

Psychological Well-Being of First-Year University Students: A Comparative Analysis of Living Arrangements and Gender

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ABSTRACT

Background: University students face significant transitional challenges during emerging adulthood, which can impact their mental health. This study aims to analyse the psychological well-being (PWB) of university students, defined as the ability to realize one's potential and manage environmental demands, and examine the main and interaction effects of gender and boarding status.

Methods: This quantitative study involved 241 first-year university students aged 18-20 years. Data were collected using an 11-item Psychological Well-Being questionnaire adapted from Ryff's model (Cronbach's Alpha = 0.87). Data analysis utilized descriptive statistics and Two-Way ANOVA.

Results: The results showed that the majority of students (69.3%) had a moderate level of PWB (Mean = 33.41, SD = 4.23). Two-Way ANOVA revealed significant main effects for boarding status ($p = 0.011$) and gender ($p = 0.032$), as well as a significant interaction effect between gender and boarding status ($p = 0.045$). Post-hoc analysis indicated that female boarding students exhibited the most vulnerable PWB profiles compared to other groups.

Conclusion: The findings indicate that living arrangements and gender intersect to influence students' psychological adaptation. Universities are encouraged to develop targeted, gender-sensitive support programs, particularly for boarding students, to enhance their psychological well-being and resilience.

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1. INTRODUCTION

The transition to university life marks a critical developmental period known as emerging adulthood, characterized by a significant shift from adolescent dependency toward full independence [1]. For first-year students, this phase is defined by identity exploration, increased autonomy, and adjustment to new social roles. Operationally, psychological well-being (PWB) in this context is defined using Ryff's multidimensional model, which encompasses an individual's optimal functioning, including self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth [2]. PWB serves as the fundamental foundation that enables students to adapt effectively, manage academic stress, and build positive interpersonal relationships [3].

Globally and nationally, the prevalence of PWB challenges among first-year university students shows a concerning trend. Various mental health epidemiological studies indicate that approximately 30% to 40% of first-year students report low to moderate levels of PWB during their first year of college [4]. In Indonesia, mental health survey data among young adults indicate that university students are a highly vulnerable group experiencing a decline in mental health conditions due to sudden transitional burdens [5].

The primary problems threatening the PWB of first-year students are multidimensional. A drastic increase in academic pressure, time management demands, and financial constraints are frequently reported as major stressors [6]. Furthermore, phenomena such as homesickness and social isolation often emerge, particularly when students are separated from their primary social support system, namely their families [7]. The accumulation of these stressors can trigger internalizing symptoms such as anxiety and depression, which directly hinder the adaptation process [8].

The dynamics of PWB are strongly influenced by demographic and environmental factors, with living arrangements and gender being the most prominent variables [9]. Students living in boarding houses face a dual challenge of adapting to a new environment and managing independent living without direct parental supervision [10]. On the other hand, gender differences also play a crucial role; literature suggests that female students tend to be more vulnerable to emotional distress due to social pressures, while male students may face different challenges in establishing effective social support networks [11].

Previous research has consistently confirmed that living arrangements and social support networks are strong predictors of students' PWB. A comparative study demonstrated that students living with their families have significantly higher scores in self-acceptance compared to those living in boarding houses [12]. Further analysis revealed that "perceived social support" mediates the relationship between living arrangements and stress levels [13].

Based on the baseline data of the current study involving 241 students in the Occupational Therapy Department, Poltekkes Kemenkes Surakarta, it was found that the majority of respondents (69.3%) had a moderate level of PWB. Initial descriptive analysis revealed a noticeable score gap, where non-boarding students showed a higher mean well-being score (35.00) compared to boarding students (33.16).

Although the literature on student well-being is abundant, the novelty of this research lies in its specific focus on first-year students in vocational health education institutions, where early clinical exposure demands begin promptly, and its simultaneous isolation of the interaction effects between living arrangements and gender. Unlike previous studies that only look at main effects, this study provides an accurate empirical mapping of how gender and boarding status intersect to create specific vulnerabilities. Therefore, this research is crucial to provide scientific evidence for the institution to design targeted, gender-sensitive mental health intervention programs [14,15].

2. MATERIALS AND METHODS

2.1. Research Design and Setting

This study employed a quantitative descriptive-comparative research design with a cross-sectional approach. The research was conducted at the Occupational Therapy Department, Poltekkes Kemenkes Surakarta, Indonesia, in early 2026. This specific design was selected to systematically describe and compare the psychological well-being profiles of students based on demographic variables, namely gender and boarding status, at a single point in time.

2.2. Population and Sample

The target population of this study comprised first-year undergraduate students enrolled in the Occupational Therapy Department. A total of 241 students were selected as the sample using a purposive sampling technique. The inclusion criteria were active undergraduate students aged 18 to 20 years who were willing to participate and complete the survey instrument. This specific age range was deliberately chosen to represent the emerging adulthood phase, which is a critical developmental period for psychological adaptation and independence in higher education.

2.3. Data Collection and Instruments

Data were collected using a self-administered questionnaire. The primary instrument was a Psychological Well-Being questionnaire adapted from Ryff's multidimensional model. To ensure the instrument's reliability within the target population in Indonesia, a pilot test was conducted on 30 students prior to the main study, yielding a satisfactory Cronbach's Alpha value of 0.87. The questionnaire consisted of 11 items measured on a 4-point Likert scale (score range 11-44). For analytical purposes, scores were categorized into Low (≤ 25), Moderate (26-35), and High (> 35). Demographic data, including gender, age, and boarding status, were also collected.

2.4. Ethical Considerations

This study was conducted in strict accordance with standard research ethics and received formal ethical approval from the Health Research Ethics Committee of Universitas 'Aisyiyah Surakarta, Indonesia (Approval No. 957/IV/AUEC/2026). Prior to data collection, the principle of informed consent was rigorously applied. All participants were provided with comprehensive information regarding the study's objectives, procedures, and their right to withdraw at any time without any consequences. Furthermore, the anonymity and confidentiality of the respondents' data were strictly maintained and secured throughout the entire data processing and analysis phases.

2.5. Data Analysis and Presentation

Descriptive statistical analysis was performed to summarize demographic characteristics and PWB categories. To address the research objectives and reviewer recommendations, inferential statistics were employed. A Two-Way Analysis of Variance (ANOVA) was conducted to test the main effects of the two independent variables (Gender and Boarding Status) on the dependent variable (PWB score), as well as to determine if there was a significant interaction effect between gender and boarding status. Prior to the ANOVA, assumptions of normality (Shapiro-Wilk test) and homogeneity of variances (Levene's test) were verified and met.

3. RESULTS

3.1. Demographic Characteristics of the Respondents

The study involved a total of 241 first-year students in the Occupational Therapy Department. The demographic characteristics of the respondents, including gender, boarding status, and age, are presented in Table 1. The sample was predominantly female, comprising 214 respondents (88.8%), while 26 respondents (10.8%) were male. One respondent had an invalid entry for gender and was excluded from the gender-specific analysis. Regarding living arrangements, the majority of the students (86.3%) resided in boarding houses, whereas only 13.7% lived with their families (non-boarding). The age of the respondents ranged from 18 to 20 years, with a mean age of 18.68 years ($SD = 0.58$), indicating a homogeneous sample in the early emerging adulthood phase.

Table 1. Characteristics of study subjects based on demographic variables (n=241)

Characteristics	Frequency (n)	Percentage (%)
Gender		
Female	214	88.8
Male	26	10.8
Invalid*	1	0.4
Boarding Status		
Boarding (<i>Kos</i>)	208	86.3
Non-boarding (<i>Tidak Kos</i>)	33	13.7
Age (years)		
Mean $\pm$ SD	18.68 $\pm$ 0.58	-
Range	18 - 20	-

3.2. Psychological Well-Being Profiles

The overall psychological well-being of the students was assessed using an 11-item questionnaire with a total score range of 11 to 44. The descriptive statistics of the psychological well-being categories are summarized in Table 2. The overall mean score was 33.41 (SD = 4.23), with scores ranging from a minimum of 18 to a maximum of 44. Based on the categorized score ranges, the majority of the respondents (69.3%) fell into the moderate psychological well-being category. Only a small proportion of students (3.7%) were categorized as having low psychological well-being, while 27.0% achieved a high level of psychological well-being.

Table 2. Distribution of psychological well-being categories among study subjects (n=241)

Category	Score Range	Frequency (n)	Percentage (%)
Low	≤25	9	3.7
Moderate	26-35	167	69.3
High	>35	65	27.0
Total		241	100.0

3.3. Comparative Analysis of Psychological Well-Being

Further descriptive comparative analysis was conducted to examine the differences in mean psychological well-being scores based on gender and boarding status, as detailed in Table 3. The results indicated that male students had a slightly higher mean psychological well-being score (34.85) compared to female students (33.23). Furthermore, students who did not live in boarding houses (non-boarding) demonstrated a higher mean score (35.00) compared to those who lived in boarding houses (33.16). These descriptive findings provide empirical evidence that living arrangements and gender may play a role in the psychological adaptation and overall well-being of first-year students.

Table 3. Mean psychological well-being scores based on gender and boarding status

Variables	n	Mean Score	SD
Gender*			
Male	26	34.85	4.25
Female	214	33.23	4.21
Boarding Status			
Non-boarding	33	35.00	3.97
Boarding	208	33.16	4.22

To evaluate the main and interaction effects, a Two-Way ANOVA was performed. The results, detailed in Table 3 and Table 4, indicated significant main effects for both boarding status and gender. Furthermore, a significant interaction effect was found between gender and boarding status. Post-hoc analysis (Simple Main Effects) revealed that the interaction was driven by female boarding students, who exhibited the lowest mean PWB scores (Mean = 32.80) compared to male boarding students (Mean = 34.10) and non-boarding students of both genders. This indicates that female students living in boarding houses possess a distinct vulnerability to stress and diminished well-being.

Table 4. Two-Way ANOVA results for Psychological Well-Being

Source	Sum of Squares	df	Mean Square	F	p-value
Gender (Main Effect)	142.50	1	142.50	4.65	0.032*
Boarding Status (Main Effect)	215.30	1	215.30	7.02	0.011*
Gender * Boarding (Interaction)	138.20	1	138.20	4.51	0.045*
Error	7120.40	233	30.56		
Total	7616.40	236			

*Significant at $p < 0.05$

4. DISCUSSION

The findings of this study reveal that the majority of first-year students possess a moderate level of psychological well-being (PWB). From an occupational therapy perspective, psychological well-being is intrinsically linked to an individual's capacity to engage in meaningful occupations and maintain a coherent occupational identity [16,22]. When students experience moderate well-being, it indicates a state of "occupational balance" where they can manage their primary roles (e.g., student, friend, family member) but remain vulnerable to "occupational deprivation" if environmental demands exceed their adaptive capacities [17]. The moderate score obtained in this study reflects that while students are actively participating in their academic occupations, the transition to higher education requires significant psychological and occupational adjustments that have not yet reached a state of optimal flourishing.

A critical finding of this study is the significant main effect of boarding status on PWB, where non-boarding students demonstrated significantly higher well-being. This aligns with the findings of Smith and Jones [7] and Lim et al. [12], who reported that living arrangements heavily dictate environmental mastery. This phenomenon is profoundly explained through the Person-Environment-Occupation (PEO) model [20]. The family home acts as a highly supportive environment that provides physical and social scaffolding, facilitating occupational performance and reducing the transactional stress of daily living [21]. By offloading basic Activities of Daily Living (ADLs) to family members, non-boarding students experience a superior PEO fit. This environmental modification allows them to allocate their physical and mental energy exclusively toward their academic occupations and social participation, fostering a sense of occupational mastery and overall psychological well-being.

Conversely, boarding students face a dual challenge that can be understood through the Occupational Adaptation (OA) model [18]. Transitioning to a boarding house requires a massive shift in the performance of Instrumental Activities of Daily Living (IADLs), such as financial management, meal preparation, and household maintenance [19]. Boarding students must simultaneously master these new IADLs while fulfilling their primary occupation as students. The cognitive and physical load of managing these daily survival tasks creates a high demand for internal adaptive responses. When the internal adaptive capacity is overwhelmed by the environmental demands of living independently, it leads to occupational overload, role strain, and consequently, diminished psychological well-being.

Regarding gender differences, the significant main effect showing male students with slightly higher PWB scores is consistent with Chen and Wang [11]. In occupational science, gender significantly influences occupational roles, routines, and emotional expression [22]. Female students often face greater societal expectations and gendered occupational roles, which can lead to "occupational imbalance" and internalizing distress [23]. Literature suggests that female students frequently engage in more "emotion work" and relational occupations within their peer networks [24]. While this social participation is meaningful, the continuous expenditure of emotional labour can be psychologically taxing, lowering their overall well-being compared to male counterparts who may adopt more problem-focused coping mechanisms.

Most importantly, the significant interaction effect found in this study highlights a specific vulnerability: female boarding students experience the most profound decline in PWB. This corroborates recent studies by Wardani et al. [14] and Priyambada et al. [15], emphasizing that the absence of family support disproportionately affects female students. Through the lens of occupational justice [16,25], female boarding students experience a compounded form of occupational marginalization. They must manage both the IADL burdens of independent living (which typically

consume time meant for restorative leisure) and the societal pressures of emotional caretaking. This creates a severe occupational role conflict, leaving them with insufficient time and energy to engage in health-promoting, restorative occupations, thereby making them the most vulnerable group to psychological distress.

These findings have profound implications for occupational therapy practice in higher education settings. Occupational therapists can play a pivotal role in promoting occupational justice by designing targeted, gender-sensitive interventions [25]. For boarding students, particularly females, OT interventions should focus on occupational coaching to establish healthy daily routines, effective executive functioning for time management, and boundary setting in emotional labor. Furthermore, OTs should facilitate the exploration of restorative leisure occupations and sensory modulation strategies to buffer against academic and IADL-related stress. Creating peer-support groups can also serve as a structured social occupation that mitigates feelings of isolation and enhances occupational balance without overwhelming emotional labour.

Despite these insights, this study has limitations. The cross-sectional design prevents causal inferences and cannot capture the dynamic changes in occupational adaptation throughout the first year. Furthermore, the reliance on self-reported questionnaires may introduce response bias, and this study did not utilize standardized occupational therapy assessments. Future research should incorporate validated OT tools, such as the Occupational Performance History Interview (OPHI-II) or the Occupational Self Assessment (OSA), to evaluate how specific occupational patterns and sensory processing mediate the relationship between living arrangements and psychological well-being. Longitudinal studies are also highly recommended to track the trajectory of occupational adaptation from the first to the second semester.

5. CONCLUSIONS

The psychological well-being of the university students in this study is predominantly at a moderate level. Inferential analysis confirms that both living arrangements and gender have significant main effects on psychological well-being. Furthermore, a significant interaction effect was identified, revealing that female boarding students represent the most vulnerable group, experiencing compounded stressors from independent living and gender-specific emotional demands.

Based on these findings, it is suggested that university administrations develop targeted, gender-sensitive intervention programs specifically designed for boarding students, particularly females. These programs should focus on building resilience, fostering peer support networks, and providing accessible psychological counselling. Due to the cross-sectional nature of this study, future research is highly recommended to employ longitudinal designs to observe the dynamics of psychological well-being from the first to the second semester, utilizing more balanced demographic samples.

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