



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

The role of value priorities and valued living on depression and anxiety among young people

Citation for published version:

Tunç, H, Morris, PG, Williams, JM & Kyranides, MN 2024, 'The role of value priorities and valued living on depression and anxiety among young people: A cross-sectional study', *Personality and Individual Differences*, vol. 225, pp. 1-7. <https://doi.org/10.1016/j.paid.2024.112680>

Digital Object Identifier (DOI):

[10.1016/j.paid.2024.112680](https://doi.org/10.1016/j.paid.2024.112680)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Publisher's PDF, also known as Version of record

Published In:

Personality and Individual Differences

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.





The role of value priorities and valued living on depression and anxiety among young people: A cross-sectional study[☆]

Hamdullah Tunç^{a,b,*}, Paul Graham Morris^a, Joanne M. Williams^a, Melina Nicole Kyranides^{a,c}

^a Department of Clinical and Health Psychology, School of Health in Social Science, College of Arts, Humanities and Social Sciences, The University of Edinburgh, UK

^b Hacettepe University, Ankara, Türkiye

^c Department of Psychology, University of Cyprus, Nicosia, Cyprus

ARTICLE INFO

Keywords:

Values
Value priorities
Valued living
Depression
Anxiety

ABSTRACT

Background: There is a growing interest in research examining the role of personal values in mental health. This study aims to investigate the relationship between value priorities and both depression and anxiety while exploring whether valued living is a better predictor of these variables compared to value priorities in a youth sample.

Methods: A total of 335 young people aged 16–25 ($M_{age} = 17.92$, $SD = 2.59$) from the United Kingdom completed measures assessing value priorities, valued living, depression, and anxiety, alongside demographic information.

Results: Values with both growth and personal focus orientations (i.e., Openness-to-Change) had stronger associations with depression and anxiety. Hierarchical regression analyses revealed that valued living predicted depression and anxiety over value priorities, explaining more variance in depression compared to anxiety. Value priorities explained additional variance over valued living only for anxiety, but not for depression.

Conclusions: The findings indicate the importance from a public health and clinical perspective of enabling people to identify their values and facilitating them to live in a manner that is consistent with those values.

1. Introduction

Understanding what values are and how they influence individuals' behaviours, attitudes and emotions has long been a subject of interest in various fields, including psychology. This paper examines the relationship between value priorities and valued living with depression and anxiety. Furthermore, it investigates whether valued living predicts depression and anxiety over and above value priorities in a young sample from the UK.

1.1. Background

1.1.1. Values

A currently prominent psychological framework explaining the structure of values and their influence is the Schwartz's (1992) theory of basic human values. According to this theory, values are defined as

enduring beliefs that guide individuals' attitudes and actions across different life domains (Schwartz, 1992). Schwartz's theory proposes a universal set of values that are shared across cultures, although their relative importance may vary among different groups and individuals (Schwartz, 2012). These values can be organised in a circular structure (see Fig. 1), known as the "circumplex model", which consists of ten broad motivational value types: Universalism (e.g., equality), Benevolence (e.g., helpful), Conformity (e.g., politeness), Tradition (e.g., humble), Security (e.g., national security), Power (e.g., authority), Achievement (e.g., successful), Hedonism (e.g., pleasure), Stimulation (e.g., exciting life), Self-Direction (e.g., creativity). These value types are not mutually exclusive but exist in a dynamic relationship with each other. These ten value types can be further organised into four higher-order value dimensions: "Self-Transcendence", "Conservation", "Self-Enhancement", and "Openness-to-Change". These dimensions provide a broader perspective on the underlying motivations that individuals

[☆] For the purpose of open access, the author has applied a Creative Commons Attribution (CC BY) licence to any Author Accepted Manuscript version arising from this submission.

* Corresponding author at: Clinical and Health Psychology Department, School of Health in Social Science, College of Arts, Humanities and Social Sciences, The University of Edinburgh, UK.

E-mail address: h.tunc@ed.ac.uk (H. Tunç).

<https://doi.org/10.1016/j.paid.2024.112680>

Received 8 November 2023; Received in revised form 7 April 2024; Accepted 12 April 2024

0191-8869/© 2024 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

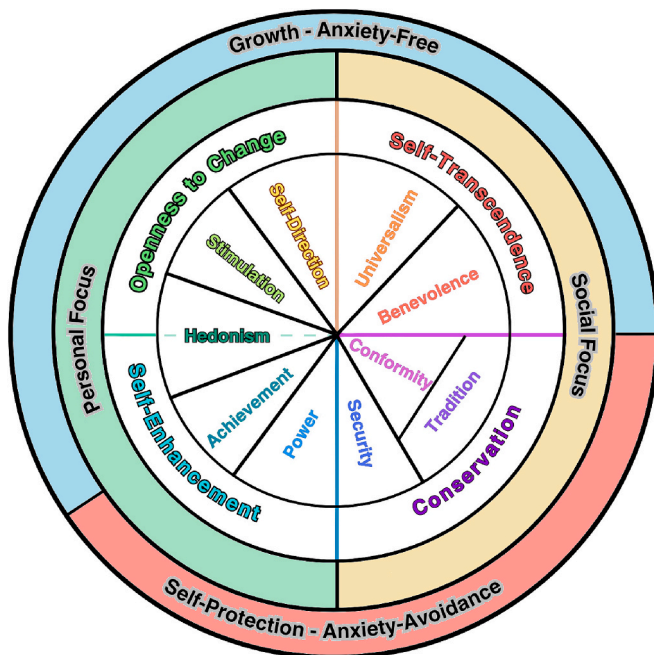


Fig. 1. The dynamic structures of value relations (Created based on Schwartz, 2012): 10 Value Types; 4 Value Dimensions; 2 Value Relations.

pursue through their value systems (Schwartz, 1992, 2012).

In addition to the ten value types and four higher-order value dimensions, Schwartz's theory also considers two additional dynamic structures of value relations (Schwartz, 2012). The first structure is based on whether values motivate individuals more when they are free of anxiety. Values with anxiety-free motivations, like self-direction and stimulation, fall under the dimension of self-expansive/growth values. Conversely, values with anxiety-based motivations, such as conformity and tradition, align with self-protective values (Bilsky & Schwartz, 1994; Schwartz, 2012). The second structure revolves around the value relations to "Social Focus" versus "Personal Focus"; capturing whether an individual's values prioritise the interests of others (social focus) or focus more on personal interests (personal focus). This dimension distinguishes between self-oriented values (e.g., hedonism and power) and other-oriented values (e.g., benevolence and conformity) (Schwartz, 2012).

The dynamic structures of value relations are visually depicted in Fig. 1 through colour transitions, forming a circular structure with a motivational continuum. Opposing and compatible values located opposite and adjacent to each other, respectively. This arrangement highlights the underlying tensions and motivations that arise when individuals prioritise different values (Schwartz, 1992, 2012; Schwartz et al., 2012). By considering these dynamic structures, Schwartz's theory provides a comprehensive research framework for understanding the complexities of human values. Numerous studies have investigated the relationship between individuals' value priorities and various aspects of their lives such as personality traits (Fischer & Boer, 2015), behaviour (Sagiv & Roccas, 2021), and attitudes (Boer & Fischer, 2013).

1.1.2. Value priorities and mental health

Value priorities can be defined as the importance the individual or groups of individuals ascribes to specific value(s). Researchers have predominantly focused on examining the relationship between Schwartz's value types and various mental health outcomes. While most of these studies have focused on positive outcomes such as life satisfaction (e.g., Sorthaix & Lönnqvist, 2013), there are a few studies that specifically examine relationships between values and negative clinical constructs. Openness-to-Change values tend to show negative

associations with clinical constructs. For instance, Hedonism was related to lower levels of depression, anxiety, and stress (Hanel & Wolfradt, 2016); as well as with lower PTSD symptoms (Zimmermann et al., 2014). Similarly, higher levels of Openness-to-Change were linked to reduced negative affect in a Polish adult sample (Bojanowska & Kaczmarek, 2022). However, the findings across studies are not consistently replicated (Heim et al., 2019; Schwartz & Sorthaix, 2018). For example, Achievement, a Self-Enhancement value, was found to be positively associated with depression and stress among university students (Hanel & Wolfradt, 2016), while being negatively related to PTSD symptoms among soldiers after deployment (Zimmermann et al., 2014). The variation among studies in terms of the outcome variables, the targeted population, and the cultural context may contribute to the inconsistent findings (Heim et al., 2019). Although studies can report statistically significant correlations with larger sample sizes, it is important to note that the effect sizes between values and mental health constructs were predominantly weak in these studies (see Heim et al., 2019).

Based on the dynamic structure of value relations in the Schwartz's theory, Sorthaix and Schwartz (2017) developed a theoretical framework for understanding the association between values and subjective well-being. Their framework proposes that values emphasising personal focus and growth orientation tend to promote a positive link with subjective well-being, while values emphasising social focus and self-protection orientation tend to promote a negative association with subjective well-being. The combination of these two structures tends to have complex implications for subjective well-being (see Fig. 2). Sorthaix and Schwartz (2017) found support for their proposed theoretical framework by analysing data from representative samples across 32 countries.

1.1.3. Valued living and mental health

Value priorities and valued living are closely related but distinct concepts. Value priorities reflect the importance individuals attribute to specific values (Schwartz & Sorthaix, 2018), whereas valued living refers to actively engaging in values-based behaviour. Research has extensively examined the concept of valued living, particularly within the framework of Acceptance and Commitment Therapy - ACT (Hayes et al., 2006). A recent meta-analysis conducted by Tunç et al. (2023) further supports the link between valued living and mental health outcomes revealing an inverse relationship between valued living and both depression and anxiety. This suggests that when individuals actively engage in activities that align with their values, they experience lower depression and anxiety.

1.2. The present study

The primary aim of this study is to investigate the associations between value priorities and valued living in relation to depression and anxiety. The findings will contribute to our understanding of how individuals' value priorities and their values-based behaviours are linked to depression and anxiety, particularly among young people in the UK. Additionally, the findings may inform the development of targeted interventions aimed at promoting mental health in this demographic.

Our hypotheses regarding the relationship between value priorities and depression and anxiety are derived from Sorthaix and Schwartz's (2017) theoretical framework. Since our study focuses on clinical constructs, specifically depression and anxiety, we propose an inverse relationship compared to the associations suggested for well-being. Based on this framework, we anticipate the following correlations for value priorities with combined growth and personal focus, as well as combined self-protection and social focus:

H1. Openness-to-Change will display negative correlations with both depression and anxiety.

H2. Conservation will demonstrate positive correlations with both depression and anxiety.

Motivational Bases of Values and Their Effects on Subjective Well-Being	Growth (+)	Self-Protection (-)
Personal Focus (+)	Openness to Change (Hedonism, Stimulation, Self-Direction) (+ +)	Self-Enhancement (Power, Achievement) (+ -)
Social Focus (-)	Self-Transcendence (Benevolence, Universalism) (+ -)	Conservation (Security, Tradition, Conformity) (- -)

Fig. 2. Proposed links between value types/dimensions and subjective well-being by combining two value orientation sets: Growth vs. Self-Protection and Person Focus vs. Social Focus.

Note: (+ +) = Positive relationship, (- -) = Negative relationship, (+ -) = Complex relationship. (Adapted from Sortheix & Schwartz, 2017).

Self-Enhancement involves self-protection and personal focus, while Self-Transcendence involves growth and social focus. According to Sortheix and Schwartz (2017), these value dimensions demonstrate complex relationships with well-being and, if other factors remain constant, we anticipate no significant correlations.

H3. Self-Enhancement will show no significant association with both depression and anxiety.

H4. Self-Transcendence will show no significant association with both depression and anxiety.

Building upon previous research findings on valued living and its relationships with depression and anxiety (e.g., Tunç et al., 2023), we propose the following hypotheses:

H5. Valued living will be negatively associated with both depression and anxiety.

To the best of our knowledge, no research has specifically examined the relationship between value priorities and valued living (as conceptualised in ACT). However, previous studies found that the fulfilment of value priorities predicted well-being over and above value priorities itself (Oppenheim-Weller et al., 2018). Based on this understanding, we anticipate a similar impact of valued living on the mental health outcomes:

H6. Valued living will predict both depression and anxiety over and above value priorities.

2. Method

We used the STROBE checklist (Von Elm et al., 2007) for cross-sectional studies for reporting.

2.1. Recruitment and procedure

The data for this study was collected between January–May 2023 as part of a larger research project. The research obtained ethical approval from School of Health in Social Science Research Ethics Committee, The University of Edinburgh (Reference: 22-23CLPS108) prior to data collection. English speakers aged 16–25 residing in the UK were invited to participate. Since data collection was conducted online, participants also needed to have an electronic device and internet access. Participation was voluntary, without compensation, with participants providing informed consent after reviewing participant information.

The data collection was conducted using Qualtrics, an online survey platform for data collection and management (www.qualtrics.com). A total of 634 individuals clicked on the survey link, indicating initial interest, and approximately 53 % of these individuals proceed to complete the survey. The data underwent thorough review during the cleaning process to prevent fraudulent entries.

Our recruitment strategy employed various methods, including both online and in-person approaches. Through social media platforms (Twitter, Facebook, LinkedIn, and Instagram), we posted invitations to attract potential participants. We sought to recruit young individuals through community groups on Facebook, university student societies, and targeted Facebook and Instagram advertisements tailored to those aged 16–25 in the UK. To reach young people who may not actively use social media, we distributed flyers with study link and QR code across some university campuses, including the University of Edinburgh, University of Birmingham, and University of Sheffield. These flyers were strategically placed in libraries, social spaces, student association buildings, and university cafes, among other locations. Additionally, young people were also invited to participate in the study through teaching classes.

2.2. Measurement tools

Demographics: Questions about age, sex, country of origin were included. Family Affluence Scale-III (Hartley et al., 2016) was employed to measure family affluence, with instructions revised for individuals not living with their families, prompting consideration of the family they grew up in. In addition to the total score, the responses were categorised into low, medium, and high affluence using the cut-off points from the Health Behaviour in School-Aged Children study (Currie et al., 2014).

Value Priorities: The short version of Portrait Values Questionnaire (PVQ-21; Schwartz, 2003) was used to assess value priorities. Designed for younger populations and those from low socio-economic levels (Schwartz, 2003), PVQ-21 comprises 21 portraits representing different value priorities. Participants rated each portrait from 1 to 6, indicating “How much like you is this person?”. To account for individual differences, the participants’ responses were centred around their mean (Schwartz, 2021). The Cronbach’s alphas for value types ranged from 0.18 (Tradition) to 0.65 (Stimulation and Achievement) in our sample. Low Cronbach’s alphas were also found in previous studies and this index may underestimate the reliability of this scale as it is designed to cover broad concepts with only two/three items (Sandy et al., 2017). We calculated the internal consistency for the four higher-order value

dimensions (each including four to six items) and found that the Cronbach's alphas increased: Self-Transcendence 0.67, Self-Enhancement 0.69, Openness-to-Change 0.68, Conservation 0.56. Due to the low Cronbach's alpha scores of the ten value types, we used the four higher-order value dimensions for the main analyses.

Valued Living: To address the issue of certain value domains in the Valued Living Questionnaire (VLQ; Wilson et al., 2010) that may not be relevant to most young individuals (e.g., parenting), an adapted version known as Valued Living Questionnaire for teens (VLQ-A; Cook, 2009; Greco & Hayes, 2008) was used to assess valued living. The VLQ-A comprises two scales: Importance scale and Energy and Effort (consistency) scale, each with 10 value domains/items, such as family, education/schooling. In the importance scale, participants were initially asked to rate the importance of each value from 1 to 10. Subsequently, in the energy and effort scale, participants rated how well they have acted in accordance with these values over the past two weeks from 1 to 10. These subscales can be scored by summing all items within each subscale separately. We used the composite score as valued living score. The composite score is calculated by multiplying the responses for both the importance and consistency of each domain and then computing an overall mean score. The internal reliability for importance scale was 0.74 and for consistency scale was 0.77 in this sample.

Depression and Anxiety: To evaluate anxiety and depression levels among young individuals, the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983) was employed. The HADS consists of two subscales, anxiety and depression, each containing seven items. The scale has been validated for use with adolescents (White et al., 1999). The Cronbach's alphas were 0.80 for both depression and anxiety subscales in the current sample.

3. Results

3.1. Participants

In total, 335 young people participated in this research, with an average age of 17.92 ($SD = 2.59$). The majority of the participants were female ($n = 253, 75.52\%$) and were from the UK ($n = 307, 91.64\%$). Furthermore, most of the participants came from families with a moderate affluence level ($n = 201, 60\%$).

3.2. Value priorities and valued living

The rank order of value dimensions revealed that Self-Transcendence was rated as highest important value ($M = 5.03, SD = 0.74$), while Self-Enhancement ($M = 3.76, SD = 0.99$) was rated as least important in this sample. Additionally, Openness-to-Change ($M = 3.97, SD = 0.83$) was rated higher in importance than Conservation ($M = 3.90, SD = 0.77$). The mean scores of the centred ten value types are presented in the supplementary materials in Fig. S1.

Among the VLQ-A domains, participants rated the "Friendship" domain as the highest in both importance and consistency scales, while "Spirituality and Religion" was rated as the least important and consistent domain. Fig. 3 shows the mean scores of importance and consistency for each VLQ-A domains.

3.3. Correlation analyses

The data distributions of correlation variables were analysed using histograms and Q-Q plots. The distributions appeared roughly bell-shaped. The Q-Q plots showed the data fairly falling on the line. Box plots were used to detect outliers. No impossible scores were identified for the detected outliers; therefore, none were removed from the analysis. Outliers were rounded to the closest non-outlier score to minimize their impact for correlation analyses. Pairwise deletion was used for missing variables.

To explore the associations between the four higher-order value priorities and both depression and anxiety, a series of correlation

Table 1

Correlation analyses between value priorities, valued living and depression and anxiety.

Variables	n	Depression	Anxiety
Valued living	307	-0.48***	-0.24***
Value priorities:			
Openness-to-change	335	-0.20***	-0.20***
Conservation	335	0.12*	0.02
Self-enhancement	335	0.01	0.03
Self-transcendence	335	0.08	0.19***
Depression	322	1	0.46***
Anxiety	321	0.46***	1

Notes: Centred value scores were used for value priorities. Statistical Significance: * $p < .05$. ** $p < .01$. *** $p < .001$.

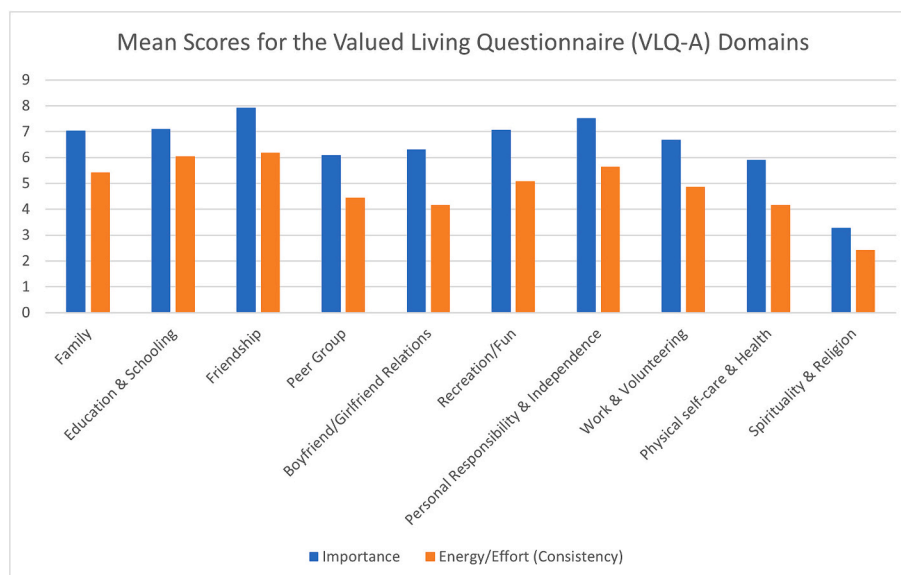


Fig. 3. The mean scores of importance and consistency for each VLQ-A domains.

analyses were conducted (see Table 1). There was strong evidence supporting H1, with significant negative correlations between Openness-to-Change with both depression and anxiety. H2 was partly supported, with Conservation significantly positively correlated with depression but not anxiety. Self-Enhancement did not correlate significantly with depression or anxiety in alignment with H3. Self-Transcendence was significantly positively correlated with anxiety, but not with depression, partly supporting H4. Lastly, as anticipated (H5), valued living demonstrated a negative correlation with both depression and anxiety, with a stronger effect size of correlation than that observed between the four value priorities and either depression or anxiety. For interested readers, the correlation analyses between the ten value types and depression and anxiety can be found in the supplementary materials Table S1.

3.4. Regression analyses

The assumptions were checked to ensure the validity and reliability of the analyses. Visual inspection of scatterplots indicated linearity. Normality was verified through histograms, indicating a normal distribution of residuals. All the Cook's Distance scores were below 1, suggesting that the data did not contain influential cases. The plot of standardised residuals vs standardised predicted values displayed a consistent spread of scores, indicating homoscedasticity. As the value priority variables included in the analyses are linearly dependent (Schwartz, 2021), multicollinearity is expected. In line with our hypothesis (H6) and Schwartz (2021)'s suggestion, the overall model and the R² statistics will be interpreted in this paper. The full results of hierarchical regression analyses are presented in the Tables S2 and S3 of Supplementary materials for interested readers.

Two hierarchical multiple regression analyses were conducted to examine whether valued living predicts depression and/or anxiety, over and above value priorities (H6; see Table 2). In the first step, age, sex (only males and females were included due to heterogeneity in the responses within the 'other sex' category, which included non-binary, genderqueer, questioning and more) and family affluence (total score) variables were entered as control variables. In the second step, all the four uncentred (see Schwartz, 2021) higher-order value dimensions were entered into the models as value priorities, and then valued living

Table 2
Hierarchical regression analyses predicting depression and anxiety.

Depression		Anxiety	
Predictors	Model fit	Predictors	Model fit
Step 1		Step 1	
Control Variables ^a	Adjusted R ² = 0.02. F _{Change} = 2.66, p = .049. F(3, 260) = 2.66, p = .049.	Control Variables ^a	Adjusted R ² = 0.04. F _{Change} = 4.43, p = .005. F(3, 260) = 4.43, p = .005.
Step 2		Step 2	
Control Variables ^a + Value Priorities ^b	Adjusted R ² = 0.09. R ² _{Change} = 0.09, F _{Change} = 6.42, p < .001. F(7, 256) = 4.9, p < .001.	Control Variables ^a + Value Priorities ^b	Adjusted R ² = 0.09. R ² _{Change} = 0.07, F _{Change} = 5.01, p < .001. F(7, 256) = 4.88, p < .001.
Step 3		Step 3	
Control Variables ^a + Value Priorities ^b + Valued Living	Adjusted R ² = 0.24. R ² _{Change} = 0.15, F _{Change} = 50.97, p < .001. F(8, 255) = 11.5, p < .001.	Control Variables ^a + Value Priorities ^b + Valued Living	Adjusted R ² = 0.15. R ² _{Change} = 0.06, F _{Change} = 18.58, p < .001. F(8, 255) = 6.88, p < .001.

^a Age, sex (male and female), family affluence (total score).
^b All the 4 higher-order value dimensions (uncentred) were included in the analyses as Value Priorities.

was added to the models in the third step, separately for depression and anxiety as dependent variables.

The first model with control variables explained only 2 % variance in depression. The second step, which included value priorities, was significant and explained 9 % variance in depression. Adding valued living significantly enhanced the model, explaining a total of 24 % of variance in depression.

In the second model, evaluating the effects of value priorities and valued living on anxiety, the first step with only the control variables (age, sex and family affluence) explained only 4 % variance in anxiety. The second model, with value priorities, explained 9 % variance in anxiety. The third model, after including valued living, explained a total of 15 % of variance in anxiety.

Sensitivity analyses were conducted to replicate the main hierarchical regression results using the consistency score of VLQ-A instead of the composite score. The results remained consistent with our original findings.

As an exploratory step, we conducted two additional hierarchical regressions to examine whether entering value priorities after valued living would significantly improve the model and explain additional variance in our outcome variables. Similar to previous procedures, we initially entered the three control variables (age, sex, family affluence). In the second step, valued living was entered into the model. Finally, in the third step, all four value priority variables were entered into the model, in separate hierarchical regressions for depression and anxiety outcomes. While value priorities did not explain additional variance in depression over valued living, it interestingly improved the model and explained more variance in anxiety (Table 3).

4. Discussion

The main aim of this study was to examine relationships between value priorities, and/or valued living and their association with depression and anxiety symptoms. Additionally, we investigated whether valued living could predict depression and anxiety over and above value priorities. Regarding associations between value types and depression and anxiety, we found partial support for the theoretical framework proposed by Sortheil and Schwartz (2017). Our data also

Table 3
Hierarchical regression analyses predicting depression and anxiety (Valued Living Entered First).

Depression		Anxiety	
Predictors	Model fit	Predictors	Model fit
Step 1		Step 1	
Control Variables ^a	Adjusted R ² = 0.02. F _{Change} = 2.66, p = .049. F(3, 260) = 2.66, p = .049.	Control Variables ^a	Adjusted R ² = 0.04. F _{Change} = 4.43, p = .005. F(3, 260) = 4.43, p = .005.
Step 2		Step 2	
Control Variables ^a + Valued Living	Adjusted R ² = 0.23. R ² _{Change} = 0.21, F _{Change} = 71.82, p < .001. F(4, 259) = 20.49, p < .001.	Control Variables ^a + Valued Living	Adjusted R ² = 0.08. R ² _{Change} = 0.05, F _{Change} = 13.47, p < .001. F(4, 259) = 6.85, p < .001.
Step 3		Step 3	
Control Variables ^a + Valued Living + Value Priorities ^b	Adjusted R ² = 0.24. R ² _{Change} = 0.02, F _{Change} = 2.14, p = .076. F(8, 255) = 11.5, p < .001.	Control Variables ^a + Valued Living + Value Priorities ^b	Adjusted R ² = 0.15. R ² _{Change} = 0.08, F _{Change} = 6.35, p < .001. F(8, 255) = 6.88, p < .001.

^a Age, sex (male and female), family affluence (total score).
^b All the 4 higher-order value dimensions (uncentred) were included in the analyses as Value Priorities.

suggests that valued living is a better predictor of depression and anxiety than value priorities.

Self-Transcendence was highly prioritised value, while Self-Enhancement was the least important value in our study. Similar rank-order of value priorities was found in previous research. For instance, highest importance was given to Benevolence and Universalism (Self-Transcendence values), while Power (a Self-Enhancement value) was the least important in three samples of university students from Germany, Russia, and China (Maercker et al., 2015). These findings were consistent with the VLQ-A results, where participants, on average, attributed the highest importance to Friendship, which can be considered in line with Benevolence. This is not surprising considering that young people start to widen their social context during adolescence, and friendship become important. Conversely, Spirituality and Religion were rated as the least important, which can be associated with Tradition (a Self-Enhancement value type), a lower importance given value by participants.

Openness-to-Change showed a negative relationship with both depression and anxiety, and demonstrated the strongest relationship among all the four value dimensions, in relation to depression and anxiety. Openness-to-Change values are related to pleasure and enjoyment (Hedonism), an exciting life (Stimulation), and independent thought and creativity (Self-direction) and considering such values important could have a positive impact on mental health. Also consistent with the theoretical framework proposed by Sortheix and Schwartz (2017), Conservation was linked to higher levels of depression. Self-Enhancement showed very weak and insignificant associations with depression and anxiety as expected. However, Self-Transcendence was linked to higher Anxiety. Lee et al. (2021) found that people tend to align their behaviour more closely with values they consider to be more important. Self-Transcendence values were rated as highly important in this sample, and inconsistency in living according to these values might contribute to its positive association with anxiety.

There are relatively few studies on relationships between value priorities and mental health variables. While some studies have found similar results (e.g., Hanel & Wolfradt, 2016), indicating that Openness-to-Change values tend to negatively associate with mental health constructs, there is no clear pattern observed across all studies. The variability in outcome measures and research populations makes it challenging to compare findings, which could contribute to the absence of a clear pattern in the associations between values and mental health. Therefore, more research is needed to enhance our understanding of the relationship between values and mental health variables.

The effect sizes for correlations between value priorities and depression and anxiety were generally fairly weak. In contrast, the concept of valued living demonstrated a notably stronger effect size with depression and a small-to-medium effect size with anxiety. These results are consistent with a recent meta-analysis that explored the relationships between valued living and depression and anxiety (Tunç et al., 2023).

We investigated whether living in line with personal values, as conceptualised within ACT, can be a better predictor of mental health. Our hierarchical regression results confirmed that valued living predicted both depression and anxiety over and above value priorities. Consistent with prior findings (e.g., Tunç et al., 2023), valued living explained more variance in depression compared to anxiety. We also found value priorities explained additional variance over valued living only for anxiety, and it did not improve the model for depression over valued living. Similarly, Oppenheim-Weller et al. (2018) found that value fulfilment predicted well-being over the importance of value types. Recently, Hanel et al. (2023) uncovered evidence supporting a bidirectional relationship between value fulfilment and well-being. The value fulfilment approach also aligns with the self-determination theory, which proposes that fulfilling intrinsic values can enhance well-being (Ryan & Deci, 2000).

Our findings have implications for public health and clinical

practices. The evidence suggests that aligning one's life with personal values is linked to lower levels of depression and anxiety, with a particularly strong relationship with depression. This has implications both within clinical settings and the broader community. For example, educational institutions, such as schools and universities, could help students identify their personal values and seek to facilitate them to live in accordance with those values. Healthcare professionals could guide patients in recognising and adopting a lifestyle reflective of their values. This approach could also be integrated into mental health interventions, such as behavioural activation, aiming to enhance mental health. Lastly, this study was conducted shortly after the COVID-19 pandemic, a time when people's value priorities may have shifted. Further research would allow for a deeper exploration of young people's values and their impact on mental health.

4.1. Limitations and future directions

This study's limitations include some potential sample biases with over 75 % female participants, raising concerns about potential sex-related differences in value priorities (Tamm & Tulviste, 2014). Consequently, the generalisability of our results to all young individuals is limited, suggesting that future research might consider recruiting a more balanced sample in terms of demographics. Secondly, this study adopts a cross-sectional design, preventing any causal claims between variables. As valued living can be considered a contextualised variable and may vary even over short periods of time, future studies could deepen our understanding of the directional relationships between valued living and mental health by employing experimental and/or longitudinal designs. Another limitation is related to the psychometric statistics of PVQ-21, which measures broad concepts using only 2–3 items and value types have low Cronbach's alphas. Low reliabilities can weaken theoretical associations, and replications are needed in future research for stronger conclusions. Future studies may also consider using the longer versions. The literature on value priorities and valued living variables predominantly originates from separate bodies of research. Further research is warranted to bridge these areas and develop more aligned measurements for these variables. Additionally, other variables may play a role in how value priorities can facilitate valued living, such as the similarity in value priorities between individuals and their social environment. For example, adolescents who find congruence between their values and those of their peers or their parents might be better able to live in alignment with their own personal values. These variables could be explored in future studies to offer a more comprehensive perspective.

4.2. Conclusion

This research investigated the relationship between value priorities, valued living, and mental health constructs, specifically depression and anxiety. The results suggest that valued living was a stronger predictor of mental health compared to value priorities. Moreover, the impact of valued living was found to be stronger for depression than for anxiety. The findings indicate the importance from a public health and clinical perspective of enabling people to identify their values and facilitating them to live in a manner that is consistent with those values.

CRediT authorship contribution statement

Hamdullah Tunç: Writing – review & editing, Writing – original draft, Visualization, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Paul Graham Morris:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Conceptualization. **Joanne M. Williams:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Conceptualization. **Melina Nicole Kyranides:** Writing – review & editing, Writing – original draft, Supervision, Methodology,

Conceptualization.

Declaration of generative AI and AI-assisted technologies in the writing process

During the writing process of this work, the author(s) used ChatGPT-3.5 in order to improve readability and language. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

Declaration of competing interest

The authors declare no conflict of interest.

Data availability

Data will be made available on request.

Acknowledgements

The authors would like to thank

- The study abroad program of the Ministry of National Education of Türkiye for Hamdullah Tunç's PhD Studentship. The funder had no role in this project.
- All peer reviewers for their constructive feedback.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.paid.2024.112680>.

References

- Bilsky, W., & Schwartz, S. H. (1994). Values and personality. *European Journal of Personality*, 8(3), 163–181. <https://doi.org/10.1002/per.2410080303>
- Boer, D., & Fischer, R. (2013). How and when do personal values guide our attitudes and sociality? Explaining cross-cultural variability in attitude–value linkages. *Psychological Bulletin*, 139(5), 1113–1147. <https://doi.org/10.1037/a0031347>
- Bojanowska, A., & Kaczmarek, L. D. (2022). How healthy and unhealthy values predict hedonic and eudaimonic well-being: Dissecting value-related beliefs and behaviours. *Journal of Happiness Studies*, 23(1), 211–231. <https://doi.org/10.1007/s10902-021-00396-z>
- Cook, S. (2008). Can you act with Asperger's?: A pilot study of the efficacy of acceptance and commitment therapy (ACT) for adolescents with Asperger syndrome and/or nonverbal learning disability (Doctoral dissertation). Wright Institute Graduate School of Psychology. Available from ProQuest Dissertations and Theses database.
- Currie, C., Inchley, J., Molcho, M., Lenzi, M., Veselska, Z., & Wild, F. (Eds.). (2014). *Health behaviour in school-aged children (HBSC) study protocol: Background, methodology and mandatory items for the 2013/14 survey*. St Andrews: CAHRU. <http://www.hbsc.org>.
- Fischer, R., & Boer, D. (2015). Motivational basis of personality traits: A Meta-analysis of value-personality correlations. *Journal of Personality*, 83(5), 491–510. <https://doi.org/10.1111/jopy.12125>
- Greco, L. A., & Hayes, S. C. (Eds.). (2008). *Acceptance & mindfulness treatments for children & adolescents: A practitioner's guide*. New Harbinger Publications.
- Hanel, P. H., Tunç, H., Bhasin, D., Litzellachner, L. F., & Maio, G. R. (2023). Value fulfillment and well-being: Clarifying directions over time. *Journal of Personality*, 00, 1–13. <https://doi.org/10.1111/jopy.12869>.
- Hanel, P. H., & Wolfardt, U. (2016). The 'dark side' of personal values: Relations to clinical constructs and their implications. *Personality and Individual Differences*, 97, 140–145. <https://doi.org/10.1016/j.paid.2016.03.045>
- Hartley, J. E. K., Levin, K., & Currie, C. (2016). A new version of the HBSC family affluence scale - FAS III: Scottish qualitative findings from the international FAS development study. *Child Ind Res*, 9, 233–245. <https://doi.org/10.1007/s12187-015-9325-3>
- Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, 44(1), 1–25. <https://doi.org/10.1016/j.brat.2005.06.006>
- Heim, E., Maercker, A., & Boer, D. (2019). Value orientations and mental health: A theoretical review. *Transcultural Psychiatry*, 56(3), 449–470. <https://doi.org/10.1177/1363461519832472>
- Lee, J. A., Bardi, A., Gerrans, P., Sneddon, J., Evers, U., & Schwartz, S. (2021). Are value–behavior relations stronger than previously thought? It depends on value importance. *European Journal of Personality*. <https://doi.org/10.1177/08902070211002965>
- Maercker, A., Chi Zhang, X., Gao, Z., Kochetkov, Y., Lu, S., Sang, Z., Yang, S., Schneider, S., & Margraf, J. (2015). Personal value orientations as mediated predictors of mental health: A three-culture study of Chinese, Russian, and German university students. *International Journal of Clinical and Health Psychology*, 15(1), 8–17. <https://doi.org/10.1016/j.ijchp.2014.06.001>
- Oppenheim-Weller, S., Roccas, S., & Kurman, J. (2018). Subjective value fulfillment: A new way to study personal values and their consequences. *Journal of Research in Personality*, 76, 38–49. <https://doi.org/10.1016/j.jrp.2018.07.006>
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54–67. <https://doi.org/10.1006/ceps.1999.1020>
- Sagiv, L., & Roccas, S. (2021). *How do values affect behavior?* Let Me Count the Ways: Personality and Social Psychology Review. <https://doi.org/10.1177/10888683211015975>
- Sandy, C. J., Gosling, S. D., Schwartz, S. H., & Koelkebeck, T. (2017). The development and validation of brief and ultrabrief measures of values. *Journal of Personality Assessment*, 99(5), 545–555. <https://doi.org/10.1080/00223891.2016.1231115>
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, 25, 1–65. [https://doi.org/10.1016/S0065-2601\(08\)60281-6](https://doi.org/10.1016/S0065-2601(08)60281-6)
- Schwartz, S. H. (2003). A proposal for measuring value orientations across nations. *Questionnaire package of the european social survey*, 259(290), 261. https://www.europeansocialsurvey.org/sites/default/files/2023-06/ESS_core_questionnaire_human_values.pdf.
- Schwartz, S. H. (2012). An overview of the Schwartz theory of basic values. *Online readings in Psychology and Culture*, 2(1), 11. <https://doi.org/10.9707/2307-0919.1116>
- Schwartz, S. H. (2021). A repository of Schwartz value scales with instructions and an introduction. *Online Readings in Psychology and Culture*, 2(2). <https://doi.org/10.9707/2307-0919.1173>
- Schwartz, S. H., Cieciuch, J., Vecchione, M., Davidov, E., Fischer, R., Beierlein, C., Ramos, A., Verkasalo, M., Lönnqvist, J.-E., Demirutku, K., Dirilen-Gumus, O., & Konty, M. (2012). Refining the theory of basic individual values. *Journal of Personality and Social Psychology*, 103(4), 663–688. <https://doi.org/10.1037/a0029393>
- Schwartz, S. H., & Sortheix, F. (2018). Values and subjective well-being. In E. Diener, S. Oishi, & L. Tay (Eds.), *Handbook of well-being* (pp. 1–25). Noba Scholar. <http://www.nobascholar.com/chapters/51>.
- Sortheix, F. M., & Lönnqvist, E. (2013). Personal value priorities and life satisfaction in Europe. *Journal of Cross-Cultural Psychology*. <https://doi.org/10.1177/0022022113504621>
- Sortheix, F. M., & Schwartz, S. H. (2017). Values that underlie and undermine well-being: Variability across countries. *European Journal of Personality*, 31(2), 187–201. <https://doi.org/10.1002/per.2096>
- Tamm, A., & Tulviste, T. (2014). The role of gender, values, and culture in adolescent Bystanders' strategies. *Journal of Interpersonal Violence*. <https://doi.org/10.1177/0886260514535097>
- Tunç, H., Morris, P. G., Kyranides, M. N., McArdle, A., McConachie, D., & Williams, J. (2023). The relationships between valued living and depression and anxiety: A systematic review, meta-analysis, and meta-regression. *Journal of Contextual Behavioral Science*, 28, 102–126. <https://doi.org/10.1016/j.jcbs.2023.02.004>
- Von Elm, E., Altman, D. G., Egger, M., Pocock, S. J., Gøtzsche, P. C., & Vandenbroucke, J. P. (2007). The strengthening of reporting of observational studies in epidemiology (STROBE) statement: Guidelines for reporting observational studies. *The Lancet*, 370(9596), 1453–1457. [https://doi.org/10.1016/S0140-6736\(07\)61602-X](https://doi.org/10.1016/S0140-6736(07)61602-X)
- White, D., Leach, C., Sims, R., Atkinson, M., & Cottrell, D. (1999). Validation of the hospital anxiety and depression scale for use with adolescents. *The British Journal of Psychiatry*, 175(5), 452–454. <https://doi.org/10.1192/bjp.175.5.452>
- Wilson, K. G., Sandoz, E. K., Kitchens, J., & Roberts, M. (2010). The valued living questionnaire: Defining and measuring valued action within a behavioral framework. *The Psychological Record*, 60, 249–272. <https://doi.org/10.1007/BF03395706>
- Zigmond, A. S., & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica*, 67(6), 361–370. <https://doi.org/10.1111/j.1600-0447.1983.tb09716.x>
- Zimmermann, P., Firnkies, S., Kowalski, J. T., Backus, J., Siegel, S., Willmund, G., & Maercker, A. (2014). Personal values in soldiers after military deployment: Associations with mental health and resilience. *European Journal of Psychotraumatology*, 5(1), Article 22939. <https://doi.org/10.3402/ejpt.v5.22939>