THE STORY OF FITTING IN: CULTURAL FIT AND SUBJECTIVE WELL-BEING

by

Jungwun Miranda Bahng

B.A., The University of British Columbia, 2021

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR

THE DEGREE OF

MASTER OF ARTS

in

THE FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES

(Psychology)

THE UNIVERSITY OF BRITISH COLUMBIA

(Vancouver)

August 2023

© Jungwun Miranda Bahng, 2023
The following individuals certify that they have read, and recommend to the Faculty of Graduate and Postdoctoral Studies for acceptance, the thesis entitled:

THE STORY OF FITTING IN: CULTURAL FIT AND SUBJECTIVE WELL-BEING

submitted by Jungwun Miranda Bahng in partial fulfilment of the requirements for the degree of Master of Arts in Psychology

Examinining Committee:

Dr. Steven Heine, Professor, Psychology, UBC

Supervisor

Dr. Friedrich Götz, Assistant Professor, Psychology, UBC

Supervisory Committee Member

Dr. Jason Rights, Assistant Professor, Psychology, UBC

Supervisory Committee Member
Abstract

The present study explored the relationship between cultural fit and subjective well-being. Using data from wave 7 of the World Values Survey, which sampled from 94,278 residents in 64 nations, we examined the extent to which cultural fit, or the fit between an individual’s cultural values and their country’s averaged cultural values, predicts their composite well-being using multilevel modelling. Results showed a significant effect of individual cultural fit predicting composite well-being within countries. Moderation analyses were conducted using national-level tightness, individualism, relational mobility, and cultural heterogeneity. The national-level tightness of a country was the only moderator that consistently exhibited a positive effect on the relationship between cultural fit and subjective well-being, highlighting the importance of considering cultural context when investigating cultural fit and well-being. Exploratory analyses were also conducted. We conclude with a discussion of the relevance and limitations of our findings.
Lay Summary

Cultural fit has been linked with positive health outcomes, such as emotional well-being (De Leersnyder et al., 2014) and better performance on academic tasks (Stephens et al., 2012). The present research endeavoured to investigate the fit between an individual’s values and the values of their country/territory of residence on individual well-being. Using data from the World Values Survey (WVS), a large multi-national dataset spanning 64 countries/territories, we compared individual responses on the WVS to the average responses of all respondents in their respective country/territory of residence, and then looked to see if it affected individual well-being. Results found that individuals who fit in better to the cultural values of those around them had higher well-being. This research gives insight into an additional factor, cultural fit, affecting well-being, as well as further contributes to the greater literature on person-value congruence and cultural fit.
Preface

This thesis is mostly based on an unpublished manuscript for which I am the primary author. Identification and design of the research program was done in collaboration with my supervisor Dr. Steven Heine. All data analyses were conducted by me. The original drafts were written by me which were edited by my supervisor, Dr. Steven Heine, and fellow collaborators, Dr. Friedrich Götz and Dr. Jason Rights. Dr. Friedrich Götz and Dr. Jason Rights contributed to this project by providing their expert opinion and knowledge from their respective areas.
Table of Contents

Abstract ................................................................................................................................. iii
Lay Summary .................................................................................................................... iv
Preface .............................................................................................................................. v
Table of Contents .............................................................................................................. vi
List of Tables .................................................................................................................... vii
List of Figures ................................................................................................................... viii
List of Abbreviations ....................................................................................................... ix
Acknowledgements .......................................................................................................... x

Chapter 1: Introduction ...................................................................................................... 1
  1.1 Background ................................................................................................................. 2
  1.2 Cultural fit and well-being ....................................................................................... 7
  1.3 Present study ............................................................................................................ 8
  1.4 World Values Survey (WVS) ................................................................................... 16
  1.5 Summary .................................................................................................................. 17

Chapter 2: Method ............................................................................................................ 20
  2.1 Variables .................................................................................................................. 20
  2.2 Control variables ..................................................................................................... 28
  2.3 Data analysis and analytic overview ..................................................................... 30

Chapter 3: Results ............................................................................................................ 34
  3.1 Descriptive statistics ............................................................................................. 34
  3.2 Research question 1: Does cultural fit predict well-being? ............................... 35
  3.3 Research question 1A: Differential effects of value-types on well-being .......... 36
  3.4 Research question 2: What national-level moderators affect the relationship between cultural fit and well-being ................................................................. 44
  3.5 Research question 2A: Does tightness moderate the 1 fit scores differently? ... 48

Chapter 4: Discussion ...................................................................................................... 68
  4.1 Conclusions ............................................................................................................ 68
  4.2 Previous literature ................................................................................................. 71
  4.3 Limitations ............................................................................................................. 73
  4.4 Future directions ................................................................................................. 75
  4.5 Summary ............................................................................................................. 76

References ....................................................................................................................... 78

Appendix: Supplemental Materials ............................................................................... 92
List of Tables

Table 1 Descriptive information on the 11 WVS subsections........................................37
Table 2 Significant interactions between the subsections of the WVS and tightness in predicting composite well-being ................................................................. 49
Table 3 Significant interactions between the subsections of the WVS and tightness in predicting composite well-being ................................................................. 60
List of Figures

Figure 1 Preregistered inclusion criteria for the cultural fit variable ........................................... 23
Figure 2 Simple slope analysis: Cultural fit by the composite score of well-being moderated by tightness within countries .................................................................................................................. 46
Figure 3 Simple slope analysis: Cultural fit by composite score of well-being moderated by tightness across countries .................................................................................................................. 48
Figure 4 Simple slope analysis: Social capital, trust and organizational membership subsection by well-being moderated by tightness within countries ........................................................................ 51
Figure 5 Simple slope analysis: Political culture and political regimes subsection by well-being moderated by tightness within countries .................................................................................. 52
Figure 6 Simple slope analysis: Security subsection by well-being moderated by tightness within countries ................................................................................................................................. 53
Figure 7 Simple slope analysis: Migration subsection by well-being moderated by tightness within countries ................................................................................................................................. 54
Figure 8 Simple slope analysis: Corruption subsection by well-being moderated by tightness within countries ................................................................................................................................. 55
Figure 9 Simple slope analysis: Social values, attitudes and stereotypes subsection by well-being moderated through tightness within countries .................................................................................. 56
Figure 10 Simple slope analysis: Science and technology subsection by well-being moderated by tightness within countries ........................................................................................................... 57
Figure 11 Simple slope analysis: Ethical values and norms subsection by well-being moderated by tightness within countries ........................................................................................................... 58
Figure 12 Simple slope analysis: Economic values subsection by well-being moderated by tightness within countries .................................................................................................................... 59
Figure 13 Simple slope analysis: Religious values subsection by well-being moderated by tightness within countries ...................................................................................................................... 61
Figure 14 Simple slope analysis: Security subsection by well-being moderated by tightness within countries ................................................................................................................................. 62
Figure 15 Simple slope analysis: Economic values subsection by well-being moderated by tightness within countries .................................................................................................................... 63
Figure 16 Simple slope analysis: Social values, attitudes and stereotypes subsection by well-being moderated by tightness within countries .................................................................................. 64
Figure 17 Simple slope analysis: Post-materialist subsection by well-being moderated by tightness within countries ...................................................................................................................... 65
Figure 18 Simple slope analysis: Social capital, trust and organizational membership subsection by well-being moderated by tightness within countries ..................................................................... 66
Figure 19 Simple slope analysis: Migration subsection by well-being moderated by tightness within countries ................................................................................................................................. 67
## List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENS</td>
<td>Ethical Values and Norms</td>
</tr>
<tr>
<td>EV</td>
<td>Economic Values</td>
</tr>
<tr>
<td>PCPR</td>
<td>Political Culture and Political Regimes</td>
</tr>
<tr>
<td>PI</td>
<td>Post-materialist Index</td>
</tr>
<tr>
<td>RV</td>
<td>Religious Values</td>
</tr>
<tr>
<td>SCM</td>
<td>Social Capital, Trust and Organizational Membership</td>
</tr>
<tr>
<td>ST</td>
<td>Science and Technology</td>
</tr>
<tr>
<td>SVS</td>
<td>Social Values, Attitudes, and Stereotypes</td>
</tr>
<tr>
<td>WVS</td>
<td>World Values Survey</td>
</tr>
</tbody>
</table>
Acknowledgements

I’d like to thank my supervisor Dr. Steven Heine, as well as my committee members, Dr. Friedrich Götz and Dr. Jason Rights for providing their guidance and support. Special thanks are given to my parents who have encouraged and supported me throughout my education.
Chapter 1: Introduction

Fitting in is a salient and common concern for many individuals. Fitting in describes the extent to which an individual’s characteristics and preferences converge with those of the people around them. Whether fit is based on personality, interests, or values, whether it is with friends, colleagues, and/or family, finding the “right” fit is multifaceted and complex.

Similarly, culture is dynamic and elusive, so a person can fit into a culture in many different ways. Culture is a system of explicit and implicit rules, values, behaviors, and norms that are shared by a group (Matsumoto, 2000). Although culture is considered relatively stable, culture exists and is manifested differently on many levels, across and within individuals and groups. There are three levels of culture, identified by Triandis and colleagues (1990): the cultural level which can be defined as geographical proximity; the demographic level, defined as ethnicity, gender, and/or other demographic characteristics; and the individual level, or how culture has been uniquely internalized by the individual. Thus, when we consider fitting in to a culture, there are many ways to conceptualize culture, the level of culture, and what fitting in entails.

Conversely, it is often abundantly clear when we do not fit into a culture. Many travelers have stories of experiencing culture shock (e.g., Loewentheil, 2021), directly contrasting what they had believed as normative and mundane to what they were experiencing. For example, imagine walking into a restaurant and not seeing any chairs. This may be an uncommon experience for those who have grown up in North America, yet in many countries in Asia, sitting on the ground, or sitting cross-legged, while eating is considered an everyday practice. Thus, these encounters highlight the richness and diversity of cultures around the world, and how prevalent fitting in and not fitting in, are in our everyday experiences.
1.1 Background

Cultural fit has been referred to as personality fit, emotional fit, and person-value congruence, among others. However, each of these terms is loosely defined as the match or alignment of individual personality characteristics, values, or attitudes to a social environment, and has been linked with multiple positive outcomes. These positive outcomes include healthier diets (Levine et al., 2016), better performance on academic tasks (Stephens et al., 2012), greater emotional well-being (Cho et al., 2018; De Leersnyder et al., 2014; De Leersnyder et al., 2015), and greater subjective well-being (Göttz et al., 2018; Lu, 2006; Lu, 2008). Consequently, cultural fit has been examined in many contexts. Cultural fit has been investigated in the context of businesses and organizations (e.g., Cable & Edwards, 2004; Zhou et al., 2019), political ideologies (e.g., Chopik & Motyl, 2016), Swiss cantons (e.g., Götz et al., 2018), and countries (e.g., Lu, 2006). Further, cultural fit is a topic of interest across disciplines such as in immigration, business, and psychology.

From the perspective of psychology, the topic of investigating the synergy between an individual and their environment has been studied periodically. Pervin (1968) compiled a literature review of empirical studies from various areas, including from the literature on motivational drives and person-environment interaction, that supports the individual-environment fit approach. This approach can be thought of as the foundation for what cultural fit is defined as in modern day. This individual-environment fit approach suggests a synergistic relationship between an individual and their environment, where perfect fit means an increase in performance with little stress on the environment. The beneficial outcomes related to the perfect fit of an individual to their environment can occur in interpersonal environments, as highlighted in the established association between personality similarity and friendship choice (Duck, 1975).
As well as in non-interpersonal environments, such as in teaching environments. For example, Amidon and Flanders (1961) found an interaction between the level of dependency a student had and the teaching style they most responded to. Thus, the review by Pervin (1968) asserts the alignment of an individual’s personality or needs to their environment promotes beneficial outcomes.

This approach to individual-environment fit is then expanded to include fit on the basis of psychological variables, such as in goal setting and personality. Regulatory fit was first proposed by Higgins (2000), where an individual experiences increased motivation, value, and positive feelings when their goal pursuit fits with their regulatory focus. Higgins (2000) predicted and found that when an individual’s regulatory needs and goal pursuit were aligned, they experienced positive psychological benefits.

Personality similarity, on the other hand, has been a topic of interest for years (e.g., Pintner et al., 1937). However, Fulmer and colleagues (2010) first propose the person-culture match hypothesis that relates personality to culture and the beneficial psychological outcomes associated with personality fit. The person-culture match hypothesis states that when an individual-level trait(s) matches the aggregate trait(s) of their cultural environment, there is an increase or strengthening effect on the relationship between said trait(s) and beneficial psychological outcomes, such as self-esteem (Cho et al., 2018; Fulmer et al., 2010) and subjective well-being (Stavrova et al., 2013). Specifically, Fulmer and colleagues (2010) assert an increase in subjective well-being and self-esteem when an individual’s personality matches the personality of those in the majority. To support their hypothesis, Fulmer and colleagues analyzed two databases, the International College Survey (Diener et al., 2001) and the Personality Profiles of Cultures database (McCrae et al., 2005), and found that the established
relationship between extraversion and self-esteem at the individual-level (e.g., Amirazodi & Amirazodi, 2011), is amplified or stronger in countries with high observer-ratings of extraversion. The person-culture match hypothesis was further supported by Bleidorn and colleagues (2016) when they used personality data from residents in 860 U.S. cities to investigate whether the personality fit of an individual to the prevalent personality characteristics of their city affected individual self-esteem. In support of the person-culture match hypothesis, the researchers found an interaction between individual-level and city-level personality when it came to openness, agreeableness, and conscientiousness (Bleidorn et al., 2016).

Along with the person-culture match hypothesis, a similar hypothesis has also been proposed, the person-environment fit hypothesis (Rentfrow et al., 2008). Though both hypotheses assert the beneficial psychological outcomes associated with the match between an individual and a larger entity (city, country, and so on), the person-environment fit hypothesis asserts that it is not only culture, but where one is living that is related to positive outcomes. That is, geographically, person-environment fit focuses on the match between individual-level traits and the traits of those who are geographically close to them (Rentfrow et al., 2008). Various studies have found relations between person-environment fit and well-being (e.g., Fulmer et al., 2010; Gebauer et al., 2020), life satisfaction (e.g., Götz et al., 2018; Jokela et al., 2015; Stavrova et al., 2013), and self-esteem (e.g., Fulmer et al., 2010).

These broad definitions allow researchers to investigate various other conceptualizations of fit based on the context of the research question, such as emotional fit and value fit. Emotional fit begins with the understanding that emotional norms are culturally constructed: Certain emotions are encouraged and more commonly expressed in a culture creating normative patterns of emotions. Thus, individuals usually adapt to these patterns of emotions to better be able to
integrate socially and maintain relationships (Mesquita et al., 2016). This social adaptation can be considered as an individual emotionally fitting in to their culture. De Leersnyder and colleagues (2014) investigated emotional fit by comparing the pattern of emotions an individual feels to a culturally normative pattern in three countries, the United States, Belgium, and South Korea. The researchers investigated cultural fit by creating profile correlations between an individual’s profile on the Emotional Patterns Questionnaire (EPQ; De Leersnyder et al., 2011) and the average profile, categorized by the type of situation presented (relationship versus self-focused). The researchers found that when individuals are in relationship-focused situations and experience emotions that matched the prevalent patterns common in this context, they report better social relationships (De Leersnyder et al., 2014).

Value fit, on the other hand, is when an individual fits in to their culture based on a match of cultural values. In the study by Levine and colleagues (2016), they operationalized fit as how close an individual’s self-construal is to their country’s emphasized construal. That is, previous research has identified the United States as emphasizing an individualistic culture that promotes an independent self-construal, whereas Japan is considered a collectivist culture that promotes an interdependent self-construal (Markus & Kitayama, 1991). Thus, Levine and colleagues (2016) hypothesized and found that “good” outcomes, such as making health-conscious food choices, is associated with individuals who aligned with their country’s emphasized culture. That is, an individual in Japan who identifies more with an interdependent self-construal made more health-conscious food choices, while supporting both the person-culture match hypothesis and the person-environment fit hypothesis. This effect of fitting in to the emphasized construal of an environment has been found in other settings, such as in colleges. For instance, in the study by Gloria and Kurpius (1996), they sampled Mexican American
undergraduate students in American universities to see how cultural fit affected academic persistence. They found a negative correlation between their scale of cultural congruity, or cultural fit, and academic persistence, suggesting an individual made more academic persistent decisions when they viewed themselves as fitting in more with their university environment (Gloria & Kurpius, 1996).

Along similar lines, Stephens and colleagues (2012) found cultural mismatch to be related to academic performance. Stephens and colleagues (2012) proposed a cultural mismatch theory to explain why first-generation students seemed to underperform compared to their peers. This theory proposes that when there is a cultural mismatch between an individual’s cultural norms and the norms exhibited by an institution, there is a negative effect on individual performance. Across four studies, Stephens and colleagues (2012) showed the culture of individualism in American colleges negatively impacted the academic performance of first-generation students who expressed more interdependent motives to attend college. Thus, the cultural mismatch theory presents an extension to the notion of cultural fit, as well as the hypotheses presented above, where not fitting in to the pervasive culture leads to negative outcomes, such as reduced academic performance. The negative effect of cultural mismatch can also be seen in terms of political ideology. In the study by Chopik and Motyl (2016), they found the misfit between an individual’s political ideology and their community’s ideology predicted avoidance. Thus, we see in the continuum of cultural fit that fitting in to the norm has been linked with positive outcomes, while not fitting in has been linked with negative outcomes.

Indeed, the theories presented above posit that fitting in to the average or the normative pattern will lead to positive and beneficial psychological outcomes, while not fitting in will lead to aversive or negative outcomes. Thus, we set forth to investigate cultural fit, operationalized as
the alignment of an individual’s pattern of responding towards cultural values presented in the World Values Survey (WVS) to their nation’s normative pattern, and subjective well-being.

1.2 Cultural fit and well-being

As mentioned previously, there are various studies in the literature that link cultural fit with positive psychological outcomes related to well-being, such as self-esteem and academic achievement (e.g., Bleidorn et al., 2016; Stephens et al., 2012). Extant literature has also represented a relationship between cultural fit and subjective well-being in nations such as Switzerland, China, and Taiwan (Götz et al., 2018; Lu, 2006). Religious fit has been linked with well-being (Stavrova et al., 2013), and so has emotional fit (De Leersnyder et al., 2015).

Evidently, there has not been a general consensus on the definition of cultural fit. For example, Hanel and colleagues (2020) found a relationship between fit and well-being across 29 countries, by operationalizing fit as the value congruence between an individual, their region, and their country. That is, they investigated the effect of value congruence, based on the Schwartz Model of Human Values (1992), of individuals to their region and to their country, on six variables of well-being, in 29 countries. Hanel and colleagues (2020) were successful in finding a relationship between fit, or value congruence, and well-being, however beyond this, they concluded different values have varying relationships with well-being. Thus, a limitation in the above study is the lack of diversity found in the countries that were sampled, as it only included 28 European countries and Israel.

On the other hand, Lu (2006) also investigated whether cultural fit predicted well-being. However, they operationalized fit using values and beliefs related to self-construals, as well as created two indices, subjective fit and objective fit. Participants were asked to rate themselves and their perceived society on a variety of scales, including ones that measured their harmony
beliefs and self-construals. Subjective fit was calculated by finding the absolute difference between an individual’s answer to a question and their perception of how their society would answer the same question. In contrast to objective fit, which was investigated by taking the absolute difference between the individual mean and the group mean on an item. The results from this study found a relationship between cultural fit and well-being in samples from China and Taiwan, and added a distinction between magnitude and direction of cultural fit. Magnitude indicates the absolute difference in one’s alignment to their culture, while direction indicates a direction or specific type of culture. Lu (2006) found societal congruence related to well-being, but that being a modernist was more advantageous to well-being than being a traditionalist. Thus, finding evidence for both the magnitude and direction of cultural fit having an effect on one’s subjective well-being. These two studies highlight the varying definitions and constructions of fit that arise in the literature.

1.3 Present study

For the present study, we decided to broaden the scope of nations that we included in our analysis by using the latest WVS dataset. Furthermore, to preserve the integrity of the groupings established by the WVS team (referred to as subsections), we created multiple cultural fit indices based on the WVS subsections, in addition to our wholistic cultural fit index. For our definition of cultural fit, we focused on the magnitude of difference rather than the direction. This was due to the nature of our study, as we analyzed and compared multiple diverse nations. Though the magnitude of difference between an individual’s values and those around them can and were quantified using the WVS dataset, we were unable to discern or hypothesize a direction. In the study conducted by Lu (2006), the researcher noted a noticeable trend towards a more independent self-construal in the cultural climates of China and Taiwan as a result of social
diversity and modernism. Thus, the direction of cultural fit, whether one maintained traditional or modern values and beliefs, was hypothesized to have a differential effect on well-being from magnitude. In the present study, our investigation into cultural fit did not include direction as it was both beyond the scope of our research questions and would have required extensive examination and knowledge of the historical and current cultural climate(s) of the many nations sampled in the WVS.

A related concept that shares similarities with cultural fit is acculturation. Acculturation refers to the process in which people who have moved to a new, unfamiliar location learn and adapt to a culture that is different from their own (Heine, 2020). While acculturation and cultural fit are distinct topics, previous research has examined the positive effects on well-being associated with both phenomena. These findings can provide valuable insights for our investigation into the relationship between cultural fit and well-being. To elaborate, existing research on acculturation indicates there are positive effects on our physical and emotional well-being when we adapt and assimilate into the culture of our surroundings. Researchers have found a connection between successful acculturation and decreased alcohol usage (Castro et al., 2009), positive affect (Goodman & Silverstein, 2005), higher life satisfaction (Mahmud & Schölmerich, 2011), higher subjective well-being (Zheng et al., 2004), less medical consultations and better general health outcomes (Babiker et al., 1980).

Based on the existing research on cultural fit and acculturation, it is reasonable to expect an individual with high cultural fit, or in other words an individual who fits in more to the cultural values of those around them, will have higher individual well-being than an individual with lower cultural fit (Hypothesis 1).
Various cultural fit indices in the extant literature have been created based on a hodgepodge of items related to values, beliefs, attitudes, and norms. As previously mentioned, Hanel and colleagues (2020) found that individuals' levels of distinct value-types had varying impacts on well-being. Lu (2006) also investigated how alternative groupings of the values and beliefs they sampled related to well-being. The decision to analyze cultural fit indices separately may be driven by the notion that combining different items into a single value is generally seen as undesirable. Thus, our exploratory research question is on whether the different value-types used to create our cultural fit index are differentially related to well-being (Research Question IA).

Only a limited number of studies have explored the factors at the national level that could potentially influence or moderate the association between cultural fit and well-being (Research Question 2). In the study by Sastry and Ross (1998), they found differential effects of personal control on well-being for different ethnic groups. Sastry and Ross (1998) concluded this may be due to a difference of importance given to the notion of personal control in cultures that promote individualism versus collectivism. Thus, this highlights how nation-level variables can affect individuals. Furthermore, a study by Li and Hamamura (2010) directly investigated whether the national-level variable of individualism, affected the relationship between cultural fit and well-being. Li and Hamamura (2010) hypothesized cultural fit would be a positive predictor of subjective well-being, or more precisely life satisfaction, when individuals in individualistic societies endorsed individualistic values, and when individuals in collectivistic societies endorsed collectivistic values. The findings revealed that the relationship between cultural fit and well-being only remained in collectivistic societies (Li & Hamamura, 2010). Thus, it is reasonable to assume there may be a moderation of the relationship between fit and well-being.
when considering nation-level variables. The national-level variables we decided to investigate are tightness-looseness, individualism-collectivism, relational mobility, and cultural heterogeneity (*Hypothesis 2A-Hypothesis 2D*).

### 1.3.1 Tightness-Looseness

The concept of national tightness-looseness comprises two components of a country (Gelfand et al., 2011; Harrington & Gelfand, 2014): The strength of punishment/rigour of enforcement of social norms and rules, and the degree of permissiveness/latitude towards deviance from those norms and rules. This definition allows researchers to understand the differences of culture in various countries, states, and regions. Extant literature has found tightness-looseness to be linked with various outcomes. For example, greater CEO discretion, or the freedom for CEOs to make acceptable decisions has been linked to greater looseness of a country (Crossland & Hambrick, 2011). In tight countries, extant literature has found: stock prices move together more (Eun et al., 2015); there is a greater endorsement of autonomous leadership (Aktas et al., 2016); more prejudice has been found based on skin color, religion, nationality, and sexuality (Jackson et al., 2019); more authoritarian governments and greater use of the death penalty (Gelfand et al., 2011); as well as more terrorist attacks (Gelfand et al., 2013).

Two propositions presented by Gelfand and colleagues (2006), regarding the nature and importance of cultural tightness-looseness, relate to cultural fit:

**Proposition 2C:** Societal tightness-looseness affects variance across individuals in individual attributes (e.g., attitudes, beliefs). There is generally less variance across individuals in tight versus loose societies. (p. 1230)

**Proposition 10:** A lack of fit between individuals and groups/organizations produces more negative consequences for individuals in tight as compared with loose societies. (p. 1237)
In other words, the propositions presented by Gelfand and colleagues (2006) suggest that individuals in tighter countries have less variance, or are more alike in their individual attributes, and that there are more negative consequences for individuals who deviate in tight societies. Thus, we hypothesize that national-level tightness-looseness will moderate the relationship between cultural fit and individual well-being, such that countries with higher cultural tightness will have a more pronounced, or more positive, relationship between cultural fit and well-being than countries with lower tightness scores (Hypothesis 2A). For simplicity, we will use the term "tightness" as a shorthand reference to tightness-looseness.

1.3.2 Individualism-Collectivism

The concept of national individualism-collectivism reflects the level of importance a country places on the attainment of personal goals (Hofstede, 2003). More precisely, individualism reflects the prioritization of personal goals that concerns oneself and one’s immediate family over collective goals of the in-group (Hofstede, 2003). Thus, in an individualistic society, ties between individuals are loose as they are expected to care for themselves and their immediate family (Hofstede, 1980). This is in contrast to a collectivist society where ties between individuals, specifically to those in one’s in-group, are strong or tight as the goals of the in-group take precedence (Hofstede, 1980).

As previously mentioned, a study by Li and Hamamura (2010) directly investigated whether the national-level variable of individualism, affected the relationship between cultural fit and well-being. While they did not discover a substantial influence of cultural fit on life satisfaction in individualistic societies, they did identify a notable effect in collectivistic societies. As a result, our objective was to conceptually replicate this moderation effect. We deviated from Li and Hamamura’s (2010) method in the following ways:
Li and Hamamura (2010) used wave 5 of the WVS, which includes 57 nations, and only six items from the survey. These items were chosen based on how well the item correlated with three international indices of individualism. Though this is an effective method to investigate which items would best be endorsed by individuals in individualistic compared to collectivistic societies, it greatly limits the number of items that can be used to compare individuals to their societies. Thus, in our study, we broadened the scope of our dataset and research question. That is, we use wave 7 of the WVS, which includes 64 nations, and 184 items to create our cultural fit index. As well, instead of investigating how well endorsement of individualistic/collectivistic values relate to well-being, we examine how fit across a diverse set of values is moderated in individualistic versus collectivistic societies. Thus, we hypothesize nation-level individualism-collectivism will moderate the relationship between cultural fit and individual well-being, such that countries with higher individualism will have a less pronounced, or less positive, relationship between cultural fit and well-being than countries with lower individualism, or more collectivism (Hypothesis 2B). For simplicity, we will use the term "individualism" as a shorthand reference to individualism-collectivism.

1.3.3 Relational mobility

Relational mobility refers to the freedom and opportunities afforded by a country to an individual to enter into and out of interpersonal relationships based on personal preference (Thomson et al., 2018). In countries with high relational mobility, individuals have the freedom and opportunities to enter into and end relationships if they are unhappy or unsatisfied, as well as choose the group they would like to interact with. In countries with low relational mobility, individuals experience limited freedom and opportunities to terminate relationships when they
are unhappy or dissatisfied. Additionally, they tend to have fixed group memberships, which further restricts their ability to explore new relationships or alternatives.

Relational mobility is a concept that has been identified to characterize societies both at the national level (e.g., San Martin et al., 2019; Thomson et al., 2018), and by social environments, such as in schools (e.g., Sato & Yuki, 2014). Extant literature has found ecological threats to be linked with lower relational mobility and have found countries with high relational mobility to have higher interpersonal trust and intimacy (Thomson et al., 2018). Furthermore, it has been observed that high utility actions, such as expressing passionate feelings of love and a higher tendency for gift-giving, are associated with countries characterized by a perceived high level of relational mobility (see Yuki & Schug, 2020). Thus, high relational mobile countries are characterized by greater actions to maintain mates as there are more opportunities available to individuals to enter and exit interpersonal relationships. On the other hand, there are less opportunities for an individual in less relationally mobile countries to meet new potential partners, and thus the relations that are usually made are long-lasting and exclusive (see Kito et al., 2017).

A study conducted by Sato and colleagues (2014) discovered that perceived relational mobility plays a mediating role in the cross-cultural differences of rejection sensitivity. As individuals residing in societies characterized by low relational mobility encounter limited opportunities to enter and exit interpersonal relationships, Sato and colleagues (2014) hypothesized and found that individuals in such societies experienced higher levels of rejection sensitivity compared to those in societies with high relational mobility. Therefore, one can assume there would be increased pressure to conform to the normative values prevalent within low relationally mobile societies to avoid potential rejection, that is not as prevalent in high
relationally mobile societies. For this reason, we hypothesize nation-level relational mobility will moderate the relationship between cultural fit and individual well-being, such that countries with higher relational mobility will have a less pronounced, or less positive, relationship between cultural fit and well-being than countries with lower relational mobility (*Hypothesis 2C*).

1.3.4 **Cultural heterogeneity**

Cultural heterogeneity has been defined as the ethnic diversity of an area, which has been represented as two factors in the study by Rychlowska and colleagues (2015), historical heterogeneity and ethnic fractionalization. These two factors represent the ethnic diversity of an area historically (historical heterogeneity) and in modern-day (ethnic fractionalization). Extant literature has found historical heterogeneity to be strongly correlated with income inequality (Puttermann & Weil, 2010), as well as increased emotional expressivity (Rychlowska et al., 2015). That is, Rychlowska and colleagues (2015) concluded the increased emotional expressivity found in greater historical heterogenously areas was attributable to an adaptation where ethnically diverse areas historically necessitated heightened emotional expressivity to improve communication. Ethnic fractionalization, on the other hand, has been linked with ethnic conflict (Esteban et al., 2012), and found to be an important determinant of GDP growth, literacy rate, infant mortality, and level of corruption (Alesina et al., 2003).

Despite the limited attention given to cultural heterogeneity as a national-level variable in the literature, we deemed it necessary to include in our analyses. One such reason for this decision is that cultures vary in their normative values, and the presence of multiple cultures historically may have led to an adaptation. Namely, the increased acceptance of diversity in values. As well, modern-day ethnic fractionalization, or the increased ethnic diversity in an area, may also arise a need among individuals to accept a diversity of cultural values and attitudes to
avoid ethnic conflict and maintain harmony. Thus, we hypothesize nation-level cultural heterogeneity will moderate the relationship between cultural fit and individual well-being, such that countries with higher heterogeneity will have a less pronounced, or less positive, relationship between fit and well-being than countries with lower heterogeneity (Hypothesis 2D).

1.4 World Values Survey (WVS)

As mentioned previously, the cultural fit literature has spanned multiple levels of analysis, from comparing individuals to the culture of an organization, to comparing individuals to a country aggregate. However, the most common comparison has been at the nation-level, where individuals are compared to a cultural aggregate of their country of residence (e.g., De Leersnyder et al., 2014; De Leersnyder et al., 2015; Levine et al., 2016; Lu, 2006). For our study, we analyzed data obtained from the World Values Survey (WVS). The WVS is considered one of the most expansive efforts to survey the cultural attitudes and values of individuals across the globe, and has been used in a variety of cross-cultural studies, including in the creation of data-driven social dimensions (Allison et al., 2021), the investigation of religious fit (Stavrova et al., 2013), and the investigation of person-culture fit on national pride (Du et al., 2019). The WVS is a survey conducted every few years to collect multi-national data on cultural values, attitudes, and norms. The initial survey was created and released to 10 countries/territories in 1981; though the survey was constrained to more developed areas. The project was led by Dr. Ronald Inglehart at the University of Michigan, who became the World Values Survey Association’s Founder and first president. Since 1981, along with fellow social scientists around the world, the WVS has been refined and its reach constantly extended to an ever-growing list of countries/territories. At present, there are seven waves of survey collection that has been conducted, including the initial 1981 study. The present investigation of cultural fit on subjective well-being used the latest
dataset available to us, the fifth release of Wave 7, to make conclusions about cultural fit and well-being across the most countries/territories possible at the time of analysis. This dataset includes 64 countries/territories and 94,278 respondents (https://www.worldvaluessurvey.org/WVSContents.jsp).

Due to the COVID-19 pandemic, there was a 1-year pause on the surveying efforts for wave 7, such that wave 7 ran from mid-2017 to the end of 2021. Version 5 of wave 7 was publicly released in December 2022. The samples collected from the 64 nations were chosen based on random probability sampling of the adult population (ages 18 and above). The majority of data was collected using face-to-face interviews (CAPI and PAPI), with the minority of responses collected by other means, including online surveys and telephone interviews (wave 7; Haerpfer et al., 2020). The WVS remains the largest non-profit effort to survey the cultural values and attitudes of multiple nations across the globe, which to date has conducted interviews with nearly 400,000 individuals.

1.5 Summary

Again, the present study endeavoured to investigate the relation between cultural fit and well-being at the individual level. Previous research has found cultural fit to be associated with beneficial and positive outcomes (e.g., Götz et al., 2018; Lu, 2006; Lu, 2008). These studies have defined cultural fit and well-being in a variety of ways, such as personality fit and emotional fit, leading to increases in self-esteem, relational well-being, and so on. Thus, this study defined cultural fit as person-value congruence, where we compared each individual response pattern to their nation’s normative pattern of responding on the WVS, and its effect on a composite measure of well-being. We then explored how the values and attitudes surveyed in the WVS, defined by the title of each subsection, individually had an effect on well-being. Finally, we
investigated whether nation-level variables had a moderating effect on the relationship between cultural fit and well-being.

All in all, our study aimed to answer the following research questions:

1.5.1 Research questions

*Research Question 1*) Within the nations sampled in the latest version of the WVS, does individual cultural fit predict subjective well-being?

*Research Question 1A*) Do the different value-types differentially affect well-being? (Exploratory)

*Research Question 2*) Do any nation-level moderators affect the relationship between cultural fit and well-being?

*Research Question 2a*) Does the moderation change based on the set of values used to create the cultural fit index? (Exploratory)

1.5.2 Hypotheses

The following hypotheses correspond to the research questions above.

*Hypothesis 1*: We expect that people who have greater cultural fit will have higher degrees of individual composite well-being.

*Hypothesis 2A*: National-level tightness will moderate the relationship between cultural fit and individual composite well-being, such that countries with higher cultural tightness will have a more pronounced or more positive relationship between cultural fit and well-being than countries with lower tightness scores.

*Hypothesis 2B*: National-level individualism will moderate the relationship between cultural fit and individual composite well-being, such that countries with higher
individualism will have a less pronounced or less positive relationship between cultural fit and well-being than countries with lower individualism.

*Hypothesis 2C:* National-level relational mobility will moderate the relationship between cultural fit and individual composite well-being, such that countries with higher relational mobility will have a less pronounced or less positive relationship between cultural fit and well-being than countries with lower relational mobility.

*Hypothesis 2D:* National-level cultural heterogeneity will moderate the relationship between cultural fit and individual composite well-being, such that countries with higher heterogeneity will have a less pronounced or less positive relationship between cultural fit and well-being than countries with lower heterogeneity.
Chapter 2: Method

To investigate the relationship between cultural fit and well-being, we collected data on cultural and social values, norms, and attitudes from the latest release, wave 7, of the World Values Survey (WVS; Haerpfer et al., 2020). The survey collected random probability representative samples of adult populations in 64 countries/territories, from mid-2017 to December 31, 2021 (Haerpfer et al., 2020). In total, the survey comprises 290 questions over 14 sub-sections, and the dataset has a minimum of 1,000 responses per country.

2.1 Variables

2.1.1 Cultural fit

The cultural fit variable was created based on three preregistered criteria (https://osf.io/jtmcf/?view_only=eeb87d83bf464000849e509bb3ccec04) as outlined below and in Figure 1. See Appendix for specific details on which items were added from the WVS. The three preregistered criteria are as follows:

1) An initial overview was conducted where several items were excluded due to either measuring an outcome not deemed to represent a value, having inconsistent response options across nations, and/or being measured on a non-interval scale. For example, question 82 asks respondents to state how much confidence they have in the European Union, however there is a footnote stating this question was changed to match the regional organization of the country/society being sampled. Thus, European Union was changed to African Union, Caribbean Community, and so on, making this question uninterpretable across nations.

2) In order to address the issue of missing data, we only considered responses from individuals who had less than 15% missing data. This approach helped us mitigate the
impact of incomplete or unreliable data on our analyses and ensure a more robust and accurate representation of the survey results. This criterion is particularly important for our correlation-based cultural fit variable and resulted in the exclusion of 5,190 individual responses. This left us with a total of 89,088 responses that were included in the fit calculations.

3) To make sure that we had sufficient sample size within each country, only countries with more than 300 complete responses for the 184 items were included in our analyses. We selected this number because much past research analyzing cross-national datasets has converged on 300 observations being a standard inclusion threshold in the literature (see Berkessel et al., 2021; Entringer et al., 2021; Gebauer et al., 2015, 2017). As a result, we had to exclude the data from Egypt for failing to have at least 300 complete responses (n_{Egypt} = 179). This left us with 88,909 responses in our cleaned dataset.

As preregistered, we calculated an index of cultural fit using 184 items included in the WVS Wave 7. Extant literature has employed multiple methods to investigate the relation between cultural fit and well-being. One approach utilized polynomial regressions and response surface analyses (Hanel et al., 2020), while another approach used the absolute difference between an individual’s mean and the group mean (Lu, 2006). For the present study, we decided to focus on the pattern of scores of an individual compared to the average pattern of their compatriots, based off the element of profile similarity termed shape (Furr, 2008, 2010). In other words, shape or profile correlations were used to create our cultural fit index, and has been found to be predictive of cultural fit in previous research (e.g., De Leersnyder, 2014; Götz et al., 2018). To operationalize fit we first calculated the average score for each of the included items within each country. These national mean scores were then correlated with each individual’s responses.
to those same items using a Pearson correlation. Individuals who have more positive correlations with the average responses from their nation can be said to have higher fit. That is, their pattern of responses is closer to the typical way of responding among those from their nation.

Prior to computing fit scores, each item was standardized using the global mean and standard deviation. This mitigated the influence of the varying scale formats used in the WVS. That is without standardization, individuals would always have high cultural fit scores to their nation, as rather than reflecting individual similarity to the nation’s averaged values, the score would reflect differences in items. For example, if an individual reported on a 0 to 1 scale for one item and a scale from 1 to 7 on another item, without standardization there would be a positive correlation driven by the differences in scale, rather than reflecting the similarity between the respondent and their nation’s averaged values. Thus, standardization prevented item-level differences in global mean responses from influencing the cultural fit score. Each individual’s cultural fit scores were then used to predict their level of well-being using multilevel models.

As the scores from respondents were standardized and then correlated with the averaged cultural values of the respondent’s nation, the resulting cultural fit score can be interpreted as a correlation. Thus, higher values indicate a better fit with one’s nation, with a score of 1 meaning the individual displays perfect fit with their nation’s averaged cultural values, while a score of -1 indicates a perfect negative fit or misfit between the individual and their nation’s averaged cultural values (cf. Furr, 2008, 2010; Götz et al., 2018). The overall mean of the cultural fit variable is .38, indicating that across 63 countries/territories, there is relatively good fit between respondents and their nation’s averaged cultural values.
2.1.1.1 Cultural fit index explained

At the individual level, our range of cultural fit is -1 to +1, where each fit score is calculated by correlating the scaled differences of respondents' answers with their nation’s averaged profile and then nation-mean centering each score. Nation-mean centering involves subtracting the mean value of each nation’s scaled differences from the fit scores of each individual within that nation. By using this approach, we obtain fit scores that reflect the correlation of individual responses relative to their nation’s average. A perfect misfit would indicate an individual with a counter profile of scaled differences on each item compared to their nation’s averaged profile. On the other end, +1 indicates a perfect fit with the nation’s averaged profile, considering the relative fit after nation-mean centering. All in all, higher scores suggest an individual has greater alignment with their country's averaged profile.

Once we computed the average correlation for each nation, the range of the average cultural fit at the aggregate or nation-level ended up spanning from .25 to .54. As we compared each individual’s response pattern to an average pattern created from the set of individual responses, the average of a nation’s individual fit profiles cannot be negative. Thus, aggregate fit scores should only be understood as comparisons. For example, across the 63 countries, Chile has the lowest average fit of .25 while the Netherlands has the highest average fit of .54. As the
aggregate average cultural fit scores correlate with the standard deviation within items at $r = -\.57$, this suggests average fit, at least in part, indicates the heterogeneity of responding of respondents. Thus, the aggregate fit scores suggest Chile’s sampled population has more diverse responding than the sampled population from the Netherlands. In addition, an intraclass correlation was computed to detail how much variability there was in fit scores between countries: 79.58% of the variation in cultural fit scores is due to within-country differences, thus an estimated 20.42% of the variation in fit scores is due to differences between countries.

2.1.2 Subjective well-being

We operationalized subjective well-being in three different ways which were investigated separately (see Appendix). All outcome variables were standardized to aid in interpretation.

2.1.2.1 Life satisfaction

The first well-being outcome was global life satisfaction, which was operationalized using the question: “All things considered, how satisfied are you with your life as a whole these days?” with 10 response options that ranged from 1 = “completely dissatisfied” to 10 = “completely satisfied”.

2.1.2.2 Global happiness

The second well-being outcome was global happiness, which was operationalized using the question: “Taking all things together, would you say you are” with 4 response options ranging from “very happy” to “not at all happy”. Global happiness was recoded so 1 would mean “not at all happy” and 4 would mean “very happy”. This was done to aid in interpretation and comparison.
2.1.2.3 Composite score

As the individual responses to the life satisfaction and global happiness measures were positively correlated at $r = .44$, we also operationalized well-being in terms of a composite measure of those two items. Individual responses to life satisfaction and global happiness were averaged by respondent to create the composite index of well-being.

2.1.3 Tightness-Looseness

In our study, we were able to identify two efforts by researchers to assign tightness scores to several countries, as described below:

Gelfand and colleagues (2021) calculated tightness scores for 57 countries by adapting their self-report tightness scale from their cross-country investigation of tightness from 2011, which was first used to calculate a tightness index for 33 countries. From the study in 2011, participants were asked to rate on a six-point scale from strongly disagree (1) to strongly agree (6) their perception of what their fellow citizens believed regarding social norms, appropriate behaviors, and compliance. The seventh item that was added in the 2021 investigation on tightness was a question on status threat where participants had to choose from a list, that included natural disasters and over-population, what they believed were threats to their society. These scores were grand-mean centered in our analyses.

Likewise Uz (2015) calculated tightness scores for 65 countries using standard deviations. By using the integrated dataset from the year 2006 created by the European Values Study Group and the World Values Survey Association, responses were grouped by the factor-analyzed domains of work, family, and religion. For each of the 65 countries, a weight was created for each of the domains based on the importance given to the domain by said country’s respondents. This then yielded a national tightness score, or a weighted average of the standard
deviations across the aforementioned three domains. These scores were then transformed so the most culturally tight country in the sample, Morocco, received a 0. Thus, higher scores indicate less tightness or more looseness from the most tight country. To aid in interpretation and comparison between Uz (2015) and Gelfand et al. (2021), the scores from Uz (2015) were multiplied by -1 and then grand-mean centered, so larger scores indicated more tightness.

37 countries/territories spanned both datasets and correlated at $r = .53$. We decided to explore the relation between national tightness and the relation between cultural fit and well-being with each of the two indices separately. In addition, a composite tightness score was created and analyzed in the Appendix.

2.1.4 Individualism-Collectivism

The majority of national individualism scores used in our study was collected by Hofstede from IBM employees between 1967 and 1973 using the Values Survey Module (VSM). From the VSM’s 14 items on work goals, six dimensions were identified related to individualism – personal time, freedom, challenge, training, physical conditions, and use of skills. A factor score was calculated for each dimension for each country, then multiplied by 25. Finally, a constant number, 50, was added to each of the scores to place the scores on a range from 0 to 100, with higher scores indicating a more individualistic society/country. These same initial scores make up the majority of the dataset used in this study. The remaining scores were created by Hofstede in collaboration with Michael Minkov over multiple cross-cultural analyses (Minkov, 2012).

2.1.5 Relational mobility

The national scores for relational mobility were obtained from an index created by Thomson et al. (2018). This index was created by analyzing 16,939 respondents from 39
countries who answered a variety of scales on relational mobility, intimacy, and interpersonal similarity, and were sampled between October 2014 and June 2016 through Facebook. Higher scores on the index indicate that an individual feels they have more freedom and opportunities to enter and leave interpersonal relationships.

2.1.6 **Cultural heterogeneity**

Cultural heterogeneity or the ethnic diversity of an area was represented as two factors based on the operationalization used in the study by Rychlowska et al. (2015).

2.1.6.1 **Historical heterogeneity**

Rychlowska et al. (2015) created an index of historical heterogeneity or the heterogeneity of long-history migration from the World History Migration Index (WMI) created by Putterman and Weil (2010). The WMI showcases national estimates that compare the share of a country’s population from A.D. 1500 to the population in the year 2000. In the study by Rychlowska et al. (2015), they reversed this estimate to showcase the number of source countries that make up a given population in the year 2000. In other words, historical heterogeneity is operationalized as the number of countries that made up the population in A.D. 1500, that can be traced to the country’s population in the year 2000. Thus, the more source countries a population can be traced to, the more historically heterogenous the population is.

2.1.6.2 **Ethnic fractionalization**

Scores from Alesina et al. (2003) were used to operationalize modern ethnic diversity. Scores were calculated based on population data published between 1997 and 2001. Specifically, Alesina et al. (2003) used data from the Encyclopedia Britannica (2000), the Central Intelligence Agency (CIA; 2000), Levinson (1998), Minority Rights Group International (1997), and national censuses to create their ethnic fractionalization index of 190 countries. Alesina et al. (2003) used
the Herfindahl Index, commonly used to calculate market concentration and competitiveness, on ethnicity data to create a score from 0 to 1 which showed the concentration of different ethnicities in a country’s population. A score of 0 on the modified Herfindahl Index indicates a single ethnic group taking up the entirety of the ethnic group shares in a country, while a 1 indicates that multiple ethnic groups share the ethnic group shares of a country. Alesina et al. (2003) then subtracted this score from 1, as is done in the ethnolinguistic fractionalization equation (Vigdor, 2002), to create a final score from 0 to 1, where 0 means the country’s population is made up of 1 ethnic group while 1 means the country’s population is made of more than 1 ethnic group. Thus, the closer a country’s score is to 0, the less ethnic diversity is present.

2.2 Control variables

11 controls were standardized and then added to the analyses, as these variables may confound the relationship between the independent variable of interest, cultural fit within countries, and the dependent variable of well-being. The preregistered level 2, or national level controls include Gross-Domestic Product (GDP; IMF, 2020), Human Density Index (HDI; UNDP, 2022), and population density (Roser et al., 2013). Alongside these preregistered controls, we included average population longevity (UNDP, 2022), binary sex ratio (World Bank, 2020), and average level of education (UNDP, 2022) from public sources. All level 2 controls were standardized.

The control variables of binary sex ratio, average longevity of a population, and education were added to account for additional variability in the relationship between cultural fit and well-being. More information on these variables are as follows:

Binary sex ratio, or the ratio of females to males in a population has been linked with subjective well-being, such that countries with more equal or balanced sex ratios have higher
subjective well-being (Li, 2021; Richardson, 2023; Zhou et al., 2011). Thus, we operationalized binary sex ratio using country-level statistics from the World Bank (2020).

Average longevity of a population, or life expectancy, has been positively associated with subjective well-being at multiple levels of analysis (Deaton, 2008; Diener & Chan, 2011; Papavlassopulos & Keppler, 2011). We operationalized life expectancy by using the scores reported in the United Nations Development Programme (UNDP) dataset (2022).

Education has been associated with subjective well-being, such that higher education has been linked with greater subjective well-being (Desjardins, 2008; Wang & Sohail, 2022; Yakovlev & Leguizamon, 2012). Thus, we operationalized a country’s level of education using the average education level reported by the UNDP (2022).

At the level 1, or individual-level, the preregistered controls include respondent age, education, sex, subjective perception of household income, and whether the respondent identified as an immigrant of the country they were in at the time of responding to the WVS (Haerpfer et al., 2020). Respondent age was cluster/group mean-centered, while respondent income, education, sex, and immigrant status were added to the models as factors.

When the control datasets were matched with the WVS dataset, the number of nations dropped from 63 to 56, due to missing data from a total of 7 countries in one or more of the control datasets. Thus, to increase the number of nations included in our analyses, we did one of the following for any countries/territories that were not found in their respective control datasets:

1) Once matched with the WVS dataset, if a country/territory was missing from a region with a connection to a broader country, the value from the broader country was used instead:
a) For Hong Kong and/or Macau, the value for China from the respective control dataset was used.

b) For Puerto Rico, the value for the United States from the respective control dataset was used.

c) For Great Britain and/or North Ireland, the value for the United Kingdom from the respective control dataset was used.

2) Once matched with the WVS dataset, if a country/territory was missing without a connection to a broader country/territory, such as Andorra and Taiwan, the average of the nearest two border countries were used.

2.3 Data analysis and analytic overview

The data was analyzed using R (R Core Team, 2013). The packages used were as follows: tidyverse (Wickham, 2021; Wickham et al., 2019), ggplot2 (Wickham, 2016; Wickham et al., 2021), dplyr (Wickham et al., 2021), psych (Revelle, 2021), lme4 (Bates et al., 2015, 2021), interactions (Long, 2021), r2mlm (Shaw et al., 2020, 2022), and readxl (Wickham & Bryan, 2019).

As the WVS individual data is nested within countries, multilevel modeling (Raudenbush & Byrk, 2002) was chosen as the appropriate statistical test to investigate the relations between cultural fit and well-being. We employed two-level models in our analyses. For most variables, fixed slopes were assumed, meaning that the relationship between those variables and the outcome was assumed to be constant across all nations. However, for the cultural fit variable a random slope was allowed, meaning that the relationship between cultural fit and the outcome variable was assumed to vary across different nations. In other words, the effect of cultural fit on subjective well-being could differ between countries. For all the models, a random intercept term
was included. This term captures the between-group variation that is not explained by the fixed effects. Furthermore, to separate the level-specific effects of fit on well-being, or the within and between-country associations, we cluster/nation-mean centered fit to create the level 1 or within-country effect. This allowed us to investigate how an individual fitting in with their own nation’s averaged cultural values affects their well-being, without the influence of between-country variation.

The within-country effect is the most relevant to our stated hypotheses, as described below. Along with the within-country effect, the between-country effect was also calculated to investigate how the average level of fit related to composite well-being when comparing across the nations of the WVS.

The within-country effects were used to investigate (1) whether there was a relationship between cultural fit and individual well-being within the nations included in the WVS (Hypothesis 1) and (2) whether any national cultural variables, specifically tightness (Hypothesis 2A), individualism (Hypothesis 2B), relational mobility (Hypothesis 2C), and cultural heterogeneity (Hypothesis 2D), moderated the relationship between cultural fit and individual-level well-being within each nation (Research Question 2).

Profile correlations were used to create our cultural fit index to capture the similarity or dissimilarity of patterns across various cultural variables. By utilizing profile correlations, we were able to create a comprehensive index that captured the overall fit between individuals and their cultural context. Extant literature provides support for our choice as profile correlations have been shown to have higher predictive utility compared to alternative measures of congruence, such as Euclidean distance and profile deviance (Xu & Li, 2020). In addition,
profile correlations have consistently been associated with subjective well-being, as demonstrated by research conducted by Götz et al. (2018).

By integrating profile correlations and multilevel modeling in our analyses, we are able to leverage the strengths of both techniques. These strengths include the ability to examine the individual-level profile similarities and the contextual influences within the nested data structure; account for both within and between-nation effects; and allows for robust statistical inference and hypothesis testing, considering the unique characteristics of our data. Thus, profile correlations alongside multilevel modeling, offers a robust and comprehensive method for investigating our research question.

2.3.1 Deviations from preregistration

We deviated from our original analysis plan (https://osf.io/jtmcf/?view_only=eeb87d83bf464000849e509bb3ccec04) in a variety of ways, as described below:

1) In our preregistration, we stated we would analyze the relationship between cultural fit and individual well-being using two outcome variables, life satisfaction and global happiness. Though we did run these analyses, we decided to create a composite measure of well-being, by averaging the standardized scores for life satisfaction and global happiness, due to the high correlation between the two outcome variables ($r = .44$). As such, we have amended our research questions and hypotheses to reflect our focus on the relationship between cultural fit and the individual composite measure of well-being. Results using the outcome variables of life satisfaction and global happiness are recorded in the Appendix. The results recorded here are the relationships between cultural fit and the composite measure of well-being.
2) Supplementary control variables were added to account for additional variability in the relationship between cultural fit and well-being. The country-level demographics of binary sex ratio, average longevity, and average education were included as they display common population patterns which have been linked with subjective well-being. These control variables were therefore added to parse out their effect on subjective well-being in our analyses.

3) In our original preregistration, we stated we would add respondent ethnicity as a level 1, or individual-level, control variable. However, we were unable to use ethnicity data provided by the WVS as each country presented a modified list of options to respondents that corresponded with the ethnic groups present in their population. This did not allow for proper coding across nations and thus, we were unable to add individual ethnicity as a control variable to our analyses.

4) Finally, cultural heterogeneity was added as a moderator to the relation between cultural fit and well-being. Cultural heterogeneity was added as a moderator under the assumption that more ethnic diversity in an area may affect the social pressure individuals face to fit in, thus altering cultural fit’s effect on well-being. Given that previous literature has found ethnic diversity to be associated with ethnic inequality (Alesina et al., 2003) and subjective well-being (Longhi, 2014), we tested whether historical and modern ethnic diversity or cultural heterogeneity moderated the relation between cultural fit and well-being.
Chapter 3: Results

3.1 Descriptive statistics

Wave 7 of the WVS includes 64 countries and 94,278 individual responses. After initial cleaning, 63 countries and 88,909 individual responses remained ($n_{female} = 46,471$, $n_{male} = 42,369$, $n_{other} = 69$). Egypt was removed as there were not enough complete individual responses ($n_{Egypt} = 179$) as outlined in the inclusion criteria.

Question 275 asked respondents to self-identify their level of education¹. 31.25% of the WVS respondents self-identified as a “low” level of education from ISCED 0 to ISCED 2; 34.41% of the WVS sample identified as obtaining a “middle” level of education including ISCED 3 and ISCED 4; and 33.57% identified as having a “high” level of education which included ISCED 5 to ISCED 8. 0.77% of respondents either refused to answer, was not asked, or responded “don’t know”.

Question 288 asked respondents to self-identify their level of income². 24.00% of individuals self-identified as being in the “low” income level, 63.96% self-identified as in the “middle” income level, 9.88% self-identified as in the “high” income level; and 2.17% either refused to answer, was not asked, or responded “don’t know”.

---

¹ Question 275 was recoded from an 8-step scale, starting from “early childhood education” to “doctoral or equivalent education”, and differentiated between lower and upper secondary education, to a 3-step scale of “lower”, “middle”, and “higher”, to allow for simpler interpretation. The 8-step scale supplemented the everyday descriptions of education with the International Standard Classification of Education (ISCED) from 0 or no education, to 8 aligning with doctoral or equivalent education.

² Question 288 was recoded to adjust individual income level from a 10-step scale to a 3-step scale, allowing for simpler interpretation. The first step or lower step in the original 10-step scale indicates the lowest income group, while step 10 indicates the highest income group in the country. This was then modified and recoded so that steps 1 to 3 are included in the “low” income level, steps 4 to 7 are included in the “middle” income level, and steps 8 to 10 are included in the “high” income level.
3.2 Research question 1: Does cultural fit predict well-being?

First, we assessed the degree of cultural fit that respondents demonstrated within each culture. We looked at the relation between cultural fit and well-being. As life satisfaction and global happiness had a high correlation, we will only report the analyses with composite well-being (see Appendix for more information on individual analyses between fit, life satisfaction, and global happiness). For our main analysis, we endeavoured to see if cultural fit predicts composite well-being after inclusion of our control variables. Our control variables are, at the level 1 or individual level: GDP, HDI, population density, respondent sex, age, immigrant status, level of education, and subjective perception of household income level. At the level 2 or national level, our control variables are: binary sex ratio, country-level longevity or average life expectancy at birth, and average country-level education. The main analysis between cultural fit and well-being was conducted both with the adjusted controls ($\beta = 0.19, p = .02$) and with the initial, non-adjusted controls ($\beta = 0.19, p = .04$) (see section 2.2), as a robustness check. The addition of the adjusted controls allowed the model to include 63 nations, rather than the 56 nations that is included when using the non-adjusted controls. As we see the results maintained their significance with the adjusted controls, the results reported below have included the adjusted controls to include as many nations as possible into our analyses.

When analyzing the relation between cultural fit and composite well-being with the inclusion of the aforementioned controls, cultural fit is found to predict well-being at a within-country level ($\beta = 0.19, p = .02$) but not at a between-country level ($\beta = -0.17, p = .75$). These results provide support for cultural fit predicting an individual’s composite score of well-being, such that when an individual fits in better with their nation’s averaged values, their level of composite well-being also increases. Thus, we find evidence that cultural fit is related to the composite
score of well-being, such that individuals who are more similar to their average compatriots have higher composite well-being (within-country effect). However, we find no evidence to suggest nations that have higher average levels of fit, in comparison to nations with lower average levels of fit on the WVS, have better well-being (between-country effect).

3.3 Research question 1A: Differential effects of value-types on well-being

Exploratory analyses were conducted to investigate which subsection of the WVS was driving the effect of fit on well-being. A limitation of using profile similarities to measure cultural fit is it is unable to identify which element or value set is driving the effect, as the profile combines multiple elements into a single score (Edwards, 1993). To mitigate this limitation, we calculated multiple profile correlations using the subsections of the WVS. These 11 fit variables were then used in exploratory models to discern which group of values in the WVS strongly relate to individual well-being.

The 184 items included in our initial measure of cultural fit encompass a total of 11 separate subsections of the WVS. The name of each subsection describes the general theme of the questions that were asked in the respective section. See Table 1 for more information.
Table 1 Descriptive information on the 11 WVS subsections

<table>
<thead>
<tr>
<th>Subsection Title</th>
<th>Number of Questions Added to Cultural Fit Index</th>
<th>Theme</th>
<th>Sample Question(s)</th>
</tr>
</thead>
</table>
| Social Values, Attitudes, and Stereotypes (SVS) | Question 1-45                                   | This section asks respondents to rate their social values, attitudes, and stereotypes on themselves and the society around them.                                                                 | Respondents are asked to rate their level of agreement, from “disagree strongly” to “agree strongly”, on statements such as: Question 33: “when job are scarce, men should have more right to a job than women”  
Question 34: “when jobs are scarce, employers should give priority to people of this country over immigrants”                                                                                       |
<p>| Social Capital, Trust and Organizational Membership (SCM) | Question 57-81; 83-90; 94-105                  | This section asks respondents to rate their level of trust and confidence in                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                  |                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Question 58: Respondents are asked to rate their level of trust, from “do not trust at all” to “trust completely”, of their family                                                                                           |</p>
<table>
<thead>
<tr>
<th>Subsection Title</th>
<th>Number of Questions Added to Cultural Fit Index</th>
<th>Theme</th>
<th>Sample Question(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Values (EV)</td>
<td>Question 106-111</td>
<td>various organizations.</td>
<td>Respondents are asked to rate their level of agreement on a 10-point bidirectional scale, where 10 means “agreeing completely” with one statement and 1 meaning “agreeing completely” with the other statement. Question 106 - the two statements are as follows: “Incomes should be made more equal” and “There should be greater incentives for individual effort”</td>
</tr>
</tbody>
</table>

This section asks the opinion of respondents to economic issues such as income and private ownership.
<table>
<thead>
<tr>
<th>Subsection Title</th>
<th>Number of Questions Added to Cultural Fit Index</th>
<th>Theme</th>
<th>Sample Question(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corruption</td>
<td>Question 112-120</td>
<td>This section asks respondents to speak on issues of corruption, such as bribery, gifts, and favours done by others.</td>
<td>Question 113: Respondents are asked to state their level of belief in state authorities, from “none of them” to “all of them”</td>
</tr>
<tr>
<td>Migration</td>
<td>Question 121-130</td>
<td>This section asks respondents on their opinions on immigration and general feelings towards individuals from other countries.</td>
<td>Question 122: Respondents are asked to rate from “disagree” to “agree” on whether an effect of immigration is to fill important job vacancies</td>
</tr>
<tr>
<td>Subsection Title</td>
<td>Number of Questions Added to Cultural Fit Index</td>
<td>Theme</td>
<td>Sample Question(s)</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Security</td>
<td>Question 149-151</td>
<td>This section asks respondents to report on their general feelings of security as well as their opinion on freedom and equality.</td>
<td>Question 149: Respondents are asked to choose, “most people consider both freedom and equality to be important, but if you had to choose between them, which one would you consider more important?”</td>
</tr>
<tr>
<td>Post-materialist Index (PI)</td>
<td>Question 152-157</td>
<td>This section asks respondents to state their opinions on what their country’s top priorities should be.</td>
<td>Question 152: Respondents are asked “would you please say which one of these you, yourself, consider the most important?” with the following options: “A high level of economic growth”; “Making sure this country has strong defense forces”; “Seeing that people have more say about...”</td>
</tr>
<tr>
<td>Subsection Title</td>
<td>Number of Questions Added to Cultural Fit Index</td>
<td>Theme</td>
<td>Sample Question(s)</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------------------------------------------</td>
<td>-------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Science and Technology (ST)</td>
<td>Question 158-163</td>
<td>This section asks respondents to rate their agreement to statements regarding science and technology on a 10-point scale, from 1 meaning “completely disagree” to 10 meaning “completely agree”.</td>
<td>Question 158: Respondents are asked to rate their agreement to the statement “science and technology are making our lives healthier, easier, and more comfortable”</td>
</tr>
</tbody>
</table>

Sample Question(s):

- how things are done at their jobs and in their communities”;
- and “Trying to make our cities and countryside more beautiful”
<table>
<thead>
<tr>
<th>Subsection Title</th>
<th>Number of Questions Added to Cultural Fit Index</th>
<th>Theme</th>
<th>Sample Question(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religious Values (RV)</td>
<td>Question 164-175</td>
<td>This section asks respondents questions on their belief in God, religion, and the afterlife.</td>
<td>Question 171: Respondents are asked “apart from weddings and funerals, about how often do you attend religious services these days?” with options ranging from “more than once a week” to “never, practically never”</td>
</tr>
<tr>
<td>Ethical Values and Norms (ENS)</td>
<td>Question 176-198</td>
<td>This section asks respondents to state their opinions on moral issues.</td>
<td>Question 188: Respondents are asked to state how justifiable euthanasia is on a 10-point scale, from 1 meaning “never justifiable” to 10 meaning “always justifiable”</td>
</tr>
<tr>
<td>Political Culture and Political Regimes (PCPR)</td>
<td>Question 235-253</td>
<td>This section asks respondents to state their opinion on governance and</td>
<td>Question 235: Respondents are asked to state how they feel on a 4-point scale, from 1 meaning “very good” to 4 meaning “very</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subsection Title</th>
<th>Number of Questions Added to Cultural Fit Index</th>
<th>Theme</th>
<th>Sample Question(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>various political systems.</td>
<td>“...a strong leader who does not have to bother with parliament and elections”</td>
</tr>
</tbody>
</table>

From the brief descriptions of each subsection (see Table 1), it seems reasonable to expect that cultural fit for some subsections of values may be more predictive of well-being than others. We followed Rights & Sterba (2020) to compare multilevel models using R-squared differences. The cultural fit variable was stripped down to 11 fit scores based on the aforementioned 11 subsections before being added to a multilevel model that included the outcome variable of composite well-being and the 11 control variables. This total model was then used to calculate differences in each of the fit score’s R-squared by comparing the R-squared from the total model to models that did not include the fit score of interest. As our main focus was on the within-country or individual-level effects of cultural fit on well-being, we investigated which subsection(s) was driving the effect of cultural fit, at the individual level, on composite well-being.

Once the 11 fit scores and control variables were added to the model predicting the composite score of well-being, cultural fit, or the 11 fit scores, explained 4.61% of the variance
in composite well-being. This means 4.61% of the variation in the composite score of well-being can be explained by cultural fit. The subsections of Social Values, Attitudes, and Stereotypes; Social Capitol, Trust, and Organizational Membership; and Science and Technology explained the variance in the composite score of well-being the most, at 0.09%, 0.06%, and 0.07% respectively. This is in comparison to the variance explained by the other subsections of the WVS which ranged from 0.00% to 0.01%. Thus, it seems the above named subsections of the WVS are driving the effect of cultural fit on well-being. In other words, individuals who fit in more to the averaged profile of values for these three subsections report higher composite well-being.

3.4 Research question 2: What national-level moderators affect the relationship between cultural fit and well-being

Moderation analyses were conducted using tightness, individualism, relational mobility, and cultural heterogeneity. Cultural heterogeneity was operationalized using two factors, historical heterogeneity and ethnic fractionalization, and investigated separately. However, the only significant results we found were with national-level tightness. Thus, to be concise we have only reported the moderation analyses done with national-level tightness. Please see the Appendix for moderation analyses using the aforementioned national-level variables on the relationship between cultural fit and composite well-being, as well as the moderation analyses using the outcome variables of life satisfaction and global happiness.

3.4.1 Tightness-Looseness moderation

We explored whether tightness moderates the relationship between cultural fit and well-being. Two separate datasets were used to operationalize tightness, Gelfand et al. (2021) and Uz (2015). A composite tightness index was also created using both datasets, see Appendix for the
specific analyses. All of the reported results were conducted with the inclusion of the 11 controls mentioned previously.

3.4.1.1 Gelfand et al. (2021)

First, we report the analyses using the operationalization of tightness as determined by Gelfand et al. (2021). After matching the countries/territories in the Gelfand et al. (2021) dataset to those in the WVS dataset, there were 31 nations that were found in both datasets. The 31 countries/territories remained in the following models, even after controlling for the 11 aforementioned variables.

Tightness did significantly moderate the relationship between cultural fit and the composite measure of well-being at a within-country level ($B = 0.30, p = .02$). A simple slope analysis was conducted to compare the fit and well-being relation across different levels of tightness. From examining the slopes, the slope of the relationship between cultural fit and composite well-being is significant at the mean level of tightness ($\beta = 0.25, p = .02$) and for countries with tightness scores +1 standard deviations (SD) above the mean ($\beta = 0.48, p = .00$) (see Figure 2). The figure shows the relationship between fit and well-being is more pronounced in tighter nations compared to looser nations. In other words, cultural fit or fitting in has a more significant impact on individuals' well-being in nations characterized by high tightness (at or above the mean). This effect can be attributed to the greater emphasis that nations high in tightness place on norm enforcement and conformity. In such nations, individuals may feel greater pressure to fit in to receive the benefits associated with norm-following and conformity and/or to avoid the negative consequences associated with norm-violation. Thus, the benefits and consequences related to fitting in, such as subjective well-being, is most likely greater in tighter societies due to the strength of norms and sanctioning.
However, when comparing individuals with high fit and high well-being across the different levels of tightness, it seems the level of tightness where one resides has a less pronounced effect. A post-hoc explanation for this is that when an individual has high fit, or already fits in to their country’s normative values, they are already experiencing the benefit of fitting in, regardless of whether their country exemplifies a tight or loose society. At the between-country level, there was no significant moderating effect of tightness on the relationship between fit and well-being ($B = 1.07, p = .18$). Therefore, we do not have enough evidence to conclude a moderation between tightness and the across-country relationship between cultural fit and the composite score of well-being.

The tightness scores obtained from Gelfand et al. (2021), when used in our analyses, followed our hypothesis and moderated the within-country relationship between cultural fit and well-being, such that in tighter countries, individuals who fit in better to their country’s averaged profile report higher composite well-being (*Hypothesis 2A*).

**Figure 2** Simple slope analysis: Cultural fit by the composite score of well-being moderated by tightness within countries
3.4.1.2 Uz (2015)

We next repeated these same analyses with tightness operationalized using the data collected from Uz (2015). After multiplying the scores by -1 and centering, larger scores indicate more tightness, with the tightest country being Morocco at 53.46, and the loosest country being Belgium at -66.34. 32 nations remained once the Uz (2015) dataset was matched to the WVS and control datasets.

In comparison to the moderation of tightness found using the Gelfand et al. (2021) dataset, we do not see a within-country effect when tightness is operationalized using Uz (2015) (B = -0.0006, p = .89). Thus, there is not enough evidence to state tightness moderates the relationship between cultural fit and the composite score of well-being at the within-country level. However, there is a significant moderation when considering the effect of tightness on the relationship between cultural fit and well-being across nations (B = 0.05, p = .02). A simple slope analysis was conducted to compare the effect of fit on well-being across the different levels of tightness. Examination of the slopes revealed the slope for the relationship between cultural fit and well-being was significant for countries with tightness levels that were +1 SD above the mean (β = 2.22, p = .01) (see Figure 3). In other words, when comparing tight countries, or countries that are one standard deviation above the mean, the countries with higher average fit report higher well-being, in contrast to countries with lower average fit. A post-hoc explanation for this is that when a country is categorized as a tight country but the people within the country have diverse responding, or are more heterogenous, there is a negative impact on composite well-being.
3.5 Research question 2A: Does tightness moderate the 11 fit scores differently?

To address the question of whether the moderation effect found above would change based on the set of values used to create the fit index, we ran a moderation analysis using the aforementioned 11 fit scores. We ran the analysis using both operationalizations of national-level tightness. We decided to refrain from running these analyses using individualism, relational mobility, and cultural heterogeneity due to the lack of evidence found for a moderation effect of the relationship between our initial cultural fit index and composite well-being.

We ran the moderation analysis using the disaggregated within-country effects of the 11 fit scores, along with the 11 control variables, both for model simplicity and as our focus is on the potential moderation of the within-country effects of these fit scores on composite well-being. Please see Table 1 for the general description of each of the WVS subsections that were used to create the 11 fit scores.
3.5.1 Gelfand et al. (2021)

Results from the moderation analysis using the 11 fit scores, 11 control variables, and national-level tightness to predict the outcome variable of composite well-being found that national-level tightness significantly moderated the relationship between composite well-being and multiple subsections of the WVS (see Table 2). Simple slope analyses were conducted for each of the significant interactions found. These results are discussed below.

Table 2 Significant interactions between the subsections of the WVS and tightness in predicting composite well-being

<table>
<thead>
<tr>
<th>Subsection Title</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Social Values, Attitudes and Stereotypes</em></td>
<td>B = -0.11</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td><em>Social Capital, Trust and Organizational Membership</em></td>
<td>B = 0.22</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td><em>Political Culture and Political Regimes</em></td>
<td>B = 0.06</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td><em>Science and Technology</em></td>
<td>B = 0.03</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td><em>Ethical Values and Norms</em></td>
<td>B = -0.09</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td><em>Security</em></td>
<td>B = 0.02</td>
<td>p = .001</td>
</tr>
<tr>
<td><em>Migration</em></td>
<td>B = 0.07</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td><em>Corruption</em></td>
<td>B = 0.05</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td><em>Economic Values</em></td>
<td>B = 0.04</td>
<td>p &lt; .001</td>
</tr>
</tbody>
</table>
3.5.1.1 Identifying patterns: Interactions aligned with the global index of cultural fit

On examination of the simple slopes, a noticeable pattern arose where a number of the interactions found using the 11 fit scores created from the subsections of the WVS followed the pattern found in the interaction between the global index of cultural fit and tightness in predicting composite well-being (see section 3.4.1.1). To briefly summarize, individuals in tighter countries were found to have a more pronounced or positive relationship between the global index of cultural fit and composite well-being. The subsections discussed below reveal a consistent pattern, wherein the cultural fit of individuals had a stronger impact on their composite well-being in tighter nations.

A positive moderation effect was found for tightness on the relationship between fit, that was based on the Social Capital, Trust and Organizational Membership (SCM) subsection, and composite well-being (B = 0.22, p<.001). The slopes between fit and well-being at 1 SD below the mean (β = -0.05, p=.01), at the mean (β = 0.12, p<.001), and 1 SD above the mean of tightness (β= 0.29, p <.001) are significant (see Figure 4). Based on the figure, it seems fitting in more with the SCM subsection is beneficial for composite well-being in tighter nations.
A simple slope analysis was also conducted for the significant interaction found between tightness and the fit scores created from the Political Culture and Political Regimes (PCPR) subsection, when predicting composite well-being ($B = 0.06, p < .001$). The slopes between fit and well-being are significant for individuals in nations at the mean level of tightness ($\beta = 0.05$, $p = .0001$), and 1 SD above the mean of tightness ($\beta = 0.10$, $p < .001$) (see Figure 5). The effect of fit on well-being becomes negligible in loose nations, however in tight nations, fitting in more with the PCPR subsection has the greatest effect on composite well-being.
Figure 5 Simple slope analysis: Political culture and political regimes subsection by well-being moderated by tightness within countries

The fit score created from the Security subsection of the WVS also significantly interacted with tightness when predicting composite well-being (B = 0.02, p=.001). The slopes between fit and well-being are significant at the mean of tightness (β = 0.02, p= .0001), and at 1 SD above the mean of tightness (β = 0.04, p<.001) (see Figure 6). From the figure, the greatest impact of fit on well-being is in tight nations where individuals who align more with the Security subsection report greater composite well-being.
A simple slope analysis was also conducted to investigate the interaction between tightness and the fit scores created from the Migration subsection, when predicting composite well-being ($B = 0.07$, $p<.001$). The slopes between fit and well-being are significant 1 SD below the mean of tightness ($\beta = -0.03$, $p=.01$), at the mean ($\beta = 0.02$, $p = .006$), and 1 SD above the mean of tightness ($\beta = 0.08$, $p<.001$) (see Figure 7). Based on the figure, it seems fitting in with the Migration subsection has a dampening effect on composite well-being in loose nations. However, as tightness increases, cultural fit has a greater and positive effect on well-being, such that individuals who fit in more with the Migration subsection report greater composite well-being.
Further simple slope analyses were conducted to delve into the interaction between tightness and the fit scores created from the *Corruption* subsection of the WVS, when predicting composite well-being ($B = 0.05$, $p<.001$). The relationship between fit and well-being is significant the mean of tightness ($\beta = 0.04$, $p<.001$) and 1 SD above the mean of tightness ($\beta = 0.08$, $p<.001$) (see Figure 8). From the figure, it seems fitting in with the *Corruption* subsection has the greatest impact on composite well-being in tight nations, while the effect is negligible in loose nations.
3.5.1.2 Identifying patterns: Interactions opposed with the global index of cultural fit

The remaining significant interactions between the subsections of the WVS and tightness in predicting composite well-being revealed an opposing pattern to the one found using the global index of cultural fit (see section 3.4.1.1). The subsections discussed below reveal a consistent pattern where the cultural fit of an individual has a weaker impact on their composite well-being in tighter nations. In other words, the impact of cultural fit is greater in looser nations than in tighter nations, when cultural fit is operationalized using the following subsections of the WVS.

A simple slope analysis was conducted for the significant interaction between tightness and the fit score created from the Social Values, Attitudes and Stereotypes (SVS) subsection predicting composite well-being ($B = -0.11$, $p < .001$). The slopes between fit and well-being are
significant 1 SD below the mean of tightness ($\beta = 0.25$, $p < .001$), at the mean ($\beta = 0.16$, $p < .001$), and at 1 SD above the mean of tightness ($\beta = 0.07$, $p = .02$) (see Figure 9). Based on the figure, it seems fitting in to the SVS subsection is especially important in loose nations when considering individual composite well-being.

**Figure 9 Simple slope analysis: Social values, attitudes and stereotypes subsection by well-being moderated tightness within countries**

The fit score created based on the *Science and Technology (ST)* subsection also significantly interacted with tightness when predicting composite well-being ($B = 0.03$, $p < .001$). The slopes between fit and well-being are significant 1 SD below the mean ($\beta = -0.07$, $p < .001$), and at the mean level of tightness ($\beta = -0.04$, $p < .001$) (see Figure 10). From the figure, the greatest effect of cultural fit on well-being is in loose nations. However, the simple slopes are negative, indicating fitting in more on the ST subsection is related to lower composite well-being in nations 1 SD below the mean and at the mean. Thus, it seems fitting in less with the ST subsection is beneficial for individuals in loose nations.
Figure 10 Simple slope analysis: Science and technology subsection by well-being moderated by tightness within countries

There is also a significant interaction between tightness and the fit scores created from the Ethical Values and Norms (ENS) subsection of the WVS, predicting composite well-being ($B = -0.09$, $p<.001$). The slopes between fit and well-being at 1 SD below the mean ($\beta = 0.10$, $p<.001$), at the mean ($\beta = 0.03$, $p = .02$), and 1 SD above the mean ($\beta = -0.04$, $p = .04$) are significant (see Figure 11). From the figure, it seems individuals in tight nations report lower well-being when they fit in more with the ENS subsection, in comparison to individuals in loose nations who report higher well-being when they fit in more with the ENS subsection. Thus, it seems the more tighter a nation becomes, the effect of fit on well-being shifts from a positive effect on well-being to a negative one.
Finally, a simple slope analysis was conducted to delve into the significant interaction between tightness and the fit scores created from the *Economic Values (EV)* subsection of the WVS, when predicting composite well-being ($B = 0.04$, $p<.001$). The slopes between fit and well-being are significant 1 SD below the mean of tightness ($\beta = -0.07$, $p<.001$), and at the mean ($\beta = -0.04$, $p<.001$) (see Figure 12). The effect of fit on well-being in tighter nations seem to become negligible, while in loose nations, there is a negative effect of fit on well-being. In other words, in loose nations, fitting in less with the EV subsection seems to be beneficial for composite well-being.
3.5.2 Uz (2015)

Equivalent moderation analyses were done with the Uz (2015) tightness scores. Results from the moderation analysis using the 11 fit scores, 11 control variables, and national-level tightness to predict the outcome variable of composite well-being found that national-level tightness significantly moderated the relationship between composite well-being and various subsections of the WVS (see Table 3). Simple slope analyses were conducted for each of the interactions found above. These results are discussed below.
Table 3 Significant interactions between the subsections of the WVS and tightness in predicting composite well-being

<table>
<thead>
<tr>
<th>Subsection Title</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Values, Attitudes and Stereotypes</td>
<td>B = -0.003</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td>Social Capital, Trust and Organizational Membership</td>
<td>B = -0.002</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td>Religious Values</td>
<td>B = 0.005</td>
<td>p &lt; .001</td>
</tr>
<tr>
<td>Post-materialist Index</td>
<td>B = 0.0010</td>
<td>p = .001</td>
</tr>
<tr>
<td>Security</td>
<td>B = 0.0004</td>
<td>p = .03</td>
</tr>
<tr>
<td>Migration</td>
<td>B = -0.0008</td>
<td>p = .01</td>
</tr>
<tr>
<td>Economic Values</td>
<td>B = 0.002</td>
<td>p &lt; .001</td>
</tr>
</tbody>
</table>

3.5.2.1 Identifying patterns: Pronounced fit and well-being relationships as tightness increases

Though we did not find a significant within-country interaction between the global cultural fit index and tightness when predicting composite well-being, we did find a significant interaction across countries (see section 3.4.1.2). However, as the scope of this study is on within-country effects, we have only investigated the within-country interactions between the 11 fit scores created from the WVS subsections and tightness in predicting composite well-being. From these interactions, the subsections that will be described below are significant and followed the pattern where the relationship between fit and well-being became more pronounced and positive in tighter nations.
The significant interaction between tightness and the fit score created from the Religious Values (RV) subsection, in predicting composite well-being, is positive (B = 0.0053, p<.001). The slopes between fit and well-being are significant when tightness is 1 SD below the mean (β = -0.13, p <.001), at the mean (β = 0.02, p = .04), and 1 SD above the mean (β = 0.17, p<.001) (see Figure 13). From the figure, individuals who fit in less with the RV subsection in loose nations seem to report higher well-being. However, the negative relationship becomes positive in tighter nations, such that individuals who fit in more with the RV subsection report a positive effect on their composite well-being.

**Figure 13 Simple slope analysis: Religious values subsection by well-being moderated by tightness within countries**

![Graph showing the relationship between religious values, tightness, and well-being](image)

The moderation of tightness significantly influences the relationship between fit based on the Security subsection and composite well-being (B = 0.0004, p = .03). The slope between fit
and well-being is significant when tightness is at 1 SD above the mean ($\beta = 0.02$, $p = .007$) (see Figure 14). From the figure, it seems individuals in tight nations who fit in more with the Security subsection of the WVS is related to higher composite well-being.

**Figure 14 Simple slope analysis: Security subsection by well-being moderated by tightness within countries**

![Graph showing the relationship between tightness and well-being](image)

The significant interaction found between tightness and fit based on the Economic Values (EV) subsection in predicting composite well-being is positive ($B = 0.002$, $p <.001$). The slopes between fit and well-being are significant at 1 SD below the mean of tightness ($\beta = -0.10$, $p<.001$), and at the mean level of tightness ($\beta = -0.04$, $p<.001$) (see Figure 15). From the figure, the effect of fit on well-being becomes positive as tightness increases.
3.5.2.2 Identifying patterns: Diminished fit and well-being relations as tightness increases

The remaining significant interactions between the subsections of the WVS and tightness in predicting composite well-being revealed another consistent pattern where the cultural fit of an individual has a weaker impact on their composite well-being in tighter nations. That is, the impact of cultural fit is greater in loose nations than in tight nations, when cultural fit is operationalized using the following subsections of the WVS.

A simple slope analysis was conducted for the significant interaction of tightness and the subsection of *Social Values, Attitudes and Stereotypes (SVS)* (B = -0.003, p < .001) when predicting composite well-being. The simple slopes are significant for countries with tightness levels that are 1 SD below the mean (β = 0.29, p < .001); at the mean (β = 0.20, p < .001); and 1 SD
above the mean (β = .10, p<.001) (see Figure 16). The significant slopes indicate that as tightness increases, the effect of individual fit on well-being decreases. That is, the effect of fit on well-being is greatest in looser nations.

**Figure 16 Simple slope analysis: Social values, attitudes and stereotypes subsection by well-being moderated by tightness within countries**

![Graph showing the relationship between tightness scores and composite well-being.](image)

There is also a significant and positive moderation between tightness and fit on the Post-materialist Index (PI) (B = 0.001, p=.001) predicting composite well-being. The slope between fit and well-being 1 SD below the mean of the moderator, tightness, is significant (β = -0.04, p = .003) (see Figure 17). Though the overall association between fit and well-being when moderated by tightness is positive, there is a significant negative simple slope. This suggests that in loose nations there is a negative effect of fitting in to the PI subsection on well-being.
In a similar manner, we see from the simple slope analysis for the moderation of tightness on the relationship between the *Social Capital, Trust and Organizational Membership (SCM)* subsection of fit and composite well-being (B= -0.002, p<.001), that the simple slopes 1 SD below the mean (β = 0.14, p<.001) and at the mean (β = 0.07, p<.001) are significant (see Figure 18). From the figure, individuals who reside in loose nations – that is, nations that are 1 SD below the mean, when they have high fit on the SCM subsection, they report higher well-being. Thus, the impact of fitting in to the SCM subsection on well-being is greatest in loose nations.
The significant interaction found between the fit score created from the *Migration* subsection and tightness predicting composite well-being is negative (B = -0.0008, p = .01). On examination of the simple slopes, the slope between fit and well-being is significant when tightness is 1 SD below the mean (β = 0.03, p = .04) (see Figure 19). Thus, individuals in loose nations report higher well-being when they fit in more with the *Migration* subsection of the WVS.
Figure 19 Simple slope analysis: Migration subsection by well-being moderated by tightness within countries
Chapter 4: Discussion

The purpose of this study was to delve into the relationship between cultural fit and well-being in the latest wave of the WVS, as it is the largest public collection of values, attitudes, and beliefs across numerous nations.

4.1 Conclusions

Research question 1 and 1A aimed to examine the association between our original cultural fit index and composite well-being. After constructing our cultural fit index, we used multilevel models to assess its predictive power on composite well-being while controlling for 11 other variables. A significant within-country effect was found between cultural fit and well-being ($\beta = 0.19, p = .02$), such that across 63 nations in the WVS, we can conclude the more an individual fits in with the dominant, or averaged, cultural values of the nation they reside in, the higher they report their composite well-being. This result confirms Hypothesis 1.

To gain a deeper understanding of the relationship between cultural fit and well-being, we conducted additional analyses to determine the specific items or groups of items on the WVS that influenced the impact of cultural fit on well-being. By investigating the driving factors behind this relationship, we aimed to uncover the key elements within the WVS that contribute to the observed effects of cultural fit on well-being. Using the 184 items, which spanned 11 subsections in the WVS, used in our original cultural fit index, we derived 11 distinct cultural fit indices corresponding to each subsection. After analyzing the relationship between each of these fit indices and our outcome variable of composite well-being, we found the main subsections that explained the variance in composite well-being the most were Social Values, Attitudes, and Stereotypes (0.09%), Social Capitol, Trust, and Organizational Membership (0.06%), and
Thus, the items in these three subsections are responsible for the majority of the effect of cultural fit on composite well-being.

Research question 2 concentrated on the potential interaction of our cultural fit index with national-level variables, in predicting composite well-being. The nation-level variables we assessed are tightness-looseness, individualism-collectivism, relational mobility, and cultural heterogeneity. Though we did not find a significant interaction between our cultural fit index and the national-level variables of individualism-collectivism, relational mobility, and cultural heterogeneity, in predicting composite well-being, we did find the tightness-looseness of a nation to moderate the effect of cultural fit on individual composite well-being. However, the interaction we found differed based on if we used the tightness scores from Gelfand and colleagues (2021) or from Uz (2015).

The tightness scores from Gelfand and colleagues (2021) interacted with our cultural fit index at the within-country level ($B = 0.30, p = .02$). And after examining the simple slopes, we are able to conclude the effect of cultural fit is negligible for loose societies. In comparison, as the tightness of a society increases, the effect of cultural fit is greater on well-being ($\beta = 0.48, p = .00$). Thus, for individuals in tight societies fitting in more with the averaged cultural values of the nation they reside in has a greater impact on their well-being. This aligns with Hypothesis 2A, as the evidence shows that countries with higher cultural tightness have a more pronounced relationship between cultural fit and well-being. The observed effect of tightness on the association between cultural fit and well-being can potentially be attributed to the prevalent pressure and norm enforcement surrounding conformity within tight societies. As there are more negative consequences in reaction to norm-violation, and simultaneously more benefits as a
result of norm-following, individuals in tight societies who fit in more with their compatriots should have a greater boost to their well-being than those who fit in less.

Conversely, results from the analysis between the tightness scores from Uz (2015) and cultural fit in predicting composite well-being did not find a significant interaction at the within-country level ($B = -0.0006, p = .89$). Thus, we do not have enough evidence to conclude tightness, as constructed by Uz (2015), moderates the relationship between cultural fit and the composite score of well-being at the within-country level. Our post-hoc explanation for this discrepancy, between the results found with the tightness scores created by Gelfand and colleagues (2021) to the scores created by Uz (2015), can be attributed to subjective perception of tightness versus objective tightness. That is, the tightness scores generated by Uz (2015) were in response to the critique that the scores by Gelfand and colleagues (2011) were a measure of perception rather than an objective measure of tightness-looseness. The expanded scores by Gelfand and colleagues (2021) used the self-report scale created in 2011, with an additional item on status threat, asking participants to rate their perception of what their fellow citizens believed regarding social norms, appropriate behaviors, and compliance. Thus, as significant results were only found with the tightness scores constructed by Gelfand and colleagues (2021), it may be that perception is truly what is important when considering the effect of tightness on the relation between cultural fit and well-being. In other words, it may be how an individual perceives the level of tightness-looseness in their society that is important to how fitting in with the normative values of their nation affects their well-being. In other words, how individuals perceive the level of tightness-looseness in their society plays a crucial role in determining how their adherence to normative values affects their overall well-being.
We further investigated how the interaction between tightness and cultural fit, in predicting composite well-being, varied based on the set of values used to create the fit index (Research Question 2A). In other words, we investigated which of the aforementioned 11 fit indices significantly interacted with tightness, when predicting composite well-being. Various fit indices were found to be moderated with both the tightness scores constructed by Gelfand and colleagues (2021), as well as by Uz (2015), at varying slopes (strengths) and directions (positive or negative influence). Thus, we can conclude that the association between cultural fit and well-being is influenced by the nation-level variable of tightness. Furthermore, identifying the specific subset that demonstrates a more pronounced interaction with tightness emphasizes the complex nature of how cultural fit and tightness interact in predicting overall well-being.

4.2 Previous literature

The confirmation of Hypothesis 1 aligns with previous research on cultural fit and well-being, further supporting the consistency and robustness of our finding. That is, the positive relationship confirmed between cultural fit and composite well-being supports previous findings on the beneficial psychological outcomes of cultural fit (e.g., Bleidorn et al., 2016; Lu, 2006; Lu, 2008; Stephens et al., 2012). For instance, in the study by Götz and colleagues (2018), they found personality fit, an aspect of cultural fit, or the alignment of an individual’s personality profile to the aggregate personality profile of their canton (in Switzerland), predicted subjective well-being. Similarly, the findings from Lu (2006), found societal congruence, an aspect of cultural fit, or the alignment of an individual’s self-construal to the emphasized construal of their culture, to be related to subjective well-being. These consistent findings across different operationalizations of fit and various nations reinforces the conclusion that cultural fit plays an important role in influencing an individual’s subjective well-being.
Moreover, our investigation into the moderating effects of national-level variables (Research Question 2) complements and extends the literature on cultural fit and well-being, shedding new light onto the intricate interplay between these factors. Though Li and Hamamura (2010) found cultural fit to influence life satisfaction in collectivistic societies, we did not find a significant interaction between individualism-collectivism and cultural fit, in predicting composite well-being, at the within-country level ($B = -0.0009$, $p = .81$), nor the between-country level ($B = 0.03$, $p = .14$). We also did not find a significant interaction, in predicting composite well-being, between cultural fit, relational mobility, and cultural heterogeneity at the within-country level, nor the between-country level (see Appendix). Thus, we are unable to provide evidence for Hypotheses 2B to 2D, nor support previous research on the relation between individualism-collectivism and cultural fit in predicting an aspect of subjective well-being.

However, we did find a significant interaction between tightness-looseness and cultural fit when predicting composite well-being. Though the different constructions of tightness, between Gelfand and colleagues (2021) and Uz (2015), resulted in differing results, we conclude we have evidence to confirm Hypothesis 2A. That is, based on the operationalization of tightness by Gelfand and colleagues (2021), we find nations with higher cultural tightness exhibit a stronger relationship between cultural fit and well-being than in culturally loose nations. This interaction highlights the significance of considering tightness-looseness as an important determinant when examining the relationship between cultural fit and subjective well-being. As well, we speculate our findings may reflect the reliability of Gelfand and colleague’s (2021) tightness index, and the importance of perception when considering tightness-looseness, as we did not find this interaction with the tightness index created by Uz (2015).
4.3 Limitations

Despite our best efforts to mitigate the limitations inherent in our study, it is important to acknowledge and address the constraints that restrict the conclusions we are able to make with our findings. An unavoidable limitation when using big data is the data we analyze is independently collected and organized. As previously discussed, a reason for excluding certain items from our cultural fit index were the varying response options provided to respondents across different countries, as including these questions would have made the cultural fit index uninterpretable; as well, we were unable to use individual ethnicity data as respondents were given varying options based on the country they resided in.

Our decision to utilize profile correlations also came with certain limitations. While profile correlations have their strengths, as previously mentioned, they have also faced criticism in the literature. Edwards (1993) specifically critiqued profile correlations, deeming them inadequate as a measure of congruence for several reasons. While some of these criticisms have already been addressed, a few necessitate further discussion. Firstly, profile correlations have been criticized for being conceptually ambiguous statistics. The creation of a single index from multiple items across different value-types can introduce ambiguity into the index. That is, the forceful blend of potentially conceptually heterogenous items into a single index impacts how clearly the index can be interpreted. Thus, we do not assert our operationalization of cultural fit is without ambiguity. However, we have provided a comprehensive explanation and maintained transparency regarding the understanding and interpretation of our cultural fit index (see section 2.1.1.1) to acknowledge the limitations of our own index. Furthermore, indices in extant literature have been created using multiple items across various attributes, such as the tightness
scores created by Uz (2015) and the profile correlations done in the study by Götz and colleagues (2018).

Secondly, profile correlations have been accused of discarding information by solely focusing on the magnitude of differences and not considering the potentially distinct effects of positive and negative differences on the outcome. We attempted to mitigate this limitation by delving into the distinct value-types that make up our cultural fit index. However, we were unable to mitigate this issue entirely as our cultural fit index amalgamates all individual responses to a single score. Thus, we are unable to form conclusions on whether agreeing with some items over others has distinct effects on subjective well-being. Similar issues can be seen in extant literature, such as in the study from Götz and colleagues (2018), where they did find an effect of cultural fit on subjective well-being when looking at the magnitude of difference but did not put forth a method to effectively parse the discarded information for potential effects. Rather, in Lu’s (2006) study, they found both a positive effect of magnitude, as well as direction by analyzing multiple cultural profiles. Though this method does not fully mitigate the issue of discarded information, it does attempt to analyze the data using different constructions to see if there are any distinct effects.

Lastly, profile correlations are deemed insensitive to the sources or underlying factors contributing to the profile differences being analyzed. That is, it is difficult to examine the individual relationships between the underlying factors used to create our cultural fit index, and the outcome variable subjective well-being. However, we have endeavored to mitigate this limitation by disaggregating our index into 11 fit indices, each corresponding to a specific value-type. By examining the relations between these multiple indices and subjective well-being, we aim to capture a broader understanding on which values drive the effect on subjective well-being.
and how these relations vary based on interactions with moderator variables. However, we are unable to make conclusions on the specific items or if the items are conceptually homogenous, as we relied on the survey organization by the WVS team. Thus, further explorations into cultural fit and well-being may benefit from using factor analysis to systematically identify and group together related items on the WVS.

4.4 Future directions

Our study has provided valuable insights into the existing research on cultural fit and subjective well-being, by focusing our study within countries and examining the intricate influence of cross-cultural factors. Future directions are discussed below.

For our cultural fit index, we compared the response profiles of individuals to their nation’s averaged profile of values. However, fitting in to the values and beliefs of the majority of one’s country may be too broad and not reflect the realities of certain populations or be beneficial for certain demographics. For instance, Götz and colleagues (2018) examined cultural fit of citizens to their canton, rather than to their country. In the study by Stephens and colleagues (2012), they investigated cultural fit in universities, noting the damaging effect of a mismatched university culture for first-generation college students. Though we did find a within-country effect of cultural fit on subjective well-being, future research should endeavor to investigate cultural fit and subjective well-being in different environments, such as in workplaces and cities, as well as across demographics, such as in older adults and minority groups.

Future research should also focus on potential moderators that may influence the relation between cultural fit and well-being. Extant literature has found relations between many operationalizations of cultural fit and positive psychological outcomes, however there is scant
literature on the factors that may influence cultural fit. Individualism-collectivism of a nation has been found to moderate the effect of cultural fit in the study by Li and Hamamura (2010), and though we were unable to replicate this finding, we were able to show that the tightness-looseness of a nation also moderates the relation between cultural fit and well-being. Future explorations of the relation between fit and well-being may benefit from delving into these conflicting results between the present study and the study by Li and Hamamura (2010), so to develop a thorough understanding of the nuanced dynamics that shape the relationship between fit and well-being.

All in all, future research should embark on a more comprehensive exploration of the underlying mechanisms involved, thoroughly investigate potential moderating factors, and extend cross-cultural comparisons to further enhance our understanding of the intricate interplay between cultural fit and subjective well-being. As by pursuing these avenues, we can expand the existing literature on cultural fit and subjective well-being and potentially uncover insights that can inform targeted interventions aimed at promoting well-being in specific areas and nations.

4.5 Summary

In summary, we have found a significant effect of cultural fit on composite well-being and have shown which value-types from the WVS drive this effect. In addition, we examined which nation-level variables may moderate the relation between cultural fit and well-being, and found a significant and consistent effect of nation-level tightness-looseness. From these findings, we delved into how tightness-looseness of a nation moderates the relation between composite well-being and each of the different value-types from the WVS. Thus, based on our analyses, we are able to draw five main conclusions from this study:
1) Cultural fit has a positive effect on composite well-being within countries, such that individuals who align more with the averaged cultural values of the nation they reside in report higher composite well-being.

2) The influence of cultural fit on composite well-being is driven by the value-types or subsections: Social Values, Attitudes, and Stereotypes, Social Capitol, Trust, and Organizational Membership, and Science and Technology. In other words, these subsections have been found to account for the most variance in the outcome variable, composite well-being.

3) The nation-level moderators of individualism-collectivism, relational mobility, and cultural heterogeneity were not found to significantly influence the relation between cultural fit and composite well-being.

4) Nation-level tightness-looseness, as constructed by Gelfand and colleagues (2021), was found to moderate the relation between cultural fit and composite well-being, such that the relation between cultural fit and composite well-being is found to vary at different levels of tightness. However, the construction of tightness-looseness by Uz (2015) did not moderate the relationship between cultural fit and composite well-being at the within-country level, leading to variable evidence for the moderation of tightness-looseness.

5) Nation-level tightness-looseness has varying effects on the influence of fitting in to the differing subsections or value-types of the WVS, when predicting composite well-being.

All in all, these conclusions highlight the important, yet complex and nuanced nature, of the association between cultural fit and subjective well-being.
References


https://doi.org/10.1023/A:1024471506938


https://doi.org/10.18637/jss.v067.i01


Norris, E. Ponarina & B. Puranen et al. (eds.). 2020. World Values Survey: Round Seven –
Country-Pooled Datafile. Madrid, Spain & Vienna, Austria: JD Systems Institute &
WVSA Secretariat. doi.org/10.14281/18241.1

as a function of person-country fit in human values. Nature Communications, 11(1), Article
1. https://doi.org/10.1038/s41467-020-18831-9

Harrington, J. R., & Gelfand, M. J. (2014). Tightness–looseness across the 50 united
states. Proceedings of the National Academy of Sciences, 111(22), 7990-7995.

Company.


Psychological and Personality Science, 7(8), 759–768.
https://doi.org/10.1177/1948550616658096


Jackson, J. C., van Egmond, M., Choi, V. K., Ember, C. R., Halberstadt, J., Balanovic, J.,
Barker, I. N., Boehnke, K., Buki, N., Fischer, R., Fulop, M., Fulmer, A., Homan, A. C., van
Ecological and cultural factors underlying the global distribution of prejudice. *PLOS ONE, 14*(9), e0221953. [https://doi.org/10.1371/journal.pone.0221953](https://doi.org/10.1371/journal.pone.0221953)


https://www.buzzfeed.com/hannahloewentheil/travelers-sharing-culture-shock-moments-abroad


Appendix: Supplemental Materials

WVS Items Used in Cultural Fit Index

The items that were included in our calculations of cultural fit are as follows. The name of the subsection is only written in brackets if all the items in the subsection was used in our index.

Questions 1-45 (Social Values, Attitudes, and Stereotypes Subsection), 57-81, 83-90, 94-105, 106-111 (Economic Values Subsection), 112-120 (Corruption Subsection), 121-130 (Migration Subsection), 149-151, 152-157 (Post-Materialist Index), 158 – 163 (Science and Technology Subsection), 164-175 (Religious Values Subsection), 176 – 198 (Ethical Values and Norms Subsection), and questions 235 – 253.

Subjective Well-being Outcome Variables

Life Satisfaction

The first well-being outcome was global life satisfaction, which was operationalized using the question: “All things considered, how satisfied are you with your life as a whole these days?” with 10 response options that ranged from 1 = “completely dissatisfied” to 10 = “completely satisfied”.

Global Happiness

The second well-being outcome was global happiness, which was operationalized using the question: “Taking all things together, would you say you are” with 4 response options ranging from “very happy” to “not at all happy”. Global happiness was recoded so 1 would mean “not at all happy” and 4 would mean “very happy”. This was done to aid in interpretation and comparison.
**Composite Score**

As the individual responses to the life satisfaction and global happiness measures were positively correlated at $r = .44$, we also operationalized well-being in terms of a composite measure of those two items. Individual responses to life satisfaction and global happiness were averaged by respondent to create the composite index of well-being.

**Analyses (includes adjusted controls)**

**Relation between Cultural Fit and Life Satisfaction**

This model includes 63 nations and 85,781 respondents.

<table>
<thead>
<tr>
<th>Life Satisfaction</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.27</td>
<td>0.005</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>-0.31</td>
<td>0.62</td>
</tr>
</tbody>
</table>

**Relation between Cultural Fit and Global Happiness**

This model includes 63 nations and 85,610 respondents.

<table>
<thead>
<tr>
<th>Global Happiness</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.13</td>
<td>0.14</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>0.08</td>
<td>0.87</td>
</tr>
</tbody>
</table>
Moderation

**Composite Tightness**

A composite tightness score was created using the national scores from Uz (2015) and Gelfand et al. (2021). After both datasets underwent standardization, they were merged. 37 nations had scores in both datasets and were then averaged to create a composite tightness score. For nations without a parallel score in one of the datasets, the original standardized score was used to include as many nations as possible.

**Moderation between Tightness (Uz, 2015) and Cultural Fit Predicting Life Satisfaction**

This model includes 32 nations and 45,681 respondents.

<table>
<thead>
<tr>
<th>Life Satisfaction</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.0002</td>
<td>.96</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>0.04</td>
<td>.09</td>
</tr>
</tbody>
</table>

**Moderation between Tightness (Uz, 2015) and Cultural Fit Predicting Global Happiness**

This model includes 32 nations and 45,568 respondents.

<table>
<thead>
<tr>
<th>Global Happiness</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>-0.002</td>
<td>.76</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>0.06</td>
<td>.004</td>
</tr>
</tbody>
</table>
Moderation between Tightness (Gelfand et al., 2021) and Cultural Fit Predicting Life Satisfaction

This model includes 31 nations and 48,322 respondents.

<table>
<thead>
<tr>
<th>Life Satisfaction</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.26</td>
<td>.08</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>1.44</td>
<td>.09</td>
</tr>
</tbody>
</table>

Moderation between Tightness (Gelfand et al., 2021) and Cultural Fit Predicting Global Happiness

This model includes 31 nations and 48,191 respondents.

<table>
<thead>
<tr>
<th>Global Happiness</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.34</td>
<td>.01</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>0.73</td>
<td>.40</td>
</tr>
</tbody>
</table>

Moderation between Composite Tightness and Cultural Fit Predicting Life Satisfaction

This model includes 42 nations and 60,470 respondents.

<table>
<thead>
<tr>
<th>Life Satisfaction</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.04</td>
<td>.74</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>1.06</td>
<td>.03</td>
</tr>
</tbody>
</table>
Moderation between Composite Tightness and Cultural Fit Predicting Global Happiness

This model includes 42 nations and 60,327 respondents.

<table>
<thead>
<tr>
<th>Global Happiness</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.05</td>
<td>.67</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>1.19</td>
<td>.03</td>
</tr>
</tbody>
</table>

Moderation between Composite Tightness and Cultural Fit Predicting Composite Well-being

This model includes 42 nations and 60,242 respondents

<table>
<thead>
<tr>
<th>Composite Well-being</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.05</td>
<td>.69</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>1.08</td>
<td>.03</td>
</tr>
</tbody>
</table>

Moderation between Individualism and Cultural Fit Predicting Life Satisfaction

This model includes 39 nations and 59,066 respondents.

<table>
<thead>
<tr>
<th>Life Satisfaction</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>-0.0001</td>
<td>.97</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>0.02</td>
<td>.40</td>
</tr>
</tbody>
</table>
Moderation between Individualism and Cultural Fit Predicting Global Happiness

This model includes 39 nations and 58,938 respondents.

<table>
<thead>
<tr>
<th>Global Happiness</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>-0.002</td>
<td>.66</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>0.05</td>
<td>.06</td>
</tr>
</tbody>
</table>

Moderation between Individualism and Cultural Fit Predicting Composite Well-being

This model includes 39 nations and 58,859 respondents.

<table>
<thead>
<tr>
<th>Composite Well-being</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>-0.0009</td>
<td>.81</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>0.03</td>
<td>.14</td>
</tr>
</tbody>
</table>

Moderation between Relational Mobility and Cultural Fit Predicting Life Satisfaction

This model includes 26 nations and 38,364 respondents.

<table>
<thead>
<tr>
<th>Life Satisfaction</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.26</td>
<td>.58</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>-4.57</td>
<td>.24</td>
</tr>
</tbody>
</table>
**Moderation between Relational Mobility and Cultural Fit Predicting Global Happiness**

This model includes 26 nations and 38,317 respondents.

<table>
<thead>
<tr>
<th>Global Happiness</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.30</td>
<td>.37</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>-5.55</td>
<td>.06</td>
</tr>
</tbody>
</table>

**Moderation between Relational Mobility and Cultural Fit Predicting Composite Well-being**

This model includes 26 nations and 38,243 respondents.

<table>
<thead>
<tr>
<th>Composite Well-being</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.28</td>
<td>.44</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>-4.92</td>
<td>.13</td>
</tr>
</tbody>
</table>

**Moderation between Historical Heterogeneity and Cultural Fit Predicting Life Satisfaction**

This model includes 21 nations and 36,162 respondents.

<table>
<thead>
<tr>
<th>Life Satisfaction</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.002</td>
<td>.78</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>-0.03</td>
<td>.57</td>
</tr>
</tbody>
</table>
**Moderation between Historical Heterogeneity and Cultural Fit Predicting Global Happiness**

This model includes 21 nations and 36,104 respondents.

<table>
<thead>
<tr>
<th>Global Happiness</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.004</td>
<td>.58</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>-0.04</td>
<td>.41</td>
</tr>
</tbody>
</table>

**Moderation between Historical Heterogeneity and Cultural Fit Predicting Composite Well-being**

This model includes 21 nations and 36,049 respondents.

<table>
<thead>
<tr>
<th>Composite Well-being</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.003</td>
<td>.65</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>-0.04</td>
<td>.47</td>
</tr>
</tbody>
</table>

**Moderation between Ethnic Fractionalization and Cultural Fit Predicting Life Satisfaction**

This model includes 58 nations and 80,670 respondents.

<table>
<thead>
<tr>
<th>Life Satisfaction</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.45</td>
<td>.26</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>-1.82</td>
<td>.49</td>
</tr>
</tbody>
</table>
Moderation between Ethnic Fractionalization and Cultural Fit Predicting Global Happiness

This model includes 58 nations and 80,502 respondents.

<table>
<thead>
<tr>
<th>Global Happiness</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.63</td>
<td>.10</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>-0.73</td>
<td>.73</td>
</tr>
</tbody>
</table>

Moderation between Ethnic Fractionalization and Cultural Fit Predicting Composite Well-being

This model includes 58 nations and 80,385 respondents.

<table>
<thead>
<tr>
<th>Composite Well-being</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within-Country Effect</td>
<td>0.54</td>
<td>.14</td>
</tr>
<tr>
<td>Between-Country Effect</td>
<td>-1.42</td>
<td>.52</td>
</tr>
</tbody>
</table>