Vol. 4, Issue 11 November 2026 ISSN: 2584-0142



Effect of Gratitude on FOMO and Psychological Wellbeing

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Abstract: Gratitude and fear of missing out (FoMO) may offer different perspectives on psychological wellbeing, but their association does not establish that gratitude protects against the consequences of FoMO. This study examined their relationships using responses to the Gratitude Questionnaire–6, the ten-item FoMO Scale, and an 18-item Ryff wellbeing questionnaire. The source file contained 160 submissions collected between January and March 2025. Restricting the analysis to ages 18–25 with undergraduate or postgraduate educational background, and retaining the earliest submission per email address, produced a primary sample of 136 records. All scale items were complete. Gratitude was positively associated with wellbeing, r = .520, 95% CI [.386, .633], while FoMO was negatively associated with wellbeing, r = −.472, 95% CI [−.593, −.330]. Gratitude and FoMO were also negatively correlated, r = −.303, 95% CI [−.448, −.142]. All three associations had $p < .001$. In an additive regression, gratitude and FoMO jointly accounted for 38.0% of the observed wellbeing variance, with both retaining distinct associations. The gratitude-by-FoMO interaction was not supported, b = −1.28, HC3 95% CI [−3.59, 1.03], p = .276. Alternative treatments of repeated submissions, broader eligibility, and demographic adjustment yielded the same substantive conclusion about moderation. The results support associations between the three constructs but do not establish a buffering effect or the effectiveness of gratitude practice. Interpretation is limited by convenience recruitment, retrospective sample decisions, shared self-report measurement, and weak reliability of the three-item wellbeing subscales. The findings favor further longitudinal and intervention research with stronger measurement and a clearly defined population.

Keywords: *Gratitude, Fear of Missing Out, Psychological Wellbeing, Young Adults, Moderation, Cross-Sectional Survey*

1. Introduction

A person can feel thankful for the life they have and still worry about the experiences they are missing. A photograph of friends meeting without them, an announcement about someone else's achievement, or a conversation about plans they cannot join may bring those feelings into focus. The psychological question is whether gratitude and fear of missing out describe largely separate experiences, opposite tendencies, or a combination that matters for wellbeing. Examining them together offers a more useful account than assuming that appreciation automatically removes the need for belonging.

Fear of missing out, usually abbreviated to FoMO, concerns the possibility that other people are having rewarding experiences from which one is absent. Przybylski et al. (2013) developed and evaluated a widely used FoMO questionnaire within research on motivation, psychological needs, and social engagement. Their work linked FoMO to lower need satisfaction and aspects of social media use. FoMO is therefore relevant to digital life, although it should not be reduced to screen time. The same concern can arise around friendships, educational opportunities, or social occasions that take place offline.

Gratitude refers to a tendency to recognise and appreciate benefits in one's life. It may involve appreciation of other people, ordinary experiences, or favourable circumstances that are easily taken for granted. McCullough et al. (2002) treated dispositional gratitude as an individual difference that could be measured across situations. This approach makes it possible to ask whether people who generally report more gratitude also report better psychological functioning. It does not imply that gratitude is a fixed personality characteristic or that a questionnaire captures every way appreciation is experienced.

The outcome considered here is psychological wellbeing. Ryff's (1989) account emphasises how people relate to themselves, manage their circumstances, maintain relationships, and find direction in life. This is broader than feeling happy at a particular moment. Someone may experience worry or disappointment while retaining a sense of purpose and personal growth. Conversely, frequent pleasant experiences do not necessarily establish that a person feels able to make decisions or manage daily demands.

The present study brings these constructs together in a cross-sectional survey. Its central aim is to describe their associations and examine whether the FoMO–wellbeing association differs across gratitude levels. The analysis also addresses a practical distinction: gratitude may be associated with higher wellbeing overall without weakening the relationship between FoMO and wellbeing. That distinction matters when interpreting the study and when considering what, if anything, its findings suggest for counselling. A survey can help identify patterns worth investigating; it cannot establish the effectiveness of a gratitude intervention.

Gratitude and Psychological Wellbeing

Gratitude research has developed along two related lines. One examines differences between people who tend to be more or less grateful. The other asks whether deliberately practising gratitude changes subsequent experience. These approaches answer different questions. A correlation between gratitude and wellbeing may reflect reciprocal influences, shared personality characteristics, supportive relationships, or differences in circumstances. An intervention study can offer stronger evidence about change, provided that the comparison condition and research design support that inference.

McCullough et al. (2002) introduced the six-item Gratitude Questionnaire as a brief measure of the grateful disposition. Their work situated gratitude alongside positive affect, life satisfaction, and prosocial tendencies. Wood et al. (2010) later reviewed the wider relationship between gratitude and wellbeing, considering potential explanations such as the interpretation of social experiences and patterns of coping. Together, these studies support examining gratitude as a meaningful correlate of psychological functioning. They do not establish that any single mechanism explains the relationship in every population.

Experimental evidence provides a useful qualification. Emmons and McCullough (2003) examined the effects of directing attention towards blessings and other categories of daily experience. Their findings helped establish gratitude exercises as a subject for systematic study. However, the effects of such exercises depend on what participants do, how outcomes are measured, and what the comparison group receives. Benefits observed against an inactive comparison should not automatically be interpreted as superiority to other credible psychological activities.

Davis et al. (2016) addressed this issue in a meta-analysis of gratitude interventions. Their findings suggested modest benefits under some comparisons, with no statistically detected

advantage over psychologically active comparison conditions. This does not make gratitude exercises meaningless. It indicates that supportive activity, attention, expectation, or other shared features may contribute to improvement. An association between questionnaire scores cannot show how much wellbeing would change following gratitude journalling.

The choice of wellbeing measure also affects interpretation. Ryff (1989) described six dimensions: autonomy, environmental mastery, personal growth, positive relations, purpose in life, and self-acceptance. Ryff and Keyes (1995) subsequently examined the structure of this account. These dimensions provide a broader conceptual background than a single happiness rating. In a short questionnaire, however, each dimension is represented by few items. The convenience of a brief measure comes with reduced coverage, which makes it necessary to inspect reliability and avoid treating every subscale as equally precise.

On this basis, the present study expected a positive association between gratitude and overall wellbeing. The expectation concerns differences between respondents at the time of measurement. It leaves open whether gratitude precedes wellbeing, follows from it, or participates in a reciprocal process. The distinction is especially relevant when the same person completes both questionnaires in one sitting, because current mood and response style may influence both sets of answers.

Fear of Missing Out and Social Belonging

FoMO concerns a familiar tension: people cannot take part in every experience available to them. Concern becomes salient when missing an event is interpreted as missing connection, enjoyment, or an opportunity that others possess. A person may remain involved in many activities and still worry about the alternatives. For this reason, participation alone is an incomplete guide to the experience captured by a FoMO questionnaire.

Self-determination theory offers one account of why these concerns may relate to wellbeing. Ryan and Deci (2000) identified autonomy, competence, and relatedness as basic psychological needs. Relatedness is particularly relevant to worries about exclusion, although the other needs may also matter. Someone who feels little control over their choices may find it harder to disengage from what others are doing. These are theoretical possibilities. The present survey did not measure need satisfaction and therefore cannot establish that it explains any observed association.

Przybylski et al. (2013) connected FoMO with motivational and emotional characteristics as well as patterns of social engagement. Later work by Milyavskaya et al. (2018) examined FoMO in everyday experience, extending attention beyond a single general questionnaire score. Such work is useful because a person's typical level of FoMO and a specific episode of missing out need not be interchangeable. A cross-sectional score summarises a reported tendency; it cannot show which situations triggered concern or how long the concern lasted.

Social comparison provides a complementary perspective. Vogel et al. (2014) examined social media comparison and self-esteem, illustrating how other people's lives can become a reference for self-evaluation. In the present context, awareness of others' activities may become a standard against which one's own life is judged. Gratitude could, in principle, draw attention towards experiences that are already valued. Yet neither comparison nor attention was measured here, and self-esteem is not interchangeable with psychological wellbeing.

Studies have linked FoMO to Facebook-related stress in adolescents (Beyens et al., 2016) and problematic smartphone use in an online sample (Elhai et al., 2016). These findings concern particular populations and outcomes. A FoMO questionnaire does not diagnose an anxiety disorder or behavioural addiction, and time spent online is not equivalent to impairment. A sample average likewise cannot establish disorder prevalence or justify clinical categories without validated thresholds.

These considerations support a negative association between FoMO and wellbeing as a reasonable hypothesis. They also leave room for a weaker or more complex relationship. Some concerns about missing out may be temporary or tied to specific opportunities, while wellbeing reflects a wider judgement about life. The empirical task is therefore to estimate the association and its uncertainty, rather than assume in advance that FoMO must be strongly related to every aspect of psychological functioning.

1.1 The Present Study

The study examined whether gratitude, FoMO, and psychological wellbeing were related within the same group of respondents. Studying the variables together matters because pairwise relationships can be misleading when constructs overlap. If gratitude is associated both with less FoMO and with higher wellbeing, a simple FoMO–wellbeing correlation does not tell us how much information FoMO contributes once gratitude is considered. A regression model provides one way to describe those conditional associations.

Vol. 4, Issue 11 November 2026 ISSN: 2584-0142

Four expectations guided the original research questions. Gratitude was expected to correlate positively with wellbeing and negatively with FoMO. FoMO was expected to correlate negatively with wellbeing. Finally, the negative association between FoMO and wellbeing was expected to be weaker among people reporting greater gratitude. These expectations are retained here so that the interpretation follows the questions the study set out to address. They are not presented as a preregistered analysis plan.

The fourth expectation concerns moderation. In practical terms, it asks whether the association between FoMO and wellbeing differs across levels of gratitude. A positive relationship between gratitude and wellbeing would not, by itself, support this claim. Moderation requires evidence from an interaction term that includes both gratitude and FoMO. Even then, a cross-sectional interaction would describe a pattern between respondents, rather than show that increasing a particular person's gratitude would protect them from future distress.

The study originated in a counselling psychology dissertation focused on college students in the Indian context. That setting provides a rationale for the research questions, but the scope of the evidence depends on what was actually recorded. The response file contains age and educational background but does not independently confirm current university enrolment, institution, or residence. Consequently, the analysis describes the observed sample carefully and avoids treating it as representative of Indian students or of a particular city.

The primary analysis uses an age and education restriction corresponding as closely as the recorded fields allow to the intended population. A broader analysis is retained as a sensitivity check. This approach makes the sample definition explicit and shows whether the substantive interpretation depends on including respondents beyond the intended group. It also ties each estimate to a clearly defined set of recorded participant characteristics.

This study estimates the relationships among gratitude, FoMO, and wellbeing in one convenience sample and tests the proposed interaction. Its value depends on accurate scoring, reproducible estimates, and interpretation that matches the design. It does not rely on a claim that the combination of constructs has never been studied before. The more useful question is whether the observed pattern is clear enough to inform further research and careful discussion in counselling practice.

2. Method

The study used a cross-sectional questionnaire design. Gratitude, FoMO, and psychological wellbeing were recorded during the same survey, without an intervention or follow-up assessment. The original dissertation described convenience recruitment through educational and social networks in Delhi NCR. The available response file does not establish individual residence or institution. Its timestamps extend from 14 January to 16 March 2025. Recruitment setting is therefore treated as contextual information, while sample characteristics are based on the recorded responses.

The file contained 160 submissions. All recorded affirmative consent, and all 34 scale items were complete. Eleven submissions fell outside the intended age range of 18–25. Eight listed school or another educational background instead of undergraduate or postgraduate study; one also fell outside the age range. These restrictions excluded 18 records and left 142. Because the field was labelled educational background, it cannot establish that every retained respondent was currently enrolled in a degree programme.

Five groups of submissions shared the same email address after differences in capitalisation and surrounding spaces were removed. These groups contained six additional submissions. Their response patterns were not identical, but repeated identifiers raised a concern about counting the same person more than once. The primary analysis retained the earliest timestamp within each group, producing 136 records. A shared email address does not conclusively establish shared identity; the rule was a conservative analytical decision, and alternative treatments were examined in sensitivity analyses.

The retained sample had a mean age of 21.38 years (SD = 2.00; range 18–25). Educational background was undergraduate for 87 respondents and postgraduate for 49. Gender entries were grouped only where the response or its abbreviated form was interpretable: 113 were female-labelled, 22 male-labelled, and one remained unclear. The unclear entry was retained in analyses that did not use gender. No gender was inferred from names or email addresses.

The survey collected names and email addresses, so the original collection should not be described as anonymous. Identifiers were used only to assess potentially repeated submissions and were excluded from statistical models and reported results. The recorded consent response establishes agreement to the form; it does not independently establish every element of the

consent procedure. Formal ethics approval cannot be verified from the available documentation. The paper therefore makes no claim about an approval number, withdrawal process, or debriefing procedure beyond what the records support.

Eligibility and duplicate-handling decisions were made for this reanalysis and were not preregistered. They were based on the stated target population and the structure of the response file, rather than on whether they produced statistically significant findings. Reporting the broader analyses allows readers to assess how much these decisions affect the interpretation.

2.1 *Measures and Statistical Analysis*

Gratitude was measured with the six-item Gratitude Questionnaire (GQ-6; McCullough et al., 2002). Responses were coded from 1 for strongly disagree to 7 for strongly agree. Items 3 and 6 were reversed by subtracting the response from eight. The six scored items were averaged, giving a possible range of 1–7, with higher values indicating greater dispositional gratitude. FoMO was assessed using the ten-item scale developed by Przybylski et al. (2013). Responses ranged from 1 for not at all true to 5 for extremely true. No items were reversed; the score was the mean of all ten responses. Item 8 expanded the original online-sharing example to include pictures and videos.

Psychological wellbeing was assessed with the 18-item Ryff questionnaire, covering six domains with three items each (Ryff & Keyes, 1995). Item wording and order were checked against the SPARQtools questionnaire (SPARQtools, n.d.). For consistent coding, responses were assigned 1 for strongly disagree through 7 for strongly agree. Negatively worded items 4, 5, 6, 7, 10, 14, 15, and 16 were reversed. This is equivalent to the SPARQtools scoring direction, which starts with strongly agree coded as 1 and reverses ten positively worded items. The number of reversals must therefore be interpreted together with the response anchors.

The 18 scored wellbeing items were summed to form a composite ranging from 18 to 126. This retained the original study's overall outcome, while treating the composite as a broad operational summary rather than an established single latent dimension. Cronbach's alpha was calculated for each main scale and each three-item wellbeing domain. Given the short subscales and their weak internal consistency, domain-specific associations were not interpreted.

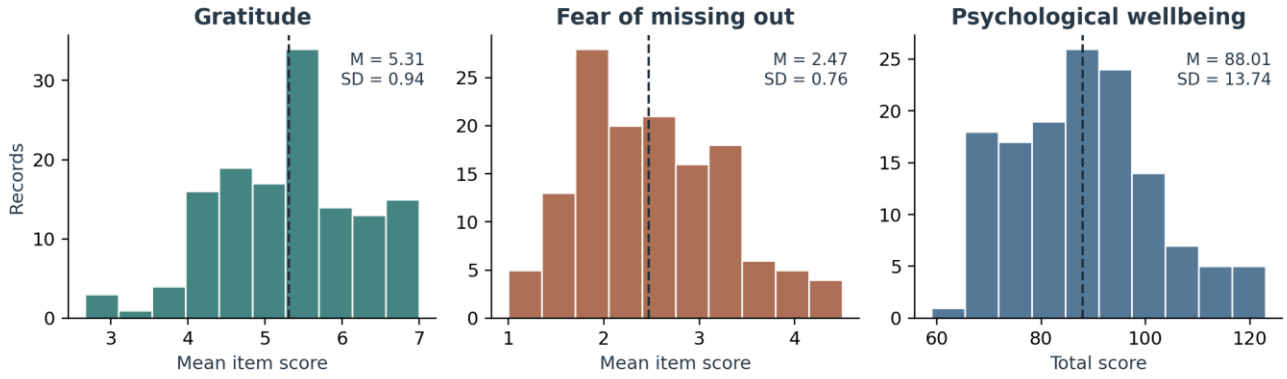
Analyses used Python with NumPy and SciPy. Descriptive statistics and score distributions were examined before Pearson correlations were estimated with Fisher-transformed 95% confidence intervals. The three hypothesis-related correlations were evaluated against a

Bonferroni threshold of .05/3, approximately .0167. Spearman correlations provided a check on reliance on the original score metric. No item-level imputation was required.

Ordinary least squares regression first included gratitude and FoMO as concurrent correlates of wellbeing. Both predictors were centred on their sample means. A second model added their product to test moderation. Regression confidence intervals and two-sided p values used HC3 heteroskedasticity-consistent standard errors and residual degrees of freedom. R^2 describes fitted variation within this sample, not predictive accuracy in new respondents. Additional models considered age and, separately, age with interpretable gender responses. Sensitivity checks retained all eligible submissions, used the latest repeated submission, excluded all repeated-email groups, or included adult records with distinct email addresses. The interaction was also checked after omitting each primary record in turn. These checks assess dependence on specific analytical choices; they do not compensate for non-random sampling.

3. Results

Of 160 submissions, 18 fell outside the age and educational-background criteria and six additional records shared an email with an earlier submission. The primary analysis therefore retained 136 records. Mean age was 21.38 years (SD = 2.00). The sample included 113 female-labelled, 22 male-labelled, and one unclear gender response; 87 respondents reported undergraduate and 49 postgraduate educational backgrounds.



N = 136. Dashed lines mark the sample means. Scores describe responses and are not diagnostic categories.

Figure 1. *Distributions of the three study measures*

Table 1. *Scale Descriptives and Internal Consistency*

Measure	M	SD	Observed range	α
Gratitude mean	5.31	0.94	2.67–7.00	.775
FoMO mean	2.47	0.76	1.00–4.50	.829
Wellbeing total	88.01	13.74	59–123	.766

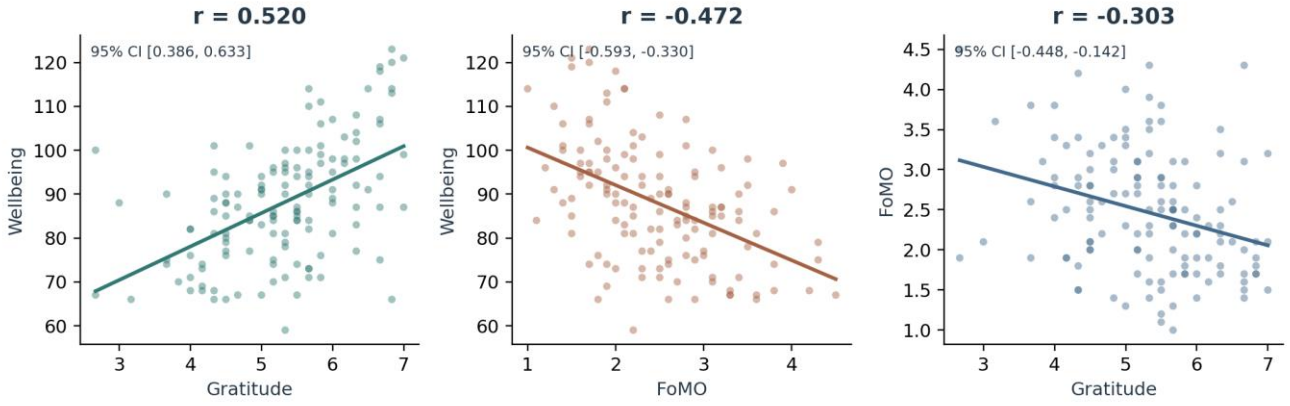
Note. N = 136. Possible ranges: gratitude 1–7; FoMO 1–5; wellbeing 18–126. α = Cronbach's alpha.

The distributions show variation across all three measures. Gratitude scores were concentrated towards the upper part of the response scale, while FoMO scores covered much of its range. Wellbeing totals ranged from 59 to 123. No scale items were missing, so imputation was unnecessary.

Internal consistency was .775 for gratitude, .829 for FoMO, and .766 for the wellbeing composite. Individual wellbeing domains were less reliable, with alphas from .039 to .649. Purpose in life had the lowest value. Domain-specific conclusions are therefore avoided; the higher composite alpha does not establish a single underlying dimension.

Associations with Psychological Wellbeing

Gratitude was positively associated with wellbeing, whereas FoMO was negatively associated with wellbeing. Gratitude and FoMO were also negatively related. Figure 2 shows the individual observations, making the spread around each fitted relationship visible. All three Pearson correlations had $p < .001$ and met the Bonferroni-adjusted threshold of .0167.



N = 136. Points represent retained records and may overlap. Lines are bivariate least-squares fits; confidence intervals refer to Pearson r.

Figure 2. *Observed associations among the study measures*

Table 2. *Additive regression for wellbeing*

Predictor	b	HC3 SE	95% CI	p
Intercept	88.01	0.95	[86.13, 89.88]	< .001
Gratitude	6.09	1.25	[3.61, 8.56]	< .001
FoMO	−6.28	1.26	[−8.78, −3.78]	< .001

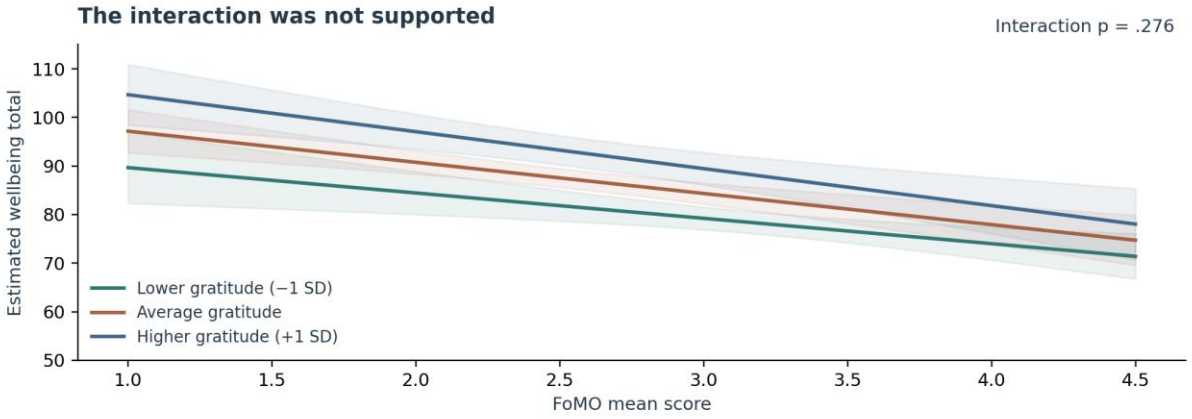
Note. N = 136. Predictors are mean-centred. R^2 = .380; adjusted R^2 = .371. Coefficients are unstandardised wellbeing-point differences. Intervals and p values use HC3 standard errors.

Gratitude and FoMO jointly accounted for 38.0% of observed wellbeing variance. At the same FoMO score, one additional gratitude point was associated with 6.09 more wellbeing points. At the same gratitude score, one additional FoMO point was associated with 6.28 fewer wellbeing points. These are comparisons between respondents, not treatment effects.

Spearman correlations were .514 for gratitude–wellbeing, −.475 for FoMO–wellbeing, and −.322 for gratitude–FoMO. Their agreement with Pearson estimates supported the same overall pattern. Predictor variance inflation factors were approximately 1.10.

Moderation and Sensitivity Analyses

The interaction increased R^2 from .380 to .385, an increment of .0053. Its coefficient was −1.28 (HC3 SE = 1.17), 95% CI [−3.59, 1.03], p = .276. The buffering hypothesis was not supported. Figure 3 illustrates the fitted relationships without treating their apparent differences as established effects.



Shading shows pointwise 95% confidence intervals for fitted means using HC3 covariance. Lines show selected gratitude values, not separate participant groups. Their slopes did not differ reliably.

Figure 3. *Estimated Wellbeing across FoMO and Gratitude*

Table 3. *Interaction estimates under alternative sample rules*

Analysis	n	b	95% CI	p
Earliest eligible record per email	136	-1.28	[-3.59, 1.03]	0.276
All eligible submissions	142	-0.92	[-3.26, 1.41]	0.435
Latest eligible record per email	136	-1.15	[-3.51, 1.22]	0.339
All repeated-email groups excluded	131	-1.52	[-3.85, 0.80]	0.197
All adult records with distinct emails	153	-1.17	[-3.27, 0.92]	0.271

Note. All rows estimate the same centred gratitude-by-FoMO interaction. Intervals and p values use HC3 standard errors. Shared emails identify possible repeated submissions, not verified personal identity.

Age adjustment (p = .233), age and gender adjustment (n = 135, p = .121), and the original 160 submissions (p = .448) also failed to support moderation. In the primary interaction model, maximum leverage was .378 and maximum Cook's distance was .243. Omitting each record in turn yielded interaction p values of .064–.456; the additive gratitude and FoMO associations remained significant. These checks support the interpretation while leaving sampling and measurement limitations unresolved.

4. Discussion

The clearest finding was that respondents who reported more gratitude also reported better psychological wellbeing. This association remained when FoMO was included in the same model and when the data were handled in several alternative ways. The association is consistent with the literature reviewed by Wood et al. (2010). This study estimates its magnitude in one sample; it does not explain why it occurs. Its confidence interval allows a range of positive associations, and its observational design leaves causal direction unresolved.

Several explanations are plausible. People who attend to supportive relationships and favourable experiences may evaluate their lives more positively. People whose lives are going well may also find it easier to feel grateful. Stable differences in mood, personality, social support, or material circumstances could influence both. The survey did not measure these explanations directly, so choosing one as the mechanism would go beyond the evidence. The positive association is meaningful even when its underlying process remains uncertain.

Fredrickson's (2001) broaden-and-build theory offers a possible account of how positive emotions may contribute to resources over time. It provides a rationale for examining whether appreciative experiences are followed by broader attention or stronger relationships. Those

temporal processes require repeated observations. The present data contain neither a sequence of emotional experiences nor an independent measure of resource development. The theory can therefore inform future questions without being treated as confirmed by a correlation between two questionnaires.

FoMO retained a negative association with wellbeing after gratitude was included. This suggests that the two measures did not provide identical information in this sample. A respondent could report appreciation for existing experiences while also feeling concerned about missing others. The negative correlation between gratitude and FoMO was compatible with some shared tendency, but far from a perfect opposition. Treating them as interchangeable would overlook this distinction.

The finding fits the wider interest in the emotional context of FoMO described by Przybylski et al. (2013). It should not be interpreted as evidence that online activity itself caused poor wellbeing. The survey did not identify which platforms respondents used, whether their activity was supportive or stressful, or whether concerns about missing out preceded their wellbeing assessments. Screen-time categories alone could not answer those questions.

The regression model also leaves much unexplained. Approximately 62% of observed wellbeing variance remained outside the additive model. This is unsurprising for an outcome shaped by many aspects of life. The unexplained portion includes omitted influences, measurement error, and variation that the simple linear model does not capture. The fitted R^2 should therefore be read as a description of these data, rather than a comprehensive account of wellbeing or a measure of clinical usefulness.

4.1 *Interpreting the unsupported buffering hypothesis*

The original expectation was that gratitude would weaken the negative association between FoMO and wellbeing. The revised analysis did not support that expectation. This matters because the language of a protective buffer is stronger than the statement that gratitude is associated with higher wellbeing. In the additive model, respondents with more gratitude tended to have higher wellbeing at the same FoMO score. That pattern can exist even when the association between FoMO and wellbeing does not reliably change across levels of gratitude.

A non-significant interaction is not proof that moderation never occurs. The confidence interval includes estimates on either side of zero, and interaction estimates are sensitive to the spread and reliability of the component measures. A more precise study could produce a

different conclusion. For this dataset, however, the appropriate interpretation is that the proposed buffering effect remains unestablished. Selecting particular simple slopes or describing a plotted difference would not overcome the uncertainty in the interaction itself.

The distinction between trait associations and interventions is equally relevant. Emmons and McCullough (2003) provided experimental evidence that directing attention towards gratitude can influence some outcomes. Davis et al. (2016) and Dickens (2017) subsequently showed why the choice of comparison and outcome matters when evaluating gratitude exercises. Those studies do not justify assigning treatment effects to the present survey. This study neither delivered an exercise nor measured change after one, and it cannot say whether gratitude practice reduces FoMO.

Measurement limitations deserve similar attention. The wellbeing composite had reasonable internal consistency for an exploratory analysis, but the short domains performed poorly. Springer and Hauser (2006) raised broader questions about overlap and measurement effects in Ryff scales. In the present sample, the particularly low reliability of purpose in life makes domain-level interpretation difficult. A claim that gratitude specifically improves purpose, autonomy, or relationships would require stronger measures and separate evidence.

All measures were self-reports collected at one time. A favourable or unfavourable view of one’s circumstances could influence several scales together. Response styles, temporary mood, and willingness to disclose difficulties could also contribute. Correlations of the expected sign do not distinguish these possibilities from the substantive relationships of interest. Using longer measures, other informants, or repeated assessments would help examine how much of the pattern persists across methods.

The recruitment method and sample restrictions also limit how far these findings can be generalised. The sample was small, drawn through convenience recruitment, and predominantly female-labelled. Educational background did not establish current enrolment, and location was not independently recorded. The duplicate-email rule was transparent but imperfect. Although the sensitivity analyses strengthen confidence that the main interpretation does not depend on one cleaning choice, they cannot establish representativeness or eliminate uncertainty about participation.

5. Implications and Future Research

For counselling discussions, the findings support asking about both appreciation and concerns about exclusion. A person's ability to recognise positive experiences does not establish that their worries about belonging are minor. Equally, a high FoMO score does not explain the circumstances behind those worries. Questions about what an experience means to the person, which relationships feel secure, and what they believe they are missing may be more informative than treating either score as a complete account of their wellbeing.

Gratitude exercises may be considered within an individually appropriate approach, but this study supplies no evidence that they should be prescribed specifically to counter FoMO. Any use of such an exercise should distinguish appreciation from pressure to minimise a difficulty. The intervention literature provides a separate basis for evaluating exercises, while the present findings describe associations. No clinical recommendation or claim about treatment response follows from the regression coefficients alone.

A stronger follow-up study would specify eligibility, recruitment, repeated-response handling, and the primary analysis before examining results. It would verify current enrolment and location if the intended population were university students in a particular region. Recruitment across more than one network would improve coverage, although a larger sample alone would not make convenience sampling representative. A sample-size rationale should be based on the interaction the study aims to estimate, rather than assume that enough participants for a correlation are enough for moderation.

Repeated assessment would address a different and useful question: when the same person feels more grateful than usual, do their concerns about missing out or their wellbeing subsequently change? Milyavskaya et al. (2018) illustrate the value of examining FoMO across everyday situations. A diary design could record events, concerns, and appreciation over time, while keeping differences between people separate from changes within a person. Longitudinal associations would still require caution about causality, but they would provide information unavailable from one survey.

A separate intervention study could compare a clearly specified gratitude activity with a credible alternative and assess FoMO as well as wellbeing. Relevant outcomes would include the size and persistence of any difference, not merely whether one test crosses a significance threshold. Stronger wellbeing measurement and attention to burden would also matter. The

present subscale results suggest that retaining a very short instrument simply for convenience can limit the questions that can be answered.

This study found consistent positive associations between gratitude and wellbeing and negative associations involving FoMO. Both variables retained distinct associations with wellbeing when considered together. The proposed buffering role of gratitude was not supported, including in alternative analyses of the response file. Further research is needed to establish why these associations arise and whether gratitude practice changes FoMO or wellbeing.

References

Beyens, I., Frison, E., & Eggermont, S. (2016). "I don't want to miss a thing": Adolescents' fear of missing out and its relationship to adolescents' social needs, Facebook use, and Facebook related stress. *Computers in Human Behavior, 64*, 1–8. https://doi.org/10.1016/j.chb.2016.05.083

Davis, D. E., Choe, E., Meyers, J., Wade, N., Varjas, K., Gifford, A., Quinn, A., Hook, J. N., Van Tongeren, D. R., Griffin, B. J., & Worthington, E. L., Jr. (2016). Thankful for the little things: A meta-analysis of gratitude interventions. *Journal of Counseling Psychology, 63*(1), 20–31. https://doi.org/10.1037/cou0000107

Dickens, L. R. (2017). Using gratitude to promote positive change: A series of meta-analyses investigating the effectiveness of gratitude interventions. *Basic and Applied Social Psychology, 39*(4), 193–208. https://doi.org/10.1080/01973533.2017.1323638

Elhai, J. D., Levine, J. C., Dvorak, R. D., & Hall, B. J. (2016). Fear of missing out, need for touch, anxiety and depression are related to problematic smartphone use. *Computers in Human Behavior, 63*, 509–516. https://doi.org/10.1016/j.chb.2016.05.079

Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: An experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology, 84*(2), 377–389. https://doi.org/10.1037/0022-3514.84.2.377

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56*(3), 218–226. https://doi.org/10.1037/0003-066X.56.3.218

McCullough, M. E., Emmons, R. A., & Tsang, J.-A. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology, 82*(1), 112–127. https://doi.org/10.1037/0022-3514.82.1.112

Milyavskaya, M., Saffran, M., Hope, N., & Koestner, R. (2018). Fear of missing out: Prevalence, dynamics, and consequences of experiencing FOMO. *Motivation and Emotion, 42*(5), 725–737. https://doi.org/10.1007/s11031-018-9683-5

Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior, 29*(4), 1841–1848. https://doi.org/10.1016/j.chb.2013.02.014

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68–78. https://doi.org/10.1037/0003-066X.55.1.68

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*(6), 1069–1081. https://doi.org/10.1037/0022-3514.57.6.1069

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology, 69*(4), 719–727. https://doi.org/10.1037/0022-3514.69.4.719

SPARQtools. (n.d.). Psychological wellbeing (18 items) [Questionnaire and scoring instructions]. https://sparqtools.org/wp-content/uploads/2022/10/Psychological-Well-Being-18-items.pdf

Springer, K. W., & Hauser, R. M. (2006). An assessment of the construct validity of Ryff's Scales of Psychological Well-Being: Method, mode, and measurement effects. *Social Science Research, 35*(4), 1080–1102. https://doi.org/10.1016/j.ssresearch.2005.07.004

Vogel, E. A., Rose, J. P., Roberts, L. R., & Eckles, K. (2014). Social comparison, social media, and self-esteem. *Psychology of Popular Media Culture, 3*(4), 206–222. https://doi.org/10.1037/ppm0000047

Wood, A. M., Froh, J. J., & Geraghty, A. W. A. (2010). Gratitude and well-being: A review and theoretical integration. *Clinical Psychology Review, 30*(7), 890–905. https://doi.org/10.1016/j.cpr.2010.03.005