Article

Basic Psychological Needs Assessment of University Students in Bangladesh: A Quantitative Cross-Sectional Study

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Abstract

The mental health of university students is a worldwide concern whose effects include, among others, inability to study, poor memory, reduced focus, attention, and fatigue. Mental health difficulties are also regarded as the leading cause of despair, depression, anxiety, and suicide among university students. This research aimed to assess the basic psychological needs of undergraduate students from a selected university in Bangladesh. This was a cross-sectional quantitative study conducted among 174 students who were selected randomly. Data were collected using a self-administered questionnaire. The following dimensions were measures to assess the basic psychological needs: relatedness, competence, autonomy, positive emotion, and intrinsic learning motivation, and self-regulated learning. The overall psychological well-being of the students was found to be poor. Female students had significantly higher mean scores for competence and motivation ($p < 0.05$). Year of study and faculty were significantly associated with relatedness, competence, autonomy, positive emotion, and intrinsic learning motivation ($p < 0.05$). The current study emphasises the significance of perceived competence, autonomy, and self-regulated learning for the well-being of university students. The findings also suggest that relatedness may be relevant for intrinsic learning motivation.

Keywords: psychological needs; mental health; university student; assessment; Bangladesh

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Introduction

Psychological well-being is critical to overall health and happiness among university students. As they navigate through academic, social, and personal challenges, their psychological well-being can significantly impact their academic performance, relationships, and overall quality of life. During young adulthood (ages 18 to 25), the prevalence of mental health disorders and rates of substance use reach their highest point. Globally, university students are experiencing a higher prevalence of psychiatric disorders such as sadness, anxiety, and anger, which negatively impact their academic performance (Gogoi et al. 2022). High levels of stress and pressure are known to contribute to the number of college students with mental health concerns such as anxiety and depression (Anosike et al. 2022). In addition, a study by Kirschner, Goetzl, and Curtin (2022) revealed that one in five college students had been diagnosed with a mental health condition.

Students begin their tertiary education as holistically well individuals, but due to the stressors related to university including academic pressures, social transitions, financial burdens, and career uncertainties, students often show incremental signs of psychological, physical, and emotional distress (Mason 2021). Consequently, mental health concerns are also the reason students find it challenging to manage their support system and study at the same time (Rotas and Cahapay 2020). Depression and anxiety, as primary causes of poor mental health, lead to the dropout of a substantial number of university students. Christoforou, Boyes, and Hasking (2021) added that self-injury or self-harm is another mental health concern affecting university students. Self-injury is not an attempt to harm oneself; rather, it consists of purposely injuring one's own body, often to find release from irritation, emotional suffering, or severe rage (Barkley 2021).

Many times, adolescence is regarded as the beginning of the onset of mental health conditions such as mood disorders, social anxiety, and substance abuse. Adolescent-onset mental health problems orchestrate lifelong mental health and well-being by understanding the need to assess at-risk or vulnerable persons (Ferschmann et al. 2022). Students need to have the best possible mental health since they are in a stage of development where they are almost ready to enter adulthood. This will enable them to contribute to society in the future. It is known that during this period of transition, students are more likely to experience mental health disorders, and those who already have such problems are more likely to experience heightened symptoms (Roche, Holdefer, and Thomas 2022). Bipolar disorder can manifest in people with serious depressive disorders as poor performance, drug addiction, suicidal thoughts, increased hospitalisation, and involvement in legal matters (Angst et al. 2005; Serafini et al. 2014).

In recent years, there has been growing recognition of the importance of student well-being as mental health issues among university students have been on the rise. The well-being of university students has broader public health implications. Students who experience poor mental health and well-being may be at a higher risk of developing mental health disorders later in life. Most students who are enduring mental anguish,

including those with more severe conditions including depression, anxiety disorders, bipolar disorder, and post-traumatic stress disorder, can improve more rapidly if they get care as soon as possible. Getting help is sometimes delayed due to factors such as ignorance of warning signs, denial, and unfamiliarity with available services on campus (Gulliver, Griffiths, and Christensen 2010). This may cause students to struggle in the classroom and eventually to quit school. Undergraduate students in India are at an increased risk for mental and physical health issues due to high levels of stress (Gupta et al. 2015). By addressing and promoting student well-being, universities can contribute to the overall mental health of the population and reduce the burden on mental health services. Investigating the well-being of university students is crucial to understanding the factors that contribute to their psychological health and developing effective interventions to support their overall well-being. There is limited research conducted in Bangladesh investigating the well-being of university students. Therefore, the objective of this study was to assess the basic psychological needs of undergraduate university students in Bangladesh.

Research Methodology

This was a cross-sectional quantitative study conducted among undergraduate students who were registered in a public university in Bangladesh. This study required a minimum sample size of 344 based on a 95% confidence interval and a 5% margin of error. The sample size was increased by 20% due to non-responses or incompleteness, resulting in a total of 374 questionnaires distributed.

To select the participants, stratified random sampling was used, where each faculty level was considered a stratum. Once a particular class was identified based on faculty and level of study, the researcher approached the relevant lecturer for permission to collect data from the students of their respective class. Upon approval from the lecturer, the researcher distributed the questionnaire to the students who were selected based on the corresponding random number generated by the Excel program. If a student did not want to participate then the next student was asked to participate in the study.

The data were collected via a self-administered questionnaire. After seeking expert opinions on the measures, a pilot test was conducted with 20 students from a department not involved in the study to ensure content validity. The second author conducted a data collection and pilot study. As a final step, the original German questionnaire that had been translated into English was translated into Bangla using a translation-back-translation approach (Brislin 1986). A confirmatory factor analysis (CFA) was conducted to assess composite reliability and ensure construct validity. Likert-type scales were used to grade all questionnaire items ranging from 1 (strongly agree) to 5 (strongly disagree). We recorded answers/responses to make the results easier to understand. Higher values indicate greater agreement with the statements.

A work-related basic need satisfaction scale (Van den Broeck et al. 2010) was used to assess competence. The university context was adapted for the work-related responses. Using three responses, students were asked how much autonomy they felt in approaching their studies under current conditions. Based on the Van den Broeck Basic Psychological Need Satisfaction and Frustration Scale and the Work-Related Basic Need Satisfaction Scale (Van den Broeck et al. 2010), we measured relatedness using three responses. While competence and autonomy had a focus on the university, relatedness had a focus on both the academic environment and close relationships more broadly. Based on a condensed version of the Learning Strategies of University Students Questionnaire (van Eerde and Klingsieck 2018), self-regulated learning in terms of setting goals and planning one's learning process was assessed using three responses. Diener et al. (2010) used the Scale of Positive and Negative Experiences to assess positive emotions, and Kern et al. (2016) used the optimism subscale of the EPOCH Measure of Adolescent Well-Being to assess positive emotions. Intrinsic learning motivation was measured with three responses slightly adapted from the Scales for the Measurement of Motivational Regulation for Learning in University Students (Thomas et al. 2018).

An ethical and research committee of the university approved the project before data collection began. There was no requirement for participants to participate in the study. All stages of the process were conducted confidentially and anonymously. Researchers discussed the data collection procedure with lecturers before collecting data. The researcher then went to the lecture rooms of the appropriate lecturers during the lecture break after the professors agreed. After discussing the study's objectives with the participants, the researcher explained the goals of the study. A consent form was signed by each participant before completing the questionnaire. Participants in the study had to be present in class on that day and agree to participate voluntarily.

Data were captured, coded, and analysed using SPSS version 27.0. Frequency distribution was conducted for all the statements for all the dimensions. Students' t-test was performed to compare the overall means for each of the dimensions between two groups and ANOVA test was when compared among three or more groups. Post-hoc Tukey test was conducted to find significant mean differences between the groups. *P*-values <0.05 were considered statistically significant.

Results

Six psychological dimensions were measured to assess the basic physiological needs of undergraduate students. The dimensions were relatedness, competence, autonomy, positive emotion, intrinsic learning motivation, and self-regulated learning. It is evident from table 1 that Cronbach's alpha coefficient values range from 0.623 to 0.803, implying that the study constructs were reliable and acceptable.

Table 1: Reliability analysis results

Construct	Cronbach's alpha	Number of items
Basic psychological needs: relatedness	0.623	5
Basic psychological needs: competence	0.736	4
Basic psychological needs: autonomy	0.678	4
Positive emotion	0.707	6
Intrinsic learning motivation	0.803	3
Self-regulated learning	0.796	3

Table 2 depicts the descriptive statistics associated with each of these underlying dimensions. In terms of relatedness, most of the students (89.2%) negatively reported having connected with and being supported by their fellow students. Only 58.5% of students identified having a connection with people important to them, including family and friends. With regard to students' competence, 75.3% of students were not dealing well with the demands of their studies. Subsequently, 47% of respondents indicated that they did not have doubts about whether they could do well in their studies. More so, 77.1% of the students were unable to make progress in studying for university. Regarding autonomy, students mostly expressed negative sentiments towards defining and performing tasks to suit their learning needs (72.8% and 62.5%, respectively). The results show that 58.3% and 81.9% of students felt neither good nor confident about their studies. Subsequently, 87.7% recognised that although things were difficult, eventually everything would turn out all right. It was found that 49.1% of the students believed that doing work for the university was fun, though 53.9% indicated that they were working for the university and did not enjoy studying. Moreso, the results showed that 48.4% of the surveyed students found studying for university exciting. Students were asked if they plan their course of action in the current home-learning setting, and 58.2% were in favour of this statement. Similarly, 70.3% agreed that they knew how they wanted to study before they started. The results also revealed that 63% of the students were of the view that they could formulate learning goals that they use to guide their studies.

Table 2: Reliability analysis results

Statements	Strongly disagree	Disagree	Unsure	Agree	Strongly Agree
Relatedness					
Currently, I feel connected with my fellow students.	**4.5**	**45.6**	3.0	41.6	5.3
Currently, I feel supported by my fellow students.	**19.4**	**43.6**	11.8	22.2	3.0
Currently, I feel connected with the people who are important to me (family, friends).	9.8	24.2	7.6	**40.6**	**17.9**
Basic psychological needs: competence					
Currently, I am dealing well with the demands of my studies.	**25.2**	**50.1**	6.0	14.4	4.3
Currently, I have no doubts about whether I am capable of doing well in my studies.	**17.4**	**34.0**	23.2	19.1	6.3
Currently, I am managing to make progress in studying for university.	**33.5**	**43.6**	6.3	12.6	4.0
Basic psychological needs: autonomy					
Currently, I can define my areas of focus in my studies.	**19.4**	**53.4**	7.3	17.1	2.8
Currently, I can perform tasks in the way that best suits me.	**16.4**	**46.1**	13.1	18.1	6.3
In the current home-learning situation, I seek out feedback when I need it.	**23.2**	**41.1**	10.1	21.7	4.0
Positive emotion					
I feel good.	**21.7**	**36.8**	18.6	16.9	6.0
I feel confident.	**43.1**	**38.8**	9.1	5.5	3.5
Even if things are difficult right now, I believe that everything will turn out all right.	2.0	5.5	4.8	**47.6**	**40.1**
Intrinsic learning motivation					
Currently, doing work for the university is fun.	11.3	19.4	20.2	**35.5**	**13.6**
Currently, I am enjoying studying and doing work for the university.	**17.4**	**36.5**	20.7	20.9	4.5
Currently, I find studying for university exciting.	10.8	24.4	16.4	**38.3**	**10.1**
Self-regulated learning					

In the current home-learning situation, I plan my course of action.	7.8	14.6	19.4	**42.3**	**15.9**
In the current home-learning situation, I think about how I want to study before I start.	4.8	13.1	11.8	**52.4**	**17.9**
In the current home-learning situation, I formulate learning goals that I use to orient my studying.	5.0	16.6	15.4	**43.1**	**19.9**

To ascertain possible statistically significant differences in university students' perceptions of relatedness, competence, autonomy, positive emotions, motivation, and self-regulated learning across gender, an independent t-test was conducted. The results depicted in table 3 suggest that statistically significant differences in perceptions exist between male and female university respondents in competence (p-value = 0.034) and motivation (p-value = 0.043). Also shown in table 3 is that there were no statistically significant differences between genders on relatedness (p-value = 0.140), autonomy (p-value = 0.199), positive emotions (p-value = 0.099), and self-regulated learning (p-value = 0.499).

Table 3: Independent t-tests analysis results between genders

Constructs	**Males**	**Females**	***p*-value**
	Mean (SD)	**Mean (SD)**	
Relatedness	3.03 (0.81)	3.15 (0.76)	0.140
Competence	2.47 (0.84)	2.65 (0.88)	0.034
Autonomy	2.43 (0.81)	2.54 (0.83)	0.199
Positive emotions	2.51 (0.70)	2.64 (0.84)	0.099
Motivation	2.75 (0.97)	2.96 (1.10)	0.043
Self-regulated learning	3.64 (0.93)	3.58 (1.05)	0.499

To establish probable statistically significant differences in university students' perceptions of relatedness, competence, autonomy, positive emotions, motivation, and self-regulated learning across faculty and year of study, a one-way ANOVA test was performed. The one-way ANOVA results presented in table 4 reveal significant statistical differences across faculties on relatedness, competence, autonomy, positive emotions, and motivation ($p < 0.05$).

Table 4: One-way ANOVA results across faculties

Constructs	**Science**	**Life and Earth Science**	**Arts**	**Social Science**	***p*-value**
	Mean (SD)	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	
Relatedness	2.61 (0.82)	3.51 (0.64)	2.84 (0.74)	3.11(0.72)	<0.001
Competence	2.61 (0.78)	2.83 (0.89)	2.34 (0.77)	2.42 (0.87)	<0.001
Autonomy	2.19 (0.72)	2.77 (0.84)	2.36 (0.77)	2.45 (0.81)	<0.001
Positive emotions	2.36 (0.65)	2.93 (0.74)	2.44 (0.80)	2.43 (0.75)	<0.001
Motivation	2.68 (0.92)	3.18 (1.03)	2.68 (1.05)	2.75 (1.06)	<0.001
Self-regulated learning	3.70 (0.99)	3.74 (0.91)	3.50 (1.10)	3.50 (0.97)	0.158
N	71	120	80	126	

It is evident from tables 5 and 6 that statistically significant differences existed across years of study on relatedness, competence, autonomy, positive emotions, and motivation ($p < 0.05$). However, there is no statistically significant mean difference in the level of self-regulated learning between the years of study.

Table 5: One-way ANOVA results across faculties

Pairwise comparisons (relatedness)	***p*-value**
Science (M = 2.61, SD = 0.82) vs. Life and Earth Science (M = 3.51, SD = 0.64)	<0.001
Science (M = 2.61, SD = 0.82) vs. Social Science (M = 3.11, SD = 0.72)	<0.001
Life and Earth Science (M = 3.51, SD = 0.64) vs. Arts (M = 2.84, SD = 0.74)	<0.001
Life and Earth Science (M = 3.51, SD = 0.64) vs. Social Science (M = 3.11, SD = 0.72)	<0.001
Pairwise comparisons (competence)	
Life and Earth Science (M = 2.83, SD = 0.89) vs. Arts (M = 2.34, SD = 0.77)	<0.001
Life and Earth Science (M = 2.83, SD = 0.89) vs. Social Science (M = 2.42, SD = 0.87)	0.001
Pairwise comparisons (autonomy)	
Science (M = 2.19, SD = 0.72) vs. Life and Earth Science (M = 2.77, SD = 0.84)	<0.001
Life and Earth Science (M = 2.77, SD = 0.84) vs. Arts (M = 2.36, SD = 0.77)	0.002
Life and Earth Science (M = 2.77, SD = 0.84) vs. Social Science (M = 2.45, SD = 0.81)	0.008
Pairwise comparisons (positive emotions)	

Science (M = 2.36, SD = 0.65) vs. Life and Earth Science (M = 2.93, SD = 0.74)	<0.001
Life and Earth Science (M = 2.93, SD = 0.74) vs. Arts (M = 2.44, SD = 0.80)	<0.001
Life and Earth Science (M = 2.93, SD = 0.74) vs. Social Science (M = 2.43, SD = 0.75)	<0.001
Pairwise comparisons (motivation)	
Science (M = 2.68, SD = 0.92) vs. Life and Earth Science (M = 3.18, SD = 1.03)	0.006
Life and Earth Science (M = 3.18, SD = 1.03) vs. Arts (M = 2.68, SD = 1.04)	0.004
Life and Earth Science (M = 3.18, SD = 1.03) vs. Social Science (M = 3.50, SD = 0.97)	0.005

Table 6: One-way ANOVA results across year of study

Constructs	**First year**	**Second year**	**Third year**	**Fourth year**	***p*-value**
	Mean (SD)	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	
Relatedness	2.63 (0.81)	2.84 (0.76)	3.48 (0.66)	3.12(0.73)	<0.001
Competence	2.59 (0.78)	2.36 (0.78)	2.79 (0.91)	2.44 (0.87)	<0.001
Autonomy	2.21 (0.71)	2.36 (0.78)	2.75 (0.84)	2.46 (0.81)	<0.001
Positive emotions	2.34 (0.66)	2.46 (0.80)	2.91 (0.74)	2.44 (0.76)	<0.001
Motivation	2.71 (0.94)	2.66 (1.04)	3.16 (1.03)	2.76 (1.06)	<0.001
Self-regulated learning	3.67 (1.00)	3.52 (1.10)	3.73 (0.90)	3.50 (0.98)	0.211

According to table 7, the Tukey HSD pairwise comparison tests show that the statistically significant mean differences in the level of relatedness, autonomy, positive emotions, and motivation lie between Life and Earth Science and Science students, Life and Earth Science and Arts students, as well as Life and Earth Science and Social Science students ($p < 0.05$). Additionally, there is also a significant difference in the mean level of relatedness between Science and Social Science students, while the only significant mean differences in the level of competence lie between both Life and Earth Science and Arts students, and between Life and Earth Science and Social Science students. According to table 6, the statistically significant mean differences in the level of relatedness, autonomy, positive emotions, and motivation lie between the first year and third year, second year and third year, and third year and fourth year. Furthermore, there are also statistically significant mean differences in the mean level of relatedness between the first year and the fourth year, and between the second year and fourth year. However, the only statistical mean differences in the mean level of competence are between the second year and third year, and between the third year and fourth year. This is also indicated by the corresponding p-value < 0.05 level of significance.

Table 7: Multiple comparison tests on university students' perceptions by year of study

Pairwise comparisons (relatedness)	***p*-value**
First year (M = 2.63, SD = 0.81) vs. third year (M = 3.48, SD = 0.66)	<0.001
First year (M = 2.63, SD = 0.81) vs. fourth year (M = 3.12, SD = 0.73)	<0.001
Second year (M = 2.84, SD = 0.76) vs. third year (M = 3.48, SD = 0.66)	<0.001
Second year (M = 2.84, SD = 0.76) vs. fourth year (M = 3.12, SD = 0.73)	0.038
Third year (M = 3.48, SD = 0.66) vs. fourth year (M = 3.12, SD = 0.73)	<0.001
Pairwise comparisons (competence)	
Second year (M = 2.36, SD = 0.78) vs. third year (M = 2.79, SD = 0.91)	0.003
Third year (M = 2.79, SD = 0.91) vs. fourth year (M = 2.44, SD = 0.87)	0.008
Pairwise comparisons (autonomy)	
First year (M = 2.21, SD = 0.71) vs. third year (M = 2.75, SD = 0.84)	<0.001
Second year (M = 2.36, SD = 0.78) vs. third year (M = 2.75, SD = 0.84)	0.005
Third year (M = 2.75, SD = 0.84) vs. fourth year (M = 2.46, SD = 0.81)	0.028
Pairwise comparisons (positive emotions)	
First year (M = 2.34, SD = 0.66) vs. third year (M = 2.91, SD = 0.74)	<0.001
Second year (M = 2.46, SD = 0.80) vs. third year (M = 2.91, SD = 0.74)	<0.001
Third year (M = 2.91, SD = 0.74) vs. fourth year (M = 2.44, SD = 0.76)	<0.001
Pairwise comparisons (motivation)	
First year (M = 2.71, SD = 0.94) vs. third year (M = 3.16, SD = 1.03)	0.014
Second year (M = 3.52, SD = 1.10) vs. third year (M = 3.16, SD = 1.03)	0.005
Third year (M = 3.16, SD = 1.03) vs. fourth year (M = 2.76, SD = 1.06)	0.012

Discussion

This study aimed to assess the basic psychological needs of undergraduate students. In this study, self-determination theory is used as a framework, which was introduced in 1985 by theorists and psychologists Edward Deci and Richard Ryan. Self-determination theory is concerned with motivation and the three core needs that facilitate growth, namely, competence, autonomy, and relatedness (Ryan and Deci 2000). Needs satisfaction is the driver of effective functioning and wellness, according to the researchers.

There has always been a link between the ability to overcome hardship, thrive in difficult circumstances, enjoy feelings of well-being, and experience the satisfaction of meeting basic psychological needs (Riggenbach et al. 2019; Trigueros et al. 2019). Thus, self-determination theory posits that competence, autonomy, and relatedness become crucial to psychological well-being, integration, and social growth (Ryan and Deci 2000). Several studies have systematically demonstrated the conceptual validity

of these assumptions across different domains and samples (Riggenbach et al. 2019; Van den Broeck et al. 2016). Basic psychological need satisfaction reduces stress appraisals in stressful times, promoting adaptive coping and helping to decrease cognitive appraisals (Weinstein and Ryan 2011). To qualify as competent, one must perceive one's behaviour as effective. Having the capability of being eligible for their studies, for example, makes students feel competent. A person's behaviour should be perceived as volitional and self-endorsed if they are experiencing autonomy. When they work diligently on their studies, for example, students feel autonomous. Additionally, relatedness is about feeling connected with others and receiving reciprocal support from them (Niemiec and Ryan 2009). Studies have seen a broadening of the focus on fulfilling psychological needs, with self-determination theory serving as a basis for interventions to enhance well-being, personal growth, and intrinsic motivation for students (Lüftenegger et al. 2016).

Results from this study show that the relatedness of the basic psychological needs assessment of university students in Bangladesh is driven by the connections students have with other people. The results contradict Bindler, Ketel, and Hjalmarsson (2020) and Kirschner, Goetzl, and Curtin (2022), who state that violent crime or abuse is the other reason for mental health concerns and the student's decision not to connect with others out of fear of becoming a victim. As a result, connection to close family members is seen as a fundamental physiological requirement for students, regardless of whether they have suffered any sort of abuse.

Dealing with demand, doing well in school, and progressing well in university are not basic competencies for students' psychological needs in Bangladesh. However, the findings support Manson's (2021) and Bakioglu, Korkmaz, and Ercan's (2021) assertion that a sense and feeling of inadequacy affects students' ability to progress in higher education institutions. As a result, it follows that psychological requirements and competencies are unrelated to being able to cope with academic pressures and being capable of doing well and, hence, advancing in a university.

In terms of autonomy, the present study found that students are not able to define their areas of focus, perform tasks in the way that best suits them, and seek out feedback when they need it. This is in line with a study conducted by Patel (2020), who reveals that young individuals who experience long-term physical health issues, drug or alcohol abuse, spousal abuse, or bullying are unlikely to open up to others or be able to focus on their studies. The results back up what Kirschner, Goetzl, and Curtin (2022) said: that people who are in serious situations where they fear for their lives or who are victims of violent crimes develop mental health problems and cannot concentrate on their studies.

The results show that students are not good and confident, though things may end up turning out all right in their studies. The results support the findings of Porru et al. (2022), who mention that students begin their tertiary education as holistically well

individuals, but due to the stressors related to university, students often show incremental signs of psychological, physical, and emotional distress. These factors make them feel bad and not confident about their studies. Nonetheless, with time and proper care, victims of violence or abuse may end up feeling well, though the challenges may lead to poor performance (Bakioglu, Korkmaz, and Ercan 2021).

It was found from the present study that while students enjoy working for the university, their studies are affected, even though studying was found to be relaxing. While this is the case, the study results agree with Bakioglu, Korkmaz, and Ercan (2021) who mention that the feeling of inadequacy often results in poor performance and may lead to finding other co-curricular activities such as working being exciting. As such, victims of violence and abuse may require doing other activities apart from their studies.

Results show that victims of violence and abuse can self-regulate their learning activities and environment if they have the supporting structures in place. The results support Porru et al. (2022), who mention that stress might be a key factor in the high risk of mental health problems among students. However, there are several interventions to improve mental health among students and prevent adverse health outcomes and poor performance. On the same note, the study by Sampson et al. (2022) further mentions that universities should provide resources, training programmes, or policy implementation to help staff recognise and support students with mental health problems.

The perception that male students are more competent than female students is because male students demonstrate a greater degree of cooperative learning group behaviour. This is further confirmed by the fact that male students are more likely to be promoted by a culture of socialisation than female students are. According to Tsai (2019), male students demonstrate a much greater degree of cooperative learning and are, hence, competent. In terms of motivation, male students are often driven by things such as interclass competitiveness and peer support (Fukui and Yashima 2021). As for female students, parental and family support stands out; hence, the findings are statistically significant (Jiao et al. 2022). As such, it makes sense that motivation and competence differ between male and female students at the university level.

Results showed no statistically significant mean difference in the level of self-regulated learning between the various faculties. As a result, it can be argued that the major disparity across faculties may be due to various teaching methods. In terms of relatedness, competence, autonomy, pleasant emotions, and motivation, for instance, the faculty of Life and Earth Science may encourage their students to be competent and independent in a manner distinct from the faculties of Arts and Social Sciences. In terms of competence, autonomy, and relatedness, the findings are similar to Riley (2015) and Wang et al. (2019), who found a substantial difference between home-schooling and standard education techniques.

Conclusions

The present study highlights the importance of perceived competence, autonomy, and self-regulated learning in relation to the well-being of undergraduate university students. The results of the study also indicate that the concept of relatedness may have implications for intrinsic motivation in the context of learning. The absence of relatedness, competence, autonomy, pleasant sensation, and intrinsic learning motivation, which are recognised as indications of learning motivation, is a significant deficiency and represents crucial psychological prerequisites. Competence and motivation emerge as primary determinants of learning motivation, exerting substantial influence on psychological well-being.

Recommendations for Health Care Practice to Promote Mental Health

Student support: Supporting and preventing the frustration and adverse health effects of fundamental psychological needs by nursing and public health professionals should be a top focus to improve university students' autonomy, self-regulation, and relatedness, as well as their mental health, well-being, motivation and vitality, and should be regulated by gender, level of study, and faculty.

Promoting self-regulated learning: Universities should instruct students to intentionally create and arrange their learning to encourage self-regulated learning. In addition to being an important short-term objective in the present distant learning context, boosting the adoption of self-regulation-based learning techniques is advantageous for lifetime learning.

Promote positive emotions: In addition to identifying intermediate objectives, there should be provision for personal input to support success. Increasingly, decisions about students should be decided by also listening to them as autonomy is one of the three fundamental psychological demands.

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