

Predictive Factors for Well-being of Vietnamese Undergraduate Students and Gratitude Journaling Intervention

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Abstract: The current study investigated the impact of predictive factors on the well-being of undergraduates in Ho Chi Minh City. Those factors were relationship satisfaction, academic achievement satisfaction, and financial well-being. Besides, the study explored the effectiveness of gratitude journaling in increasing students' well-being. There are two phases in this study, in the first phase, referred to as study 1, a total of 102 undergraduates from twenty-two universities in Ho Chi Minh City were surveyed. After being controlled for individual differences in socio-economic status, the multiple linear regression results showed that satisfaction in the relationship and academic achievement positively predicted overall well-being, while financial well-being did not make a significant contribution. In the second phase, which is study 2, forty-five participants from study 1 agreed to move on to this phase, where they were randomly divided into two groups for a controlled pre and post-experiment. The experimental group practiced self-guided gratitude journaling for seven days. Analysis of covariance assessment was made to evaluate the impact model and the improvement of participants' well-being before and after the experiment. Results showed that the difference in well-being between the control and experimental group was insignificant and did not come directly from practicing gratitude journaling, but might indicate individual and cultural differences in well-being. Further research on cross-cultural differences and standardized protocol is encouraged.

Keywords: Positive Psychology; Well-being; Happiness; Gratitude Journaling.

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1. Introduction

Research on well-being and the practice of gratitude within student groups globally reflects a burgeoning interest in positive psychology interventions to address mental health concerns among university

populations. With rising rates of anxiety and depression, educators and researchers worldwide are exploring evidence-based strategies to enhance student well-being and resilience (Huang and Zhang 2022). Gratitude interventions, such as gratitude journaling, have emerged as promising approaches to promote positive emotions and strengthen social connections among students (Elosúa 2015). In Vietnam, where cultural values and educational contexts shape students' experiences, there is a

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growing recognition of the importance of addressing mental health issues and integrating positive psychology principles into educational programs (Tran, Khoury, Chau et al. 2022a). However, there remains a need for empirical research to explore the cultural adaptation and effectiveness of gratitude practices within Vietnamese student populations, highlighting the importance of culturally sensitive approaches to promoting student well-being in diverse contexts.

2. A Positive View of Psychological Well-being

The terms ‘well-being’ and ‘happiness’ are often used interchangeably. However, happiness is generally seen as a fleeting emotional state, whereas well-being encompasses a broader and more lasting state of being (Theobald and Cooper 2012). The definition of ‘well-being’ may vary across individuals and cultures. Even within a specific individual, the way they answer this question might change across different stages of their life. When it comes to an informal approach, we may simply refer to well-being as a lack of distress and illness. However, as narrowed down to what was proposed by contemporary psychologists, we may consider Abraham Maslow to be the first psychologist to initiate the idea of adopting a positive approach to psychology. Maslow (1969) introduced the idea of studying positive experiences and traits in human development, shifting from a psychological focus of treating problems to one of promoting well-being. His Hierarchy of Needs theory suggests that well-being stems from fulfilling basic individual needs like Physiological, Safety, Love and Social belonging, and Esteem.

The addition of positive effects to the definition of well-being by Diener, Suh, Lucas et al. (1999) laid the foundation for modern approaches. They defined ‘well-being’ as a blend of positive and negative effects, life satisfaction, and eudaimonia. This allowed for assessment through hedonic, cognitive measures, and a sense of meaning. In that study, the authors also highlighted significant global differences in these aspects across nations. In addition, Diener and Chan (2011) emphasized that varying fulfilment of needs based on basic living standards influenced self-reported well-being.

Ryff (1989) proposed another approach focusing on individual functioning, suggesting six factors for well-being. Cross-cultural research by Ryff and others emphasized the need to understand cultural variations in well-being constructs. Recent studies have differentiated well-being as a state of contentment and happiness, which poses challenges in defining a good life. Positive psychology, particularly Seligman, addresses these challenges, aiming to operationalize happiness standards and promote well-being universally (Seligman 2011).

3. The PERMA Model and Contemporary Predictors of Well-being and Interventions of Well-being

Seligman (2011) proposed a PERMA model which comprised five contributing elements of well-being: Positive Emotion, Engagement, Relationships, Meaning, and Accomplishments/ Achievements. Besides, other studies have been conducted to explore factors that could predict human well-being. For a diverse demographic group, those elements could be

operationalized, with each contributing differently to the well-being of the subject.

In the current study, we used the PERMA model (Seligman 2011) as a guiding theoretical framework. The advantage of this model is that it characterized components that were mentioned separately in other studies. In the model, Positive emotion, which is known as the first cornerstone of this theory, refers to the presence of pleasant feelings such as pleasure, ecstasy, comfort, warmth, and the like, which individuals feel in the present moment. On the contrary, Engagement is assumed to be a retrospective of the “flow” state, in which they feel absorbed by the tasks and lose track of time. The next two variables, Relationship, and Accomplishment require objective measurements. Previous longitudinal studies have suggested that our happiness may be influenced by the quality of interpersonal interactions (Weston 2023). Therefore, the role of relationship satisfaction, defined as the happiness and fulfillment experienced within a relationship (Randall and Bodenmann 2017), is also incorporated into this model. While appraisals from other people affect how we feel about our lives, the sense of positive interconnection also contributes to our well-being in many ways. On the other hand, Accomplishment could be explained as when individuals tend to pursue an achievement for its own sake, without other motivations. Research has shown that among university students, the most prominent component for Accomplishment is Academic achievement, which refers to the sense of fulfillment and contentment derived from one's success and progress in educational pursuits (Winne and Nesbit 2010). Meanwhile, Meaning lies between these dimensions as it's not merely

subjective. Since this factor describes the sense of belonging to a community, and the willingness to serve others, it could be considered subjective. However, the assessment of the sense of meaning still includes the objective judgment of history, logic, and coherence. In general, the multidimensional nature of this factor indicates properties of other factors to be counted as an element of PERMA: these factors are independent of each other, from definition to measurement. At the same time, each component contributes to an individual's well-being and the purposes of pursuing that component do not include any other component. Furthermore, previous research has shown that the model is also influenced by the concept of financial well-being, which pertains to feeling secure and content with one's financial situation (Brüggen, Hogreve, Holmlund et al. 2017). This is why the current study included financial well-being as a variable for further investigation.

According to this model, ‘well-being’ is a construct, rather than an operationalized variable. Therefore, it comprises several measurable elements with each contributing to a whole - the overall well-being, without defining well-being separately. Adapting Seligman's new Positive Psychology approach, the current study aimed to investigate all of these factors at once, following the PERMA model of well-being. Previous attempts to intervene in psychological well-being mainly focused on minimizing conditions that lead to suffering, either through managing individual distress in psychotherapy or strengthening socioeconomic support via social welfare policies. Recent interventions on psychological well-being have been proven to show significant impacts just by subtracting distress and setting restrictions

on health-risk behaviours. These varied from approaches as simple as reducing screen time (Pedersen, Rasmussen, Sørensen et al. 2022) and spending less time on unpleasant activities (Whillans, Dunn, Smeets et al. 2017) to even more delicate practices, such as giving up anger and resentment through forgiving people whom we found unforgivable (Karremans, Van Lange, Ouwerkerk et al. 2003). However, this approach was shown to work for immediate, specific situations rather than yielding long-lasting effects on overall well-being (Folk and Dunn 2024), and may not be sufficient to tackle distress that comes from day-to-day living conditions. Hence, other positive impacts of other organizational approaches regarding the implementation of counseling support in the workplace (Cooper and Sadri 1991), post-welfare support (Danziger, Carlson and Henly 2001), and financial aid for low-income households (Haushofer and Shapiro 2016) should also be taken into consideration. Nevertheless, these findings suggested we look in another direction: such as adding small habits that promote psychological well-being in daily life.

4. Gratitude Journaling and Well-being

4.1 The Concepts of Gratitude and Gratitude Intervention

‘Gratitude’ includes feelings of liking, recognizing, satisfying, and delighting in life events as well as positive experiences (Emmons, McCullough and Tsang 2003, Sheldon and Lyubomirsky 2006). Gratitude is not only an emotion but also an attitude, a personality trait, and a lifestyle (Elosúa 2015). Under the psychological view, gratitude was considered a combination of a warm sense of appreciation, goodwill, and

positive responses toward a subject (Patrick 1998). Emmons et al. (2003) described gratitude as a sense of wonder, thankfulness, and appreciation for the goodness we receive. According to these authors, a sense of gratitude could be given between or even beyond human beings. Moreover, experiencing or expressing gratitude has been shown to improve well-being and happiness (Elosúa 2015, Fredrickson and Joiner 2002).

The historical prevalence of a gratitude response underscores various existing explanations for the mechanisms behind gratitude interventions. Personality psychology research has linked beliefs about positive outcomes to subjective well-being (Bryant 1989), while later studies confirmed the relationship between expressive responses to positive events and positive effects (Langston 1994). Coping mechanism theory suggests that a "grateful response" serves as an adaptive psychological strategy, facilitating a positive interpretation of daily experiences and potentially leading to emotional transformations (Emmons et al. 2003). Consequently, gratitude interventions aim to cultivate the ability to notice, appreciate, and savour positive events, thus contributing significantly to well-being improvement.

Empirical evidence for gratitude interventions could be scant, but the diversity and efficiency are promising: from self-reflection to communication, from journaling to exchanging letters. For instance, “counting blessings” was one of these seminal interventions, which required individuals to keep gratitude journals about up to five things in their lives that they were grateful or thankful for (Emmons et al. 2003). Apart from journaling, which only included self-reflection, “The Gratitude

Visit” referred to writing letters of appreciation and delivering the letters in person (Seligman, Steen, Park et al. 2005). Further cross-cultural studies, such as “Grateful Self-reflection” (Chan 2010) and “Writing Letters of Appreciation” (Fritz, Armenta, Walsh et al. 2019), were an attempt to replicate the practice of gratitude interventions to adapt to the diverse needs of each community. These studies revealed cultural differences in the effectiveness of gratitude interventions, which we would take into consideration for later discussion in our study.

Gratitude journaling, a daily practice where individuals reflect on their day and note down the things they are thankful for, was found to be effective in increasing happiness. The "Three Good Things" experiment (Seligman et al. 2005) was one of the earliest examples of empirical evidence on the effectiveness of this practice. In this study, participants were asked to write down three things that went well in one day and reasons why they went well within a period of seven days. Participants who went through this journaling experiment (N = 59) scored higher in happiness and lower depression symptoms in comparison to the placebo control groups (N = 70). The impacts of this exercise were explained by the way it encouraged individuals to recall positive events and the causes of those good things that happened. By connecting positive emotions, satisfaction, and the assurance that came alongside the good things with factors that led to the events, this exercise promoted a deep sense of interpersonal relations. This was found to be one of the most effective strategies for increasing happiness (Folk and Dunn 2024). Besides increasing a sense of happiness, the same protocol of gratitude journaling was also

found to reduce negative emotions and improve eating habits as Fritz et al. (2019) found when this experiment was replicated with high school students (N=1017) for four weeks straight. This mechanism may be consistent among different groups of the population across cultures, as Liang, Chen, Li et al. (2020) found the same positive impacts of gratitude among Chinese university students. Numerous studies further validated the effectiveness of this gratitude-based intervention in enhancing well-being (Gander, Proyer, Ruch et al. 2012).

4.2 Applying Gratitude Interventions in a Vietnamese Context

In Vietnam, there has been a growing focus on the relationship between gratitude and well-being, especially within school settings (Tran et al. 2022a, Tran, Vo-Thanh, Soliman et al. 2022b). These studies demonstrated that the level of gratitude can predict students' level of well-being, even during the COVID-19 pandemic. However, the authors noted a deficiency in intervention studies investigating the impact of gratitude on well-being in Vietnam.

Despite current proofs of the effectiveness of gratitude journaling and other techniques in the Positive Psychology approach, its models, assumptions, techniques, and practices have not been explored yet in the recent context of Vietnam. For example, journaling interventions, in general, should be conducted with consideration of cultural differences regarding the journaling habits of Vietnamese people in comparison with other cultures. Concerns such as the history of written language, the equivalence of official language among ethnic groups of each nation, and the illiteracy rate within

the population, might need to be resolved by further multi-disciplinary research programs.

Besides, as there was a gap in empirical evidence of Positive interventions among low socioeconomic groups and developing countries, the efficiency of this approach remains unknown. In particular, the present study was carried out to investigate the adaptability of the PERMA model in assessing and predicting Vietnamese undergraduates' well-being as well as to examine the effectiveness of gratitude journaling on improving their well-being. Through a survey and a controlled pre and post-experiment, this study aimed to test the equivalence of contributors of well-being and the validity of the PERMA model, besides implementing a pilot study for gratitude journaling intervention as a community approach to enhance Vietnamese students' well-being. We hypothesized that:

(H1) The PERMA profiler could show reliability in measuring the overall well-being level of students in Ho Chi Minh City, Vietnam;

(H2) Factors regarding self-evaluation of academic achievement, satisfaction with social relationships, and financial well-being could positively predict the overall well-being of Vietnamese undergraduates regardless of their SES; and

(H3) Short-term practice of gratitude journaling could have a significant effect on increasing their overall well-being, hence it's necessary to adopt this approach to the Vietnamese clinical and educational contexts.

5. Method

5.1 Participants

One hundred and twenty-five undergraduates in Ho Chi Minh City from different fields such as informatics, business management, economics, law, pedagogy, social sciences, health care, and fine arts were recruited for the study via a social media advertisement through Facebook. The purpose of the study, a detailed procedure, and informed consent were explained to the participants. Those willing to continue were required to complete a questionnaire for mental health screening. To maintain the quality of the research and ensure the safety of the participants, individuals who failed to complete the test or showed an extremely high level of depression, anxiety, and stress were not included in the study. The research also introduced those participants to mental health support services. The official sample size was 102 with 68% female. Two participants did not disclose their gender.

The mean age of the sample was $M = 21$ ($SD = 1.230$). All participants were confirmed not to be involved in any other clinical treatment when they participated in our pilot study.

5.2 Materials

After being translated and back-translated under the supervision of a counseling psychologist, these scales were piloted to receive feedback from random participants. Cronbach's α value was tested to evaluate the internal consistency.

Overall Well-being was measured by our Vietnamese translation of the PERMA profiler (Cronbach's $\alpha = .86$), using a translation and back-translation process based on the original version of Butler and Kern (2015) with Cronbach's $\alpha = .92$. Based on Seligman's framework, the

PERMA profiler scale was developed to measure well-being, with additional dimensions including the overall sense of happiness, loneliness, negative emotions, and physical wellness. The final score would be calculated with mean scores of positive emotions, engagement, relationships, meaning, and accomplishments/achievements. The score ranged from 0 to 10, with 10 being the highest degree of well-being.

Quality of Social Relationships was assessed by three questions from a social relationship domain in the Vietnamese version of The World Health Organization Quality of Life (WHOQOL-BREF) questionnaire ($\alpha = .73$). Participants rated their satisfaction with personal relationships, sex life, and support from friends on a scale from 1 (Very dissatisfied) to 5 (Very satisfied). The total raw score ranged from 3 (lowest) to 15 (highest) and was converted to a scale of 100, with 3 points equaling 0 and 15 equaling 100. The higher the score, the higher the quality of social relationships.

Financial Well-being was assessed by the CFPB Financial Well-being Scale (Cronbach's $\alpha = .59$) (Consumer Financial Protection Bureau of United States 2015), which consisted of 10 questions evaluating 4 aspects of financial well-being: financial control, financial resilience, ability to achieve financial goals, and financial freedom to enjoy life. These aspects were defined by the Consumer Financial Protection Bureau of the United States (CFPB) (2020). Six questions on the scale are scored backward. The total raw score of the scale ranges from 0 to 40 and is converted to a scale of 100. The higher the score, the higher the individual's financial well-being.

Socioeconomic Status was assessed by The MacArthur Scale of Subjective Social Status (Adler, Epel, Castellazzo et al. 2000). Participants were asked to rate their current SES on a scale from 1 (lowest) to 10 (highest).

The Academic Achievement scale utilized in this study was self-reported and based on the average scores obtained by students at their respective universities. Due to the use of varied grading scales across Vietnam, student-reported scores were converted into percentages. For example, a score of 8 out of 10 would be converted to 80%.

Mental Health Conditions were screened by the Vietnamese version of the Depression Anxiety and Stress Scale, a 21-question version (DASS-21) (Lovibond and Lovibond 1995). Participants rated how well each description matched their condition within the past week from 0 (This doesn't happen to me at all) to 3 (Very often, or most of the time). The total score of each domain (Depression, Anxiety, and Stress) was doubled and classified into 5 levels: Normal, Mild, Moderate, Severe, and Extremely Severe. In the current study, Cronbach's α for the whole scale was highly reliable (21 items; $\alpha = .93$).

5.3 Procedure

The study included two stages, in which the data collection period was implemented from January to April 2021. In the first stage, volunteers were recruited through social media and registered to participate in an online survey. Besides providing information about age, sex, fields of study, socio-economic status, and self-evaluation of academic achievement, participants were required to complete the DASS-21 scale, the PERMA profiler, the CFPB Financial

Well-Being Scale, and the WHOQOL-BREF questionnaire. In the second stage, only 45 participants continued joining the pre-test/post-test control group experiment. Initially, 23 participants were randomly assigned to the experimental group, while 22 were assigned to the control group. However, four participants expressed a desire to switch to the control group, resulting in a final count of 19 participants in the experimental group and 26 in the control group. The experimental group started creating a “mental journal”. Their daily task was to write down three things that made them feel grateful and anonymously upload the result via an online platform hosted by the research team. After seven days, participants’ well-being was re-evaluated by the PERMA profiler. Once the research was completed, each participant received a passcode to access their own records. Participants remaining in the experiment stage gained a compensation payment, equivalent to seven days of internet subscription fee.

5.4 Data Analysis

Statistical Package for Social Scientists (SPSS, version 25) was used to analyze the data in this study. Participants’ socioeconomic differences were controlled through socio-economic status (SES) scores. Multiple linear regression was performed to evaluate the impact of the quality of social relationships, financial well-being, and satisfaction with academic achievement on well-being. Analysis of covariance (ANCOVA) and Student’s paired t-test were used to examine the improvement of participants’ well-being after they practised gratitude journaling for seven days.

6. Results

6.1 Study 1: Predictive Factors for Well-being

Shapiro-Wilk analysis showed that all variables were normally distributed. In Table 1 (in the appendix), a Pearson correlation coefficient was calculated and showed a significant relationship between these factors to the well-being of students in Ho Chi Minh City.

The result showed that there was a significant correlation between individuals’ SES and well-being ($r = .260$, and $p = .009$). In addition, the results also revealed a significant positive correlation between students’ satisfaction with academic achievement and SES, with $r = .236$, $p < .05$. Since there was no correlation between financial well-being and the overall well-being of students, this factor was eliminated from later examinations. Then, multiple linear regression was performed to test whether the quality of social relationships and satisfaction with academic achievement are predictors of undergraduates’ well-being. SES scores were controlled in this model.

In Table 2 (in the appendix), as SES was controlled, the model positively predicted 13.2% of overall well-being, $F(2, 97) = 7.97$, $p < .001$. The normalized regression coefficients showed that satisfaction with academic achievements ($\beta = .307$, $p = .002$) was a positive predictor of students’ well-being, while the quality of social relationships ($\beta = .172$, $p = .066$) was not. After that, these two factors were examined separately to test if they remained valid to significantly predict the students’ overall well-being. Even when excluded from the model, a sense of satisfaction with the quality of relationships ($\beta = .212$, $p = .029$)

and academic achievement ($\beta = .330$, $p = .001$) were significant predictors of overall well-being among Vietnamese students. In summary, hypotheses H1 and H2 were partially confirmed, with evidence indicating a positive relationship between academic achievements and social relationships with overall well-being. Additionally, academic achievements were found to be a predictor of students' well-being.

6.2 Study 2: Journaling and The Improvement of Well-being

In this study, 45 participants from Study 1 decided to continue with the research and agreed to take part in a gratitude journaling intervention. The Shapiro-Wilk test for this sample was performed and normal distribution ($p = .475$) was assumed. In particular, Levene's test was conducted to test the assumption of homogeneity of variance. The equality of variances was confirmed ($F = .201$, $p = .657$). The interaction effect between previous PERMA well-being scores of both groups was not significant ($p = .443$), which indicated that its homogeneity of regression slopes was assumed.

To see whether gratitude journaling brought about a statistical increase in the well-being of the experimental group in comparison to the control group, an analysis of covariance (ANCOVA) was conducted to test the difference in mean scores between the control and experimental group before and after seven days of journaling. Figure 1 and Table 3 show that before the intervention, the marginal means of the experimental group ($M = 6.42$, $SE = .336$) were lower than the control group ($M = 7.14$, $SE = .282$). However, after the intervention phase, the marginal means of the experimental group

($M = 7.35$, $SE = .145$) turned out to be higher than the control group ($M = 6.74$, $SE = .122$).

Despite the changes in marginal means of both groups shown in Table 4, there was no significant difference in the level of well-being between these groups before or after the journaling intervention, with a main effect of $F(1,41) = 2.145$, $p = .151$, $\eta^2 = .05$. The effect size of the previous well-being level of participants $F(1,41) = 139.905$, $p < .001$, $\eta^2 = .773$ on the post-intervention well-being levels was much larger than the effect of the intervention itself. These results suggested that the journaling intervention did not significantly affect the participants' well-being. Instead, the participants' well-being levels before the intervention were the dominant factor influencing their post-intervention well-being, which indicated that the intervention might not have been effective, or other factors might play a more crucial role in determining well-being outcomes in this context.

Since it remained ambiguous whether the short-term implementation of a mental diary could make a significant improvement in students' sense of overall well-being, a paired sample t-test was conducted to assess each domain of overall well-being among this group to explore whether there was any significant difference in each domain. Table 5 shows that the experimental group ($N = 19$) had significant improvement in almost all domains of well-being after the experimental period except for the achievement ($p = .81$), loneliness ($p = .379$), and negative emotion ($p = .399$) subscale. In particular, among the individuals who practised gratitude journaling for seven days, there were significant differences in the mean scores of positive emotion $t(18) = 2.554$, $p = .020$,

engagement $t(18) = 2.980$, $p = .008$, positive relationship $t(18) = 3.479$, $p = .003$, meaning $t(18) = 2.579$, $p = .019$, sense of happiness $t(18) = 2.157$, $p = .045$, and physical health $t(18) = 3.110$, $p = .006$. Among the tested domains, the difference between pre and post-intervention scores of positive relationship had the largest effect size ($d = .798$), while other domains regarding physical health ($d = .714$), engagement ($d = .684$), meaning ($d = .592$), positive emotion ($d = .586$) just showed a medium effect size. Overall, there is not sufficient evidence to support the acceptance of hypothesis 3 (H3).

7. Discussion

7.1 Predictors of Vietnamese Students' Well-being and Possibility of Culture-specific Patterns

In study 1, when the model was tested separately and controlled by SES, the result showed a significant predictive ability of the quality of social relationships and the self-evaluation of academic achievement to the well-being of Vietnamese students. While not correlated with each other, all of those factors have a correlation and contribution to overall well-being. In contrast, the relationship between financial aspects and overall well-being remained ambiguous.

The predictor role of academic achievement and quality of social relationships means that the more satisfied students feel with their academic achievement and relationships, the more likely they are to feel happier regularly. In particular, undergraduates' satisfaction with the quality of relationships remained the most influential factor in the whole model, even when controlled by the coefficient of

SES. It could be understood that regardless of differences in SES, when students are satisfied with their social relationships and are aware of the supportive resources around them, they feel happier and tend to live healthier lives (Awang, Kutty and Ahmad 2014). This result not only supported but also extended to the previous findings on the importance of social relationships for well-being across a wide range of subjects (Goswami 2012, Hills and Argyle 2001, Myers 2000). Besides, there is no correlation between the quality of relationships and the self-evaluation of academic achievement. With undergraduates being the subject of our study, different types of relationships could lead to different effects, whereas relationships related to school were found to be less impactful than personal relationships such as family and friends, as recommended by Wayt 2012. Meanwhile, the research took place in the middle and the end of the semester when participants spent more time on their studies, rather than on their personal relationships. Therefore, in the context of this study, the correlation between satisfaction with the quality of relationships and students' academic achievement has not been clearly examined.

In terms of students' self-evaluation of academic achievement, this factor also showed a high regression coefficient for overall well-being. This demonstrates that when Vietnamese students are satisfied with their academic achievement, they tend to be happier and healthier. On the contrary, it is necessary for other studies to examine if academic procrastination and failure could negatively impact students' well-being (Balkis and Duru 2016). These results were also consistent with the conclusions of Richardson, Elliott and Roberts (2015) about the influence of self-evaluation on

academic achievement and well-being at school age. While some studies have shown the important role of well-being in improving academic performance (Durlak, Weissberg, Dymnicki et al. 2011), the current research suggested that self-assessment of academic achievement also positively contributes to students' level of happiness and total well-being.

These results not only showed a two-way relationship between academic achievement and mental health in students but also posed an urgent task for the higher education system. To effectively help students achieve their goals in learning and development, it is necessary to help them build a growth mindset toward learning (Ortiz, Rodríguez Ontiveros and Ayala Gaytán 2019). In addition, this result also emphasized that grades, academic achievement, etc. do not directly affect students' well-being, but their subjective perception of academic achievement does.

The insignificant correlation between financial well-being and overall well-being in this sample was also examined. Among the tested factors, financial well-being is the only factor that showed no relationship with other factors, which was inconsistent with results from previous studies. Regarding the regression analysis, financial well-being did not explain overall well-being even if the model was controlled for differences in SES or not. For this reason, we predicted that how well students felt about their financial situation did not contribute to their scores of overall well-being. This rejected our hypothesis, which assumed that when students feel financially secure and can make choices to enjoy life, they tend to be happier. The result is also inconsistent with the results of the study by Netemeyer, Warmath, Fernandes et al. (2018), which showed that finances were a significant

factor influencing overall well-being. The financial burden of tuition fees and living expenses has a detrimental effect on students' mental health (Richardson et al. 2015). Studies in countries such as the United States and the United Kingdom have also shown that tuition debt was correlated with declining mental health among students (Eisenberg, Hunt and Speer 2013).

While our result about financial well-being is inconsistent with our proposed hypothesis, as well as previous findings, such inconsistency could be explained from a cross-cultural perspective. Hofstede (2011) claimed that material affluence appeared to be a less important value within collectivist societies like Vietnam - where "relationship prevails over task". So interpersonal aspects such as the quality of relationships are more likely to predict subjective well-being better than other variables. In addition, in Vietnam, most students in this age range still receive financial support from their parents. Hence, regarding the heterogeneous relationship between financial well-being and overall well-being, these factors might need more evidence to be interpreted as a contributor to overall well-being.

Nevertheless, we still recommend that it is necessary to ensure policies on equal education opportunities for diverse groups of students with different financial capacities in order to build a healthy educational environment. Financial issues could limit students from accessing the academic and mental health support that they need (Vidourek, King, Nabors et al. 2014). Since the purpose of education is to enhance the quality of life of a diverse group of socio-economic backgrounds, financial aid for students with mental health difficulties should be considered. Whether a certain society is collectivist or

individualistic, financial well-being remains a crucial concern and we should consider equipping students with effective and sustainable financial management planning skills, as well as providing timely support for their financial difficulties.

7.2 Finding a Standardized Protocol for Adapting Positive Interventions to Vietnamese Students

In Study 2, The results indicate that the students' well-being remained unchanged following the intervention. This outcome could be attributed to various factors, including the limited duration of the intervention or cultural differences between Vietnam and the intervention context. We predicted that between the two groups in the study, the pre-and-post-experimental difference did not come directly from journaling. As per the results of ANCOVA analysis above, this interaction effect came from individual differences in previous well-being levels and other latent nuisance variables, such as the expectancy effect or time effects commonly found in randomized clinical trials (Colagiuri & Smith, 2012). Therefore, the study is temporarily inconclusive on how effective self-administration gratitude journaling is, especially when journaling was only practiced for seven days. In addition, the insignificant effect of journaling intervention on overall well-being in the current study was consistent with the recommendation of Wood, Froh and Geraghty (2010) that the short-term practice of gratitude journaling (within 14 days) only showed a significantly positive effect when the participants were well-explained about the mechanism of this intervention and synchronously administered through a system which combined of several gratitude exercises.

On the other hand, the paired sample t-test indicated a positive effect of gratitude journaling on Vietnamese students' engagement, positive emotion, meaning of life, physical health, and especially, positive relationship, with the largest effect size. From this finding, we predicted that practising gratitude journaling could increase Vietnamese students' sense of Positive Relationship ($p = .003$, $d = .798$), which was considered an indicator of relationship satisfaction and positive emotions among Asian students in a previous study (Huang and Zhang 2022). Thus, this finding revealed the manners in which gratitude journaling left a positive impact on overall well-being, through improving these specific domains of well-being.

7.3 Methodological Issues

Until now, studies on gratitude journaling have barely mentioned a detailed protocol and cross-cultural consistencies in the practice processes (Folk and Dunn 2024), let alone the standard of implementing the journaling process in gratitude interventions. The current study was implemented with minimum protocol descriptions from previous experiments, as well as a lack of Vietnamese adaptation of materials and tools at the time of its implementation.

To be more specific, in order to achieve a significant effect in improving well-being, the practice of journaling needs to be properly and methodically guided by experts in the field of Positive Psychology, an in combination with other intervention. That might explain why the experiment of Seligman et al. (2005), also only took place in seven days but still had a significant effect right after the intervention and within a month afterwards. Likewise, the study of

Fritz et al. (2019) did show a positive effect of this practice on changing the health behavior of the subjects during the experimental period from seven to twenty-eight days due to the presence of professional guidance, although the results of their study did not include measuring mental health aspects. Meanwhile, in the current study, gratitude journaling was applied in a single-armed manner, and the online experiment only required participants' self-monitoring without any direct or indirect feedback from a counselor regarding the content of their journals. Therefore, professional guidance and feedback shall be considered fundamental to the effectiveness of the gratitude journaling intervention.

8. Limitations of the Current Study

The study encountered several limitations, including a small sample size, methodological constraints, and issues with research materials. Firstly, the poor reliability of the CFPB Financial Well-Being Scale hindered data interpretation, while variations in participant recruitment and administration methods led to a reduced sample size and inconsistency in the study stages. Secondly, the period of conducting the experiment overlapped partially with the Vietnamese Lunar New Year, which introduced potential biases due to the impact of the anticipation of holidays on individuals' well-being. Additionally, factors such as journaling habits and participants' ethnic backgrounds were not assessed, potentially impacting the study's outcomes. These limitations underscore the need for improved research methodologies and thorough assessment in future studies.

9. Suggestions for Future Studies in Vietnam and other Regions

Firstly, While the effectiveness of gratitude journaling remained ambiguous, this study highlights the novelty of this intervention through its application to a population of Vietnamese students in Ho Chi Minh City. Therefore, additional resources and investment are necessary for future studies to further investigate this field. In particular, joint research programs between clinical psychology and culture studies are essential to validate the efficiency of interventions in the Vietnamese context. Secondly, a cohort study with professional guidance for the participants should be conducted to compare the effects of journaling between two cases: with and without guidance. Thirdly, consistent measurement systems should be used for assessing concepts such as academic achievement and gratitude. Finally, it is essential to carry out in-depth research on the development, validation, and systematization of other techniques and practices in improving students' well-being and student support programs.

10. Conclusion

In conclusion, our study uncovered significant predictors of well-being among Vietnamese undergraduate students, highlighting the importance of academic satisfaction and social relationships. However, the impact of financial well-being on overall well-being remained inconclusive. Additionally, while gratitude journaling showed short-term improvements in certain well-being domains, its overall effectiveness as a positive intervention requires further exploration, particularly with professional

guidance. Future research should address the methodological limitations of the current study and focus on developing standardized protocols for culturally sensitive interventions tailored to Vietnamese students' needs.

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APPENDIX
Figures and Tables

Figure 1: *Estimated Marginal Means Between Groups in Study 2*

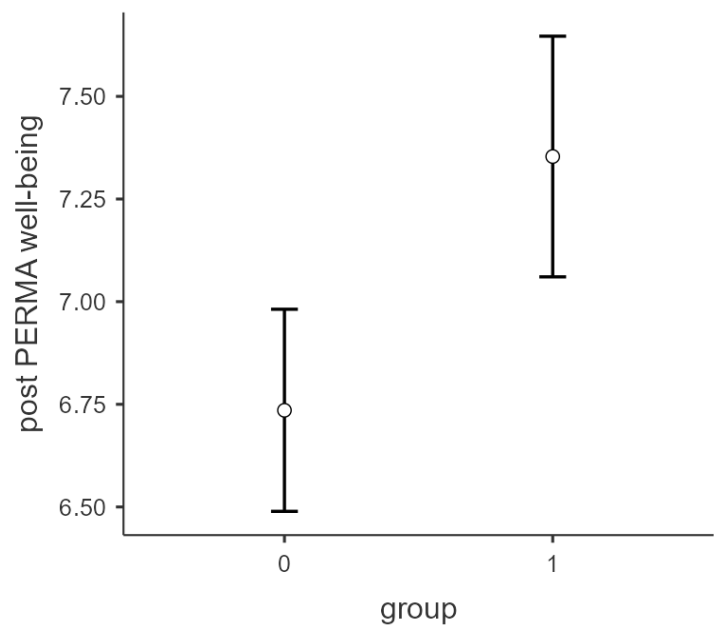


Table 1: *Descriptive Statistics and Correlation Between Socioeconomic Status, Academic Achievement Satisfaction, Relationship Satisfaction, Financial Well-being, and Overall Well-being*

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Socioeconomic status	101	4.86	1.470	-	-	-	-	-
2. Academic Achievement Satisfaction	102	3.14	.718	.236*	-	-	-	-
3. Relationship Satisfaction	102	13.79	3.413	.111	.173	-	-	-
4. Financial Well-being	102	45.84	6.425	-.005	.076	.109	-	-
5. Overall well-being	102	6.81	1.469	.260**	.347***	.203*	.035	-

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 2: *Coefficients of Regression Model for Overall Well-being*

Predictor	<i>Estimate</i>	<i>SE</i>	β	<i>p</i>
Intercept	3.045	.797	-	< .001
Socioeconomic status	.167	.093	.168	.076
Academic Achievement Satisfaction	.625	.192	.307	.002
Relationship Satisfaction	.074	.0399	.172	.066

Note. $\Delta R^2 = .132$, $F = 7.97$ ($p < .001$)

Table 3: *Unadjusted and Covariate Adjusted Descriptive Statistic for Overall Well-being*

Group	Before intervention			After intervention (Unadjusted)		After intervention (Adjusted)	
	<i>n</i>	<i>Mean</i>	<i>SEmean</i>	<i>Mean</i>	<i>SEmean</i>	<i>Mean</i>	<i>SEmean</i>
Experimental	19	6.42	.336	7.06	.277	7.35	.145
Control	26	7.14	.282	6.98	.257	6.74	.122

Table 4: *Analysis of Covariance for post-PERMA well-being scores with pre-well-being scores as Covariate*

	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	η^2
PERMA well-being before intervention (Covariate)	51.676	1	51.676	139.905	< .001	.773
PERMA well-being after intervention	.792	1	.792	2.145	.151	.05
Error	15.144	41	.369			

Note. $R \text{ Squared} = .781$ ($\text{Adjusted } R \text{ Square} = .765$)

Table 5: Paired Samples T-Test for Each Domain of Well-being Among the Experimental Group

	Before intervention		After intervention					
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
PERMA well-being	6.42	1.47	7.06	1.21	18	3.784	.001	.868
Positive emotion	6.39	1.78	7.04	1.41	18	2.554	.020	.586
Engagement	6.77	1.98	7.46	1.49	18	2.980	.008	.684
Positive relationship	6.93	1.62	7.56	1.41	18	3.479	.003	.798
Meaning	5.72	2.04	6.47	1.69	18	2.579	.019	.592
Achievement	6.28	1.42	6.74	1.31	18	1.847	.081	.424
Sense of Happiness	6.58	1.64	7.16	1.42	18	2.157	.045	.495
Loneliness	6.74	2.31	6.32	1.92	18	-.901	0.379	-0.207
Negative emotion	5.47	2.10	5.74	1.92	18	.864	.399	.198
Physical health	4.32	1.69	5.56	1.89	18	3.11	.006	.714