8.00–8.99 = High Functioning; 6.50–7.99 = Normal Functioning; 5.00–6.49 = Suboptimal functioning; 0.00–4.99 = Languishing

3.3 The relationship between age, gender, socio-economic levels and well-being

As shown in Table 5, Kendall's tau results indicate a weak negative correlation between age and PERMA. However, this correlation was statistically insignificant, as the computed p-values were greater than the significance level of 0.05. Similarly, the point-biserial correlation coefficient between sex and PERMA was also weak and negative, with a computed *p*-value of 0.32, suggesting that the observed correlation coefficient was statistically insignificant.

On the other hand, the analysis showed a statistically significant positive association between socio-economic levels and PERMA. The computed Kendall's tau had a p-value of ($p<0.05$), indicating a significant correlation between the two variables. These findings suggest that individuals with higher socio-economic levels are more likely to have higher levels of well-being, as measured by the PERMA construct.

Table 5. Relationship between age, gender, and socio-economic levels with overall PERMA

Variables	Frequency	PERMA	*p*-value
Age		-0.18	0.75*
23 and above	16		
20-21 years old	124		
18 and below	38		
Gender		-0.07	0.32**
Female	136		
Male	42		
Socio-economic Levels		0.2	0.00*
13-14	0		
11-12	0		
9 – 10	10		
7 – 8	50		
5 – 6	78		
3 – 4	21		
1 – 2	19		

Notes: * Kendall's tau, ** Point-biserial correlation coefficient

4. Discussion

This study investigated the associations between age, gender, and socio-economic levels with well-being among college students, specifically in terms of the PERMA construct. The results showed that age and gender indicate no significant association with well-being. On the contrary, the socio-economic levels of the respondents indicate a significant correlation with well-being.

Since the results indicate an insignificant association between age and well-being, it agrees with some findings in the literature. Previous studies by Diener et al. (2018) and Realo et al. (2017) found that age was not significantly related to subjective well-being (SWB) and overall life satisfaction among a sample of adults aged 18-94 years. However, other studies have found mixed results regarding the relationship between age and well-being. According to these studies (Baker & Alshehri, 2020; Biermann et al., 2022; Wigert et al., 2021), older adults report higher levels of subjective well-being than younger adults. On the other hand, Dodge et al. (2012) found no significant differences or even lower levels of subjective well-being among older adults. Although some findings in the literature do not support a correlation between age and well-being, Handayani et al. (2022) and Olatubi et al. (2022) suggest that there is a positive relationship between age and well-being, particularly regarding aspects such as emotional regulation, social connectedness, and life satisfaction.

Furthermore, the findings also reveal no correlation between gender and well-being. Studies by Diener et al. (2018) and Sinaga et al. (2022) found no significant differences in subjective well-being (SWB) between men and women across various age groups. However, other studies have found that men and women may differ in certain aspects of well-being. A study by Graham and Chattopadhyay (2013) have found that women report higher levels of emotional distress, such as anxiety and depression, than men. Furthermore, Matud et al. (2019) also reports that men have higher life satisfaction and self-esteem levels than women. While some literature does not support a correlation between gender and well-being, it is essential to note that there may be differences in specific aspects of well-being between men and women. Additionally, factors such as cultural and social norms, gender roles, and life experiences may influence the relationship between gender and well-being.

Most of the respondents in this study belonged to the lower middle-income group, which is associated with lower levels of well-being compared to higher socio-economic levels (American Psychological Association, 2017; Delshad et al., 2022; McLaughlin & Sheridan, 2016). Other studies also found that job security, job satisfaction, and material resources such as food and housing were positively associated with well-being (Nicola et al., 2020; Villarino et al., 2021). However, the relationship between socio-economic levels and well-being is complex and can be influenced by individual, social, and cultural factors (Chirwa, 2020; Cundiff & Matthews, 2017; Navarro-Carrillo et al., 2020).

Moreover, the respondents' PERMA results indicate an interpretation of high functioning. This means that the respondents' well-being is at a high level. Based on recent literature, findings on PERMA have been consistent with previous research (Umucu et al., 2020; Villarino, 2023; R. T. H. Villarino et al., 2022), indicating that the five dimensions of well-being (positive emotion, engagement, relationships, meaning, and accomplishment) are essential components of overall well-being. Some studies (Pezirkianidis et al., 2019; R. T. Villarino et al., 2022) have shown that these dimensions may be differentially related to mental health outcomes, with Positive Emotion and Engagement being particularly important for reducing symptoms of depression and anxiety. Additionally, recent studies have focused on the role of specific factors that can influence PERMA dimensions. For example, social support (Wammerl et al., 2019) is a crucial predictor of relationship and meaning dimensions, while mastery experiences are essential for the accomplishment dimension (Ascenso et al., 2018). In this connection, recent literature has continued to support the importance of the PERMA framework for understanding well-being while also providing insights into the specific factors that can influence each dimension.

Research has consistently shown that age, gender, and socio-economic levels are associated with well-being, although the exact nature of these associations may vary depending on the specific aspects of well-being being examined. While some studies have found no significant relationship between age or gender and well-being, the majority of research suggests that older adults and women may experience higher levels of well-being in certain aspects, such as emotional regulation and social connectedness. Additionally, individuals with higher socio-economic levels tend to report higher well-being levels than those with lower socio-economic levels. However, the relationship between socio-economic levels and well-being is complex and may be influenced by various individual, social, and cultural factors.

5. Implications and limitations

Understanding how age, sex, and socio-economic status are associated with well-being is critical for supporting college students' health and well-being. Professors and support staff who work with college students should be aware of how these factors can impact well-being and provide care that takes them into account. This may involve working with older or female students to identify and address sources of emotional distress or social isolation, such as academic stress or relationship difficulties. It may also involve working with students from lower socio-economic backgrounds to manage access to educational resources, financial aid, and other factors that may impact their overall well-being. By incorporating a nuanced understanding of these relationships into their work, those who support college students can help promote positive health outcomes and improve their quality of life.

However, this study has some limitations. The design only allows for correlational inferences regarding the association between age, sex, socio-economic status, and well-being. No differential assumptions can be made. Additionally, the study only included respondents from two Higher Education Institutions located in rural municipalities in Cebu and Bohol, Philippines, which may limit the generalizability of the findings to other colleges and universities.

6. Conclusion

This study shows that socio-economic levels are strongly associated with college students' well-being across multiple domains, including positive emotion, engagement, relationships, meaning, and accomplishments. The findings suggest that interventions and policies targeting these specific factors may be particularly effective in promoting well-being among college students. Understanding the complex relationship between age, gender, socio-economic level, and well-being can help improve the quality of life and promoting positive health outcomes for students.

To improve future research in this area, larger sample sizes, differential inferences, and longer study durations could be implemented. These changes would allow for more comprehensive data collection and analysis, increase the generalizability of the results, and provide opportunities to evaluate changes over time.

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Author contribution

This study represents the authors' original work. RTV, MLV, and MCT developed the theory, conceived the presented idea, and conducted the computations. PB and MP verified the analytical methods used.

Conflict of interest

The authors declare no conflicts of interest related to this research.

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