# Assessing Well-being among University Students: A Cross-Cultural Study in Hungary Using Optimal Living Profile-Modified

Farah Abu Khadra
University of Pécs, Hungary

Wessam A. Debes
University of Pécs, Hungary

Lina Takruri
Hungarian University of Sports Science, Hungary

Zoltán Csapek
University of Pécs, Hungary

Bendegúz Kertai
University of Pécs, Hungary

Sára Jeges
University of Pécs, Hungary

Ákos Levente Tóth
University of Pécs, Hungary

## ABSTRACT

*In this paper, we aimed to define well-being challenges and how they relate to life satisfaction. A total of 112 Jordanian and 178 Hungarian students participated in the survey. Parametric, nonparametric statistical tests and confirmatory factor analysis were conducted to determine the optimal living profile. Group differences were analyzed to identify life satisfaction predictors. The findings revealed that Jordanians scored higher across all well-being dimensions, specifically in intellectual (mean 4.05 vs. 3.02) and emotional health (mean 3.95 vs. 3.00), with greater social support and optimism. Emotional and social health*

*strongly predicted life satisfaction by 83.4%. This suggests that cultural background significantly impacts well-being and highlights the importance of university support for all students.*

**Keywords:** International Students, Life Satisfaction, Optimal Living Profile, University Students, Well-being

There is a growing interest in promoting health and well-being within several aspects of intellectual, spiritual, emotional, social, and physical health. Definitions of well-being continue to evolve, promoting a positive mindset by allowing individuals to achieve a better quality of life (Swarbrick, 2006). Well-being is broadly defined as a state of being comfortable, healthy, or happy and is influenced by environmental conditions and multiple factors (Adler et al., 2017). It includes emotional, psychological, and social dimensions that contribute to an individual's health, life satisfaction, and happiness (Ruggeri et al., 2020; Adler et al., 2017). Since well-being includes numerous concepts, research has connected well-being to health promotion and optimal health, emphasizing the holistic nature of the individual (O'Donnell, 2009; Swarbrick, 2006). Research on well-being led to the development of the total person concept (TPC), which considers all the available resources and skills to attain harmony and balance among a wide range of dimensions, including intellectual, emotional, social, spiritual, physical, and environmental (Renger et al., 2000). On the basis of this concept, the optimal living profile (OLP) assessment tool was created to provide individuals with a thorough review of their health and lifestyle decisions, emphasizing self-discovery leading toward healthy habits, promoting better behavioral and physical health outcomes, and enhancing life satisfaction (Bart et al., 2018; Renger et al., 2000).

## LITERATURE REVIEW

### University students' well-being

The well-being and life satisfaction of undergraduate and graduate students can be affected by several factors. As they begin their university journeys, many students might face difficulties in maintaining the balance between their personal lives and academic activities, resulting in academic stress and burnout, given that their education has a considerable influence on their lives (Szegedi et al., 2024). Findings from previous research suggested that stress, anxiety, depression, and emotional instability can change students' levels of life satisfaction, which in turn affects their mental health and overall well-being (H.-M. Li & Zhong, 2022). Furthermore, well-being and life satisfaction are also affected by social life and relationships with friends and family (Leong Bin Abdullah et al., 2021). Moreover, workspaces, eating habits, exercise, and sleep quality influence students' physical health and well-being (Çiçek, 2018). In conclusion, while many

factors might influence the well-being of university students, it is important to consider the factors that impact the well-being of international students.

**International students' well-being**

Adapting to a new culture, communicating in a foreign language, social isolation, and academic pressure are all challenges that international students face. Specifically, "culture shock", which results from adjusting to a new cultural setting, may lead to confusion, homesickness, and anxiety, affecting students' well-being (Zhou et al., 2008). Another significant challenge is the language barrier, and difficulties in understanding and communicating with others can result in social isolation and academic problems (Andrade, 2006). However, research has revealed that students with greater English proficiency perform better academically and report higher levels of life satisfaction (Martirosyan et al., 2015). Nevertheless, international students experience more stress than local students do, as they strive for excellence in a new, unfamiliar educational system (Sherry et al., 2010). In addition, financial stress is a common challenge, as international students pay higher tuition fees when there is a shortage of employment opportunities (Sawir et al., 2008). Plus, the high rate of mental health conditions that students suffer from, such as depression and anxiety, emphasizes the need for accessible services and support networks on the university's campus (Forbes-Mewett & Sawyer, 2011). Despite this, students with a positive attitude or optimism can be more resilient and adapt more easily to the challenges of living overseas (Akgun & Ciarrochi, 2003). In terms of social health, students with a support system are less likely to suffer from social isolation and loneliness and are more likely to adapt to their new surroundings (Smith & Khawaja, 2011). Furthermore, the life satisfaction and happiness of these students depend on their social integration and interactions with others, including making friends with the host country's nationals, as they could experience inclusivity in the local community (Baba & Hosoda, 2014). Finally, maintaining physical well-being in a new environment and culture can be challenging, suggesting that regular physical exercise, a balanced diet, and enough sleep are essential for well-being (Bhochhibhoya et al., 2020). This interest led us to explore the well-being of university students from different cultural backgrounds; addressing this gap via OLPs provides a comprehensive assessment of many dimensions of health and well-being.

**AIM**

In 2022, Hungary hosted 11,947 international scholarship students from 95 countries, including 790 students from Jordan, which is considered the highest number of international students in Hungary. Among these, 207 Jordanians were studying at the University of Pécs, one of Hungary's largest higher education institutions, with 5,000 international students (*TKA., Statisztikák, Tempus Közalapítvány*, 2023). Thus, this research aims to identify which aspects of well-being are challenging and how they relate to life satisfaction for Jordanian students at the University compared with Hungarian students. Moreover, this

research aims to identify areas where universities could improve the experiences of both Jordanian and Hungarian students to improve student well-being and life satisfaction. It addresses the following research questions (RQs):

RQ$_1$:    How can an optimized selection of OLP items enhance the construct validity and internal consistency of the model (OLP-M), enabling a more reliable comparison between Hungarian and Jordanian students?

RQ$_2$:    How do Jordanian students in Hungary perceive and evaluate their well-being across various dimensions compared with local Hungarian students?

RQ$_3$:    Which dimensions of the OLP-M primarily influence students' life satisfaction? Are there differences between Jordanian and Hungarian students in this regard?

## METHODS

### Participant and ethical considerations

The data presented in this article were collected via an online questionnaire via Google Forms conducted at the University of Pécs in Hungary, which targeted Hungarian students studying in Hungarian programs and Jordanian students studying in English programs. Participation was voluntary and anonymous, with formal consent obtained from all participants. The study received ethical approval from the Regional Research Ethics Committee, and the Institutional Review Board approved the protocol in June 2022 (Nr. 9263 – PTE 2022). Data collection lasted 8 months, from September 2022 to April 2023. The questionnaire was sent through the students' email addresses and social media platforms to all Jordanian students (207 people) and a randomly selected group of Hungarian students (300 people) studying in faculties of health sciences, sciences, and medicine. A total of 290 students completed the questionnaire, with at least 90% of the questions answered within each dimension; of these, 178 Hungarian students completed it in Hungarian; considering that they study in the Hungarian language, with a response rate of 59.3%, and 112 Jordanian students completed it in English; considering that they require an English proficiency test to study at the university, with a response rate of 54.1%. Regarding the response rate, Jordanian and Hungarian students did not differ significantly. (According to the chi2 test: p=0.242). To ensure minimal confounding factors, the Hungarian sample was proportionally selected based on gender to match the Jordanian sample. Both groups had similar gender distributions, with men comprising 58.0% of the Jordanian sample and 57.9% of the Hungarian sample. However, the Hungarian students were, on average, 2 years younger, with an average age of $23.7 \pm 2.8$ years compared with $25.8 \pm 4.6$ years for the Jordanian students (Mann–Whitney test, $p < 0.001$). Age was considered a control variable ($\leq 25$ years vs 26+).

**Instruments and methods**

The questionnaire consisted of two sections: the first section covered demographics, which included age, sex, education level, and employment status, and the second section covered the OLP assessment tool. It was originally developed in English and was validated on a sample of students from the University of Arizona, as well as among participants of the Life Enhancement Program (LEP) (Renger et al., 2000). It is a 135-item questionnaire that assesses six dimensions of wellness: emotional, spiritual, physical, social, intellectual, and environmental (Renger et al., 2000). For most items, respondents were asked to rate each item on a 5-point Likert scale. Two forms of the Likert scale were used depending on the wording of the item. One scale uses options strongly agree to strongly disagree; the other uses options almost never to very frequently, with higher scores indicating greater well-being for positive items and lower scores indicating greater well-being for negative items (Rachele et al., 2013). The OLP is a reliable and valid instrument for assessing the TPC of well-being and identifying areas of strength and weakness in an individual's well-being profile in each dimension (Renger et al., 2000). As a first step, we performed a descriptive statistical analysis and examined the correlation of the items within each dimension (reviewing the frequency of those reflecting "negative" or "positive" well-being). We then assessed the internal construct validity of the questionnaire for both samples. Based on these results (see Results below), we adapted the OLP questionnaire to ensure that the factor structure of the dimensions had better-fit indicators and reflected the TPC in both groups. We excluded the environmental health dimension because of differences in the living situations of local and Jordanian students, as half of the items exceeded 15% of the missing data. Since the number of items varied among the dimensions and factors, we measured the overall level of each dimension and factor by averaging the scores of their respective items following the original methodology of Renger et al., 2000. Finally, we analyzed the relationships between the factors and dimensions and compared the two samples, focusing on life satisfaction.

**Research model**

Figure 1 shows the research model. The dependent variable is "life satisfaction", which was measured by the OLP in the item "I am satisfied with my personal life" (E1). In this item, the possible values were "Very Frequently" (5), "Often" (4), "Occasionally" (3), "Rarely" (2), and "Almost Never" (1). The main independent variable is the student sample (Jordanian students vs. Hungarian students). Sex and age (< 25 years vs. 26+) were considered control variables.
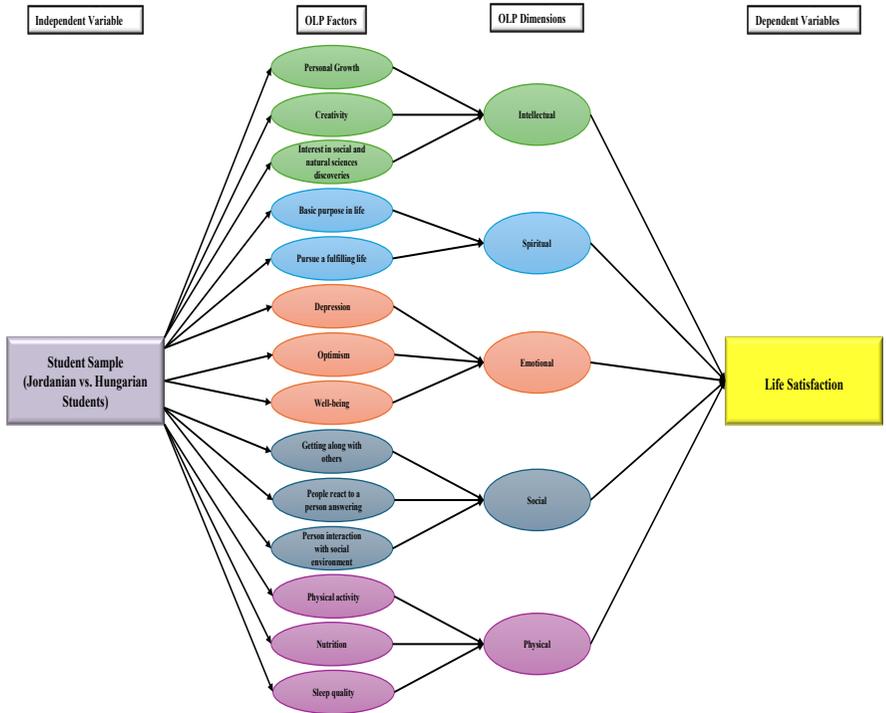
**Figure 1: Research model**

## Data analysis

Initially, we assessed the normality of the variables via the Kolmogorov–Smirnov test. Chi-square tests were used to compare the negative responses between Jordanian and Hungarian students ($RQ_2$). Correlation tests included Pearson's correlation coefficients and Z tests to compare the strength of correlations ($RQ_3$). The suitability of the questionnaire, which has been validated in different languages, was evaluated through confirmatory factor analysis, Cronbach's alpha, and Omega coefficients for measuring internal consistency ($RQ_1$). Instead of Cronbach's alpha, we used the Omega coefficient, considering that Cronbach's alpha underestimates the true reliability unless the items are Tau-Equivalent (Deng & Chan, 2017). Since many items were not normally distributed, we dichotomized the responses for each item into positive if the answer was rated as 4 or 5 and negative if it was rated as 1-3. We reversed the coding for some items because a lower score indicated better well-being, allowing for valid comparisons ($RQ_2$). Additionally, we used the Mann–Whitney test, independent sample t tests to compare average scores between the samples ($RQ_2$), and multiple binary logistic regression analyses to identify predictors of life satisfaction ($RQ_3$). The analyses were conducted via SPSS version 28.0 and JASP

version 0.18.3, with two-sided P values considered significant at $p < 0.05$ (*SPSS 28.0*, 2008; *JASP Team 0.17*, 2023).

### *Multivariate analysis of the dimensions influencing life satisfaction via multiple binary logistic regression analysis*

To determine which OLP-M dimensions and factors most significantly explain life satisfaction and the differences between samples, multivariate methods were applied. In this approach, life satisfaction (E1) was sorted as satisfactory if the responses were "Very Frequently" or "Often". Otherwise, it was considered rather unsatisfactory.

### RESULTS

### Review of the OLP items per sample

The findings highlight the significant challenges Jordanian and Hungarian students face across various health dimensions. In the intellectual health dimension, Jordanian students (87.5%) reported lower engagement in I1 "visit a museum or art show" than did Hungarians (59%). Hungarian students, however, showed lower enthusiasm for I4, "I learn the meaning of new words", and I15, "I make an effort to maintain and improve my writing skills". Both groups demonstrated minimal engagement in I9: "When I listen to the radio, I prefer programs with educational/informational value". In the spiritual health dimension, Hungarian students expressed greater uncertainty in S1: "When it comes to my own spirituality, I'm not sure what I believe" (73% Hungarians vs. 35.7% Jordanians) and reported greater disagreement with S2: "My spiritual beliefs help me deal with adversity in life" (66.3%). Similarly, in S9, "Adversity contributes to my spiritual growth", 64.4% of Hungarians disagreed, whereas only 42.9% of Jordanians disagreed. Within the emotional health dimension, Jordanian students reported greater stress in E5, "I feel tense" (81.3% vs. 62.9% for Hungarians), whereas Hungarian students reported greater hopelessness in E8, "I feel that I have nothing to look forward to" (69.7% vs. 38.4%), and pessimism in E21, "I am optimistic about my future" (67.4% vs. 24.1% for Jordanians). In the social health dimension, Jordanian students reported more confidence in Sc9: "I cannot improve my interpersonal skills" (46.9% vs. 81.7% for Hungarians). However, they showed greater detachment in Sc12, "I contribute time each week to the community where I live", and in Sc13, "I contribute to at least one organization that strives to better the community where I live". Nevertheless, Jordanian students felt more emotionally connected to others in Sc20: "I feel emotionally withdrawn from others" (78.6% vs. 67.4% for Hungarians). Finally, in the physical health dimension, Jordanian students experienced higher levels of discomfort in P1, "I experience physical discomfort that limits my daily tasks" (87.5%), whereas both groups reported high agreement with P17, "I eat even when I'm not hungry" (85.7% for Jordanians), and P20, "I skip meals" (82.1% for Jordanians). Hungarian students faced greater struggles in P33: "I don't have time to take care of myself" (91.6%), P36: "I find it difficult to make the time for daily

physical activity" (88.8%), and P40: "I have all the energy I need to accomplish my personal and professional goals" (84.3%). These findings emphasize the unique challenges and differences experienced by both groups across intellectual, spiritual, emotional, social, and physical health dimensions.

## The construct validity of the questionnaire adapted for Jordanian and Hungarian student samples

Initially, the results were not entirely satisfactory, with Cronbach's alpha values ranging between 0.7 and 0.8 across dimensions, and some fit indices fell short of acceptable standards. To improve the model, removing items with low factor loadings or poor model fit improves fit indices and enhances measurement accuracy (Simon et al., 2010); thus, we systematically removed items with lower correlations (r < 0.7) within each dimension until Cronbach's alpha values significantly exceeded 0.8 and the fit indices met or surpassed the acceptable thresholds. The revised version of the OLP questionnaire will be referred to as OLP-Modified (OLP-M). We accepted the model where the Tucker–Lewis index (TLI) and comparative fit index (CFI) values were between 0–1 and > 0.900 and where the root mean square error of approximation (RMSEA) values indicated good fit, between 0–0.08.

The internal consistency and fit characteristics of both the dimensions and factors fell within an acceptable range in both the Jordanian and Hungarian samples and did not differ significantly from each other. The findings revealed notable variations across well-being dimensions among Jordanian and Hungarian university students (n=290). Within intellectual health, personal growth (CFI = 0.990, TLI = 0.969, RMSEA = 0.070, omega = 0.788) and creativity (CFI = 0.926, TLI = 0.917, RMSEA = 0.068, omega = 0.820) emerged as strong contributors. Spiritual health was highlighted by the factor of having a basic purpose in life (CFI = 0.991, TLI = 0.985, RMSEA = 0.06, omega = 0.888), although pursuing a fulfilling life had moderate internal consistency (omega = 0.759). For emotional health, optimism had a strong influence (CFI = 0.999, TLI = 0.998, RMSEA = 0.031, omega = 0.922), whereas depression and general well-being also had good validity and reliability. Social health demonstrated strong influences from interpersonal factors such as getting along with others (CFI = 0.939, TLI = 0.924, RMSEA = 0.062, omega = 0.912) and interactions with the social environment (CFI = 0.989, TLI = 0.967, RMSEA = 0.057, omega = 0.823). With respect to physical health, sleep quality was the most consistent factor (CFI = 0.978, TLI = 0.956, RMSEA = 0.056, omega = 0.857), whereas nutrition displayed weaker consistency (omega = 0.704). Overall, personal growth, optimism, purpose in life, creativity, social interactions, and sleep quality emerged as the most significant contributors to students' well-being.

Furthermore, Table 1 shows Cronbach's alpha values characterizing the internal consistency of the OLP dimensions and the OLP-M dimensions evaluated in our research, along with the significance level of the Z tests. We observed that the internal consistency of the dimensions in both samples did not differ

significantly from that of the OLP or each other, except for physical health, p = 0.046.

**Table 1: Reliability estimates (Cronbach's alpha) per dimension**

| Dimensions | OLP (n=102)* | OLP-M Jordanian Sample (n=112) | OLP-M Hungarian Sample (n=178) | p** OLP vs. OLP-M Jordan | p** OLP-M Jordan vs. OLP-M Hungary |
|---|---|---|---|---|---|
| Intellectual Health | 0.91 | 0.88 | 0.87 | 0.137 | 0.360 |
| Spiritual Health | 0.82 | 0.89 | 0.90 | 0.280 | 0.340 |
| Emotional Health | 0.95 | 0.93 | 0.92 | 0.106 | 0.111 |
| Social Health | 0.84 | 0.89 | 0.90 | 0.074 | 0.366 |
| Physical Health | 0.89 | 0.83 | 0.79 | 0.046 | 0.169 |
| *(Renger et al., 2000), ** z test | | | | | |

Tables 2 and 3 present the average scores and standard deviations of the dimensions and factors among both samples. Given that the distribution was quasi normal, an independent sample t test was used to examine the statistical significance of the differences between the averages. According to this analysis, Jordanian students rated their well-being significantly higher than Hungarian students did across all dimensions and factors.

**Table 2: Comparison of OLP-M dimensions between Jordanian and Hungarian students**

| Dimensions | Among Jordanian Students (n=112) | | Among Hungarian Students (n=178) | | Jordanian vs. Hungarian Students | | |
|---|---|---|---|---|---|---|---|
| | *Mean* | *Std. Dev.* | *Mean* | *Std. Dev.* | *t* | *p* | *Cohen's d** |
| Intellectual Health | 4.05 | 0.50 | 3.02 | 0.83 | 11.83 | < 0.001 | 1.47 |
| Spiritual Health | 3.79 | 0.79 | 3.03 | 0.77 | 8.112 | < 0.001 | 0.98 |
| Emotional Health | 3.48 | 0.59 | 2.96 | 0.85 | 5.690 | < 0.001 | 0.69 |
| Social Health | 3.45 | 0.52 | 3.01 | 0.91 | 4.694 | < 0.001 | 0.58 |
| Physical Health | 3.41 | 0.56 | 2.86 | 0.58 | 7.931 | < 0.001 | 0.96 |
| OLP-M | 3.57 | 0.39 | 2.98 | 0.51 | 10.340 | < 0.001 | 1.27 |

Table 3 shows the most significant result for the "Intellectual" dimension, particularly the personal growth factor, with the highest Cohen's d (1.41). This finding indicates the largest and most statistically significant difference between Jordanian and Hungarian students, with Jordanian students scoring notably higher in this dimension.

**Table 3: Comparison of OLP-M factors between Jordanian and Hungarian students**

| Dimensions | Factor | Among Jordanian Students (n=112) | | Among Hungarian Students (n=178) | | Jordanian vs. Hungarian Students | | |
|---|---|---|---|---|---|---|---|---|
| | | *Mean* | *Std. Dev.* | *Mean* | *Std. Dev.* | *t* | *p* | *Cohen's d** |
| Intellectual Health | Personal growth | 4.07 | 0.62 | 2.93 | 0.89 | 11.83 | < 0.001 | 1.42 |
| | Creativity | 4.01 | 0.57 | 3.07 | 0.89 | 10.04 | < 0.001 | 1.21 |
| | Interest in social and natural science discoveries | 4.00 | 0.66 | 3.03 | 0.99 | 9.10 | < 0.001 | 1.10 |
| Spiritual Health | Basic purpose in life | 3.92 | 0.87 | 3.04 | 1.07 | 7.29 | < 0.001 | 0.88 |
| | Pursue a fulfilling life | 3.64 | 0.76 | 3.02 | 0.78 | 6.59 | < 0.001 | 0.79 |
| Emotional Health | Depression | 3.19 | 0.75 | 2.91 | 0.98 | 2.59 | 0.006 | 0.31 |
| | Optimism | 3.95 | 0.77 | 3.00 | 1.13 | 7.82 | < 0.001 | 0.94 |
| | Wellbeing | 3.28 | 0.75 | 2.99 | 0.94 | 2.77 | 0.004 | 0.33 |
| Social Health | Getting along with others | 3.89 | 0.63 | 2.99 | 1.17 | 7.41 | < 0.001 | 0.89 |
| | People react to person answering | 3.39 | 0.75 | 3.01 | 1.20 | 2.95 | 0.001 | 0.36 |
| | Person interaction with social environment | 2.90 | 0.77 | 3.03 | 0.88 | -1.28 | 0.190 | 0.15 |
| Physical Health | Physical activity | 3.41 | 0.69 | 2.60 | 0.96 | 7.81 | < 0.001 | 0.94 |
| | Nutrition | 3.31 | 0.41 | 2.93 | 0.87 | 4.33 | < 0.001 | 0.52 |
| | Sleep quality | 3.36 | 0.86 | 2.98 | 0.93 | 3.50 | < 0.001 | 0.42 |

* Effect size

Additionally, Figure 2 illustrates the results of Jordanian students having higher life satisfaction (E1) than Hungarian students (according to the Mann–Whitney test, $p<0.001$).
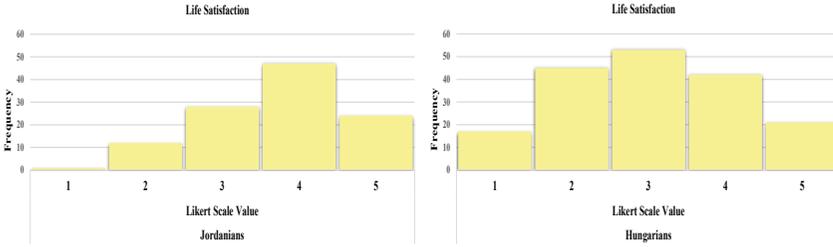


**Figure 2: Distribution of life satisfaction scores**

The figure shows which OLP-M dimensions and factors contributed to Jordanian students' positive view of their well-being and life satisfaction compared to Hungarian students. It describes how life satisfaction is closely related to various OLP-M dimensions. In addition, it determines whether the factors that Jordanian students rate more positively influence their life satisfaction.
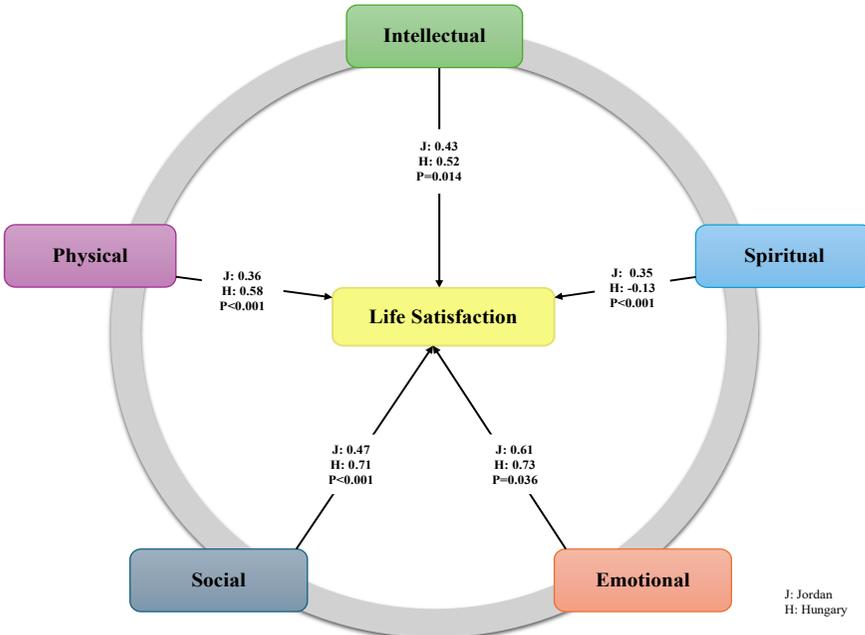


**Figure 3: OLP-M dimension correlations on life satisfaction for Hungarian and Jordanian students**

## Comparison of correlations between life satisfaction and OLP_M dimensions (binary analysis)

Figure 3 shows that the OLP-M dimensions positively impact life satisfaction in Jordanian and Hungarian students, with the highest positive correlation in emotional health, whereas spiritual health has a slightly negative impact on Hungarian students. Moreover, we examined whether there was a difference in the strength of the correlations between the two samples. As shown in Figure 3, the binary analysis indicates a significant difference between Jordanian and Hungarian students in terms of the strength of the correlation between the dimensions and life satisfaction, highlighting that spiritual health has the most significant difference in correlation between the students.

**Table 4: Analysis of dimensions predicting life satisfaction via logistic regression**

| | Sig. | Exp(B) | 95% C.I.for Exp(B) | |
|---|---|---|---|---|
| | | | Lower | Upper |
| **Life Satisfaction** | | | | |
| **MODEL 1** | | | | |
| **Method: Enter** | | | | |
| Gender | 0.310 | 1.29 | 0.79 | 2.13 |
| Sample | 0.005 | 2.19 | 1.27 | 3.76 |
| Predicted overall percentage: 67.6. | | | | |
| **MODEL Final (Significant Dimensions)** | | | | |
| **Method: Forward Conditional** | | | | |
| Gender | 0.497 | 0.79 | 0.41 | 1.54 |
| Age (Binned) | 0.218 | 1.33 | 0.84 | 2.10 |
| Sample | 0.261 | 1.50 | 0.74 | 3.04 |
| Emotional Health (Binned) | <0.001 | 10.35 | 5.31 | 20.18 |
| Social Health (Binned) | <0.001 | 5.52 | 2.83 | 10.78 |
| Predicted overall percentage: 83.4 | | | | |

**Dimensions influencing life satisfaction**

In Table 4, the sample, gender, and age were included in the first model. Then, we introduced the five dimensions (OLP-M) into the model and applied the forward conditional method. According to the final model, the model's coefficient of determination significantly improves with the addition of emotional health and social health. The predicted overall percentage of the final model is 83.4%.

## DISCUSSION

Our study aimed to explore the well-being and life satisfaction of Jordanian and Hungarian students at the University of Pécs in Hungary. We specifically examined the correlations between the OLP dimensions and factors and their associations with life satisfaction. Since the construct validity of the OLP was not satisfactory, we performed an optimized selection of the items that significantly enhanced the model's construct validity and internal consistency, as seen in the OLP-M, making it suitable for comparison (RQ$_1$).

Our findings highlight the significant differences in well-being across all dimensions, with Jordanian students reporting higher levels in all measured dimensions reflecting a better state of well-being than their Hungarian peers did, specifically in intellectual and emotional health dimensions. According to the TPC, individuals who pursue improving their well-being in various aspects tend to report higher life satisfaction (Renger et al., 2000). This helps explain how Jordanian students are more satisfied with their personal lives than Hungarian students are, regardless of gender and age. Moreover, according to the binary analysis, all the dimensions are related to life satisfaction; however, the strongest correlation is with the emotional and social health dimensions because when all the dimensions are included in the models, the significance of the other dimensions disappears.

**Challenges and negative/less preferred activities per item**

Furthermore, the findings also define the negative responses from both groups, revealing significant challenges that students face (RQ$_2$). In the intellectual health dimension, Jordanian students reported less engagement in I1, possibly due to cultural, logistical, or language barriers (Durkin, 2011), whereas Hungarian students lacked enthusiasm for I4 and I15, which can be explained by the focus shifting toward digital communication (Alenezi, 2023). In contrast, both groups in I9 show lower engagement in such activities since many students have broader access to online educational programs and resources and may not prefer to use radio for such activities (Livingstone & Sefton-Green, 2016). In the spiritual health dimension, many Hungarian students experience uncertainty in their spiritual belief S1, which aligns with Hungary being a more secular society compared to the more religiously Jordanian culture (Koenig, 2012). This can also explain S2 and S9, where Hungarians reported greater negative responses, which aligns with research indicating that post communist countries such as Hungary usually have lower levels of religiosity and spirituality and that active religious

participation is declining (Guglielmi & Piacentini, 2024). In contrast, Jordanian students may rely on structured religious coping mechanisms (Abu-Ras & Abu-Bader, 2008), and they are likely to depend on spiritual beliefs to overcome hardships and stress, emphasizing the stronger role of spirituality in Middle Eastern countries (Abu-Raiya & Pargament, 2011). Moreover, the emotional health dimension revealed that Jordanian students in E5 are more stressed than Hungarian students are since international students must address many challenges, from cultural differences to language barriers and academic pressure (Alharbi & Smith, 2018). Unlike Jordanian students, who are supported with scholarships, Hungarian students are quietly stressed, probably from other factors, such as financial instability or living status, academic stress, and fear of failure (Usman & Banu, 2019). In contrast, E8 and E21 highlight the significant difference, showing that Jordanian students are more optimistic and hopeful about their future than Hungarians are. Research indicates that collectivist societies such as Jordan (Hofstede, 2023) focus on familial relationships, social support, and beliefs, which together increase optimism, resilience, and well-being, especially in challenging situations such as living abroad (Joshanloo, 2013). Importantly, according to Hofstede's Insights, Jordanian culture encourages cooperation, modesty, and quality of life. In contrast, Hungary is an individualistic society where people are motivated by personal achievements and individual accomplishments, making it highly competitive (Hofstede, 2023), which increases stress and negatively affects social relationships (Roseth et al., 2008). Moving further to the social health dimension, Jordanian students agree with the Sc9 than Hungarians do, suggesting that Jordanians are more confident in their personal development, which is likely influenced by their cultural backgrounds, that focus on social growth and relationships (Hofstede, 2023). In Sc12 and Sc13, Jordanian students showed greater detachment in both items to the community where they lived, which might be due to experiencing challenges blending with the local society while living abroad (Berry, 1997). However, Jordanian students feel emotionally connected to others in Sc20, highlighting the emphasis on social bonds that help Jordanian students feel connected emotionally even when living in a foreign environment (Ward et al., 2008). Finally, the physical health dimension was significantly different between the two groups. P1 revealed that Jordanians suffer from physical discomfort as a result of environmental changes, which can be more intense for international students, especially if they are coming from different environments in terms of climate, nature, or gastronomy (Berry, 1997). Additionally, both groups showed high agreement with P17 and P20, which can be a coping mechanism for stress and homesickness and a consequence of irregular schedules leading to skipping meals (Ward et al., 2008). In P33, P36, and P40, Hungarian students reported higher scores on all three items. Hungarians reported that they lack the time for self-care and daily physical activity, likely because of high academic pressure (Deb et al., 2015). The shortage of energy to accomplish personal or professional goals may be a result of weak social and emotional support systems in Jordanian students compared with Jordanian students (Gomes et al., 2014). In this section, the findings highlight the challenges

both groups face, the differences in dealing with them, and how the literature explains them.

## Personal growth and cultural adaptation

Now moving on to further findings of the OLP-M, even though Jordanians are international students, they still reported better well-being in all dimensions than Hungarian students did (RQ2). Jordanians scored higher on all three factors of the intellectual health dimension: "personal growth", "creativity", and "interest in social and natural science discoveries". This could be considered the benefit of studying abroad, where students are placed in a new diverse academic environment with more opportunities for interpersonal development. Studies suggest that international students' experiences tend to contribute to their personal growth (Weibl, 2016). Additionally, it stimulates cognitive flexibility and open-mindedness, which are linked not only to personal growth but also to creativity (Leung et al., 2008). As we explained before, students face many challenges, and those who manage such difficulties have better well-being and higher levels of personal growth, which leads to better adaptation even in challenging situations (Taušová et al., 2019). This is evident in international students in China, where researchers have revealed that even though students face various cultural adaptation challenges, those who actively engage in campus events, seek out social connections, and take advantage of available resources tend to adapt better (An & Chiang, 2015). The same applies to international students in the USA; embracing the new culture, participating, and being active in cultural exchange can improve adaptation, thus leading to a positive experience (Y. Wang et al., 2018). This can explain why Jordanian students reported greater intellectual health in this case, as they may perceive their experience as an opportunity to learn, adapt, and grow.

## Purpose in life and motivation

Another significant aspect of university students' well-being is their purpose in life, as in the spiritual health dimension, Jordanian students reported a greater and stronger purpose in life than Hungarians did (RQ2). Research has indicated that students with a clear purpose in life have better academic records, greater emotional well-being, and greater resilience in facing stressors (Pfund et al., 2020). Additionally, a study revealed that students with a strong purpose in life report lower stress levels and highlight the influence of religion, regardless of religious affiliation, in defining the sense of purpose that contributes to their well-being (Z. Wang et al., 2016). This explains the better results of Jordanian students in this dimension, considering that they come from a religious society (Hofstede, 2023), but does not explain their higher stress level, which other factors can elaborate. Since Middle Eastern countries think highly of education and consider it a familial honor, students can feel pressure to reach societal expectations (Zhang & Han, 2023). Moreover, Hungarian students might enjoy more personal freedom as part of an individualistic society (Hofstede, 2023). Moreover, in a comparative study between secular and religious institutions, secular students presented a

stronger sense of purpose in life (Hodges et al., 2014), which contrasts with the fact that religion is associated with a better purpose in life (Z. Wang et al., 2016). Furthermore, the generally greater well-being of Jordanian students could be due to their strong motivation to succeed in an international setting, considering that they are on scholarships. A study suggested that international students from developing or traditional societies often view studying abroad as an important opportunity, so they are motivated to excel academically and personally (A. Li & Gasser, 2005). This motivation, along with a desire to overcome challenges related to living abroad, can improve well-being and enhance life satisfaction at several levels (Muthuswamy, 2023). By comparing these orientations in diverse cultural settings while considering all the factors, cultural background shapes students' well-being and thus affects their life satisfaction and happiness; understanding such differences is important for better communication and cooperation among students from different parts of the world (Yi, 2018).

**Influence of emotional and social health on life satisfaction**

As previously stated, life satisfaction is highly influenced by emotional and social health dimensions, with higher scores for Jordanian students, including a variety of factors such as "optimism", "wellbeing", "people react to person answering", and "nutrition" as key predictors of life satisfaction, indicating that students with a positive outlook and healthy habits tend to feel more satisfied with their lives (RQ3). A multivariate analysis revealed the importance of social support, financial stability, and mental health as central to the life satisfaction of university students, with strong correlations (Chow, 2005). Similarly, research has highlighted the significance of social support in friends, specifically, that the better one's social health is, the greater one's life satisfaction (Mahanta & Aggarwal, 2013). Moreover, despite the stress of living abroad, Jordanian students maintained greater emotional health, especially in terms of "optimism," which explains why they had higher life satisfaction, considering it a strong predictor. Optimistic students are more likely to develop resilience as they approach hardships with a mindset focused on opportunities, and this trait is associated with better mental health and, as a result, better life satisfaction Chow, 2005). Additionally, a study explained that, to improve life satisfaction, efforts must be made to improve health in general, optimism, and behaviors (Tavakoly Sany et al., 2023). Similarly, research has indicated that students with positive mental health, emotional stability, and better physical health are happier (Mota et al., 2023). In contrast, Hungarian students, who reported lower scores in these dimensions, may be influenced by less social and emotional support. This can explain the lower scoring of Hungarian students, who may experience academic pressure and high competition, which influences their life satisfaction. To conclude, emotional and social health are strong predictors of life satisfaction among university students.

## Implications

These outcomes have important implications for universities seeking to improve student well-being. Understanding their challenges is important for establishing interventions to increase university students' well-being and life satisfaction. Therefore, supportive interventions and positive experiences go a long way in improving the well-being of international and local students. Considering the significant role of emotional and social health in predicting life satisfaction, universities should prioritize peer mentoring programs, social events, and group projects. Stress management, time management, and physical health workshops can also help students balance their well-being. Additionally, inclusive cross-cultural exchange programs are recommended to enhance intellectual health, as they offer an opportunity to exchange experiences and values among international and local students.

## Strengths and limitations

The findings highlight the strength of the TPC in providing a full holistic view of well-being, making it ideal for cross-cultural research. This study provides insights into social support theory and Hofstede's individualism vs. collectivism cultural dimension, suggesting that encouraging positive emotional health and social support networks enhances well-being among university students. However, our results should be interpreted carefully, as the data were collected from one university in Hungary. The cross-sectional design limits the understanding of how these dimensions and factors change over time. Additionally, the exclusion of the environmental health dimension may have reduced the comprehensiveness of the analysis. Further research should include larger samples of international students from different countries, include the environmental health dimension, and examine individualistic vs. collectivistic, or religious vs. secular health dimensions for a wider understanding of well-being.

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*Author bios*

**FARAH ABU KHADRA**, PhD candidate at the Doctoral School of Health Sciences, University of Pécs, Hungary, with research interests in health and well-being. Email: a014bk@pte.hu

**WESSAM A. DEBES**, PhD candidate at the Doctoral School of Health Sciences, University of Pécs, Hungary, with research interests in musculoskeletal rehabilitation. Email: FLK0R5@pte.hu

**LINA TAKRURI**, PhD candidate at the Hungarian University of Sports Science, Budapest, focuses on the intersection of sports science and well-being. Email: leen96tak@yahoo.com

**ZOLTÁN CSAPEK**, a computer scientist in educational technology and development at the University of Pécs, contributed his expertise in data analysis and educational development. Email: zoltan.csapek@etk.pte.hu

**BENDEGÚZ KERTAI**, a demonstrator at the Institute of Sport Sciences and Physical Education, University of Pécs, where he focuses on physical education and its role in well-being. Email: bendeguz.kertai@gmail.com

**SÁRA JEGES**, professor emerita at the Doctoral School of Health Sciences, University of Pécs, has extensive experience in biostatistics and research interest in health and well-being. Email: jegessara@gmail.com

**ÁKOS LEVENTE TÓTH**, associate professor at the Institute of Sport Sciences and Physical Education, University of Pécs, studies the role of sports and education in shaping quality of life. Email: tothahu@gmail.com