nature portfolio

Peer Review File

Analysis of demographic variation and childhood correlates of financial well-being across 22 countries

Corresponding Author: Professor Piotr Bialowolski

Version 0:

Decision Letter:

6th January 2025

Dear Dr. Bialowolski,

Thank you once again for your manuscript, entitled "What predicts financial well-being? Analysis of demographic variation and childhood predictors across 22 countries", and for your patience during the peer review process.

Your Article has now been evaluated by 3 referees. You will see from their comments copied below that, although they find your work of potential interest, they have raised quite substantial concerns. In light of these comments, we cannot accept the manuscript for publication, but would be interested in considering a revised version if you are willing and able to fully address reviewer and editorial concerns.

We hope you will find the referees' comments useful as you decide how to proceed. If you wish to submit a substantially revised manuscript, please bear in mind that we will be reluctant to approach the referees again in the absence of major revisions. We are committed to providing a fair and constructive peer-review process. Do not hesitate to contact us if there are specific requests from the reviewers that you believe are technically impossible or unlikely to yield a meaningful outcome.

To guide the scope of the revisions, the editors discuss the referee reports in detail within the team, including with the chief editor, with a view to (1) identifying key priorities that should be addressed in revision and (2) overruling referee requests that are deemed beyond the scope of the current study. We hope that you will find the prioritised set of referee points to be useful when revising your study. Please do not hesitate to get in touch if you would like to discuss these issues further.

In particular, your revision must address the following (as well as all other reviewer comments):

1) Strengthen the theoretical grounding and motivation for your work. Ensure that the contribution of your study is made clear and that your work is situated within a thorough discussion of existing literature. This includes thoroughly justifying the choice of measures and ensuring that their connections to existing knowledge are clear.

2) Remove all causal language and implications that your analyses can answer causal/directional questions.

3) Ensure that your manuscript accurately and transparently reflects your preregistrations. Please ensure that all links to preregistrations are correct. All preregistered analyses must be reported in the main text or supplementary information (unless flawed). Any deviations must be transparently reported and explained, and any non-preregistered analyses must be clearly labeled as such.

4) We encourage you to carry out the additional anlayses recommended by Reviewer 2.

5) Transparently describe limitations of your study and ensure that interpretations reflect the nature and limitations of the evidence. For instance, please revise your discussion of childhood predictors in light of concerns about the strength of self-reported recollection of childhood experiences.

Finally, your revised manuscript must comply fully with our editorial policies and formatting requirements. Failure to do so will result in your manuscript being returned to you, which will delay its consideration. To assist you in this process, I have attached a checklist that lists all of our requirements. If you have any questions about any of our policies or formatting, please don't hesitate to contact me.

If you wish to submit a suitably revised manuscript, we would hope to receive it within 4 weeks (due to the timelines of the Global Flourishing Study project). I would be grateful if you could contact us as soon as possible if you foresee difficulties with meeting this target resubmission date.

With your revision, please:

• Include a “Response to the editors and reviewers” document detailing, point-by-point, how you addressed each editor and referee comment. If no action was taken to address a point, you must provide a compelling argument. When formatting this document, please respond to each reviewer comment individually, including the full text of the reviewer comment verbatim followed by your response to the individual point. This response will be used by the editors to evaluate your revision and sent back to the reviewers along with the revised manuscript.

• Highlight all changes made to your manuscript or provide us with a version that tracks changes.

Please use the link below to submit your revised manuscript and related files:

Link Redacted

Note: This URL links to your confidential home page and associated information about manuscripts you may have submitted, or that you are reviewing for us. If you wish to forward this email to co-authors, please delete the link to your homepage.

Thank you for the opportunity to review your work. Please do not hesitate to contact me if you have any questions or would like to discuss the required revisions further.

Sincerely,
[redacted]

[redacted]
Nature Human Behaviour

Reviewer expertise:

Reviewer #1: consumer finance, financial well-being

Reviewer #2: behavioural health, financial stress, well-being

Reviewer #3: social psychology, developmental psychology, well-being

REVIEWER COMMENTS:

Reviewer #1 (Remarks to the Author):

This is an ambitious paper using a unique data source. The Global Flourishing Study is an exciting new resource and using future waves of these data to examine changes within and across countries over time will generate new insights.

This study uses the 2023 GFS to run correlations of individual factors with a few primary measures across 22 countries. The authors claim using respondents across diverse countries is novel since many prior studies focus on the US, UK or other rich countries.

The contributions of the study and the research questions are challenging to summarize. The paper is framed around subjective financial well-being. But the measures include self-reported expenses, safety, food and housing hardships. These single item measures are unusual constructs. The first is 'worry' about expenses. Material security is also "worry" on a 10 point scale and asks about safety, food and housing as a combined set of issues people face. Subjective financial well-being is measured as an indicator relative to living comfortably on income. These are not standard measures in the literature and on their face do not appear to measure well-being--they are perhaps the best measures in these data but they are not ideal given the study objectives.

Analyzing differences in these measures by country is reasonable and descriptively interesting, and controlling for age, education, income, gender, employment status and household type are appropriate. Understanding how these measures vary across countries controlling for national fixed effects, or estimating levels by nation controlling for demographics is interesting--but the contribution for the field remains unclear.

Adding in measures of self-reported recalled parental/family experiences as well as religiosity seems problematic given that responses are likely biased across cultures by social desirability. These measures capture something, but it is likely an endogenous cluster of attributes that are correlated with the responses to worry. It is a stretch to link these responses to notions like thrift. The contribution of these aims is unclear.

A few suggestions:
1. The best path forward may be to wait for future waves and exploit changes over time within country in order to better estimate differential responses.
2. The survey items are limited and there maybe more value in defining the outcomes more precisely -- these measure something but not really financial well-being. Perhaps these questions could be used collectively to make a scale measure.

Reviewer #2 (Remarks to the Author):

The manuscript reads well. Correct typo in "demogrpahic"

The first part of the title, that is, "What predicts financial well-being?" is misleading as this was a cross-sectional study. The same is true for the word "predictors" in the second part of the title. It should be called "correlates" or "associations".
There are many more occurrences in the text suggestive of causation, for example, "factors influencing" or "determinants" in the abstract. All causal language should be purged from the manuscript, as the data do not stand up to it.

There are only scant comparisons to recent other cross-country research into financial well-being. For example, Hoffmann, A. O. I., Plotkina, D., Broihanne, M.-H., Göritz, A. S. & Kleimeier, S. (2022). Differences in and drivers of mental, social, functional, and financial well-being during COVID-19: Evidence from Australia, France, Germany, and South Africa. PLoS ONE, 17(10), e0276077.
as well as
Kleimeier, S., Hoffmann, A. O. I., Broihanne, M.-H., Plotkina, D. & Göritz, A. S. (2023). Determinants of individuals' objective and subjective financial fragility during the COVID-19 pandemic. Journal of Banking and Finance, 153, 106881.
examined three countries that were also examined in the manuscript at hand.

I did not understand the reason(s) of why a random effects meta-analyses was conducted in which the country-specific analyses regressing of financial well-being on all childhood predictors simultaneously were pooled (Table 4) rather than one total regression analysis using the primary data and accounting for country.

While this research rests on an impressive sample in size and national heterogeneity, its national representativity is doubtful given the survey methodology at hand. Moreover, all data are self-reported (thus objective data or other desirable non-self-report data are missing), cross-sectional and non-experimental with the consequence that the analysis resulted in descriptions of associations, from which we do not learn much. There remain additional limitations, which are adequately described in the limitations section. While this is a praiseworthy feature of this manuscript, naming the many severe limitations does not heal them.

The level of analysis remains superficial.
First, I missed potentially insightful/interesting comparisons of different groups of countries by different groupings (e.g., developing vs. developed; collectivist vs. individualist; gender egalitarian vs. gender elitism; secular vs. religious). At present the manuscript's focus on overall as well as country-wise associations rather than cultural associations leaves the hailed promises of this "cross-cultural" survey largely unfulfilled.
Second, expecting considerable overlap among them, I missed an analysis of the interrelation of the four outcome variables reflecting financial well-being: financial security (FS), material security (MS), subjective financial well-being (SFWB), and household income (HI). When looking at correlations between correlates and these four outcome variables that are comparatively discriminant versus concurrent some insights could potentially be gleaned.

This manuscript is not about human behaviour in the narrow sense. The journal's scope is only remotely met. The manuscript does not offer the level of insight I would wish to find in a highly selective journal such as Nature Human Behaviour.

Reviewer #3 (Remarks to the Author):

Nature Human Behaviors
What predicts financial well-being? 1 Analysis of demographic variation and childhood predictors across 22 countries
The authors take on a beneficial and important topic in a complex way. More global comparisons are needed when considering well-being; this paper adds important information on financial well-being. Most notably, the authors are generally transparent in what they are doing. One general suggestion would be to be clear that much of what they are doing is exploratory (this shouldn't take much). This isn't a criticism, just a suggestion for transparency as it would be rather challenging for a number of reasons to be more specific on hypotheses.

Introduction –
The writing in the introduction is generally clear and easy to follow. Differences between perceived financial WB and objective measures are clearly articulated.

Psychological factors, such as happiness is another aspect connected to financial well-being as it is a common among the most common desires for many populations (p. 5 l. 136). E.g., Lyubromirsky et al., 2005; Killingsworth, 2021

The use of cross-cultural data from 22 countries is particularly notable as a strength.
In describing the first objectives (p 5-6 l 138-140), a small edit could add clarity to highlight if a and b are objective or subjective.

Objective 2 – this again will be very helpful for a better cross-cultural understanding

Objective 3 (or for the discussion) – For examples and other literature on non-financial wb and demographic links to later types of wb (including financial), see Boehm, Qureshi, & Kubzasky, 2024; Coffey, Nelson-Coffey, Faulkner, & Pluess, 2023; Coffey 2020. Notably, most of the work covered is from WEIRD samples (from the UK and US). These works also offer evidence about why and what in childhood is key for later well-being – including adult financial wb. In these studies, the links of certain types of childhood well-being (e.g., happiness) to childhood financial well-being are often very small or non-significant. This may indicate a lack of awareness of financial wb for a portion of childhood for some populations even though some factors link to adult well-being in these limited samples. Thus, the reviewed study is greatly expanding this in a much-needed area of cultural and financial wb.

Additionally, the studies just mentioned and other studies link childhood demographics to later well-being which might be useful here or in the discussion (E.g., Moffet et al., 2010 links childhood self-control to adult financial well-being).

Results:
I was a little surprised the results were limited to only presenting across all countries combined for many of the findings/tables. This is still incredibly important as a first step. In the discussion, some references to betweencountry findings are presented and references to supplemental findings. I would recommend at least referencing the supplemental tables in this results section to make it easier for readers to find.

Discussion
The discussion is written well. I was pleased to see some of the country level descriptions – but wasn't sure this was represented in the included tables (none was referenced until the discussion). Again, reference to supplemental table(s) earlier would be useful since NHB uses the format that lists methods last.
Including elements about how retrospective reports on childhood wealth compare to actual understanding during childhood might be helpful. Often, children (during childhood – especially as they are younger) may not recognize their wealth level until later on, especially if it is relatively similar to everyone else they are used to (e.g., making it harder to compare to others). In other words, children without a comparison do not know how privileged or limited their resources might be in the way that adults with more experience might such that it seems less linked to their well-being (e.g., happiness not linked to SES in childhood – see above sources).
The authors highlight useful gender differences and that items like the wage gap are to be considered. A brief clarification or unpacking of the shared resources and financial support marital status might be useful (p. 16 l. 406). For example, being married typically means two people around for two incomes (if needed) and the ability to divide up tasks (e.g., lower time and mental load) more than for unmarried (especially single) people.
For the religious findings, another element that may be overlooked is that religions can shift focus away from the self and towards the community in helping and supporting others that can be good for a range of well-being types.
Another good childhood well-being linked to later well-being study that might be useful (in addition to the ones already mentioned is: Moffitt et al., 2011, PNAS broader inclusion in p. 20 discussion.
Recall bias is unlikely to account for all the differences but measuring such elements during childhood – especially with age-appropriate children reporting are likely to lead to other valuable findings.
Methods
Nice use of data from many different countries and weighting for national representation is valuable.
I might have missed it but is it clear how measures were translated – I'm sure it is in some of the other GFS work from this data but some brief detail would be helpful beyond reference to GFS.
It wasn't clear that dichotomizing some variables was the best strategy (e.g., Relationship with mother – p. 28 l 657).
This statement is confusing from p.30 l 696: "Within each country, a global test of variation of each dependent variable across levels of each particular demographic variable was conducted, and a pooled p-value across countries reported concerning evidence for variation within any country." In particular, I'm confused about the concerning evidence for variation.
The Open Science link and suggestion (p. 30 l 703-706) that all analyses were preregistered is confusing. The link does not seem to be the correct link as it is focused on meaning/purpose rather than financial WB (https://osf.io/u3pfz). Further, to say all analyses were preregistered could probably be slightly more specific. E.g., All X analyses…
Similarly, the OFS link and claims for childhood predictors (p. 31, l 727-730) is also focused on meaning/purpose. https://osf.io/jc2mr. See last comment as it applies to this link and claim too.

Reviewer #3 (Remarks on code availability):

I did not review the code.

Version 1:

Decision Letter:

Our ref: NATHUMBEHAV-24104182A

11th March 2025

Dear Dr. Bialowolski,

Thank you for submitting your revised manuscript "Analysis of demographic variation and childhood correlates of financial well-being across 22 countries" (NATHUMBEHAV-24104182A). It has now been seen by the original referees and their comments are below. As you can see, the reviewers find that the paper has improved in revision. We will therefore be happy in principle to publish it in Nature Human Behaviour, pending revisions to satisfy the referees' final requests and to comply with our editorial and formatting guidelines.

We are now performing detailed checks on your paper and will send you a checklist detailing our editorial and formatting requirements within the next few days. Please do not upload the final materials and make any revisions until you receive this additional information from us.

Please do not hesitate to contact me if you have any questions.

Sincerely,
[redacted]

[redacted]
Nature Human Behaviour

Reviewer #1 (Remarks to the Author):

I appreciate the efforts of this writing team to craft a justification for this study.

The study still needs a clearer statement that these results are biased due to (1) social desirability self reporting bias, and (2) unobserved heterogeneity.

The addition of E-value CIs (drawn from the Epi field) unfortunately is not re-assuring. There are a number of critiques of this method in the literature. E-values have a monotonic linear relationship with estimates and do not truly address unmeasured confounders. It also requires a strong assumption that the prevalence of exposure among those without the unobserved confounder is 0% (and we have no way to prove that). These are at best a heuristic.

If you main research question is "do early life factors influence later life reports of financial measures?", you could use the person's age and location to instrument for their upbringing using unemployment or recessionary variables that could be merged to these survey data. That way you could better estimate within and across country differences over time based on age cohort. Even if this approach feels like a crude proxy, the authors should investigate more robust tests than the E-value heuristic.

Alternatively, you could drop this section and discussion. I am afraid it raises more red flags and undermines the credibility of the study. (this is also not mentioned in the registry: https://osf.io/b5gn3). This may be the most pragmatic strategy.

The implications of this study need more discussion. How do early-life experiences inform interventions aimed at enhancing financial outcomes? Is this simply getting parents more income? Or getting youth to complete schooling? Or welfare payments (eg child allowances)? Mandated military service? There is evidence that "financial literacy" will overcome childhood poverty or health problems? This study shows much is determined early in life and there is not much that policy can do, at least in some developed settings.

How does this study contribute to the literature/ theory of how childhood relates to later life well-being? I recommend reviewing work by Chetty and colleagues (the related literature) that examine early life experiences and mobility (income ptile). This is an objective measure of changes in financial status using admin data. How do these studies suggested correlates of later life status comport with the estimates from the GFS?

I also recommend addressing the issue of relative versus absolute status. People's perceptions are likely reported relative to their peer/social group. The levels of differences across cultures may reflect these baseline comparisons within a place.

Citations:
Ioannidis, J. P., Tan, Y. J., & Blum, M. R. (2019). Limitations and misinterpretations of E-values for sensitivity analyses of observational studies. Annals of internal medicine, 170(2), 108-111.

Blum, M. R., Tan, Y. J., & Ioannidis, J. P. (2020). Use of E-values for addressing confounding in observational studies—an empirical assessment of the literature. International journal of epidemiology, 49(5), 1482-1494.

MacLehose, R. F., Ahern, T. P., Lash, T. L., Poole, C., & Greenland, S. (2021). The importance of making assumptions in bias analysis. Epidemiology, 32(5), 617-624.

Chetty, R., Friedman, J. N., Hendren, N., Jones, M. R., & Porter, S. R. (2018). The opportunity atlas: Mapping the childhood roots of social mobility (No. w25147). National Bureau of Economic Research.

Corazzini, L., Esposito, L., & Majorano, F. (2012). Reign in hell or serve in heaven? A cross-country journey into the relative vs absolute perceptions of wellbeing. Journal of Economic Behavior & Organization, 81(3), 715-730.

Reviewer #2 (Remarks to the Author):

I commend the authors on a fine revision. Most of my concerns were addressed.
Please double-check prior to publication that the figures are correct as in Table R1 the two columns pertaining to level of development were confounded.

Reviewer #3 (Remarks to the Author):

This revision has adequately addressed my feedback. The revisions have also greatly improved the manuscript as there were notable valuable suggestions from the other reviewers. One very minor optional suggestion, the use of Maslow’s hierarchy of needs has helped but the more recent update (Kendrick et al., 2010) of it is better supported and both would apply but it might be more useful.

Dear [redacted]

Thank you for your review of “What predicts financial well-being? Analysis of demographic variation and childhood predictors across 22 countries.” While we will go point-by-point through each of your comments, as well as the referees’, we first summarize major changes below:

1. Strengthening the Theoretical Grounding and Justification for Measures: We clarified the conceptualization of financial well-being, emphasizing both subjective and objective dimensions. We tied our analysis to broader literature, including frameworks like Maslow's hierarchy of needs and the Consumer Financial Protection Bureau’s financial well-being framework. This enriched the theoretical foundation of the study and justified the choice of measures used in the analysis, aligning them with existing knowledge.

2. Removal of Causal Language: All causal language was removed from the manuscript to align with the observational nature of the study. We ensured that the language reflects the correlational nature of the analysis while retaining a discussion of E-values as a robustness check. This addresses the reviewer's concern about the implications of causal claims in observational studies.

3. Clarification and Transparency on Preregistrations: We updated the manuscript to accurately reflect the preregistrations, ensuring that all links were correct. We clarified that analyses were conducted in accordance with the preregistered plan, and deviations from the preregistration were transparently explained. This improves the manuscript’s compliance with Open Science practices and enhances the transparency of the analysis.

Thank you again for your and the referees’ thoughtful reviews and we now go point-by-point.

Respectfully,

Authors

Editor:

1. Strengthen the theoretical grounding and motivation for your work. Ensure that the contribution of your study is made clear and that your work is situated within a thorough discussion of existing literature. This includes thoroughly justifying the choice of measures and ensuring that their connections to existing knowledge are clear.

Response:
Following the suggestion of Reviewer 1, we have significantly strengthened the theoretical foundation and motivation of the paper. In particular, we have provided a more detailed and nuanced description of the concept of financial well-being, situating it within the broader literature and highlighting its multifaceted nature. We have also clarified how the concept interlinks with the indicators used in our analysis, ensuring that the choice of measures is thoroughly justified and their connections to existing knowledge are made explicit.

We now define financial well-being as encompassing both subjective and objective dimensions, including the ability to meet current and future financial obligations, financial security, and the freedom to make choices that enhance quality of life. We emphasize how subjective measures, such as perceived financial well-being, capture psychological and behavioral dimensions that objective indicators, like income, may overlook. Additionally, we draw on Maslow's hierarchy of needs to provide a strong theoretical foundation, linking financial security to the alleviation of immediate "deficiency needs" and positioning it as the opposite of financial worry.

2. Remove all causal language and implications that your analyses can answer causal/directional questions.

Response:
We have removed all causal language and implications throughout the manuscript, as requested. However, we retained a discussion of E-values in the context of sensitivity analyses, which quantifies the robustness of observed associations to unmeasured confounding. This is an important distinction because it represents a methodological approach towards causal inference in settings where full randomization – as in our cross-country case – is impossible.

While we recognize that our observational study cannot fully establish causation, E-values offer a framework for assessing the extent to which unmeasured confounders would need to be associated with the outcome beyond the level explained by the covariates to explain away our results. Thus, they serve as a robustness check and should be understood as "selection on observables," providing a transparent basis for evaluating the extent to which omitted variable bias could affect the parameter estimates (without making complete causal claims).

3. Ensure that your manuscript accurately and transparently reflects your preregistrations. Please ensure that all links to preregistrations are correct. All preregistered analyses must be reported in the main text or supplementary information (unless flawed). Any

deviations must be transparently reported and explained, and any non-preregistered analyses must be clearly labeled as such.

Response:
Thank you for spotting errors in links to our preregistrations. As you rightly pointed out, there was an incorrect link copied and retained in our methods section. We have carefully reviewed the manuscript to ensure that it now accurately reflects the preregistrations. All preregistered analyses have been reported, either in the main text or the supplementary materials, as appropriate. Links to the preregistrations have been verified and are correctly referenced.

4. We encourage you to carry out the additional analyses recommended by Reviewer 2.

Response:
In order to address Reviewer's 2 concerns, we have conducted additional analyses, as suggested. We provide a split of the sample separately in four different ways identifying highly developed countries and less developed countries, collectivist and individualistic countries, religious and non-religious ones, as well as gender egalitarian and gender elitist countries. Differences between these groups of countries have been described in the results. Moreover, in order to accommodate one of the remarks by Reviewer 2, we introduced a correlation table to the supplementary material. It has been also described in the Results section.

5. Transparently describe limitations of your study and ensure that interpretations reflect the nature and limitations of the evidence. For instance, please revise your discussion of childhood predictors in light of concerns about the strength of self-reported recollection of childhood experiences.

Thank you for this constructive suggestion. We double checked the discussion and we kept the statement that reflect the limitations associated with self-reported recollections of childhood experiences. This limitation has been addressed in the revised manuscript with the following:

"(…) The childhood predictors assessments may be subject to recall bias. However, for recall bias to completely explain away the observed associations would require that the effect of adult financial status on biasing retrospective assessments of the childhood predictors would essentially have to be at least as strong as the observed associations themselves, and some of these were quite substantial. The childhood predictors analyses may also be subjected to unmeasured confounding, though these concerns were at least partially addressed through the E-value sensitivity analyses, and in some cases the associations found to be quite robust."

6. Finally, your revised manuscript must comply fully with our editorial policies and formatting requirements. Failure to do so will result in your manuscript being returned to you, which will delay its consideration. To assist you in this process, I have attached a

checklist that lists all of our requirements. If you have any questions about any of our policies or formatting, please don't hesitate to contact me.

Response:
Thank you. We followed the guidelines before the submission.

Reviewer #1 (Remarks to the Author):

1. This is an ambitious paper using a unique data source. The Global Flourishing Study is an exciting new resource and using future waves of these data to examine changes within and across countries over time will generate new insights.

Response:
Thank you for your positive feedback on our work. Indeed, the Global Flourishing Study represents a groundbreaking initiative, offering an unprecedentedly large and diverse sample across multiple countries. Its unique design provides a robust foundation for examining a variety of topics, including financial well-being, within comprehensive economic and social contexts. The longitudinal design of the study (with first two waves available in March/April 2025 and all waves in four years and the collection of subsequent waves has already been ongoing), presents a significant opportunity for exploring changes both within and across countries over time. Additionally, the open-access dataset ensures that this resource will benefit the broader research community, fostering innovative and impactful analyses in the years ahead.

2. The contributions of the study and the research questions are challenging to summarize. The paper is framed around subjective financial well-being. But the measures include self-reported expenses, safety, food and housing hardships. These single item measures are unusual constructs. The first is 'worry' about expenses. Material security is also "worry" on a 10 point scale and asks about safety, food and housing as a combined set of issues people face. Subjective financial well-being is measured as an indicator relative to living comfortably on income. These are not standard measures in the literature and on their face do not appear to measure well-being--they are perhaps the best measures in these data but they are not ideal given the study objectives.

Response:
Thank you. We agree that the set of measures used in the study to approach the concept of financial well-being is unique. Even though you claim that the article is framed around subjective well-being, our intention was to investigate both subjective and objective financial well-being measures. The indicators of financial and material security (FS and MS, respectively) were already used as a foundation of the Secure Human Flourishing Index [1] and MS has been validated as an item comprising the Flourishing Scale[2]. The 10-point scales for financial and material security align with established measurement conventions, such as the Cantril Life Satisfaction Scale, which uses a similar single-item 10-point format to capture subjective well-being. Moreover, it can be argued that the FS and MS items have a very significant overlap with well-established scales specifically developed for measuring financial well-being, like the framework adopted by the Consumer Financial Protection Bureau (CFPB, see, https://files.consumerfinance.gov/f/201501_cfpb_digest_financial-well-being.pdf). They also claim that financial well-being goes beyond the objective indicator of income and is rather defined as having financial security and financial freedom of choice. Not worrying about financial matters can be understood as having a capacity to absorb a financial shock (which is part of financial well-being frameworks in general and CFPB, in particular). Financial security, as

portraied in the GFS framework, is also relevant for financial control because not worrying implies being present, being aware of financial situation and thus, being less vulnerable to being surprised by unexpected financial downturn. Subjective financial well-being, which in our framework is defined as living comfortably on present income or at least getting-by on present income, is closely linked to the freedom of choice one has in their financial matters, which is also part of the CFPB and other financial well-being frameworks.

However, we understand that a correct and thorough introduction of a financial well-being framework was missing from the article. In order to accommodate your concern and show how our imperfect set of financial indicators fits the financial well-being framework, we have provided a more detailed introduction of the financial well-being framework in the introductory section. We had to, however, accommodate the journal requirements regarding the overall length of the manuscript and thus we limited the presentation to the following:

"Financial well-being is a multifaceted concept often understood as the ability to meet one's current and future financial obligations, feel secure about one's financial future, and have the freedom to make choices that enhance one's quality of life[3]. It encompasses both subjective and objective measures of one's financial situation[4].
The approach to financial well-being that combines subjective and objective financial indicators, allows for a more comprehensive understanding of how financial circumstances intertwine with individuals' lives. While income levels remain critical for financial well-being as they reflect immediate resources, examining individuals' perceived financial well-being highlights the psychological and behavioral dimensions that objective measures alone may overlook.
Within the financial well-being framework, an important role is attributed to the lack of financial fragility, which builds on the absence of limitations, control over money matters, and of the absence of anxiety in the financial sphere[5,6]. These attributes often correspond to a person's ability to secure the financial resources necessary to live comfortably today and in the future[7]. A strong theoretical foundation for conceptualizing financial well-being, through financial security, the ability to live comfortably on current income, and income level itself, is provided by Maslow's hierarchy of needs. Basic physiological and safety needs, provided by the security of income, form the base of the hierarchy by alleviating anxiety over immediate "deficiency needs," such as meeting daily expenses, handling near-term purchases, and maintaining emergency savings[5]. Financial security, therefore, can be positioned as the opposite of financial worry, which relates to negative, repetitive thoughts about the uncertainty of one's current or future financial situation[8,9].
Subjective measures of financial well-being capture perceptions of lifetime achievements and relative deprivation, aspects not fully reflected in objective indicators of socio-economic status. These subjective indicators may potentially influence or correlate with other key health and well-being outcomes, perhaps even more strongly than objective financial measures[10,11]. Identifying the key factors associated with financial well-being and economic disparities among individuals has gained significant traction as a critical area of research. Much of the literature focuses primarily on objective indicators of socio-economic status, such as personal or family income, wealth, educational attainment, and employment or occupation[12]. However, recent work has also emphasized the importance of individual perceptions of financial well-being[13,14]."

As it was not possible to fully account for the complexity of current financial well-being frameworks, in the Limitations section we added a limitation which states:

“Another limitation of this study lies in the approach to financial well-being, which places greater emphasis on current money management security and the ability to live comfortably on current income, while giving relatively less attention to expected future financial security and the capacity to meet long-term financial goals. As a result, our findings may offer a more comprehensive understanding of present financial well-being but could underrepresent the role of future-oriented financial perceptions and planning in shaping overall financial well-being.”

3. Analyzing differences in these measures by country is reasonable and descriptively interesting, and controlling for age, education, income, gender, employment status and household type are appropriate. Understanding how these measures vary across countries controlling for national fixed effects, or estimating levels by nation controlling for demographics is interesting--but the contribution for the field remains unclear.

Response:
Using cross-national analyses in the context of financial well-being is scientifically valuable because it allows researchers to explore how diverse cultural, institutional, and economic contexts shape financial behaviors and outcomes. Such analyses provide insights into the interplay between individual-level factors (e.g., demographics, childhood predictors) and country-specific variables, such as welfare systems, labor markets, and financial infrastructures.

By comparing patterns across nations, we can identify universal patterns and context-specific differences, which help refine theories of financial well-being and resilience. Moreover, cross-national studies enable the examination of how systemic factors, such as income inequality or social safety nets, influence financial well-being, offering a more comprehensive understanding of its determinants. This approach also facilitates the validation of findings across diverse populations, ensuring that conclusions are not overly reliant on data from a single country or region, thereby enhancing the generalizability and robustness of the research.

In order to accommodate your concern (which aligns with a Reviewer’s 2 comment) and to highlight the valuable insights from the analyses conducted on the country level, we conducted analyses of childhood predictors within groups of countries in the following cross-sections: developing vs developed, collectivist vs. individualist; gender egalitarian vs. non-egalitarian; secular vs. religious). We conducted analyses and compared associations with childhood predictors across these groups. Significant differences are reported in the online supplement no. 3 tables S23a-S23d and are briefly discussed in the manuscript.

4. Adding in measures of self-reported recalled parental/family experiences as well as religiosity seems problematic given that responses are likely biased across cultures by social desirability. These measures capture something, but it is likely an endogenous

cluster of attributes that are correlated with the responses to worry. It is a stretch to link these responses to notions like thrift. The contribution of these aims is unclear.

Response:

Thank you for raising this concern. We agree that self-reported measures of recalled parental/family experiences and religiosity are subject to potential biases, including social desirability and cultural norms that may influence responses. However, this isthe reason why we use random effects meta-analysis to account for this heterogeneity. Thus, as we claim in the manuscript *”religious affiliation/tradition and race/ethnicity were used within country as control variables, when available, but these coefficients themselves were not included in the meta-analyses because categories/responses varied by country.”*

We also point out that these parental and religiosity variables are included to capture broader early-life and psychosocial influences on financial well-being, rather than as direct measures of specific behaviors like thrift.

To clarify our aims we revised the manuscript and added examples of prior studies on the associations between religiosity and financial well-being as well as between relationships with parents and adult life outcomes. We present here selected examples:

“For example, we know that in some countries financial well-being tends to increase with age[13]; that there are gender differences in risk-aversion, financial knowledge, and earnings[16,17]; marital status, <u>education and religious participation have been associated with financial well-being[18-20]</u>”

“Our meta-analysis revealed that more frequent religious service attendance was associated with higher FS, MS, and SFWB. This finding corroborates previous evidence indicating that certain religious beliefs and teachings, such as those promoting thriftiness, moderation, and foresight, may help alleviate financial worries and thus improve security[21], reduce consumerism and materialism[22], and promote saving and positive investment decisions[23]. Religion may also shift focus away from material outcomes, such as financial status, and toward other important aspects of life, such as family, friends, coreligionists, and the broader community. This emphasis on community and relationships, fosters support and helping behaviors that could positively influence various aspects of well-being, including financial well-being[24]. These explanations are consistent with the absent association between religious service attendance and objective financial status reflected in income observed in this study, suggesting that religious involvement primarily links with subjective aspects of financial well-being. As indicated by prior research[25,26], the associations between religious service attendance and financial well-being varied across countries. In nations such as Argentina, Australia, Indonesia, Israel, the United Kingdom, and the United States, attending religious services more than once a week was associated with the best outcomes for FS, MS, and SFWB, but not for HI. In contrast, Germany and Hong Kong showed associations across all four measures. In several countries, including Argentina, Brazil, Israel, Mexico, Sweden, and the United States, individuals who attended religious services most frequently had the lowest representation in the top income quintile. In Kenya, those who never attended religious services reported the best outcomes for

FS, MS, and HI, in Nigeria, non-attendance was associated with the worst outcomes on these same variables, and in Tanzania, those who never attended had the best FS and MS outcomes but the worst SFWB and HI. In contrast, in Poland, attending religious services more than once a week was associated with the worst outcomes across all four measures."

Additionally, a supplementary analysis comparing the associations between early-life experiences and financial well-being between secular and non-secular countries was added as well to provide more insights into this matter. We found that:

"In countries classified as religious compared to secular ones, it was harder to achieve FS (∆effect size=-0.53, 95% CI: -0.94, -0.12) and MS (∆effect size=-0.62, 95% CI: -0.96, -0.28), as well as SFWB (∆RR=-0.14, 95% CI: -0.25, -0.03), for individuals who experienced a loss of a parent during childhood (Table S23c in the online supplement no. 3)."

Suggestions:

5. The best path forward may be to wait for future waves and exploit changes over time within country in order to better estimate differential responses.

Response:
Thank you for this suggestion. While we appreciate the value of longitudinal data for analyzing changes over time (and that is a major part of the ongoing GFS), we believe our current cross-sectional analysis of demographic variations and childhood predictors offers important insights that do not require waiting for future waves (it is by no means an argument to dismiss your suggestion as we completely agree with the sentiment of exploiting within-person variation, and we intend to proceed with these analyses when data is available). Here is why we think that cross-sectional data might be enough to obtain relevant conclusions in our framework.

First, for demographic variations and childhood predictors, the temporal sequence is almost always hard to contest – that is, demographic characteristics and childhood experiences precede current financial well-being outcomes. This natural ordering helps establish causal direction without requiring longitudinal data. Second, our analysis focuses on understanding how pre-existing characteristics (demographics) and early-life experiences may potentially shape current financial well-being, rather than tracking changes in these relationships over time. The cross-sectional approach is well-suited for this purpose. The Global Flourishing Study's comprehensive dataset already provides rich information about demographics and childhood experiences across multiple countries, allowing us to examine how these factors interact globally (and accounting for differences in national and cultural contexts) to associated with financial well-being. As a result, we can compute meaningful E-values. While future waves will certainly enable additional analyses of temporal changes, delaying publication would postpone the sharing of valuable insights that will inform current policy discussions and interventions.

2. The survey items are limited and there maybe more value in defining the outcomes more precisely -- these measure something but not really financial well-being. Perhaps these questions could be used collectively to make a scale measure.

Response:
We appreciate your suggestion to consider creating a composite measure for the variables we examine. However, we would like to clarify that after careful consideration, we decided to stick to our intitial approach and analyze these variables separately.

We deliberately treat financial security, material security, financial well-being, and income quintile as distinct constructs even though they are each within the framework of financial well-being (see our new introduction section). While these variables are interrelated, each captures a unique aspect of an individual's financial situation. Financial security reflects perceptions of stability and the ability to meet financial obligations, material security pertains to access to material resources, financial well-being is a broader subjective assessment of financial satisfaction, and income quintile is an objective measure of financial standing within a population. Combining these variables into a single composite measure would obscure these important distinctions and make it difficult to understand how each dimension behaves.

Moreover, a key objective of our study is to explore the interplay between subjective perceptions (e.g., financial and material security) and objective metrics (e.g., income quintile). These measures often do not always align perfectly (and across countries) , and this misalignment can provide valuable insights into individuals' financial realities. For example, individuals with high income may still report low financial security or well-being, and vice versa. By retaining the measures as distinct, we feel that we are better equipped to analyze and interpret these relationships. A composite measure, on the other hand, risks conflating subjective and objective dimensions, which could hinder our ability to draw meaningful and nuanced conclusions.

Additionally, while composite measures can be useful in certain contexts, they can also present particular challenges. A key issue is the potential for statistical artifacts, where a composite measure may align strongly with one variable (e.g., income quintile) while not adequately capturing others (e.g., material security or subjective well-being). Such alignment could occur as a statistical fluke, driven by underlying data patterns, making it difficult to reconcile the results or provide meaningful interpretations. This issue is particularly problematic when a composite measure overemphasizes one dimension at the expense of others, thereby misrepresenting the multi-dimensional nature of financial well-being. While this issue could be addressed by selecting an apropriate weighting scheme, determining the optimal weights is outside the scope and would require a dedicated study – one that lies beyond the scope of present research.

By analyzing each variable individually, we avoid these potential pitfalls and ensure that our results remain robust, interpretable, and reflective of the complexity of financial well-being.
We also agree with your observation that financial well-being is a complex, multi-dimensional concept that cannot be fully captured by a single variable. Our study seeks to demonstrate how different indicators collectively reflect financial well-being, without conflating them into a

combined measure. This approach aligns with the broader understanding in the literature that financial well-being is best examined through multiple dimensions.

To address your concern and enhance the clarity of our approach. We have added a section in the introduction that better details the link between financial well-being and our set of indicators.

Reviewer #2 (Remarks to the Author):

1. The manuscript reads well. Correct typo in "demogrpahic"

Response:
Thank you for these words of appreciation. The typo has been, of course, corrected.

2. The first part of the title, that is, "What predicts financial well-being?" is misleading as this was a cross-sectional study. The same is true for the word "predictors" in the second part of the title. It should be called "correlates" or "associations". There are many more occurrences in the text suggestive of causation, for example, "factors influencing" or "determinants" in the abstract. All causal language should be purged from the manuscript, as the data do not stand up to it.

Response:
Following your suggestion we adjusted the language to emphasize more the correlational nature of the study. The whole manuscript was carefully read and all instances of causal language have been eliminated. This also impacted the title of the manuscript, which in the current version reads: *"Analysis of demographic variation and childhood predictors correlates of financial well-being across 22 countries".*

As a sidenote, we would like to underscore that prediction in the regression framework does not have to imply causality. However, we understand that it might create a sense of causal relations. We decided not to encourage this line of thinking and thus eliminated all causal language from the manuscript. We point out that a special approach is related to the explanations using the E-values. They provide additional insights into the robustness of our findings to potential unmeasured confounding. While the cross-sectional nature of the data limits causal inference, E-values allow us to estimate the strength of association that an unmeasured confounder would need to have with both the independent variables and the outcomes to fully explain away the observed relationships and in this framework causal interpretation seems adequate. For example, the robust E-values associated with variables like childhood financial status and health suggest that these associations are unlikely to be entirely due to unmeasured confounding and thus explained away by other factors than the ones measured in the study.

3. There are only scant comparisons to recent other cross-country research into financial well-being. For example, Hoffmann, A. O. I., Plotkina, D., Broihanne, M.-H., Göritz, A. S. & Kleimeier, S. (2022). Differences in and drivers of mental, social, functional, and financial well-being during COVID-19: Evidence from Australia, France, Germany, and South Africa. PLoS ONE, 17(10), e0276077, as well as Kleimeier, S., Hoffmann, A. O. I., Broihanne, M.-H., Plotkina, D. & Göritz, A. S. (2023). Determinants of individuals' objective and subjective financial fragility during the COVID-19 pandemic. Journal of Banking and Finance, 153, 106881.
examined three countries that were also examined in the manuscript at hand.

Response:
Thank you. The updated version of the manuscript introduces a framework for financial well-being already at the beginning of the introduction section. It utilizes larger pool of articles reflecting the conceptualization of well-being – including the ones you suggested. Beyond that, we have included also the following article:

Netemeyer, R. G. et al. How Am I Doing? Perceived Financial Well-Being, Its Potential Antecedents, and Its Relation to Overall Well-Being. Journal of Consumer Research 45, 68-89 (2018). https://doi.org:10.1093/jcr/ucx109,

which is relevant to better explain the possible associations between financial well-being and the indicators used.

4. I did not understand the reason(s) of why a random effects meta-analyses was conducted in which the country-specific analyses regressing of financial well-being on all childhood predictors simultaneously were pooled (Table 4) rather than one total regression analysis using the primary data and accounting for country.

Response:
Thank you for this remark and we rush with an explanation. The use of random effects meta-analytical approach to pool country-specific analyses was a result of a long decision-making process weighing all the pros and cons of different approaches (simple regression with country control, multi-level model with country level random effects, etc.). We opted for the random-effects meta regression in the analyses on the role of childhood predictors for adult financial well-being and the following arguments prevailed in the discussions.

First, financial well-being and its predictors are likely influenced by cultural, economic, and institutional differences across countries. A single pooled regression model would assume uniform effects of childhood predictors across all countries, potentially obscuring meaningful heterogeneity. By conducting country-specific regressions first and then pooling results, we allow for variation in effect sizes across countries, which are reflected in the heterogeneity statistics (e.g., τ and I^2). Second, the meta-analytic approach provides additional insights into the variability of relationships between childhood predictors and financial well-being across countries. This variability is reported alongside pooled estimates, enabling us to assess how generalizable the findings are and whether certain predictors are consistently associated with financial well-being across diverse contexts. Third, use of the meta-analytical approach allows for certain alignment with the Global Flourishing Study (GFS) design. GFS was designed to produce nationally representative data for each country. By analyzing countries separately and then pooling the results, we maintain fidelity to this design, ensuring that the findings are appropriately weighted and not disproportionately influenced by larger or more populous countries. Last but not least, we wanted to account for possible differences in survey implementation and variable construction across countries. Although, we expect them to be minimal due to the rigorous TRAPD translation model, there is a risk of some systematic differences (i.e., measurement invariance) that are better accounted for using country-specific analyses. Additionally, in the GFS and consequently in our analysis data on religious affiliation and race/ethnicity, measurement was not always perfectly aligned across countries and thus could not be used in standard regression approaches.

To address your suggestion, we clarified these methodological choices in the Methods section. Specifically, we added in the “Analysis strategy for childhood predictors” section the following:

“Meta-analysis was employed as our primary approach to account for cross-national heterogeneity in the associations between childhood predictors and adult financial well-being. By conducting country-specific regressions and then pooling the results, this method allows for variation in effect sizes across countries, capturing cultural, economic, and institutional differences while providing insights into both overall patterns and country-level variability. This approach aligns with the nationally representative design of the Global Flourishing Study, ensuring that findings reflect the diversity of contexts without being disproportionately influenced by larger or more populous countries.”

5. While this research rests on an impressive sample in size and national heterogeneity, its national representativity is doubtful given the survey methodology at hand. Moreover, all data are self-reported (thus objective data or other desirable non-self-report data are missing), cross-sectional and non-experimental with the consequence that the analysis resulted in descriptions of associations, from which we do not learn much. There remain additional limitations, which are adequately described in the limitations section. While this is a praiseworthy feature of this manuscript, naming the many severe limitations does not heal them.

Response:
We appreciate your recognition of the scale and heterogeneity of our dataset and the transparency with which we have described the study's limitations. We agree that certain limitations, such as the cross-sectional design and reliance on self-reported data, inherently restrict the strength of conclusions that can be drawn. However, we would like to clarify and contextualize some aspects of the study.

First, the sampling strategy was designed to ensure national representativeness within the constraints of feasibility. Sample sizes are very large, ranging from 1,473 responses in Turkey to 38,312 in the US. Moreover, data collection followed rigorous protocols, with weights applied to reflect each country's demographic characteristics. While no sampling method is free from limitations, the Global Flourishing Study's methodology adheres to best practices for large-scale cross-national research, including the TRAPD translation model and complex sampling designs. These steps minimize, though cannot entirely eliminate, concerns about representativeness.

Second, while self-reported data have inherent limitations, they remain the most feasible and consistent way to capture subjective financial well-being and related constructs in cross-national research. As noted in the manuscript, subjective measures of financial well-being offer valuable insights that complement objective indicators, particularly in capturing perceptions and psychological dimensions that objective measures may miss. We have emphasized this contribution while clearly stating the limitations of self-reported data.

Third, we agree that the cross-sectional nature of the data limits causal inference, as noted in the manuscript (and we have corrected the language to reflect that the analyses are based on associations). However, in the analysis of childhood predictors, most studies rely on cross-sectional designs with variables reported retrespectively, even when other data are collected longitudinally. For example, the Survey of Health, Ageing and Retirement in Europe (SHARE) is longitudinal, but collects retrospective indicators in a separate wave (wave 3). The only way to analyze such data is by adopting the same approach we used—linking retrospectively collected data with information about the state of a different variable (e.g., financial security). Only in very long-lasting cohort studies would it be possible to address this limitation, but even then, issues such as non-random attrition could arise and confound the results.

Consequently, while we acknowledge that the methodology is not perfect, it is state-of-the-art for the problem at hand and reflects the largest effort to date. Producing a superior methodology would require even longer data collection periods and the study of children, which presents its own challenges (e.g., a 12-year-old child may struggle to assess their relationship with parents or other concepts covered in this study). While recall bias may exist (which we acknowledge in the Limitations section), it does not undermine the usability of the data. Moreover, the inclusion of sensitivity analyses based on E-values helps to assess the robustness of the observed associations to potential unmeasured confounding, providing an additional layer of rigor to the interpretations. While these results are descriptive, they provide a foundational understanding of cross-national heterogeneity in financial well-being and its associations with demographic and childhood factors, which future longitudinal studies can build upon.

Finally, descriptive demographic analyses are also valuable. Our analyses fill a significant gap in the literature by systematically examining subjective and objective financial well-being across 22 diverse countries. This work provides a global perspective that is currently underrepresented, highlighting universal patterns and cross-national differences that could inform both theory and policy. The study's findings offer valuable baseline data for researchers and policymakers interested in the cultural and demographic determinants of financial well-being.

We have further refined the limitations section to ensure transparency while emphasizing the study's contributions to understanding financial well-being in a cross-national context. Although limitations cannot be "healed," addressing them transparently allows readers to accurately interpret the scope and significance of the findings. We also aim to inspire future work using the longitudinal nature of our data, which can help validate or falsify these results.

6. The level of analysis remains superficial. First, I missed potentially insightful/interesting comparisons of different groups of countries by different groupings (e.g., developing vs.

developed; collectivist vs. individualist; gender egalitarian vs. gender elitism; secular vs. religious). At present the manuscript's focus on overall as well as country-wise associations rather than cultural associations leaves the hailed promises of this "cross-cultural" survey largely unfulfilled.

Response:
Thank you for highlighting this. We agree that cross-cultural groupings, such as the one you suggested offer additional layers of insight in understanding financial well-being. Consequently, we implemented your suggestion and provided a classification and subsequently conducted analyses in the following cross-sections: developing vs developed, collectivist vs. individualist; gender egalitarian vs. non-egalitarian; secular vs. religious). We conducted analyses and compared associations with childhood predictors in different groups. Significant differences were reported in the online supplement no. 3, tables S23a-S23d and briefly discussed in the manuscript. Table below shows how we conducted split along the dimensions of interest (information presented below has been replicated in the notes for Tables S23a-S23d).

Table R1. Country groupings

	Level of development		Collectivism		Gender egalitarian		Level of religiosity	
	Highly developed	Less developed	Collectivist	Individualist	Yes	No	Religious	Secular
Argentina	X			X		X	X	
Australia		X		X	X			
Brazil	X		X			X		
Egypt	X		X			X		
Germany		X		X	X			X
Hong Kong		X		X				X
India	X		X			X	X	
Indonesia	X		X			X	X	
Israel	X			X	X			
Japan		X		X	X			X
Kenya	X		X			X	X	
Mexico	X		X			X	X	
Nigeria	X		X			X	X	
Philippines	X		X			X	X	
Poland		X	X		X		X	
South Africa	X		X			X		
Spain		X		X	X			X
Sweden		X		X	X			X
Tanzania	X		X			X		
Turkey	X		X		X			

United Kingdom		X		X	X			X
United States		X		X	X		X	

The classifications used in the table are based on established frameworks and data sources to categorize countries across these four dimensions. The level of development is determined using the United Nations classification, which distinguishes between highly developed and less developed countries based on economic and social indicators. The collectivist vs. individualist dimension of the country was assessed based on the Hofstede's cultural dimensions, where countries scoring 50 or higher on the individualism index are classified as individualist, and those scoring below 50 are classified as collectivist, with scores accessed as of January 15, 2025. The religious vs. secular classification is based on Gallup's religiosity survey, where countries with more than 50% of the population identifying as religious are categorized as religious, and those below this threshold are categorized as secular. Finally, the gender egalitarian classification is determined using the Gender Inequality Index, where countries scoring below the sample average are classified as gender egalitarian, and those scoring above the average are classified as gender elitist. These classifications provide a structured framework for analyzing the diverse characteristics of the countries included in the study.

The results of analyses based on the sub-samples were described in the results section and were highlighted in following paragraphs:

"The associations between childhood conditions and financial well-being indicators rarely differed between countries at different stages of development (Table S23a in the online supplement no. 3). Those whose parents died when they were young found it more difficult to achieve MS (∆effect size=-0.51, 95% CI: -0.83, -0.18) and SFWB (∆effect size=-0.11, 95% CI: -0.19, -0.03) in developing countries compared to developed ones. In developing countries, there were less severe consequences for FS of being subjected to emotional or physical abuse (∆effect size=0.15, 95% CI: 0.02, 0.28) and a higher likelihood of reaching the highest income quintile (∆RR=0.15, 95% CI: 0.02, 0.27) compared to the developed world. Similar conclusions can be drawn for growing up as an outsider.

As for the comparison between collectivist and individualistic countries, in collectivist countries, having excellent health during childhood was much less important for achieving FS (∆effect size=-0.46, 95% CI: -0.73, -0.19) and MS (∆effect size=-0.48, 95% CI: -0.71, -0.25) than in individualistic countries (Table S23b in the online supplement no. 3). Even though it is generally easier to achieve FS and MS in older age, older individuals faced greater challenges in collectivist economies.

In countries classified as religious compared to secular ones, it was harder to achieve FS (∆effect size=-0.53, 95% CI: -0.94, -0.12) and MS (∆effect size=-0.62, 95% CI: -0.96, -0.28), as well as SFWB (∆RR=-0.14, 95% CI: -0.25, -0.03), for individuals who experienced a loss of a parent during childhood (Table S23c in the online supplement no. 3). Contrary to expectations, in more gender-egalitarian countries, women experienced no benefits in terms of ease of achieving any of the financial well-being outcomes (Table S23d in the online supplement no. 3)."

7. Expecting considerable overlap among them, I missed an analysis of the interrelation of the four outcome variables reflecting financial well-being: financial security (FS), material security (MS), subjective financial well-being (SFWB), and household income (HI). When looking at correlations between correlates and these four outcome variables that are comparatively discriminant versus concurrent some insights could potentially be gleaned.

Response:
Thank you for this insightful suggestion. We conducted additional analyses to assess the correlations among FS, MS, SFWB, and HI. The results indicate moderate to strong correlations between subjective measures (FS and MS) but weaker relationships between these and household income (HI), aligning with prior research that subjective financial well-being captures dimensions beyond material wealth.

In order to accommodate your concern we added the correlation table as supplementary material (Online Supplement no. 3, Table S24) and provided a brief description of the results in the manuscript. They currently state:

"FS, MS, SFWB, and household income (HI) were all positively correlated (see the Online Supplement no. 3, Table S24). FS and MS exhibited the strongest correlation (r = 0.71), while SFWB showed moderate correlations with FS (r = 0.43) and MS (r = 0.38). Household income exhibited weaker correlations with FS (r = 0.19) and MS (r = 0.18) but was moderately correlated with SFWB (r = 0.37). These patterns were generally consistent across countries, with some variations, such as stronger correlations observed in developed countries like the United States, Australia, and Germany, and weaker correlations in African countries, including Kenya, Nigeria, Tanzania, and South Africa."

8. This manuscript is not about human behaviour in the narrow sense. The journal's scope is only remotely met. The manuscript does not offer the level of insight I would wish to find in a highly selective journal such as Nature Human Behaviour.

Response:
We hope the replies and revisions show that the manuscript fits within the scope of NHB. While our study focuses on financial well-being, it fundamentally examines human behavior by exploring how socio-demographic, cultural, and early-life factors that may shape financial outcomes across 22 culturally diverse countries. Using data from over 200,000 participants, we highlight how behaviors, perceptions, and early-life experiences correlate with financial well-being outcomes. By emphasizing cross-national and cultural variations, our work provides valuable insights into the behavioral drivers of financial disparities, aligning with the journal's interdisciplinary focus on human behavior. We also note that there are many papers having to do with subjective well being in NHB, which we add on to, including just a sample below:

https://www.nature.com/articles/s41562-024-02048-7
https://www.nature.com/articles/s41562-021-01252-z

https://www.nature.com/articles/s41562-018-0307-6

Reviewer #3 (Remarks to the Author):

Nature Human Behaviors
What predicts financial well-being? An analysis of demographic variation and childhood predictors across 22 countries

1. The authors take on a beneficial and important topic in a complex way. More global comparisons are needed when considering well-being; this paper adds important information on financial well-being. Most notably, the authors are generally transparent in what they are doing. One general suggestion would be to be clear that much of what they are doing is exploratory (this shouldn't take much). This isn't a criticism, just a suggestion for transparency as it would be rather challenging for a number of reasons to be more specific on hypotheses.

Response:

Thank you. We have provided an explicit statement in the introduction that our study is exploratory. The sentence added states: *"We use data from 22 culturally diverse countries to conduct <u>an exploratory study</u> identifying the set of principal correlates of financial well-being, as well as the likely nature of associations between early-life conditions and financial well-being in the adulthood. Our first objective is to examine cross-sectional differences in subjective perceptions of financial situation measured as (a) financial security - the ability to meet normal living expenses, (b) material security – having sufficient resources for basic needs like safety, food, or housing, and (c) subjective financial well-being – comfort with one's current income.*

2. Psychological factors, such as happiness is another aspect connected to financial well-being as it is a common among the most common desires for many populations (p. 5 l. 136). E.g., Lyubromirsky et al., 2005; Killingsworth, 2021

Response:
Thank you for pointing this out. We have incorporated both citations to support the argument for the bi-directional link between financial well-being and quality of life. We now include the following statement:

"Examining financial well-being across nations and cultures around the world may inform strategies to promote both financial well-being and other aspects of overall wellbeing, such as health and quality of life, which are irrevocably intertwined[27,28]."

3. The use of cross-cultural data from 22 countries is particularly notable as a strength. In describing the first objectives (p 5-6 l 138-140), a small edit could add clarity to highlight if a and b are objective or subjective.

Response:
We specified in more detail our approach. As for the cross-national comparisons our intention is to compare subjective financial indicators. Currently the sentence states:

“Our first objective is to examine cross-sectional differences in subjective perceptions of financial situation measured as (a) financial security - the ability to meet normal living expenses, (b) material security – having sufficient resources for basic needs like safety, food, or housing, and (c) subjective financial well-being – comfort with one's current income.”

4. Objective 3 (or for the discussion) – For examples and other literature on non-financial wb and demographic links to later types of wb (including financial), see Boehm, Qureshi, & Kubzasky, 2024; Coffey, Nelson-Coffey, Faulkner, & Pluess, 2023; Coffey 2020. Notably, most of the work covered is from WEIRD samples (from the UK and US). These works also offer evidence about why and what in childhood is key for later well-being – including adult financial wb. In these studies, the links of certain types of childhood well-being (e.g., happiness) to childhood financial well-being are often very small or non-significant. This may indicate a lack of awareness of financial wb for a portion of childhood for some populations even though some factors link to adult well-being in these limited samples. Thus, the reviewed study is greatly expanding this in a much-needed area of cultural and financial wb.

Response:
We agree that most prior work on childhood well-being and its links to adult financial well-being has been limited to WEIRD samples, as noted in the studies you referenced. Our study builds on this foundation by expanding the scope to include 22 culturally and economically diverse countries, offering a broader perspective on the role of childhood experiences in shaping adult financial well-being. Additionally, we acknowledge that certain types of childhood well-being, such as happiness, may have weaker or less consistent links to financial well-being, as noted in the referenced studies. This highlights the importance of exploring other dimensions, such as childhood financial conditions, parental relationships, and early-life adversity, which may be more robustly linked to adult financial outcomes. We have updated the manuscript, especially the Discussion, to include the assocations and references you mentioned but we were not able to devote significant space to the discussion on this results due to space limitations.

“This study found that all examined childhood factors were associated with adult financial well-being, reinforcing prior evidence on the enduring impact of early life conditions on career decisions and economic behavior[29]. Positive childhood experiences, such as high-quality parental relationships, were positively linked to adult SFWB, while adverse childhood experiences, such as parental divorce and financial difficulties, were associated with lower financial well-being in adulthood. These positives associations align with previous research showing that children raised in warm, supportive parenting environments are more likely to experience greater well-being in adulthood and are less likely to develop antisocial behaviors, even in the face of economic deprivation[30-33]. Conversely, the negative associations observed in this study add to existing evidence on the detrimental effects of socioeconomic deprivation and family disruption on emotional well-being[34]. Experiences of abuse and neglect were similarly found to negatively correlate with financial well-being outcomes, reinforcing prior findings on their long-term negative consequences for employment, earnings, and wealth in adulthood[35].

These findings underscore the critical role parents play in their children's lives, providing emotional support[36], financial guidance, practical advice, and other forms of support[37], all of which are essential for shaping future financial behaviors and outcomes.
The associations between early-life experiences and well-being"

However, we also point out that we have been exploring these additional dimensions and their associations with adult well-being in separate studies; they are at their final stages and will be submitted to journals in the near future (we expect within the next 2-4 months).

5. Additionally, the studies just mentioned and other studies link childhood demographics to later well-being which might be useful here or in the discussion (E.g., Moffet et al., 2010 links childhood self-control to adult financial well-being).

Response:
We had a hard time finding Moffet et al. 2010. We cited Moffitt et al. 2011 and Moffitt et al. 2013:

Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H. L., Houts, R., Poulton, R., Roberts, B. W., Ross, S., Sears, M. R., Thomson, W. M., & Caspi, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences of the United States of America*, *108*(7), 2693-2698. https://doi.org/10.1073/pnas.1010076108
Moffitt, T. E., Poulain, R., & Caspi, A. (2013). Lifelong impact of early self-control. Childhood self-discipline predicts adult quality of life. *American Scientist*, *101*(5), 352-359. https://doi.org/10.1511/2013.104.352

6. I was a little surprised the results were limited to only presenting across all countries combined for many of the findings/tables. This is still incredibly important as a first step. In the discussion, some references to between country findings are presented and references to supplemental findings. I would recommend at least referencing the supplemental tables in this results section to make it easier for readers to find.

Response:
This is an excellent idea. In the current version of the manuscript in both sections (demographic and childhood predictors) we have provided references to online supplements with country specific results. They are as follows "(for country specific analyses see the Online Supplement no. 1 (2), Tables S1b-S22b)". As per request of other reviewer and the editor, we added a more comparative set of analyses. Specifically, we redid the primary analyses in the following cross-sections: developing vs developed, collectivist vs. individualist; gender egalitarian vs. non-egalitarian; secular vs. religious). We compared associations with childhood predictors within across these groups. Significant differences were reported in the online supplement no. 3, tables S23a-S23d and briefly discussed in the manuscript.

We discussed these results as follows:

"The associations between childhood conditions and financial well-being indicators rarely

differed between countries at different stages of development (Table S23a in the online supplement no. 3). Those whose parents died when they were young found it more difficult to achieve MS (∆effect size=-0.51, 95% CI: -0.83, -0.18) and SFWB (∆effect size=-0.11, 95% CI: -0.19, -0.03) in developing countries compared to developed ones. In developing countries, there were less severe consequences for FS of being subjected to emotional or physical abuse (∆effect size=0.15, 95% CI: 0.02, 0.28) and a higher likelihood of reaching the highest income quintile (∆RR=0.15, 95% CI: 0.02, 0.27) compared to the developed world. Similar conclusions can be drawn for growing up as an outsider.

As for the comparison between collectivist and individualistic countries, in collectivist countries, having excellent health during childhood was much less important for achieving FS (∆effect size=-0.46, 95% CI: -0.73, -0.19) and MS (∆effect size=-0.48, 95% CI: -0.71, -0.25) than in individualistic countries (Table S23b in the online supplement no. 3). Even though it is generally easier to achieve FS and MS in older age, older individuals faced greater challenges in collectivist economies.

In countries classified as religious compared to secular ones, it was harder to achieve FS (∆effect size=-0.53, 95% CI: -0.94, -0.12) and MS (∆effect size=-0.62, 95% CI: -0.96, -0.28), as well as SFWB (∆RR=-0.14, 95% CI: -0.25, -0.03), for individuals who experienced a loss of a parent during childhood (Table S23c in the online supplement no. 3). Contrary to expectations, in more gender-egalitarian countries, women experienced no benefits in terms of ease of achieving any of the financial well-being outcomes (Table S23d in the online supplement no. 3).”

7. The discussion is written well. I was pleased to see some of the country level descriptions – but wasn’t sure this was represented in the included tables (none was referenced until the discussion). Again, reference to supplemental table(s) earlier would be useful since NHB uses the format that lists methods last. Including elements about how retrospective reports on childhood wealth compare to actual understanding during childhood might be helpful. Often, children (during childhood – especially as they are younger) may not recognize their wealth level until later on, especially if it is relatively similar to everyone else they are used to (e.g., making it harder to compare to others). In other words, children without a comparison do not know how privileged or limited their resources might be in the way that adults with more experience might such that it seems less linked to their well-being (e.g., happiness not linked to SES in childhood – see above sources).

Response:
Thank you for raising this very fair and reasonable point! We address some of these concerns in our response to Reviewer 1 (point 5) and reached conclusions similar to yours—that self-reported measures of childhood circumstances may have certain advantages, even when collected at the same time point as other data and despite their self-reported nature. Additionally, the manuscript was revised and references to specific supplementary country-specific analyses were added both in the Methods and Results sections.

8. The authors highlight useful gender differences and that items like the wage gap are to be considered. A brief clarification or unpacking of the shared resources and financial

support marital status might be useful (p. 16 l. 406). For example, being married typically means two people around for two incomes (if needed) and the ability to divide up tasks (e.g., lower time and mental load) more than for unmarried (especially single) people.

Response:
Thank you for this suggestion. We added a clarification in the discussion (formerly p. 16, l. 406) to highlight that shared resources in marriage often include not only dual incomes, but also the ability to divide tasks, which can reduce both time and mental load. This dynamic may contribute to better financial well-being among married individuals compared to those who are unmarried or single, who often bear these burdens alone. We also revised the paragraph on the gender gap highlighting where our findings reinforce prior evidence and add new insights.

"Marital status was associated with financial well-being. In the meta-analysis that combined results from all 22 countries, married individuals reported the highest levels of MS and SFWB, reinforcing previous research on the economic benefits of marriage. These benefits stem from shared resources and financial support[38], as well as the ability to divide household tasks, which can reduce both time and mental load[39]. Conversely, separated and widowed individuals reported lower MS and lower SFWB compared to their married counterparts, highlighting the financial vulnerability associated with marital dissolution."

"Gender differences in some financial outcomes were also evident in the meta-analysis, with males reporting more FS and slightly higher SFWB than females. <u>Males were also more likely to be in the top HI quintile, consistent with research highlighting the gender wage gap[40] and differences in financial literacy between men and women[41]</u>. However, the negligible gender differences in MS suggest that financial concerns related to basic needs are more uniformly experienced across genders. This seemingly general global pattern was not observed in all countries, however. Our findings extend prior evidence by showing that, for example, in Hong Kong, Indonesia, and Nigeria, gender differences in any of examined financial well-being indicators were not observed. In Japan, females reported higher FS and slightly higher MS compared to males, while the gender gap in HI was minimal. In Tanzania, gender differences for FS, MS, and SFWB were negligible, though the disparity in HI was more pronounced."

9. For the religious findings, another element that may be overlooked is that religions can shift focus away from the self and towards the community in helping and supporting others that can be good for a range of well-being types.

Response:
We have revised the discussion to acknowledge that religious involvement may shift focus from the self to the community, fostering support and helping behaviors that could positively influence various aspects of well-being, including financial well-being. This perspective adds depth to our interpretation of the religious findings.

The revised paragraph reads as follows: *"Our meta-analysis revealed that more frequent religious service attendance was associated with higher FS, MS, and SFWB. This finding* *corroborates previous evidence indicating that certain religious beliefs and teachings, such as those promoting thriftiness, moderation, and foresight, may help alleviate financial worries and thus improve security[21], reduce consumerism and materialism[22], and promote saving and positive investment decisions[23]. Religion may also shift focus away from material outcomes, such as financial status, and toward other important aspects of life, such as family, friends, coreligionists, and the broader community. This emphasis on community and relationships, fosters support and helping behaviors that could positively influence various aspects of well-being, including financial well-being[24]. These explanations are consistent with the absent association between religious service attendance and objective financial status reflected in income observed in this study, suggesting that religious involvement primarily links with subjective aspects of financial well-being."*

We also revised the section on the association between childhood relgious service attendance and adult financial well-being. In the current version it reads as follows:

"The association between religious service attendance at age 12 and adult financial well-being observed in our meta-analysis enhances existing knowledge on the importance of religiosity for financial success[20,42]. Our findings extend this evidence by showing that childhood religious practice - likely reflecting a child's family religiosity or religious environment - may also be a key factor in financial well-being in adulthood. This suggests another mechanism through which parental influence during childhood can shape success in later life."

10. Another good childhood well-being linked to later well-being study that might be useful (in addition to the ones already mentioned is: Moffitt et al., 2011, PNAS broader inclusion in p. 20 discussion.

Response:
Good point, thank you. We added reference to Moffitt in discussion beyond the one noted above.

These two studies are cited:

Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H. L., Houts, R., Poulton, R., Roberts, B. W., Ross, S., Sears, M. R., Thomson, W. M., & Caspi, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences of the United States of America*, *108*(7), 2693-2698. https://doi.org/10.1073/pnas.1010076108

Moffitt, T. E., Poulain, R., & Caspi, A. (2013). Lifelong impact of early self-control. Childhood self-discipline predicts adult quality of life. *American Scientist*, *101*(5), 352-359. https://doi.org/10.1511/2013.104.352

11. Recall bias is unlikely to account for all the differences but measuring such elements during childhood – especially with age-appropriate children reporting are likely to lead to other valuable findings.

Response:
We agree and this builds on the earlier point we answer above.

12. Methods. Nice use of data from many different countries and weighting for national representation is valuable. I might have missed it but is it clear how measures were translated – I'm sure it is in some of the other GFS work from this data but some brief detail would be helpful beyond reference to GFS. It wasn't clear that dichotomizing some variables was the best strategy (e.g., Relationship with mother – p. 28 l 657).

Response:
We have refer to a brief explanation in the Methods section to clarify that all measures were translated following the TRAPD model (Translation, Review, Adjudication, Pretesting, and Documentation). It has been clearly stated in the Methods section.

We also agree that dichotomizing variables such as "Relationship with mother" (p. 28, l. 657) may not seem like the best strategy. This decision was, however, driven by issues with estimation that occurred when the variable was coded into four categories. This decision was also made to reduce issues with multicollinearity. We emphasize that in the current version of the manuscript by stating: *"Responses were dichotomized to very/somewhat good versus very/somewhat bad in order to mitigate convergence issues with models estimation."*

13. This statement is confusing from p.30 l 696: "Within each country, a global test of variation of each dependent variable across levels of each particular demographic variable was conducted, and a pooled p-value across countries reported concerning evidence for variation within any country." In particular, I'm confused about the concerning evidence for variation.

Thank you for pointing out the potential confusion in this statement. We have revised it for clarity. The updated text reads (for the demographic variation analysis):

"Within each country, a global test was conducted to assess variation in each dependent variable across levels of each demographic variable. A pooled p-value was then calculated across countries to determine whether significant variation existed within at least one country."
For the childhood predicotrs analysis, the corresponding statement reads:

"Within each country, a global test was conducted to assess the link between each childhood predictor variable and outcome. A pooled p-value was then calculated across countries to determine whether significant variation existed within at least one country."

14. The Open Science link and suggestion (p. 30 l 703-706) that all analyses were preregistered is confusing. The link does not seem to be the correct link as it is focused on meaning/purpose rather than financial WB (https://osf.io/u3pfz). Further, to say all

analyses were preregistered could probably be slightly more specific. E.g., All X analyses. Similarly, the OFS link and claims for childhood predictors (p. 31, l 727-730) is also focused on meaning/purpose. https://osf.io/jc2mr. See last comment as it applies to this link and claim too.

Thank you for these flags. Indeed, the links to preregistration were not correct. They have been updated and now refer to correct webpages. In order to provide more clarity, we would like to stress that the article includes analyses from three different preregistrations.

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Dear [redacted]

Thank you for your review of “Analysis of demographic variation and childhood correlates of financial well-being across 22 countries.” In the first part of this letter we go point-by-point through the editorial comments and suggestions. Later on we address point-by-point the remaining comments of reviewers.

Sincerely,

Authors

Reviewer #1 (Remarks to the Author):

1. The study still needs a clearer statement that these results are biased due to (1) social desirability self reporting bias, and (2) unobserved heterogeneity.

Response:
To address the concern, we have revised the Limitations section of the manuscript to explicitly highlight the potential for social desirability bias due to the reliance on self-reported measures, as well as the influence of unobserved heterogeneity on the observed relationships. Specifically, we added the following text:

"Moreover, the study relies on self-reported measures which might lead to social desirability bias. Participants may provide responses regarding their financial well-being to align with societal norms or expectations. However, this bias may potentially affect subjective measures only, such as perceived financial security and well-being. Objective indicators, like household income, should not be affected by this bias. Furthermore, the observed relationships between demographic and childhood correlates and financial well-being may be affected by unobserved heterogeneity resulting from different regional socioeconomic conditions, or cultural norms, which were not directly measured in this study."

We believe this addition improves the transparency and rigor of the study, while also clarifying the scope and interpretation of the findings.

2. The addition of E-value CIs (drawn from the Epi field) unfortunately is not re-assuring. There are a number of critiques of this method in the literature. E-values have a monotonic linear relationship with estimates and do not truly address unmeasured confounders. It also requires a strong assumption that the prevalence of exposure among those without the unobserved confounder is 0% (and we have no way to prove that). These are at best a heuristic. If you main research question is "do early life factors influence later life reports of financial measures?", you could use the person's age and location to instrument for their upbringing using unemployment or recessionary variables

that could be merged to these survey data. That way you could better estimate within and across country differences over time based on age cohort. Even if this approach feels like a crude proxy, the authors should investigate more robust tests than the E-value heuristic. Alternatively, you could drop this section and discussion. I am afraid it raises more red flags and undermines the credibility of the study. (this is also not mentioned in the registry:https://osf.io/b5gn3). This may be the most pragmatic strategy.

Response:
We appreciate your feedback regarding the inclusion of E-values in our analysis. We acknowledge the concerns raised about the limitations of the E-value methodology, including its heuristic nature, the strong assumptions it requires, and the critiques present in the literature. While we recognize that E-values can provide some insight into the robustness of results to unmeasured confounding, we agree that they do not resolve the issue of unmeasured confounders. In light of these considerations, we have decided to follow the reviewer's pragmatic suggestion. Consequently:

- we have eliminated the section on E-values from both the Results and Discussion sections of the manuscript.
- the results pertaining to E-values have been moved to the Supplementary Material. This ensures that the main manuscript remains focused on the core findings while still providing access to the E-value results for interested readers.

We would like to note that the remaining two reviewers have not expressed any reservations about the use of E-values. Therefore, we have retained the E-value results in the supplementary material to provide transparency and additional context for readers who may find this information useful.

3. The implications of this study need more discussion. How do early-life experiences inform interventions aimed at enhancing financial outcomes? Is this simply getting parents more income? Or getting youth to complete schooling? Or welfare payments (eg child allowances)? Mandated military service? There is evidence that "financial literacy" will overcome childhood poverty or health problems? This study shows much is determined early in life and there is not much that policy can do, at least in some developed settings.
   How does this study contribute to the literature/ theory of how childhood relates to later life well-being? I recommend reviewing work by Chetty and colleagues (the related literature) that examine early life experiences and mobility (income ptile). This is an objective measure of changes in financial status using admin data. How do these studies suggested correlates of later life status comport with the estimates from the GFS? I also recommend addressing the issue of relative versus absolute status. People's perceptions are likely reported relative to their peer/social group. The levels of differences across cultures may reflect these baseline comparisons within a place.

Response:
While we recognize the importance of the your questions about the implications for interventions aimed at enhancing financial outcomes (e.g., increasing parental income, encouraging youth to complete schooling, implementing welfare payments, or considering other mechanisms), we regret that it is not possible to address these questions in detail within the space constraints of our manuscript. The editorial office has provided specific instructions to avoid further inflating the article. However, we acknowledge that these are critical questions that warrant future exploration and may benefit from further empirical work. Our study primarily aimed to identify associations between childhood factors and adult financial well-being as well as correlations between dmeographic variables and financial situation, rather than to recommend specific intervention strategies.

We carefully considered your other set of comments regarding the contribution of our study to the literature on early-life factors. We acknowledge the importance of Chetty and colleagues' work on early-life experiences and mobility, particularly their use of administrative data to examine intergenerational income mobility and neighborhood effects. However, we believe that the relevance of their findings to our study is limited in two primary ways: (1) focus on neighborhoods, which is outside the scope of our study, and (2) mostly U.S.-centric results presented in the study. In contrast, our study examines financial well-being in a cross-national context, capturing variability in cultural, institutional, and economic conditions across both developed and developing countries.

We agree with you regarding the perceptions of financial well-being being likely influenced by relative status. To address this, we emphasize in the manuscript the comparison between subjective and objective measures of financial well-being, which is a central focus of our study. For instance:
In the Introduction, we highlight how subjective financial well-being captures perceptions of relative deprivation and achievements, which may differ from objective indicators such as income (see: "Subjective measures of financial well-being capture perceptions of lifetime achievements and relative deprivation, aspects not fully reflected in objective indicators of socio-economic status.").
In the Results, we explicitly compare correlations between subjective measures (e.g., financial security, material security) and objective measures (e.g., household income). For example, we note that income exhibited weaker correlations with financial security ($r = 0.19$) and material security ($r = 0.18$) compared to subjective financial well-being ($r = 0.37$).
In the Discussion, we address the cross-cultural variability in subjective financial well-being and how it may reflect relative comparisons (see, e.g.: "Even though low income is a well-known predictor of financial security, dissatisfaction with financial status has been documented also in high-income countries, implying that cultural, economic, and social contexts may considerably influence perceptions of financial outcomes.")

Reviewer #2 (Remarks to the Author):

1. I commend the authors on a fine revision. Most of my concerns were addressed. Please double-check prior to publication that the figures are correct as in Table R1 the two columns pertaining to level of development were confounded.

Response:
Thank you for your kind words and for commending our revision. We are grateful for your constructive feedback, which has significantly contributed to improving the quality of our manuscript.

Regarding your observation about Table R1 in our response during the first round of reviews, we appreciate you bringing this to our attention. Upon revisiting the data, we confirmed that the table indeed contained confounded columns. This raised concerns about whether the data used for the analysis in the manuscript was appropriately coded. We performed a thorough double-check of the data and can confirm that the data used for the analysis in the manuscript was properly coded and accurate.

As Table R1 was not part of the manuscript but included solely in our response to your earlier comment, no changes were made to the manuscript or supplementary material.
Thank you again for your insightful comments, which have helped us strengthen the rigor of our work.

Reviewer #3 (Remarks to the Author):

1. This revision has adequately addressed my feedback. The revisions have also greatly improved the manuscript as there were notable valuable suggestions from the other reviewers. One very minor optional suggestion, the use of Maslow's hierarchy of needs has helped but the more recent update (Kendrick et al., 2010) of it is better supported and both would apply but it might be more useful.

Response:
Thank you very much for your positive feedback and for acknowledging the improvements made to the manuscript based on your and the other reviewers' valuable suggestions.
Regarding your optional suggestion to incorporate the more recent update of Maslow's hierarchy of needs by Kendrick et al. (2010), we conducted an extensive search for this publication. Unfortunately, we were unable to identify any work authored by Kendrick in 2010 or in adjacent years that updates Maslow's hierarchy of needs. As such, we have retained the current references and discussion in the manuscript.
We greatly appreciate your thoughtful comments and suggestions, which have significantly contributed to enhancing the quality of our work.