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# Understanding happiness among university students: The role of general health, psychological well-being, and sociodemographic variables

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## Abstract

*Background:* Happiness is an important dimension for university students since it can have a positive impact on students' academic performance and social relationships. This research was conducted to investigate the role of sociodemographic variables in explaining individual differences in subjective happiness in a sample of university students and to test the mediating role of psychological well-being in the association between perceived general health and subjective happiness.

*Methods:* Participants were 504 university students (62% female; Mage = 20.97; SD = 2.42). The data was collected in person using self-report scales for measuring general health, psychological well-being, and subjective happiness.

*Results:* The results of the study indicated that students who study in the institution in which they want to study and students who were married or involved in a romantic relationship presented higher levels of subjective happiness. Additionally, the mediational proposed model showed that perceived general health was linked to subjective happiness through psychological well-being, specifically happiness and self-esteem.

*Conclusions*: Prioritizing happiness can help create a more positive and fulfilling university experience for students. This can be achieved by promoting student's general health and psychological well-being.

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## 1. Introduction

The emergence of positive psychology contributed to change the topics of interest in the field of psychology. Rather than focus only on psychopathology, researchers begun to drive their attention to individuals' strength and optimal functioning (Seligman & Csikszentmihalyi, 2014). *Happiness* is an important concept within this vision. It can be defined as a life characterized by pleasantness, comfort, safety, and stability (Oishi et al., 2020). However, it has been investigated from two separately points of view: subjective well-being (*hedonia*) and psychological well-being (*eudaimonia*) (Ryan & Deci, 2001; Waterman, 2008; Waterman et al., 2008). According to the philosopher Kraut (1979), hedonic happiness refers to "the belief that one is getting the important things one wants, as well as certain pleasant affects that normally go along with this belief" (p. 178). It implies to attain pleasure and avoid suffering (Ryan & Deci, 2001).

Eudaimonic happiness refers to a set of subjective experiences in which meaning and purpose in life is attained (Ryan & Deci, 2001; Waterman, 2008). In sum, hedonic well-being is related to positive feelings and positive mood states while eudaimonic well-being refers to individuals' fulfillment of personal potential and life goals (Steptoe, 2019). However, both are positively inter-associated (Kashdan et al., 2008). Diener et al. (1999) proposed a definition of happiness (that they called subjective well-being) that is widely accepted by the researchers since it includes three components: the absence of negative affect, the presence of positive affect, and higher levels of life satisfaction.

Overall, happiness seems to depend on a wide range of factors: personality, genetics, education, socioeconomic status, social network, time use and activities, stress exposure, and marital status/family (Steptoe, 2019). Several studies have explored the determinants of happiness among university students. For instance, Flynn and MacLeod (2015) found that self-esteem, academic success, and financial security explained individual differences in the level of happiness experienced by undergraduate university students. Mahmoodi and Nadrian (2019) found that academic self-efficacy and academic stress were also significant factors associated with happiness in college students. Other correlates such as emotional intelligence, empathy, personal growth initiative, social support, and personal mastery (Canero Perez, 2019; Kugbey et al., 2018; Peltzer et al., 2017) also have been linked to happiness within this context.

### 1.1 General health and happiness

University students are at greater risk for poor general health. For instance, studies showed that university students are more likely to experience sleep problems (e.g., Zafar & Ansari, 2020), eating disorders (Koushiou et al., 2021) or internet addiction (e.g., Radeef et al., 2018).

Researchers have highlighted that individuals' self-report of happiness and perceived health status are intimately related, with each one depending on each other; indeed, impaired happiness can be both a consequence of ill-health but also a factor contributing to disease risk (Borghesi & Vercelli, 2012; Steptoe, 2019).

Studies have shown that happier individuals tend to present better health in terms of cardiovascular health and immune functioning (Boehm et al., 2012; Marsland et al., 2006), and tend to live longer; for instance, in a review of observational studies, Chida and Steptoe (2008) found that positive psychological well-being contributed to improve survival both in healthy and diseased populations. Also, in terms of mental health, previous studies have found positive links with happiness (e.g., Abdel-Khalek & Lester, 2017; Yiengprugsawan et al., 2012). Specifically, individuals with less depressive, anxious or stress symptoms tend to be happier (e.g., Allahverdipour et al., 2021; Ghasempour et al., 2013; Heizomi et al., 2015).

Particularly, in a study with undergraduate students, it was found that mental health accounted for 60% of the variance of happiness (Abdel-Khalek, 2006). However, the pathways through which perceived general health influences happiness remain understudied. One possible linking mechanism can be psychological well-being, as described as follow.

### 1.2 Psychological well-being and happiness

Psychological well-being is described as an important aspect for the individuals' psychological functioning. It is a relatively complex construct since it includes different components. According to Diener et al. (2010) psychological well-being includes aspects related to positive relationships, feelings of competence, and meaning and purpose in life.

According to Ryff's model, psychological well-being comprises six different components: autonomy, environmental mastery, personal growth, purpose in life, positive relations with others and self-acceptance. In the same line, Masse et al. (1998) found that psychological well-being is related to positive affect (such as happiness), individual self-concepts (such as self-esteem and self-confidence), life satisfaction, and positive involvement with other and within the society. Also, other studies showed that it is liked to higher closeness to family, to more family congruence and to higher self-esteem (e.g., Jauhari et al., 2022).

In a previous study with university students, it was found that psychological well-being contributed to explain happiness (Dogan et al., 2013). Studies within other contexts have found similar patterns with positive associations between psychological well-being and happiness (e.g., Allahverdipour et al., 2021; Poormahmood et al., 2017). Additionally, psychological well-being

emerges as an important factor for university students since it is associated with academic performance (e.g., Buzzai et al., 2020; Esposito et al., 2020).

### 1.3 Sociodemographic variables and happiness

In a study with 47 European countries Pierewan and Tampubolon (2015) found that being married, being educated, and being affluent is associated with more happiness (and health). Zweig (2015), in a worldwide study with 73 countries, found that women are happier than men. In a European study with 16 countries, Aïda Solé-Auró et al. (2018) found that women are happier than men (except in Portugal). Recently, Allahverdipour et al. (2021), using a sample of middle-aged women, found that married status was a significant predictor of happiness (but no significant effects were found for job status, education, or perceived income status).

In a study conducted with 388 Brazilian university students, it was found that female students, younger students, married or dating students, students with a religion, and students with parents with higher education or higher socioeconomic status reported more happiness (Coleta et al., 2012). However, Mahmoodi and Nadrian (2019) found that male students reported higher levels of happiness as well as students at the highest grade of the academic year.

In a study with university students from 24 low-, middle-, and high-income countries, it was found that socioeconomic status and coming from a higher income country was associated with more happiness (Peltzer et al., 2017).

### 1.4 The present study

This study aimed to explore the correlates of subjective happiness among university students. Specifically, it aimed to examine the role of sociodemographic variables, perceived general health, and psychological well-being in explaining individual differences in subjective happiness. Additionally, it aimed to explore a processual hypothesis in which psychological well-being would mediate the association between perceived general health and subjective happiness.

## 2. Method

### 2.1 Design

This study is of a cross-sectional nature since it collected data from a group of participants at a single point in time and employs quantitative methods to analyze the associations between the study.

### 2.1 Participants

Participants were included in this study if: (1) were enrolled in a university degree; (2) were older than 18 years; (3) were able to read and understand Portuguese. A total of 504 university students participated in this study. Most were women (n = 313; 62%) and their aged varied between 18 and 30 years (M = 20.97; SD = 2.42). Most of the participants are single (n = 477; 95%), have brothers (n = 418; 83%), are not students-workers (n = 427; 85%), are away from home to study (n = 417; 83%). In terms of residence, around 53% (n = 265) are from a rural area.

Participants are students at the following areas: School of Agrarian and Veterinary Science (n = 20; 4%), School of Human and Social Sciences (n = 181; 36%), School of Science and Technology (n = 75; 15%), School of Life Science and Environmental Sciences (n = 129; 26%), and School of Health (n = 99; 19%). Most are studying in the institution they want (n = 383; 76%) and in the course they want (n = 490; 97%).

### 2.2 Measures

#### 2.2.1 Sociodemographic questionnaire

Participants provided basic socio-demographic data such as sex, age, course, year, choices about the degree, being apart from home to study, among others.

#### 2.2.2 Subjective happiness

Subjective happiness was measured using the *Subjective Happiness Scale* developed by Lyubomirsky and Lepper (1999) (Portuguese validation: Pais-Ribeiro, 2012). This self-report scale is composed by four items rated on 7-point Likert scale (item 4 is reversed). In two items participants are asked to describe themselves about how happy they are in general, and compared to their peers. In the other two items participants are presented with two descriptions of happy and unhappy individuals and must indicate to what extend those descriptions characterize them. The Cronbach's alpha in the present study was .79.

#### 2.2.3 Perceived general health

General health was measured with the *General Health Questionnaire* developed by Goldberg (2000) (Portuguese version: de Oliveira Borges & Argolo, 2002). It is a self-report questionnaire that measures psychiatric well-being. It contains 12 items (item examples: "*able to concentrate*"; "*loss of sleep over worry*"; "*capable of making decisions*"). Individuals are asked to think about the past few weeks. Items are rated on a 4-point Likert scale ranging from 0 (*never*) to 3 (*always*) (items

2,6,5,9,10,11 are reversed). Higher scores indicated worse mental health. The Cronbach's alpha in the present study was .85.

### 2.2.4 Psychological well-being

Psychological well-being was measured with the *Psychological Well-Being Manifestation Scale* developed by Massé et al. (1998) (Portuguese version: Monteiro, Tavares, & Pereira, 2012). This is a self-report scale composed by 25 items divided into six dimensions: self-esteem (4 items; item example "*I had self-confidence*"), social involvement (4 items; item example "*I was curious and interested in all sorts of things*"), mental balance (4 items; item example "*I lived at a normal pace, not doing anything excessively*"), control of self and events (4 items; items example "*I was able to face difficult situations in a positive way*"), sociability (4 items; item example "*I smiled easily*"), and happiness (5 items; item example "*I had the impression of really enjoying and living life the fullest*"). Items are rated in a 5-point Likert scale ranging from 1 (*never*) to 5 (*almost always*). Higher scores indicate higher psychological well-being. The Cronbach's alpha in the present study was .95 for the total score; and the .78 for self-esteem, .68 for social involvement, .70 for mental balance, .89 for control of self and events, .86 for sociability, and .93 for happiness.

## 2.3 Procedure

Data was collected in a public university. Ethical approval from Universidade de Trás-os-Montes e Alto Douro was obtained. A written informed consent was obtained from all the participants. The questionnaire was filled out individually during classes (in a group context). Confidentiality was ensured. They did not receive any type of incentive.

## 2.4 Data analysis

Data were analyzed using SPSS (version 26; IBM, SPSS Inc., Chicago, IL).

To examine differences in subjective happiness according to sociodemographic analyses of variance (ANOVAs) were used. Bivariate correlations among perceived general health, psychological well-being and subjective happiness were examined using Pearson's correlations.

The mediation model was tested using the PROCESS macro (version 3.4) from Hayes (2017). Model 4 was used to examine the multiple mediation model. The independent variable was perceived general health, the mediation variables were happiness, sociability, control of self and events, social involvement, self-esteem, and mental balance (all dimensions of psychological well-being), and the dependent variable was subjective happiness. Total, direct, and indirect effects were inspected. Indirect effects were examined using bootstrapping with 5000 bootstrap

samples and were considered significant if the 95% bias-corrected confidence intervals did not include 0 – indicating mediation.

## 3. Results

### 3.1 Differential analyses

Differences in happiness according to sociodemographic variables are presented in Table 1. Significant differences were found for students' choice of higher education institution (i.e., desired institution) [$F\ (1,488) = 4.932;\ p=.027;\ \eta2= .60$] and marital status [$F\ (1,488) = 7.508;\ p=.006;\ \eta2=.78$]. Students who study in the institution they choose ($M$ = 4.59; $SD$ = .34 vs $M$ = 4.42; $SD$ =.35), and students involved in a romantic relationship ($M$ = 4.72; $SD$ = .37 vs $M$ = 4.29; $SD$ =.34) presented higher levels of happiness. No significant differences were found for sex, have brothers, course, education, be a student worker, leave home to study, or residence.

**Table 1.** Differences in happiness according to sociodemographic variables (N = 504)

| Variable | M (SD) |
|---|---|
| **Sex** | |
| Feminine | 4.54 (.35 |
| Masculine | 4.47 (.35) |
| **Education** | |
| Secondary | 4.57 (.26) |
| Graduation | 4.52 (.26) |
| Master's degree | 4.43 (.74) |
| **Have brothers** | |
| Yes | 4.58 (.35) |
| No | 4.23 (.35) |
| **Desired course** | |
| Yes | 4.53 (.38) |
| No | 4.48 (.34) |
| **Desired institution** | |
| Yes | **4.59 (.34)** |
| No | **4.42 (.35)** |
| **Involved in a romantic relationship** | **4.29 (.34)** |
| Yes | **4.72 (.37)** |
| No | |
| **Leave home to study** | |
| Yes | 4.52 (.36) |
| No | 4.48 (.35) |
| **Residence** | |
| Urban | 4.56 (.26) |
| Rural | 4.47 (.27) |

*Note.* Significant differences are in bold

### 3.2 Correlations

Significant positive and moderate correlations were found between happiness and general health ($r$ = .36, $p$ < .01), and happiness and psychological well-being dimensions (namely, self-esteem ($r$ = .39, $p$ < .01), social involvement ($r$ = .27, $p$ < .01), mental balance ($r$ = .32, $p$ < .01), control of self and events ($r$ = .37, $p$ < .01), sociability ($r$ = .38, $p$ < .01), and happiness ($r$ = .43, $p$ < .01)). Correlations among study variables are presented in Table 2.

**Table 2.** Correlations among study variables (N = 504)

| | 1. | 2. | 3. | 4. | 5. | 6. | 7. |
|---|---|---|---|---|---|---|---|
| 1. Subjective happiness | - | | | | | | |
| 2. General health | .362** | - | | | | | |
| 3. PWMS - Happiness | .429** | .747** | - | | | | |
| 4. PWMS – sociability | .376** | .599** | .792** | - | | | |
| 5. PWMS – control of self and events | .367** | .603** | .704** | .649** | - | | |
| 6. PWMS – social involvement | .267** | .381** | .500** | .492** | .515** | - | |
| 7. PWMS – self-esteem | .386** | .600** | .662** | .614** | .602** | .507** | - |
| 8. PWMS – mental balance | .319** | .541** | .661** | .603** | .596** | .458** | .519** |

*Note*. PWMS = Psychological Well-being Manisfestation Scale; * p < .05; ** p < .01

### 3.3 Mediation model

First, the total effects of perceived general health in predicting subjective happiness were observed. The association between perceived general health and subjective happiness was significant ($b$ = .46, SE = 05, $t$ = 8.71, $p$ < .001). Students with more perceived general health experienced more subjective happiness.

The links between perceived general health and psychological well-being dimensions were also examined and all were significant: happiness ($b$ = 1.04, SE = .04, $t$ = 25.17, $p$ < .001); sociability ($b$ = .78, SE = .05, $t$ = 16.76, $p$ < .001); control of self and events ($b$ = .84, SE = .05, $t$ = 16.93, $p$ < .001); social involvement ($b$ = .50, SE = .05, $t$ = 9.24, $p$ < .001); self-esteem ($b$ = .72, SE = .04, $t$ = 16.78, $p$ < .001); and mental balance ($b$ = .71, SE = .05, $t$ = 14.43, $p$ < .001).

With all variables entered in the model, the association between perceived general health and subjective happiness did not remain significant suggesting that psychological well-being dimensions mediated this association. Specifically, after examining confidence intervals, it was possible to see that only the indirect effects of happiness (effect = .19, SE = .08, 95%CI .033, .366) and self-esteem (effect = .11, SE = .05, 95%CI .021, .207) were significant, suggesting that only these dimensions mediated the link between perceived general health and subjective

happiness (all the indirect effects are presented in Table 3). The total model explained 21% of the variance of subjective happiness ($t(7,496) = 18.60$, $p < .001$).

**Table 3.** Indirect effects of perceived general health on subjective happiness via psychological well-being (N = 504)

| | | | 95%CI | |
|---|---|---|---|---|
| | | Estimate | Lower | Upper |
| Perceived General Health | | | | |
| | **Via happiness** | **.19** | **.033** | **.366** |
| | Via sociability | .03 | -.076 | .136 |
| | Via control of self and events | .05 | -.056 | .159 |
| | Via social involvement | .01 | -.042 | .054 |
| | **Via self-esteem** | .11 | **.021** | **.207** |
| | Via mental balance | .01 | -.064 | .089 |

*Note*. Significant indirect effects are in bold

## 4. Discussion

This study aimed to explore the correlates of happiness among university students. Specifically, it aimed to examine the role of sociodemographic variables in explaining individual differences in happiness. Additionally, it aimed to explore a processual hypothesis in which psychological well-being would mediate the association between perceived general health and subjective happiness. Overall, findings showed that students who study in the institution in which they want to study and students who were married or involved in a romantic relationship presented higher levels of subjective happiness. Additionally, the mediational proposed model showed that perceived general health was linked to subjective happiness through psychological well-being, specifically happiness and self-esteem.

Regarding the first aim, we found significant differences in subjective happiness according to two sociodemographic variables: to study in the desired institution and be involved in a romantic relationship. As expected, our results suggest that when students can choose the institution in which they want to study, they tend to present more subjective happiness. Indeed, in a previous study, students who were satisfied with their institution experienced more well-being and happiness (Matos et al., 2010). Regarding romantic status, our results suggest that those who are involved in a romantic relationship experience more subjective happiness. This is in accordance with previous literature indicating that have a strong romantic (and other) social relationship is a key factor for explaining students' happiness (Coleta et al., 2012; Diener & Sligman, 2002).

The same pattern is found in studies examining predictors of happiness in adulthood: being married or being in a partnership is a significant predictor (Pierewan & Tampubolon, 2015).

In terms of associations among study variables, the results were in accordance with previous literature. Perceived general health was positively associated with subjective happiness (e.g., Abdel-Khalek, 2006; Abdel-Khalek & Lester, 2017; Allahverdipour et al., 2021). This result seems to suggest that students who do not experience general health constrains tend to be happier than those with health problems. As previously discussed, these two variables are intimately related and subjective happiness can be impaired by ill-health (Borghesi & Vercelli, 2012; Steptoe, 2019). Indeed, university students are at greater risk for experiencing problems such as sleep problems, eating disorders, or internet addiction (Koushiou et al., 2021; Radeef et al., 2018; Zafar & Ansari, 2020). For this reason, it is important to prevent and promote general health among university students to promote their subjective happiness.

The associations between psychological well-being and subjective happiness were also significant. Despite the existence of few studies exploring these associations, our results are in accordance with the available literature both in the academic context (Dogan et al., 2013) and in other contexts (Allahverdipour et al., 2021; Poormahmood et al., 2017). Indeed, all the components of psychological well-being was positively associated with subjective happiness. It seems that when students accomplish the different components of psychological well-being, such as positive relationships, feelings of competence and meaning and purpose in life, they are happier. This is in accordance with previous studies that found links between psychological well-being and other positive dimensions of psychological functioning (e.g., family congruence, self-esteem) (e.g., Jauhari et al., 2022). Additionally, psychological well-being is likely to influence academic performance (Buzzai et al., 2020; Esposito et al., 2020).

Finally, in terms of the proposed mediational model, our results suggest that psychological well-being (especially in terms of happiness and self-esteem) can be a mediator in the link between perceived general health and subjective happiness. Specifically, when students perceived their general health as good, they tend to be more predisposed to enjoy and live life the fullest and to have a higher self-esteem, which in turn contribute to increase their subjective happiness. This is a new and interesting result. Previous studies have only explored direct association between these variables (e.g., Abdel-Khalek, 2006; Abdel-Khalek & Lester, 2017; Dogan et al., 2013). This processual approach showed that two components of psychological well-being are particularly important for explaining the link between perceived general health and subjective happiness. Indeed, self-esteem has been recognized as an important factor for explaining

individual differences in subjective happiness (Dogan et al., 2013) and our results suggest that, in this context, it seems to depend on the perceived general health.

## 5. Limitations and future research

This study has some limitations. First, this study includes only students from one university and most of them are women. Therefore, caution is need when generalizing the results to other university students and to male students. Second, this study uses cross-sectional data which limits conclusions about causality among variables. Longitudinal studies are needed to better understand directions of causality. Finally, data relies only on self-report questionnaires, which may lead to recall biases and/or social desirability. Additionally, a multi-informant approach should be employed to better understand subjective happiness among university students.

## 6. Conclusions

The study results suggest that students who attend the institution of their choice and those who are in a committed romantic relationship tend to report higher levels of subjective happiness. Furthermore, the proposed model indicates that perceived general health is positively associated with subjective happiness through psychological well-being factors such as happiness and self-esteem. These findings suggest that promoting psychological well-being and maintaining good general health could potentially contribute to increasing subjective happiness in university students.

Universities could consider providing support services that help students improve their well-being and health, as well as creating a supportive environment that facilitates the formation and maintenance of healthy relationships. Further research is needed to confirm these findings and explore additional factors that contribute to happiness in university students.

## Authors' contribution

EM and SRC designed the study and collected the data. EM and TB analyzed and interpreted the data. EM and TB composed the original manuscript. All authors contributed to the written of the final manuscript

## Conflict of Interest Statement

The authors declare that the research was conducted in the absence of any potential conflict of interest.

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