

ORIGINAL ARTICLE

<https://doi.org/10.61910/ricm.v8i1.278>

Personality and well-being: is there a correlation?

ABSTRACT

Introduction: Personality factors have stood out as possible predictors of subjective well-being (swb), being named: extroversion, agreeableness, conscientiousness, neuroticism and openness to experience, according to the Big Five model. Researches have indicated that swb is mainly associated with high levels of extroversion and low levels of neuroticism. **Objective:** To analyze the association of Big Five personality factors with the well-being of academics. **Method:** Cross-sectional observational study that used the International Personality Pool and the Satisfaction with Life Scale questionnaires to measure personality attributes and subjective well-being, respectively, in university students. **Results:** With a total of 189 participants, a weak positive correlation was observed between the attributes conscientiousness, extroversion and agreeableness with life satisfaction, meaning that as they increase, satisfaction tends to increase as well. Neuroticism had a weak negative correlation with life satisfaction, demonstrating that when it increases, satisfaction tends to decrease. openness to experience showed null correlation. This study is compatible with others presented in literature, which suggest that the subjective assessment of well-being has a certain correspondence with the personality trait. These results should not be generalized to the population, being only representative of the collected sample. **Conclusion:** Personality traits played a significant role in the subjective perception of happiness in the evaluated sample. In this study, neuroticism and conscientiousness had a greater influence on well-being, while some results in literature point to Extroversion.

Keywords: Personality; Personality Inventory; Happiness; Human Characteristics; Emotional Intelligence.

INTRODUCTION

Subjective well-being (swb) refers to how people feel and how they evaluate their lives, corresponding to the phenomenon of emotional responses and global judgments about satisfaction with life¹⁻⁹. It encompasses general life satisfaction, positive affect and negative affect, in which global life satisfaction refer to the positive cognitive evaluation of life as a whole; positive affect represents the frequency of positive emotions experienced by the subject; and negative affect, the frequency of negative emotions⁴. In this sense, it is possible to identify, among the influencing factors of swb, those that are intrinsic to the subject, such as psychological aspects, values, beliefs, religiosity and coping strategies⁵.

Adolescence encompasses biopsychological transformations in which individuals seek control and power over their lives, striving to exercise their autonomy⁶. The academic experience is accompanied by these moments of transformation and challenge that are faced by university students¹⁰. In this sense, high levels of swb in adolescence make it easier to undergo the transformations of this period, helping the perception of their lives in a more positive way⁶. Happier students have greater satisfaction and academic life, are less likely to drop out of college and have more autonomy and ability to resist academic difficulties¹¹.

Personality factors have stood out as important predictors of swB and the literature indicates that the influence of personality on well-being is substantial^{2,12}. The meta-analysis conducted by Hayes and Joseph (2003) demonstrated that personality explained 32% to 56% of the variance in swB scores. According to Diener, Oishi and Lucas (2003), individual variations in personality and swB are stable throughout time and have a moderate to strong genetic component. These propositions have led some authors to suggest that swB is determined by innate predispositions. Personality factors have stood out as the main predictors of swB, and the personality model most used in these researches has been the Big Five, which includes five attributes: extroversion, neuroticism, openness, agreeableness and conscientiousness^{3,12,15}.

Extroversion refers to the degree of tolerance to sensory stimulation from other people and situations, being related to cordiality, sociability, the strength of interactions with other people and the ability to be happy. Neuroticism reflects individual differences in the susceptibility to experience negative emotions (anxiety, depressed mood, fear, irritability, or low self-esteem) and the degree of sensitivity to stress. Openness refers to openness to new experiences, reveals individual differences in intellectual curiosity, appreciation of artistic beauty and imagination. Agreeableness (or socialization) refers to the type of interaction a person has with others, being related to trust, compliance, tenderness and cooperation. Conscientiousness refers to individual variations in being disciplined, organized and persevering¹⁵.

Based on the Big Five model, research has indicated that mainly the factors extroversion and neuroticism stand out as the strongest influencers of well-being^{12,16}, so that extroversion was associated with the presence of positive affect and neuroticism with presence of negative affect. Therefore, happiness would be associated with high levels of extroversion and low levels of neuroticism^{16, 17}.

In Brazil, research among university students indicates that personality is a strong predictor of well-being, with significant correlations being obtained between the factors neuroticism, extroversion, agreeableness and swB¹⁸. Therefore, this study is crucial as a perspective to increase research in this area, aiming to elucidate the determinants, as well as the variables related to swB.

METHODS

Study design

This is a cross-sectional analytical observational research, which aimed to analyze, among students at a private college in Minas Gerais, whether personality factors are associated with subjective well-being.

Sample

According to sample calculation, considering 5% significance, 5% error and a conservative approach, the target sample size was 385 participants. The population chosen for the sample is entirely made of students aged 18 and over. As exclusion criteria, the following were considered: students not enrolled in the Medicine, Psychology, Nursing or Physiotherapy course at the private college studied or not having completed the Informed Consent Form.

Instruments

A questionnaire was applied using the Google Forms digital platform. It was based on two validated questionnaires and adaptations were made to better direct the questions to the goals of this research. These two self-applicable tools are used to assess personality factors and subjective well-being. These are, respectively, the questionnaire provided by the International Personality Pool and the Life Satisfaction Scale. It was decided to adopt a version of the inventory suggested for evaluating the markers of the Big Five Model (Table 1). Responses are given on a 5-point Likert scale (1 = "Totally Disagree" and 5 = "Totally Agree").

Table 1 – Correlation of statements from the International Personality Pool questionnaire and personality factors

Personality Factors	Assertives
Extroversion	Am the life of the party. Talk to a lot of different people at parties. Don't talk a lot. Keep in the background.
Agreeableness	Sympathize with other's feelings. Feel other's emotions. Am not really interested in others. Am not interested in other's problems.
Conscientiousness	Get chores done right away. Like order. Often forget to put things back in their proper place. Make a mess of things.
Neuroticism	Have frequent mood swings. Get upset easily. Am relaxed most of the time. Seldom feel blue.
Openness to experience	Have a vivid imagination. Have difficulty understanding abstract ideas. Am not interested in abstract ideas. Do not have a good imagination.

(Goldberg et al; 2006)

Table 2 – Satisfaction with Life Scale

In most ways my life is close to my ideal.
The conditions of my life are excellent.
I am satisfied with my life.
So far I have gotten the important things I want in life.
If I could live my life over, I would change almost nothing.

(Diener et al; 1985)

The questionnaire used to assess well-being is the Satisfaction with Life Scale (swls)¹⁹, composed of five items that assess the cognitive dimension of subjective well-being (Table 2). Participants give their answers on a 7-point scale, with the extremes being 1 (totally disagree) and 7 (totally agree). The swls exhibits favorable psychometric properties, including high internal consistency and high temporal reliability.

Procedures

A questionnaire was applied through the digital platform Google Forms, sent to students through various groups on social networks. The online electronic forms were completed after reading and accepting the Informed Consent Form. As this is a research involving human beings, all data collected after approval by the Research Ethics Committee, under number CAEE 60809022.0.0000.5134. The principles of ethics were respected and are in accordance with Resolution 466/12, of the National Health Council in Brazil.

Statistical analysis

The independent variables analyzed in the questionnaire were: age, course, course period and gender. Personality attributes (extroversion, agreeableness, conscientiousness, neuroticism and openness to experience) were evaluated based on individual results in relation to descriptive statistical measures of the local sample, the sum of the questionnaire scores, relative to each personality factor and the scale of satisfaction with life.

Among the statistical methodologies used in this study, it is possible to highlight Descriptive Statistics and Inferential Statistics. Descriptive statistics were used with the aim of characterizing the sample. To characterize the qualitative variables, simple frequencies and percentage frequencies were used. To characterize the quantitative variables, the median and interquartile distance were used, since the goal was measuring the variability of the data set. Within Inference, non-parametric tests were used to measure the degree of asso-

ciation between the variables present in the study with the chi-square tests and Fisher's exact test.

To assess the correlation between personality factors and life satisfaction, the Kendall correlation coefficient was used, a non-parametric correlation measure that assesses the degree of association between two variables, chosen in this case due to the response distribution pattern found in the sample.

RESULTS

The study involved a total of 189 participants, all within the inclusion criteria. Of these, 148 (78%) are female and 41 (22%) are male. Among the respondents, 175 (93%) are medical students, 10 (5.3%) are nursing students, and 3 (1.6%) are psychology students. Regarding ages, it was observed that 158 (84%) fall within the range of 18 to 24 years old and 19 (10%) fall within the range of 25 to 30 years old, with the remaining above 30 years old. These data can be seen in table 3.

Table 3 – Sample characterization and description of questionnaire variables

Characteristics	N = 189 ¹
Course	
Medicine	175 (93%)
Nursing	10 (5.3%)
Psychology	3 (1.6%)
Physiotherapy	1 (0.5%)
Gender	
Female	148 (78%)
Male	41 (22%)
Age	
18 to 24	158 (84%)
25 to 30	19 (10%)
Over 30	12 (6.3%)
Personality Attributes	
Extroversion	12.0 (10.0, 15.0)
Agreeableness	17.00 (15.00, 19.00)
Conscientiousness	14.0 (10.0, 16.0)
Neuroticism	14.0 (11.0, 16.0)
Openness to experience	14.00 (12.00, 15.00)
Satisfaction with Life	26.0 (22.0, 30.0)

¹n (%); Median (IQR)

The personality factors were analyzed separately, with the sum of the responses to the respective questions for each attribute, as well as the sum of the Life Satisfaction Scale responses. Table 3 also presents the sample characterization in relation to extroversion, socialization, conscientiousness, neuroticism, openness to experience, and life satisfaction, according to the median found.

The attribute of extroversion had a median of 12.0, with an Interquartile Range (IQR) of 10.0, 15.0. Socialization had a median of 17.0 (15.0, 19.0) and conscientiousness had a median of 14.0 (10.0, 16.0), as did neuroticism and openness to experience (11.0, 16.0 and 12.0, 15.0 respectively). Life satisfaction had a median of 26.0 (22.0, 30.0).

Table 4 presents the Wilcoxon Signed-Rank Test applied to the variables of interest. It is observed that there was a statistically significant difference between the levels of socialization and neuroticism between men and women, with p-values of 0.003 and 0.004 respectively, with these attributes being lower in men.

The median socialization score for women is the same as the total sample, 17.0, while the median for men is 16.0, slightly lower. In addition, the interquartile range for men is narrower, ranging from 13.0 to 18.0. Similarly, the median neuroticism score for women is 14.0, as is the case for the total sample, while the median neuroticism score for men is 12.0.

The levels of extroversion, conscientiousness and openness to experience did not show a statistically significant difference between genders.

Table 4 – Personality factors according to gender

Characteristics	Total, N = 189 ¹	Gender		p-value ²
		Female, N = 148 ¹	Male, N = 41 ¹	
Extroversion	12.0 (10.0, 15.0)	12.0 (10.0, 15.0)	13.0 (10.0, 15.0)	0.4
Agreeableness	17.00 (15.00, 19.00)	17.00 (15.00, 19.00)	16.00 (13.00, 18.00)	0.003
Conscientiousness	14.0 (10.0, 16.0)	13.5 (10.0, 17.0)	14.0 (12.0, 16.0)	0.7
Neuroticism	14.0 (11.0, 16.0)	14.0 (12.0, 16.0)	12.0 (9.0, 15.0)	0.004
Openness to experience	14.00 (12.00, 15.00)	13.00 (12.00, 15.00)	14.00 (12.00, 16.00)	0.069

¹Median (IQR)

²Wilcoxon Signed-Rank Test

According to the results above, it was possible to evaluate the presence or absence of a correlation between levels of satisfaction with life and personality attributes, according to Kendall's correlation coefficient. The value found varies from -1 to +1, in which: $\tau = +1$ indicates a perfect positive correlation, $\tau = -1$ indicates a perfect negative correlation and $\tau \approx 0$ indicates a weak or null correlation.

The extroversion attribute had $\tau = 0.15$, neuroticism had $\tau = -0.33$, openness to experience had $\tau = 0.00$, conscientiousness had $\tau = 0.23$ and socialization had a coefficient $\tau = 0.13$. The correlation to the openness to experience variable had a p-value = 0.9907, while the other variables had a p-value < 0.01. These results are expressed in table 5.

Table 5 – Correlation between personality factors and satisfaction with life

Personality Factor	Correlation Coeficiente (τ)	p-value
Extroversion	0,15	< 0,01
Neuroticism	-0,33	< 0,01
Openness to Experience	0,00	0,9907
Conscientiousness	0,23	< 0,01
Agreeableness	0,13	< 0,01

These values indicate that there is a weak positive correlation between conscientiousness and life satisfaction, which means that when conscientiousness increases, satisfaction tends to increase as well. On the other hand, neuroticism had a weak negative correlation with life satisfaction, demonstrating that when this attribute increases, satisfaction tends to decrease.

The attributes of extroversion and socialization also showed a weak positive correlation with life satisfaction. The attribute of openness to experience had zero correlation, so there is no clear relation between this variable and satisfaction, based on the data analyzed. Furthermore, the p-value = 0.9907 in the correlation between openness to experience and satisfaction suggests that it is not statistically significant, which reinforces the previous interpretation that there is no clear relationship between those two variables.

It is important to emphasize that the results obtained should not be generalized to the population of interest, being representative only of the sample collected.

DISCUSSION

The sample consisted of 189 participants, with the majority being female (78%). The results indicate that neuroticism, characterized by low emotional stability, is associated with lower levels of life satisfaction. On the other hand, the research suggests that students with higher levels of conscientiousness have greater

satisfaction with their lives. In this sense, individuals who are more anxious and show greater irritability tend to have a more negative judgment about life, compared to those who are calmer and more patient. In addition, those who are more focused, organized and responsible experience more positive affect, associated with satisfaction with their own lives.

Furthermore, the results showed that extroversion and socialization had a weak positive correlation with levels of satisfaction with life. Therefore, it can be inferred that students who are more self-confident, dominant, and active tend to experience more positive affect than negative affect. The same applies to those who are more kind, gentle, attentive, and helpful.

Subjective well-being is an important element of quality of life and positive psychology, consisting of two dimensions: cognitive and affective. The cognitive dimension is represented by life satisfaction, and the affective dimension by stable emotional reactions. Thus, subjective well-being consists on people's evaluative reaction to their own life considering these two dimensions¹⁸. High levels of well-being facilitate development amidst intense youth transformations, leading individuals to perceive their lives more positively⁶. Therefore, happier students exhibit greater life satisfaction, including satisfaction with their academic life, showing participation and success in the teaching-learning process with increased autonomy and ability to persist in academic tasks¹¹.

These results are supported by other studies that also assess the Big Five as predictors of SWB. In a study conducted by Grant et al. (2009), which investigated the relationship between Big Five traits and subjective and psychological well-being among 211 men and women, a relationship between extroversion, neuroticism, and conscientiousness with overall well-being was indicated. In this case, well-being and positive emotional experiences, such as happiness and joy, are

more frequent compared to negative ones, such as anger, shame, depression and anxiety. Furthermore, it allows the evaluation of satisfaction with life globally, as in the academic context.

In another study, which aimed to explore the contribution of the Big Five to happiness in a sample of 372 university students, regression analyses showed that emotional stability and extroversion traits were the strongest predictors of subjective well-being¹².

Delving deeper into these issues, a survey of 153 Swedish undergraduate students sought to determine whether the relationship between personality traits and subjective well-being differs when the affective component is measured in terms of frequency or intensity. The results revealed that the effect of neuroticism was stronger on subjective well-being, compared to extroversion, regardless of the dimension of the affective component¹⁶.

In Brazil, an investigation into the relationship between personality and subjective well-being in students from higher education demonstrated statistically significant correlations between life satisfaction and all personality dimensions, except for neuroticism. The results indicate that personality is a predictor of well-being¹⁸.

Thus, despite representing only the collected sample, the present study is consistent with others found in literature, suggesting that personality has an established contribution to reported life satisfaction variation, potentially exceeding the influence of individual life circumstances. Therefore, it is affirmed that personality traits generally correspond to a person's subjective assessment of their own well-being⁵. Several studies have shown these factors to be among the main predictors of SWB, underscoring the importance of encompassing personality to understand happiness. Within the Big Five, the traits of neuroticism and ex-

troversion appear to be the strongest and most consistent predictors of well-being¹².

Given the presented information and considering the study's target population, it is beneficial to suggest actions that educate students in the personal analysis of these factors and assist them in managing academic situations and other aspects of their lives. However, it is necessary to understand that personality factors are individual characteristics that are often addressed personally. Group interventions must be evaluated for their true impact and effectiveness, but they might increase awareness on this topic, sparking individual desire for improvement. Another option would be to offer psychological support programs to students who express this need.

Other interventions can be designed aiming the development of non-judgmental personal relationships, where individuals begin to consider others' emotions as valid and appropriate. This type of interaction has an impact on controlling automatic thoughts, especially reducing rumination, and regulating negative thoughts, resulting in increased happiness overall¹². Finally, programs that encourage young people to engage in physical activities and leisure activities may be implemented, given their importance for better development of positive social interactions, a higher prevalence of positive affect, and stabilization of mental health – aspects also interconnected with neuroticism, conscientiousness and other attributes²¹.

CONCLUSION

This research aimed to analyze the association of personality with well-being in a sample of students from a private college. From the results of this study, it is possible to observe that personality traits played a significant role in the subjective perception of happiness in the evaluated sample. In this study, neuroticism and conscientiousness presented the greatest

impact on well-being, compared to other personality factors. This research had a limitation of a small sample size, considering the initial sample calculation. Furthermore, most significant evidences from literature highlight extroversion as one of the personality traits that is most positively associated with well-being. However, in the present study, the trait that most positively associated with well-being was conscientiousness. This can be justified by the lack of heterogeneity in the sample, containing mostly medical students. That sample may favor higher levels of conscientiousness, as these students tend to be more disciplined, organized, and hardworking individuals.

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