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Abstract

Objective: People's psychological tendencies are attuned to their sociocultural context and culture-specific ways of being, feeling, and thinking are believed to assist individuals in successfully navigating their environment. Supporting this idea, a stronger “fit” with one's cultural environment has often been linked to

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positive psychological outcomes. The current research expands the cultural, conceptual, and methodological space of cultural fit research by exploring the link between well-being and honor, a central driver of social behavior in the Mediterranean region.

Method: Drawing on a multi-national sample from eight countries circum-Mediterranean ($N = 2257$), we examined the relationship between cultural fit in honor and well-being at the distal level (fit with one's perceived society) using response surface analysis (RSA) and at the proximal level (fit with one's university gender group) using profile analysis.

Results: We found positive links between fit and well-being in both distal (for some, but not all, honor facets) and proximal fit analyses (across all honor facets). Furthermore, most fit effects in the RSA were complemented with positive level effects of the predictors, with higher average honor levels predicting higher well-being.

Conclusions: Our findings highlight the interplay between individual and environmental factors in honor as well as the important role honor plays in well-being in the Mediterranean region.

KEYWORDS

fit, honor concerns, honor values, Mediterranean region, profile fit, response surface analysis, well-being

1 | INTRODUCTION

Scientific evidence accumulated over the last three decades has clearly demonstrated that individuals' psychological tendencies are attuned to their sociocultural context. For example, individuals in different cultural groups differ systematically in their models of selfhood (Vignoles et al., 2016), emotional (De Leersnyder et al., 2021), and cognitive processes (Nisbett et al., 2001). Culture-specific ways of being, feeling, and thinking are believed to assist individuals in successfully navigating their sociocultural environment (Kitayama & Uskul, 2011). Following this reasoning, a stronger fit between people's psychological make-up and characteristics of their sociocultural environment (to which we refer as "cultural fit") is often assumed to be associated with better well-being. Past research has supported this assumption by demonstrating positive consequences of cultural fit in different psychological domains, including emotional experience (De Leersnyder, 2017), personality (Fulmer et al., 2010), lifestyle and social support (Dressler, 2012), and internalized cultural norms (Stephens et al., 2012). The current study contributes to existing research on the psychological consequences of cultural fit by expanding its cultural, conceptual, and methodological space. Using a multi-national sample from the Mediterranean region and adopting a multi-method approach, we examined the relationship

between cultural fit and subjective well-being focusing on a cultural construct central to this region: endorsement of honor values and concerns as guiding principles in individuals' social life.

1.1 | Honor

Honor has been established as a core value and salient driver of social behavior in different regions of the world including the Mediterranean, the Middle East, Latin America, South Asia, and the Southern U.S. (for reviews see Cross & Uskul, 2022; Uskul & Cross, 2019; Uskul et al., 2019). Honor has been described as "the value of a person in his own eyes, but also in the eyes of society" (Pitt-Rivers, 1965, p. 21), reflecting the central idea that in cultural groups that emphasize honor an individual's worth is not only self-defined (e.g., to be proud of one's personal accomplishments) or claimed, but also defined in terms of one's reputation and status bestowed by others (e.g., to be known by others as a respectable and moral person) (Cross et al., 2014; Cross & Uskul, 2022). The positive self-view of a person thus combines both intra- and interpersonal elements, and this distinct combined focus on both the personal and social image has often been taken as a defining characteristic of so-called "honor cultures" compared with Western and East Asian cultural contexts

(Leung & Cohen, 2011). What further characterizes honor is its relational nature where threats to or enhancements of honor can have direct positive or negative implications for close others or social groups affiliated with the person, shaping their honor in their own eyes and the eyes of others (e.g., Korteweg & Yurdakul, 2009; Rodriguez Mosquera et al., 2008; Uskul et al., 2012).

Although Pitt-Rivers did not clarify the dimensions upon which individuals base their valuation in his definition of honor, others have identified culturally specific moral codes, gender roles, and economic and social status as the primary sources of these valuations in cultures of honor (Campbell, 1964; Péristiany, 1965). Thus, in order to be considered an honorable person in cultures where honor values are prevalent, an individual has to exhibit certain traits (e.g., morality, virtue, strength) and actively claim one's right to honor, but also has to develop a keen sense of their social reputation and conform to prescribed norms and behaviors (e.g., defending oneself against insults, protecting family reputation). Some dimensions of honor may hold equal importance for all members of honor cultures (e.g., family reputation, moral integrity), whereas others often emphasize different expectations for men versus women (e.g., strength and authority within the family for men, sexual purity and loyalty to men and family for women). These norms can restrict behavior in wide-reaching ways: deviations from the prescribed honor code can trigger strong opposition by other group members, as dishonorable behavior often has dire implications for the reputation of oneself and close others. As such, individuals in honor cultures work toward promoting a positive social image as well as staying vigilant toward honor threats that may stain their own or the honor of close others, as honor is hard to gain, but easy to lose (for reviews, see Bowman, 2006; Brown, 2016; Nisbett & Cohen, 1996; Uskul et al., 2019).

Studies into honor in social psychology, criminology, and law have so far focused primarily on (interpersonal) retaliation following honor threats, highlighting the negative consequences of honor. For example, Nisbett and Cohen (1996) have demonstrated the interpersonal and institutional emphases on honor in the Southern U.S. through the study of interpersonal aggression, homicide rates, and legal decisions. Similarly, in the decades following, honor research has focused on the negative aspects of honor dynamics in domains such as intimate partner violence (Baldry et al., 2013), risk-taking (Barnes et al., 2012), (delayed or lack of) health care seeking (Foster et al., 2022) and school shootings (Brown et al., 2009). In comparison, positive aspects of honor dynamics have received less attention, with the exception of a few studies that examined the role of politeness (Cohen et al., 1999), moral behavior (Cross et al., 2014) and reciprocity of positive behavior

(e.g., favors, hospitality, Leung & Cohen, 2011). The current research further contributes to filling in this gap in the literature by focusing on the implications of honor for well-being when there is a fit between individuals' own honor endorsement and honor endorsement by others in one's proximal and distal social environment.

1.2 | Cultural fit

Cultures have often been described as “systems of meaning”, conceptual systems that are shared between members of groups and that organize beliefs, values, and practices in a given society (Markus & Kitayama, 2010). Yet, although all individuals exist within a cultural environment, they vary in the extent to which they endorse the culturally dominant ways of being and acting (Leung & Cohen, 2011). Cultural fit represents this relationship between an individual and their social environment, reflecting the “process of thinking and acting in ways that are aligned with the thoughts and behavioral expectations of members of a social group” (Mobasserri et al., 2019, p. 305). As such, it goes beyond the comparison of mere cultural prototypes or averages (see Leung & Cohen, 2011) and can offer an insightful way to examine the psychological consequences of individual variation within cultural groups.

A major idea underlying most cultural fit research is that fitting in relatively more with one's environment is linked with more positive outcomes, as a stronger fit should support individuals in successfully navigating the central demands and tasks of their social environment (Kitayama et al., 2010), provide them with resources to decode and understand others' and their own behavior better (Edwards & Cable, 2009), and foster feelings of belonging by highlighting similarities between themselves and others (e.g., Hogg & Terry, 2000). Past research has supported this idea across a wide variety of domains and outcomes. For example, a stronger fit with culturally dominant patterns of emotion is associated with better relational well-being (De Leersnyder et al., 2014), person-culture fit in three personality traits (extraversion, locomotion, and promotion focus) is consistently linked to higher self-esteem and better subjective well-being (Fulmer et al., 2010), and endorsing values that fit one's cultural environment is related to better well-being in collectivistic, but not in individualistic, societies (Li & Hamamura, 2010).

Questions of (cultural) fit have been studied using different approaches, including difference scores (Edwards, 2002), cross-level interactions in multilevel models (Fulmer et al., 2010), and correlations between individuals and cultural response profiles (Dressler, 2012). In a widely used profile approach, De Leersnyder et al. (2014)

operationalized cultural fit in emotions as the correlation of a person's pattern of responses with the average pattern of responses of their cultural group. More recently, response surface approaches, which describe the relationship between two fit variables and the outcome as a three-dimensional surface using polynomial models, have also become increasingly common (see e.g., Humberg et al., 2019; Schönbrodt, 2016). In the present work, we drew upon profile analysis and response surface analysis in studying the role of honor fit in subjective well-being, both of which we describe in greater detail below.

1.3 | The present study

In the present research, we examined the link between individuals' cultural fit in honor values and concerns and their subjective well-being, further expanding the conceptual space of psychological fit phenomena by including a unique construct central to wide regions of the world (Cross & Uskul, 2022). We conducted our study in communities around the Mediterranean, an understudied region in social and cultural psychological research (e.g., Rad et al., 2018; Thalmayer et al., 2021), where honor has been shown to play a central role in coordinating social life (e.g., Gul & Schuster, 2020; Lopez-Zafra et al., 2020; Ramirez Marin et al., 2020; Uskul & Cross, 2020). We measured honor in two different ways: as values and concerns. Honor values (i.e., stable beliefs about what is good, right, and desirable, Schwartz, 1992) tapped into beliefs that individuals should exhibit characteristics or display behaviors that align with the standards of an honorable person, whereas honor concerns (i.e., appraisals of the relevance of situations to our values, goals, and needs, Rodriguez Mosquera et al., 2002) tapped into how bad one would feel if they behaved in a specific way or had a specific negative reputation that was incongruent with the honor code. We assessed both values and concerns twice: once in terms of how much participants endorsed honor themselves (their own endorsement), and once as participants' perceptions of how much most people in their society endorsed honor (their perceived-societal endorsement).

We expected fit with one's environment to play a role in well-being since honor as a cultural construct inherently combines elements of both personal (e.g., personal characteristics, moral convictions, and behaviors) and social domains (e.g., social reputation, respect bestowed by others, and normative expectations). As such, to the extent that an individual endorses honor as a moral principle, the social dynamics surrounding the negotiation of honor may unfold fully only if the environment also emphasizes honor to a certain degree, is responsive to one's claims to honor, and sanctions dishonorable behaviors in

others. Similarly, if an individual does not endorse honor as a moral principle, high-honor environments may highlight conventions and behaviors that are not necessarily aligned with one's own convictions, and thus may restrict the individuals in living their life as they desire and present costly consequences for their well-being. Based on this reasoning, we examined the following research question concerning honor fit: *Do people who show stronger fit between their own honor endorsement and the honor endorsement of others in their social environment also show better well-being?*

We examined the link between cultural fit in honor and subjective well-being at different levels of analysis, focusing on fit with one's perceptions of society as a whole (*distal fit*) and fit with one's immediate same-gender peer group (*proximal fit*).¹ Specifically, we conceptualized fit with the distal environment as fit with individuals' perceptions of honor endorsement in the wider society of their respective country, and fit with the proximal environment as fit with the average honor endorsement of the matching gender group in the participants' sample (as a highly relevant social category given the gendered nature of honor, Rodriguez Mosquera, 2016). Examining fit separately at distal and proximal levels offers a well-rounded approach to describing fit characteristics and may tap into different processes underlying fit, such as feelings of prototypicality or similarity at the perceived-societal level, as well as imminent normative or interpersonal effects at the peer group level.

2 | MATERIALS AND METHODS

2.1 | Participants

We recruited 3852 participants from eight communities around the Mediterranean (Cyprus [Greek Cypriot and Turkish Cypriot communities], Egypt, Greece, Italy, Lebanon, Spain, Turkey) primarily via the participant pools of collaborating universities. The data were collected as part of a larger study designed to examine additional research questions concerning cultural group differences in self-construal, social orientation, and cognitive style. In each sample, we aimed for a gender-balanced sample of approximately 200 participants to allow for robust gender comparisons, a sample size goal that was guided by sample sizes of past comparative studies in honor contexts that build the foundation of the larger study from which the current data originates (e.g., Salvador et al., 2020; San Martin et al., 2018).

To be eligible, participants had to be (a) 18 years or older, (b) born in the country of data collection, and (c) had lived in the country of data collection for more than

half of their lives. During the data analysis stage, we included participants who self-identified (d) as a member of the country's majority ethnic group (e.g., White British in the UK), and (e) as male or female (to allow sizable gender groups for comparative purposes). Finally, we excluded from the final sample participants who failed one or more of the four included attention checks embedded within the questionnaire (Table 1). Applying these criteria left us with $N = 2257$ participants in our final samples ($M_{\text{age}} = 21.74$, $SD = 4.78$, $\text{Min} = 18$, $\text{Max} = 71$). The sample had a relatively balanced gender distribution (57.02% women), slightly higher than average socio-economic status ($M_{\text{SES}} = 6.06$, $SD = 1.35$; on a scale of 0 = *Bottom* [of society] to 10 = *Top* [of society]) and included participants who had lived in urban environments for most of their lives (60.08%).

2.2 | Procedure

Participants completed a study on “Individual Differences in Social and Cognitive Orientation” between December 2019 and February 2021, either on a computer in the lab (10.59%) or on their own devices outside the lab (89.41%). After providing consent, all participants completed a series of measures that were presented in the same order and with items randomized within measures. Depending on the recruitment site, participants received either course credit or monetary compensation, had the possibility to make a financial contribution to a COVID-related charity, or were entered into a raffle for vouchers from local online vendors.

2.3 | Measures

Study materials and instructions were compiled in English and then translated into other study languages (Arabic, Spanish, Italian, Turkish, Greek) following a team translation approach (Survey Research Center, 2022). All measures were first translated by native speakers (either by a team member or a professional translator) and then checked by a second team member (fluent in both the English and the local language) to ensure it was understandable, meaningful, familiar, and appropriate for the respective cultural context. In any given measure, we calculated scale values for each participant only if a participant answered more than half of the necessary items, and otherwise assigned a missing value to the participants (less than 1.28% for all measures).

2.3.1 | Honor values

We assessed honor values both as the extent to which participants endorsed honor values (own endorsement) and as participants' perceptions of the extent to which most people in their society endorsed honor values (perceived-societal endorsement). Both sets included the same ten items, with wording adjusted to reflect the own and perceived-societal endorsement focus. We took four items from Yao et al. (2017) (e.g., “*People should not allow others to insult their family*”) and six items from Smith et al. (2017) (e.g., “*People always need to show off their power in front of their competitors*”) to increase the conceptual coverage of our honor measure. To reflect the endorsement of values

TABLE 1 Overview of data collection sites and recruitment information

Country	Women	Men	Age	SES	Language	Institution	Compensation
Cyprus (Turkish)	110	45	24.23 (9.03)	6.4 (1.31)	Turkish	Eastern Mediterranean University	Course credit, raffle
Cyprus (Greek)	214	103	20.89 (2.36)	6.04 (1.19)	Greek	University of Cyprus	Course credit, raffle
Egypt	110	95	20.73 (1.56)	6.44 (1.31)	Arabic	British University of Egypt	Donation to charity
Greece	196	284	23.14 (6.07)	6.04 (1.21)	Greek	University of Crete	Course credit
Italy	135	112	22.76 (4.07)	5.9 (1.39)	Italian	University of Chieti-Pescara	Course credit
Lebanon	165	96	19.14 (1.63)	6.7 (1.41)	English	American University of Beirut	Course credit
Spain	116	124	22.53 (6.02)	5.72 (1.47)	Spanish	University of Granada	Course credit
Turkey	241	111	20.8 (1.59)	5.64 (1.29)	Turkish	Bolu Abant İzzet Baysal University, Ordu University, Zonguldak Bülent Ecevit University	Course credit
Total	1287	970	21.74 (4.78)	6.06 (1.35)	–	–	–

rather than states or behaviors, we rephrased the items to read “*People should...*” instead of the original wording of “*People are...*” or “*People do...*”. Items were rated using a 7-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*).

An exploratory factor analysis revealed a two-factor solution for both own ($CFI = 0.977$, $TLI = 0.959$, $SRMR = 0.026$) and perceived-societal endorsement ($CFI = 0.991$, $TLI = 0.984$, $SRMR = 0.018$). In both measures, the two factors that emerged were a factor for Family Reputation (emphasizing the maintenance and defense of family reputation; $\alpha_{\text{Own}} = 0.85$, $\alpha_{\text{Society}} = 0.84$) and a factor for a strong self-image (emphasizing the need to project oneself as strong and powerful and to respond decisively to threats to one's honor; $\alpha_{\text{Own}} = 0.65$, $\alpha_{\text{Society}} = 0.78$). Invariance testing suggested that two items (“*People must always be ready to defend their honor*” of the family reputation factor and “*It is important to promote oneself to others*” of the strong self-image factor) loaded inconsistently across the eight samples; we thus excluded these two items from both item sets (see SM for final factor loadings).

2.3.2 | Honor concerns

As with honor values, honor concerns were measured with two item sets, one assessing participants' own endorsement of honor concerns and one assessing their perceptions of the extent to which most people in their society endorse honor concerns. We took items from Guerra et al.' (2013) short version of the Honor Scale (originally developed by Rodriguez Mosquera et al., 2002), designed to assess four honor facets (originally named family honor, feminine honor, masculine honor, integrity honor) with four items in each subscale. Participants rated the extent to which behaving in a specific way or having a specific reputation would make them feel bad about themselves (e.g., “*How bad would you feel about yourself if you let other people insult your family?*”) using a 7-point Likert scale (1 = *Not at all bad* to 7 = *Very bad*).²

An exploratory factor analysis largely supported the original four-factor solution for both own endorsement ($CFI = 0.985$, $TLI = 0.971$, $SRMR = 0.015$) and perceived-societal endorsement ($CFI = 0.991$, $TLI = 0.983$, $SRMR = 0.012$). We excluded two items (“*...you were known as someone who cannot support a family*” and “*...you had the reputation of being someone without sexual experience*”; both from the masculine honor subscale) from both item sets, as they did not load most strongly on the expected factor, with 14 items retained in the final version. Finally, we renamed the “masculine honor” factor as “family authority” to reflect the new focus of the items in this subscale, the “feminine honor” factor as “sexual propriety” to

more closely follow the conceptual meaning of the items and to reflect that we were collecting data from both men and women, and “family honor” and “integrity honor” to “family reputation” and “integrity”, respectively, to reflect that these dimensions are facets of honor, not different types of honor. All factors showed acceptable reliability (all $\alpha > 0.76$; see SM for final factor loadings).

2.3.3 | Subjective well-being

To assess subjective well-being (SWB), we asked participants to rate their satisfaction in nine domains of their lives (standard of living, health, what one is achieving in life, personal relationships, how safe one feels, feeling part of one's community, future security, amount of time one has to do the things that one likes doing, and the quality of one's local environment [e.g., pollution, green spaces]) using the OECD Guidelines on Measuring Well-Being (OECD, 2013). In addition to the nine domains, we also included an item that asked participants to rate their satisfaction with “life as a whole”. All items were rated using a 10-point Likert scale (0 = *not at all* to 10 = *completely satisfied*). An exploratory component analysis suggested a single component structure ($\alpha = 0.85$); we thus averaged items to create one overall subjective well-being score.³

3 | RESULTS

3.1 | Analytic strategy

We investigated the link between cultural fit in honor values and concerns and subjective well-being in two ways. First, we conducted a series of Response Surface Analyses (RSA) (Edwards, 2002; Schönbrodt, 2016) to examine fit at the distal level separately for all facets of honor values and concerns. Second, we conducted a profile fit analysis to examine fit at the proximal level across all six facets simultaneously (De Leersnyder, 2017; McCrae, 2008) (see Table 2 for descriptive statistics).⁴ Given the exploratory nature of our analyses, following recent recommendations (Benjamin et al., 2018), we applied a significance level of .005 for greater protection against false-positive results; we thus refer to p -values less than $p < .005$ as “significant” and to p -values in the range of $p < .005$ to $p < .05$ as “suggestive.” For all analyses, we used a Full Information Maximum Likelihood (FIML) approach to impute missing values. All analyses were conducted using R Studio, Version 1.2.5001 (R Core Team, 2020). The data and syntax that support the findings of this study and produced this manuscript are openly available in the Open Science Framework at <https://osf.io/4tyk5/>.

TABLE 2 Descriptive statistics for study variables

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	Min	Max	<i>SE</i>	Cronbach's α
Honor values							
Family reputation (own)	2246	5.10	1.36	1	7	0.03	0.85
Strong self-image (own)	2246	3.70	1.39	1	7	0.03	0.65
Family reputation (society)	2228	5.83	1.02	1	7	0.02	0.84
Strong self-image (society)	2228	5.33	1.34	1	7	0.03	0.78
Honor concerns							
Family reputation (own)	2253	5.88	1.20	1	7	0.03	0.76
Sexual propriety (own)	2250	4.59	1.84	1	7	0.04	0.85
Family authority (own)	2240	4.25	1.80	1	7	0.04	0.85
Integrity (own)	2255	6.09	0.98	1	7	0.02	0.76
Family reputation (society)	2246	5.74	1.19	1	7	0.03	0.80
Sexual propriety (society)	2241	4.28	1.73	1	7	0.04	0.87
Family authority (society)	2235	4.72	1.64	1	7	0.03	0.85
Integrity (society)	2246	4.56	1.54	1	7	0.03	0.88
SWB							
SWB (all items)	2257	6.17	1.72	0	10	0.04	0.85

3.2 | Distal fit: Own endorsement and perceived-societal endorsement of honor

To assess the role of distal fit in subjective well-being, we used RSA, an analytical tool designed to test whether the fit (or “congruence”) between two variables (x and y) shows a systematic relationship to a third, dependent variable (z) (Schönbrodt, 2016). We examined the congruence between participants' own endorsement of honor values and concerns (x) and their perceived-societal endorsement of honor values and concerns (y) to predict their subjective well-being (z). The basic steps of RSA consist of fitting a full polynomial regression model (i.e., linear terms, their interaction, and squared terms for both variables), as well as simpler alternative models, to the data, and then interpreting the resulting coefficients both statistically and graphically. The applied RSA model can be represented as a three-dimensional response surface, which maps pairs of scores on the predictors (x and y axes) against the predicted scores on the outcome variable (z axis; see e.g. Figure 1).

Of particular interest to questions of fit are three elements of the response surface. First, the *Line of Incongruence* (LOIC; shown in blue in the plots), which is the line for which x equals the opposite of y (i.e., $x = -y$, or the line leading from the front left corner of the coordinate cube to the back right corner of the coordinate cube), representing different levels of mismatch between the two

predictors. The shape of this line is represented by the model parameters a_3 (describing the slope of the LOIC at the midpoint 0,0) and a_4 (describing the curvature of the LOIC, i.e., flat, u-shape, or inverted u-shape). Second, the *Line of Congruence* (LOC; shown in red in the plots, or the line leading from the bottom corner of the coordinate cube to the top corner of the coordinate cube), which is the line for which x equals y , representing different levels of *matching* values of x and y (and thus representing the line where a congruence effect should take place). The shape of this line is represented by the model parameters a_1 (describing the slope of the line at the midpoint 0,0) and a_2 (describing the curvature of the line). And finally, the *First Principal Axis* (FPA), which in non-mathematical terms represents the “ridge” of the response surface (or the line following the “bend” of the surface), if the surface is curved. For questions of fit, of particular interest are the parameters p_{10} and p_{11} , which represent the vertical shift and the rotation, respectively, of the projection of the FPA onto the bottom of the surface cube. Conceptually, these two parameters can give insight into whether the FPA is aligned with the LOC or whether it significantly differs from the LOC.

The presence of congruence effects is determined by the joint interpretation of these three elements (and their associated statistical parameters). Humberg et al. (2019) outline four conditions to conclude a congruence effect in the broadest way: First, the FPA must not deviate

significantly from the LOC. This is reflected statistically in the two conditions that (1) p_{10} must not be significantly different from 0, and (2) that p_{11} must not be significantly different from 1, respectively. This condition represents that the highest outcome scores for people are predicted for individuals with congruent predictors. The other condition for a broad congruence effect with a positively scaled outcome variable is that the LOIC must represent an inverted u-shape, with its peak above the midpoint (0,0). This is reflected statistically in the two conditions that (3) a_4 must be significantly negative, and (4) that a_3 must not be significantly different from 0, respectively. This condition represents that people with increasingly incongruent predictor scores have lower outcome values and that the peak of this inverted u-shape lies over the midpoint (i.e., the LOC). If these four conditions are met, one can conclude that the data support a *broad congruence effect in a broad sense*, i.e., a pattern in which congruence has a positive effect on the outcome, but which also allows for main effects of the two predictor variables (e.g., higher average values in x and y are by themselves linked to better outcomes).⁵

In our analyses, we tested for these four conditions of a *broad congruence effect* as a statistical representation of our verbal hypotheses. Yet, while we primarily emphasized a congruence pattern for the various facets of honor, we also neither precluded nor predicted the presence of specific additional, level-related effects. Hence, our testing approach of the RSA surface contains confirmatory (i.e., the four conditions of Humberg et al., 2019) as well as exploratory aspects (i.e., the potential tilt and/or curvature of the LOC, which can be modeled by the broad congruence model). We conducted our hypothesis testing in two steps: first, we tested a full polynomial model against various simpler, more constrained models, and chose the best fitting and most parsimonious model as our final model to interpret the RSA model parameters (for an overview of the different models, please see the [supplementary materials](#)). Second, we then checked the conditions needed for a broad congruence effect by examining the respective parameters in the final model. For simpler models, the introduced constraints may already fulfill some of the conditions needed for a broad congruence effect; we thus focus on the remaining conditions to conclude a broad congruence effect depending on the particular final model.

All models were run as multilevel structural equation models in the R package *lavaan* (Rosseel, 2012), nesting participants within countries and including random intercepts. To facilitate interpretation, we standardized the predictors around their shared grand mean and grand standard deviation prior to all analyses. We also country-mean centered our predictor variables and entered the country means as separate variables into the model to not

confound individual fit with differences in overall levels between our country groups (Enders & Tofghi, 2007). Finally, we examined gender differences by adding gender, as well as all interactions of gender with the other predictors, to the final model, and comparing the model fit of this gender-added model. We found no indication of gender differences in any of our final models: adding interactions with gender into any final model did not significantly increase the model fit as measured by the Chi-Square, and the model without gender interactions also showed a consistently better fit than the one including interactions based on the AIC (difference in AIC of at least 2). We thus report results for the pooled sample across both genders only.

3.2.1 | Honor values

The analysis of honor values provided at least suggestive support for a broad congruence effect between both dimensions of honor values and subjective well-being. For *family reputation values*, model comparisons indicated that a simpler “Rising Ridge” model emerged as the final and most parsimonious model (see [Figure 1](#); a detailed overview of model parameters can be found in the [supplementary materials](#)). In a “Rising Ridge” model, conditions 1, 2, and 4 for a broad congruence effect are met as a result of the introduced model constraints, leaving a test of condition 3 (an inverted u-shape of the LOIC) to conclude a broad congruence effect. The LOIC of the current model indeed showed an inverted u-shape (as indicated by a significant negative $a_4 = -0.35$, $p < .001$, 95% CI = $[-0.45, -0.24]$). This effect was accompanied by a positive linear effect of the levels of predictors, or a positive linear slope of the LOC at the point 0,0 (as indicated by a significant positive $a_1 = 0.26$, $p < .001$, 95% CI = $[0.15, 0.37]$), suggesting an additional link between higher predictor values and better well-being.

For *strong self-image values*, model comparisons indicated that a simpler “Interaction” model emerged as the final and most parsimonious model (see [Figure 1](#); a detailed overview of model parameters can be found in the [supplementary materials](#)). In an “Interaction” model, condition 2 for a broad congruence effect is met as a result of the introduced model constraints, leaving a test of condition 1 (no shift of the FPA), condition 3 (an inverted u-shape of the LOIC), and 4 (slope of the LOIC at 0,0 is 0) to show a broad congruence effect. The current model indeed showed an FPA that was not significantly shifted from the LOC (as indicated by a non-significant $p_{10} = 0.24$, $p = .7$, 95% CI = $[-0.99, 1.47]$), and a slope of the LOIC not different from 0 at the midpoint 0,0 (as indicated by a non-significant $a_3 = -0.04$, $p = .724$, 95% CI = $[-0.23, 0.16]$). In

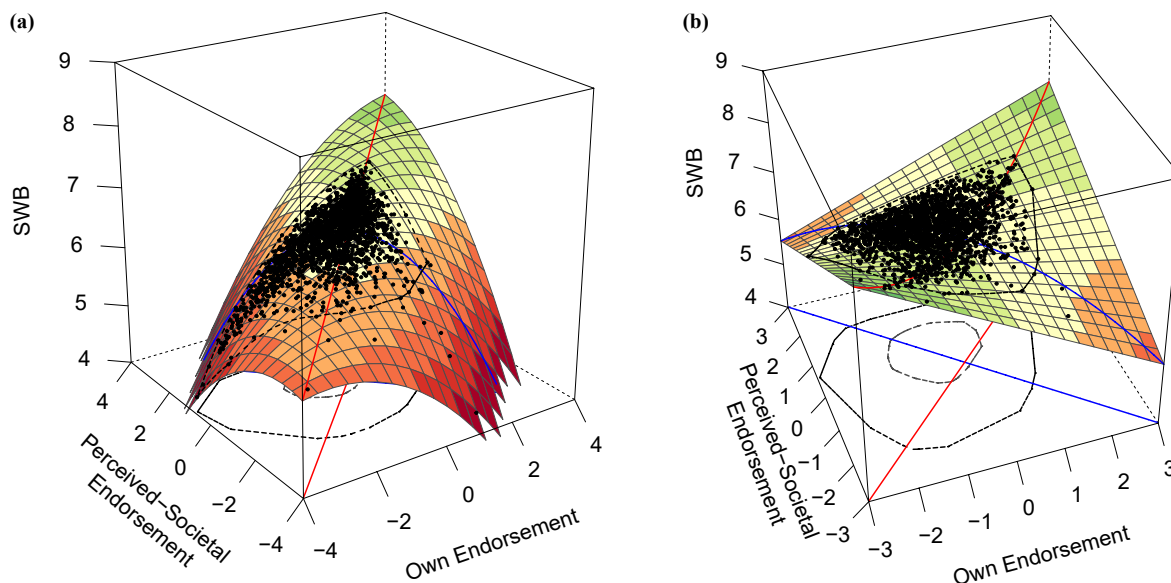


FIGURE 1 Shown are the response surface plot for (a) family reputation values as well as (b) strong self-image values. Please note that the plot for strong self-image values has been rotated to allow for better visualization; however, the coordinate space is the same as for all other plots. Black points represent the (jittered) data points of participants at their predicted level of SWB. The red line marks the line of congruence, the blue line marks the line of incongruence. The two inner circles mark a bagplot, which describes the position of the inner 50% of points (the inner circle) and the outer 50% of points (the outer circle), except outliers.

addition, there was suggestive evidence for a LOIC in the shape of an inverted u-shape (as indicated by a suggestive negative $a_4 = -0.14$, $p = .005$, 95% CI = $[-0.25, -0.04]$). The data thus provided suggestive support for a broad congruence effect for strong self-image values. Furthermore, this congruence effect was combined with both a negative slope of the LOC at the midpoint 0,0 (i.e., a suggestive negative $a_1 = -0.12$, $p = .045$, 95% CI = $[-0.23, -0.002]$) and a positive curvature (u-shape) of the LOC (i.e., a significant positive $a_2 = 0.14$, $p = .005$, 95% CI = $[0.04, 0.25]$, which is constrained to be the opposite of a_4 in an “Interaction” model), also suggesting a relationship between general levels of honor endorsement and well-being.

Taken together, these results thus show support for a broad congruence effect in both facets of honor values: individuals who showed a match in their own and perceived-societal endorsement of family reputation values or strong self-image values also showed higher well-being than individuals that showed a mismatch, when comparing the same average predictor levels. Furthermore, these congruence effects were complemented by links between the general levels of value endorsement and well-being: given the same degree of (mis)match in their own and perceived-societal value endorsement, individuals at higher levels of honor endorsement showed higher well-being scores than individuals at moderate endorsement levels in both value facets; for strong self-image values individuals at low levels of honor endorsement also showed higher well-being scores than individuals at moderate endorsement levels.

Notably, for both facets a majority of non-matching cases were located left of the LOC (as shown by the projected black dots on the surface and the bagplot), suggesting that instances of mismatch in which participants rated their society to hold stronger values than they themselves did were more frequent than vice-versa. Our conclusions are therefore more robust for this type of pattern compared to the opposite pattern (in which participants rated themselves as holding stronger values than their society).

3.2.2 | Honor concerns

Next, we applied the same RSA analysis to examine cultural fit within honor concerns. An “Interaction” model emerged as the best fitting model for most honor concerns (family reputation, sexual propriety, or integrity concerns), whereas for family authority concerns both an “Interaction” model and a “Rising Ridge” model emerged as the best fitting models, showing equal model fit. However, in testing the four conditions for a broad congruence effect, we found that the data supported a broad congruence effect only for family authority concerns (with the same conclusions for both the “Interaction” and “Rising Ridge” model), but not for the remaining honor concern facets.

For *family authority concerns*, simpler “Interaction” and “Rising Ridge” models emerged as the final and most parsimonious models (see Figure 2; a detailed overview of

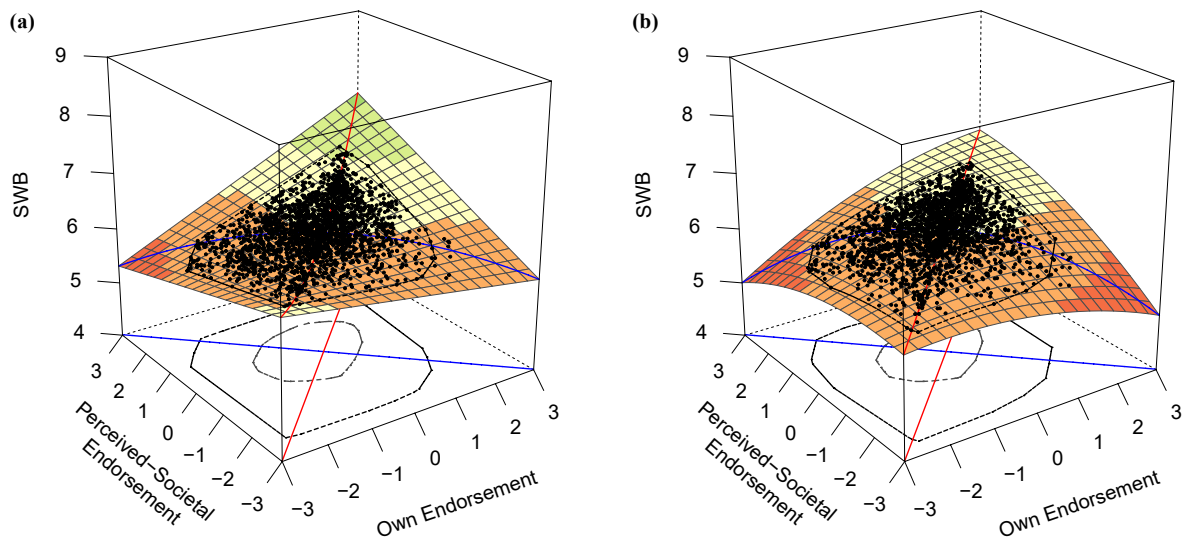


FIGURE 2 Shown are response surface plots of the two final models for (a) family authority concerns, (a) an interaction model, and (b) a rising ridge model. Black points represent the (jittered) data points of participants at their predicted level of SWB. The red line marks the line of congruence, the blue line marks the line of incongruence. The two inner circles mark a bagplot, which describes the position of the inner 50% of points (the inner circle) and the outer 50% of points (the outer circle), except outliers.

model parameters can be found in the [supplementary materials](#)). In an “Interaction” model, condition 2 for a broad congruence effect is met as a result of the introduced model constraints, leaving a test of condition 1 (no shift of the FPA), condition 3 (an inverted u-shape of the LOIC), and 4 (slope of the LOIC at 0,0 is 0) to conclude a broad congruence effect. The current “Interaction” model indeed showed no shift of the FPA from the LOC (as indicated by a non-significant $p_{10} = -0.70$, $p = .457$, 95% CI = $[-2.53, 1.14]$), and a slope of the LOIC not different from 0 at the midpoint 0,0 (as indicated by a non-significant $a_3 = 0.06$, $p = .39$, 95% CI = $[-0.07, 0.18]$). Furthermore, there was also a suggestive inverted u-shape of the LOIC (as indicated by a suggestive negative $a_4 = -0.08$, $p = .025$, 95% CI = $[-0.15, -0.01]$). The “Interaction” model thus suggestively supported a broad congruence effect. These conclusions converged with the interpretation of the alternative “Rising Ridge” model: In a “Rising Ridge” model, conditions 1, 2, and 4 for a broad congruence effect are met as a result of the introduced model constraints, leaving a test of condition 3 (an inverted u-shape of the LOIC) to conclude a broad congruence effect. The current “Rising Ridge” model also showed suggestive evidence for an inverted u-shape of the LOIC (as indicated by a suggestive negative $a_4 = -0.14$, $p = .025$, 95% CI = $[-0.26, -0.02]$), thus also suggestively supporting a broad congruence effect. Both final models (“Interaction” and “Rising Ridge”) also showed a positive slope of the LOC at the midpoint 0,0 (indicated by a significant positive a_1 parameter; “Interaction” Model: $a_1 = 0.18$, $p < .001$, 95% CI = $[0.09, 0.28]$; “Rising Ridge” Model: $a_1 = 0.16$,

$p < .001$, 95% CI = $[0.07, 0.26]$), but the Interaction Model also showed a suggestive curvilinear shape (u-shape) of the LOC (a significant positive $a_2 = 0.08$, $p = .025$, 95% CI = $[0.01, 0.15]$; a_2 is constrained to be the opposite of a_4 in an “Interaction” model).

Taken together, the results from both final models converge in (suggestive) support for a broad congruence effect in family authority concerns: comparing individuals at the same average level of both honor endorsement predictors, individuals who showed a match in their own and perceived-societal endorsement of family authority concerns showed better well-being compared to individuals that showed a mismatch. But, this broad congruence effect was complemented by an effect between the levels of honor endorsement and well-being: while the exact relationship differed between the final models, the shared characteristic was that, given the same degree of (mis)match in their ratings, individuals at higher levels of honor endorsement showed higher levels of well-being compared to individuals at low or medium levels.

For the remaining honor concern facets of family reputation, sexual propriety, or integrity concerns, an “Interaction” model emerged as the best fitting and most parsimonious model for all three facets (see [Figure 3](#); a detailed overview of model parameters can be found in the [supplementary materials](#)). In an Interaction model, condition 2 for a broad congruence effect is met as a result of the introduced model constraints, leaving a test of condition 1 (no shift of the FPA), condition 3 (an inverted u-shape of the LOIC), and 4 (slope of the LOIC at 0,0 is 0) to show a broad congruence effect. None of the three

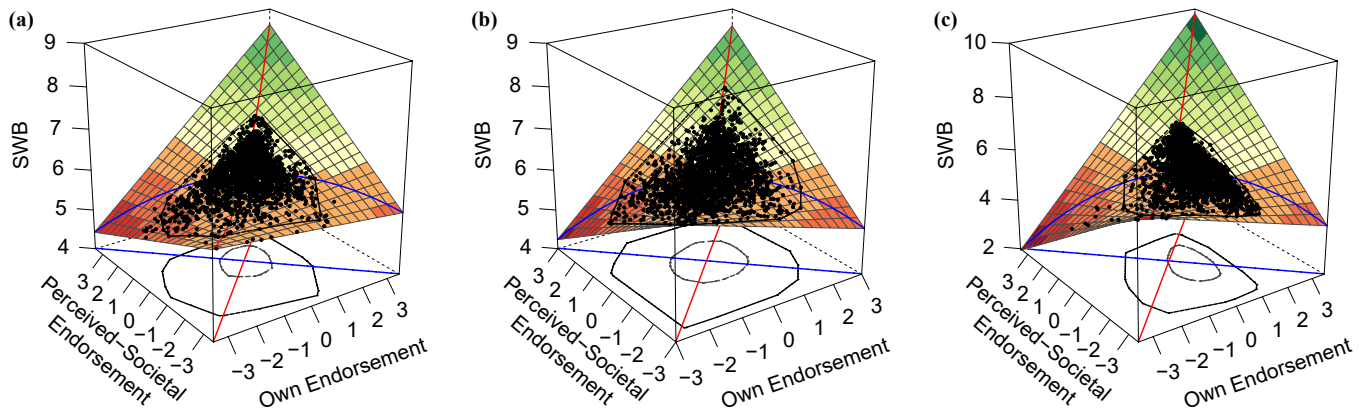


FIGURE 3 Shown are response surface plots for (a) family reputation concerns, (b) sexual propriety concerns, and (c) integrity concerns. Black points represent the (jittered) data points of participants at their predicted level of SWB. The red line marks the line of congruence, the blue line marks the line of incongruence. The two inner circles mark a bagplot, which describes the position of the inner 50% of points (the inner circle) and the outer 50% of points (the outer circle), except outliers.

final “Interaction” models met these conditions: all models showed an at least suggestive shift of the FPA from the LOC (as shown by a p_{10} that was at least suggestively different from 0; family reputation: $p_{10} = -1.62$, $p = .039$, 95% CI = $[-3.15, -0.08]$; sexual propriety: $p_{10} = -0.93$, $p = .038$, 95% CI = $[-1.80, -0.05]$; Integrity: $p_{10} = -1.34$, $p < .001$, 95% CI = $[-2.01, -0.67]$), as well as an at least suggestive positive slope of the LOIC at the midpoint 0,0 (as shown by an at least suggestively positive a_3 ; family reputation: $a_3 = 0.16$, $p = .01$, 95% CI = $[0.04, 0.28]$; sexual propriety: $a_3 = 0.15$, $p = .019$, 95% CI = $[0.02, 0.28]$; integrity: $a_3 = 0.28$, $p = .006$, 95% CI = $[0.08, 0.49]$). As such, we did not find support for a broad congruence effect for honor concerns related to family reputation, sexual propriety, or integrity.

3.3 | Proximal fit: Own endorsement and group-level endorsement of honor

To examine the role of proximal fit in subjective well-being, we inspected the fit between participants and their immediate social group (as opposed to their perceived-societal environment in distal fit) by applying a profile fit analysis, following steps outlined by De Leersnyder (2017). In profile fit analysis, the individual-environment fit is conceptualized as the similarity between a participant's pattern of scores (their “profile”) and the pattern of averages for their respective sample group (the “group profile”).⁶ Following past conventions (De Leersnyder, 2017), for each participant, we conducted profile analysis across the scores of all six honor facets, as profile fit analysis is most suitable when profile elements have distinct conceptual meaning and thus allow for more variation in the profile

shape (as opposed to, for example, items within a subscale, which co-vary strongly). We therefore calculated profile similarity as the overlap of an individual's scores in the six honor facets with the corresponding six average scores of the individual's matching gender group at their university (but excluding the individual themselves, see De Leersnyder, 2017).⁷ To illustrate, we calculated the proximal fit index for a Spanish female participant as the similarity of her pattern of honor scores with the average pattern of honor scores of all other female students at her university. We focused on gendered comparison groups as the proximal environment often prescribes different norms and expectations for men and women (Rodríguez Mosquera, 2016) and since from a young age, peer groups can play a critical role in the learning and endorsement of societal conventions (Killen & Stangor, 2001).

We used the *Intraclass Correlation with Double Entry* (ICC-DE) (McCrae, 2008) as the statistical index of profile similarity. The ICC-DE is sensitive to differences in profile levels and profile shape and has been shown to perform generally better than other indices of fit (e.g., simple Pearson Correlations, McCrae, 2008) (see SM for more information on the calculation). We Fisher-transformed the ICC-DE scores (to normalize their distribution, see De Leersnyder, 2017) and included them as predictors in a multilevel structural equation model (with random intercepts between countries), predicting subjective well-being scores. We again examined gender differences by comparing model fit for a model that included interaction of the profile similarity score with gender to one that did not; however, this did not improve fit for our model and we thus report results for our pooled sample across both genders. The profile fit analysis revealed that, on average, participants' scores across the six honor facets showed

overlap with their matching-gender university groups ($M_{\text{ICC-DE}} = 0.45$, $SD = 0.35$, $\text{Min} = -0.85$, $\text{Max} = 0.99$). No gender differences in proximal fit levels were found ($M_{\text{Men}} = 0.43$, $M_{\text{Women}} = 0.46$, $F(1, 2255) = 2.57$, $p = .109$). Our regression analyses also provided some support for a link between fit across the six honor facets at the proximal level and subjective well-being (see Table 3 for an overview of results). We thus found a suggestive effect for our index of profile similarity, showing that individuals whose profile across the six honor facets was more similar to their same-gender university group also showed better subjective well-being, $b = 0.17$, $p = .025$, 95% CI = [0.02, 0.32].

4 | DISCUSSION

The current research contributes to the increasing body of work on the role of honor in psychological processes in the Mediterranean region (Uskul & Cross, 2019) and the association between cultural fit and psychological outcomes (Mobasseri et al., 2019), by examining the link between individuals' cultural fit in honor values and concerns and their subjective well-being in communities circum Mediterranean. We conceptualized honor as the endorsement of honor at the individual level and considering its multifaceted nature. We also assessed cultural fit both at distal (as congruence with one's perceptions of the wider society) and proximal levels (as profile similarity with one's gender group at university), and operationalized subjective well-being as satisfaction with one's life across a variety of domains. Finally, we employed a multi-method approach to study the relationship between cultural fit and subjective well-being, providing insights from response surface analysis for distal fit (Schönbrodt, 2016) and profile fit analysis for proximal fit (McCrae, 2008).

Our findings provide some support for a link between cultural fit in honor and subjective well-being: The RSA analyses showed that stronger distal fit in honor (i.e., fit with one's perceptions of society) was linked to better well-being for three out of six facets of honor (family reputation values, strong self-image values, and family authority concerns). Furthermore, the profile analyses also showed that stronger proximal fit (i.e., fit with one's same-gender university group) calculated across all honor facets was associated with better well-being.

As the current data were cross-sectional, we can only speculate about the exact underpinnings of these fit effects; however, greater environmental fit in honor-related values and concerns may help individuals pay attention to important aspects of (interpersonal) situations, to engage in normative behavior, and to ensure that critical psychological needs are met, supporting their well-being. Similarly, endorsing similar values and concerns as one's (actual or perceived) social environment can also be linked to greater feelings of similarity and belonging (Hogg & Terry, 2000). Generally, these fit effects between individuals and their environment are consistent with the idea that honor is a conceptual construct that includes an interplay of both individual and societal elements (Pitt-Rivers, 1965): Honor is a privilege that an individual has to claim for themselves, but that also has to be "responded" to in the environment. In line with this point, in models that yielded a fit effect, participants with the highest levels of well-being were consistently located in the region with high own endorsement as well as high perceived-societal endorsement. Furthermore, the RSA analyses of distal fit also showed that models that included an interaction term between predictors consistently fit the data better than a "Main Effects" model that did not include such an interaction term (and as such viewed the influence of participants' own and

Variable	Estimate	SE	z	p	95%-CI	
					LL	UL
Fixed effects						
Intercept	6.08	0.14	44.86	<0.001*	5.81	6.35
Proximal honor fit	0.17	0.08	2.25	0.02 [†]	0.02	0.32
Error terms						
Intercept variance (Lvl-2)	0.12	0.07	1.79	0.07	-0.01	0.25
Residual variance (Lvl-1)	2.85	0.08	33.53	<0.001*	2.68	3.02

TABLE 3 Model parameters for regression analyses of subjective well-being on proximal fit

Note: Shown are parameter coefficients for the multi-level regression model for proximal fit across all six honor facets. The fit was computed with the ICC-Double Entry with one's same-gender university group.

* $p < .005$; [†] $p < .05$.

perceived-societal honor endorsement as more independent from each other).

Simultaneously, our findings illuminate the importance of considering the multi-faceted nature of honor, rather than treating it as a unitary construct that may obscure more nuanced processes and differences (Rodríguez Mosquera, 2016). When using RSA to examine distal fit for specific dimensions of honor, fit effects emerged for three out of six facets of honor: both dimensions of honor values (family reputation values and strong self-image values) and one out of four dimensions of honor concerns (family authority concerns). Our present data do not allow us to draw firm conclusions on why fit effects emerged for these three facets and not for the others. However, both family reputation and strong self-image values are crucial components that have long been studied in the interpersonal dynamics of honor (for a review see Uskul & Cross, 2019), where fit may be particularly important to coordinate social behavior. Our measure of family authority concerns has traditionally been regarded as part of the “masculine” dimension of honor, so it is interesting that we found no gender differences for the fit effect (Rodríguez Mosquera, 2016). It is possible that, in our relatively young and educated student samples, the family authority may be seen less as an exclusively male territory and that both women and men may be perceived as playing an increasingly comparable role in shaping family life, thus higher fit in this facet among both men and women may partly reflect changing perceptions of gender roles (note that we did not assess perceived-societal ratings in a gendered way). Finally, as we found more fit effects in values than concerns, it may also be possible that our way of assessing these facets may have influenced our results. We assessed values as agreement with positively worded beliefs and norms, and concerns as instances of threat or obstruction to relevant honor goals (a more “negative” perspective, Guerra et al., 2013)—possibly a more unusual approach for participants to answer in terms of the perspective of others. Future research should explore if different measurement approaches hold implications for the detection of fit effects.

Finally, our results also respond to calls for a shift away from limiting the study of honor to topics of interpersonal retaliation and violence (Uskul & Cross, 2019), and contributes to the scarce but growing evidence on potential positive outcomes of honor endorsement (Cohen et al., 1999; Cross et al., 2014; Leung & Cohen, 2011): Our findings showed that, within a sample of circum-Mediterranean countries, higher honor fit (both actual and perceived) can be associated with better well-being. Furthermore, a majority of our final RSA models (all but strong self-image values) showed positive linear and curvilinear effects of our predictors on well-being, which in

combination suggested that, aside from the fit effects, individuals at high levels of both endorsement predictors also showed higher well-being scores. This may be to some extent a reflection of our sample choice, as we collected individuals from countries in a region in which honor has traditionally been found to be a core guiding value; as such individuals at high levels of own and perceived-societal endorsement of honor may match this cultural environment relatively more than those at medium or low levels and thus allow culturally ingrained dynamics to unfold in a more fluid way, possibly supporting well-being (or, at least, not obstructing it). Generally, our results align with and support previous findings highlighting the important role that honor occupies in the Mediterranean region, as a central cultural construct that guides cultural expectations about how to live a “good” and appropriate life (Uskul & Cross, 2019).

4.1 | Limitations and future directions

Our study comes with several limitations. First, although our research expands the existing evidence on cultural fit to an understudied region, future research in cultural fit in honor would benefit from an even more diverse pool of countries and regions. While we particularly focused on the Mediterranean region as a regional case-in-point in which honor is endorsed as an important cultural value, it would be informative to examine whether the current findings hold in other world regions identified as promoting strong honor values and concerns (e.g., Latin-America, Southern U.S., parts of South Asia) and which may differ from those here included across a wide variety of other characteristics. Relatedly, it would be beneficial to investigate fit patterns in regions where honor endorsement is low, in order to have more fine-grained insight into the implications of a mismatch for well-being (e.g., the well-being of immigrants from the Mediterranean region who reside in Western Europe) (see Gebauer et al., 2017, for a similar approach to religiosity). In addition to greater regional diversity, a stricter test of the generalizability of the current findings would also require future research to include greater diversity in age, socio-economic status, and other forms of demographic background. This more representative sampling approach would be beneficial for the accuracy of our measures of both distal (allowing for comparisons of perceptions across various societal strata) and proximal fit (examining fit with average scores of representative samples, instead of students).

Second, although we showed to some extent converging fit patterns across both distal and proximal levels, our data do not provide any insights into the processes

through which fit in honor is linked to better subjective well-being. While previous work has put forward some explanations as to how the two are linked (van Vianen, 2018), future research is needed to uncover the meaning and potential underlying processes of what it means to “fit in” when it comes to honoring. Finally, we assessed subjective well-being as satisfaction with several socio-economic domains of life and one’s life in general. This, however, is in itself a particular perspective on well-being, and other models of well-being may tap into more procedural facets of well-being, such as finding meaning or self-acceptance (Ryff, 2018). Future research could examine how fit effects unfold with other measures of well-being, to uncover which further benefits cultural fit might produce for well-being or how these benefits for satisfaction are realized within different life domains.

5 | CONCLUSION

In the current research, we examined the link between cultural fit in honor and subjective well-being across eight communities in the Mediterranean region, responding to calls to globalize psychological science (e.g., Thalmayer et al., 2021). Using a multi-faceted and multi-method approach to examine the role of honor fit in well-being, we found that a stronger distal fit (i.e., fitting in relatively more with one’s perception of society) was linked to higher subjective well-being for some, but not all facets of honor. Furthermore, we also found that stronger proximal fit (i.e., fitting with one’s university gender group) calculated across all honor facets was also linked to better subjective well-being. Our findings support previous work by demonstrating honor as an important social construct in the Mediterranean region for “living a good life,” and that a stronger fit with one’s cultural environment is associated with positive psychological outcomes. Overall, the current findings expand the cultural, conceptual, and methodological space of cultural fit research and highlight the need to consider the level at which fit occurs.

AUTHOR CONTRIBUTIONS

Alexander Kirchner-Häusler and Ayse K. Uskul conceived of the idea for the paper. Ayse K. Uskul, Alexander Kirchner-Häusler, and Vivian L. Vignoles designed the study. All co-authors contributed to translation of materials, conceptual feedback, and data collection. Alexander Kirchner-Häusler and Felix D. Schönbrodt conducted the analyses. Alexander Kirchner-Häusler, Ayse K. Uskul, and Felix D. Schönbrodt took the lead in writing the manuscript with feedback from all co-authors.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.


ETHICS STATEMENT

The study received approval from the ethical committees of all involved institutions or national bioethics committees (Greek-Cypriot collection site).

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ENDNOTES

¹ We derive these labels from their conceptual representations of fit with the broader society as well as fit with the narrower peer group but are aware that these labels do not perfectly correspond to the actual level of measurement (distal fit being calculated with

people's own perceptions, and proximal fit being calculated based on actual group averages).

- ² Due to an error, we mistakenly included the item "...your sister or mother had the reputation of sleeping around" instead of the correct item "...you were unable to defend your family's reputation", but as both items were part of the original family honor subscale of the original measurement tool and loaded as expected in our exploratory factor analyses we decided to retain the item.
- ³ In a set of exploratory analyses, we also conducted all of our fit analyses with an SWB score that excluded the one item on the "quality of one's local environment", including only purely psychological elements of well-being. We found no differences in the pattern of results.
- ⁴ In drawing upon RSA and profile fit analysis, the focus of the current paper is the individual level, i.e., how specific individuals fit in their perceived or actual environment and what this may mean for their well-being. While the samples we recruited in different parts of the Mediterranean may not be completely homogenous in their endorsement across all facets of honor, we did not test any hypotheses about the effect of these group differences and controlled for them where possible in our analyses.
- ⁵ Humberg et al. (2019) also outline the conditions for a *strict congruence effect*, which does not allow for the main effects of the predictors and for which two more conditions (a_2 and a_1 must not be significantly different from 0) must be met. We tested for strict congruence effects using a "squared difference model" in our model comparison approach (please see the [supplementary materials](#) for an overview).
- ⁶ We chose to use profile analysis rather than RSA to examine proximal fit since these calculated average group profiles show relatively little variation on the level of groups (in contrast to participants' perceptions of their society, which varied considerably between individuals). This fact makes RSA relatively less suited as in this case the response surface would reflect the level differences between the groups rather than a fit of individuals (and potentially leading to estimation problems). In contrast, profile fit analysis does not suffer from the same drawbacks since the fit with the group average is calculated separately for each individual participant.
- ⁷ We collected data from only one university in all countries except Turkey, where we recruited participants from three different universities.

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