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When guiding principles do not guide: The moderating effects of cultural tightness on value-behavior links

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Abstract

Objective: Ample research documented the effects of guiding principles in people's lives, as reflected in personal values, on a variety of behaviors. But do these principles universally guide behaviors across all cultural contexts? To address this question, we investigated the effect of cross-cultural differences in the strength of social norms (i.e., tightness-looseness) on value-behavior relationships.

Method: Using the archival data from the World Value Survey for 24 nations (N = 38,924; 51.40% female; M_{age} = 44.98, SD = 16.87), a multi-level analysis revealed that cultural tightness moderated the effects of individual differences in personal values on behaviors from different life-domains.

Results: As hypothesized, the relationships between self-transcendence values with civic involvement and pro-environmental behaviors, and between conservation values with religious behavior were significantly stronger in loose cultures that have weak norms and were almost nonexistent in tight cultures that have strong norms, even when controlling for individualism-collectivism or GDP.

Conclusions: Thus, despite the common belief that people behave in line with their guiding principles, our findings suggest this might not be the case in cultural contexts that put a strong emphasis on norms.

KEYWORDS

behavior, culture, individual differences, personal values, social norms

1 | INTRODUCTION

One of the primary goals of psychology in general and social psychology in particular is to explain, understand, and predict human behavior (Ajzen, 1991; Baumeister, Vohs, & Funder, 2007). In recent decades, ample research has adopted individual-difference perspective and documented the effects of personal values on various types of behaviors (for an extensive review, see Roccas & Sagiv, 2017). Most of these studies, however, were conducted in relatively loose cultures (e.g., United States)—cultures with weak social norms and high tolerance toward deviant behaviors. In the current research, we aim to demonstrate that the strength of social norms at the national level (i.e., cultural tightness-looseness) is an important factor that amplifies or attenuates the value-behavior relationships.

This research aims to contribute to the literature by demonstrating conditions under which individual differences in personal values are less likely to predict behaviors. We move beyond WEIRD samples, where much of the research on the values-behavior relationship has been performed, to examine how culture moderates the effect of values on three behaviors from distinct life-domains. Finally, this work also has practical implications identifying important conditions for when cultivating values may not have an impact on behavior.

1.1 | Values and behavior

Personal values are cognitive representations of motivational goals that serve as guiding principles in people's lives (Schwartz, 1992). Values are considered one of the central aspects of the self (Roccas, Sagiv, Oppenheim, Elster, & Gal, 2014; Rohan, 2000) and serve as a lens through which individuals perceive and interpret the world around them (Schwartz, Sagiv, & Boehnke, 2000). Individuals differ in the importance they attribute to different values, thus developing personal value hierarchies that are stable over time and across situations (e.g., Borg, Bardi, & Schwartz, 2017; Daniel & Benish-Weisman, 2018; Sundberg, 2016).

In the last two decades, Schwartz Value Theory (1992) has been considered the dominant theory in the research on values (e.g., Maio, 2010; Rohan, 2000). Schwartz (1992) identified ten values, which are organized in a circular structure that reflects their conflicts and compatibilities (Figure 1). The ten value types can be summarized in two higher-order dimensions: The first dimension contrasts openness-to-change values (self-direction and stimulation) that express independence of own thoughts and action to conservation values (conformity, tradition, and security) that express preservation of traditional practices and protection of stability. The second dimension contrasts self-transcendence values (benevolence and universalism) that express concern and care for others to self-enhancement values (achievement and power) that express the pursuit of one's own success and dominance over others. The content and structure of values were extensively studied and validated in more than 70 cultures, and the major scales used for assessment of personal values have shown high measurement equivalence across cultures (e.g., Davidov, Schmidt, & Schwartz, 2008; Schwartz, 1992, 2016; Schwartz et al., 2001; Schwartz & Rubel, 2005). Given its theoretical and empirical robustness, Schwartz Value Theory (1992) provides a comprehensive theoretical umbrella for understanding the driving forces of human behavior across cultures and social contexts (for a review, see Roccas & Sagiv, 2017).

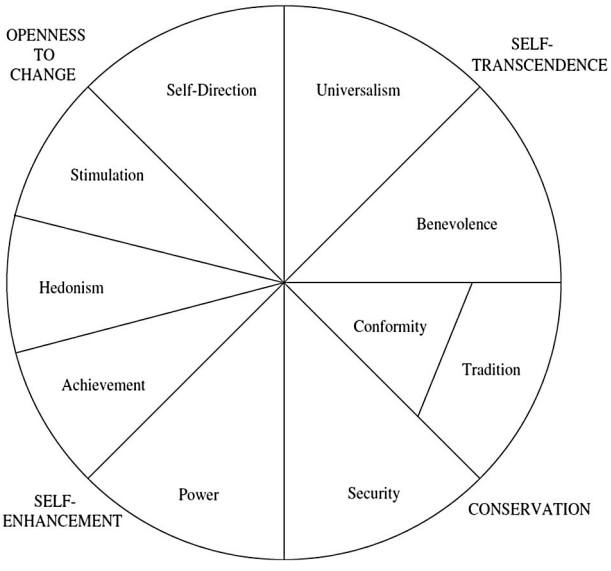

FIGURE 1 Schwartz's (1992) theoretical model

As guiding principles, values drive behaviors that allow the attainment of important goals and prevent people from taking actions that undermine their attainment (e.g., Roccas & Sagiv, 2010; Segal-Caspi, Roccas, & Sagiv, 2012). In a systematic study of value-behavior relationships, Bardi and Schwartz (2003) demonstrated that value-expressive behaviors form a circular structure that resembles the structure of personal values. Values have been found to predict life-changing career decisions (Arieli, Sagiv, & Cohen-Shalem, 2016) and mundane choices (Ye, Soutar, Sneddon, & Lee, 2017), altruistic behaviors (Sagiv, Sverdlik, & Schwarz, 2011) and violence (Benish-Weisman, Daniel, & Knafo-Noam, 2017), parenting practices (Gaunt, 2005) and sexual activities (Goodwin et al., 2002). Value-behavior relationships were investigated in different contexts such as work (Arieli, Sagiv, & Roccas, 2019), family (Gaunt, 2005), education (Arieli et al., 2016), politics (Barni, Vieno, & Roccato, 2016), and health (Bogg, Voss, Wood, & Roberts, 2008).

Alongside numerous correlational studies, there is a growing body of research showing the causal effect of personal values on various behaviors (for a review, see Roccas, Sagiv, & Navon, 2017). For example, manipulating self-transcendence values enhanced contribution to prosocial organizations (Arieli, Grant, & Sagiv, 2014) and environmentally friendly behaviors (Verplanken & Holland, 2002), whereas manipulating conservation values enhanced cleaning behavior (Maio, Pakizeh, Cheung, & Rees, 2009). Taken together, these burgeoning lines of research suggested that values have a very close connection to numerous behaviors, leading Roccas and Sagiv (2017) to state that values play a "crucial role" and provide "invaluable insight" into human behavior (p. 630). But do these guiding principles always guide behavior?

There is some evidence that contextual factors may moderate value-behavior relationships. Values are more likely to predict behaviors when the personal self is activated (Verplanken, Trafimow, Khusid, Holland, & Steentjes, 2009), when values are more accessible (Sagiv et al., 2011) or cognitively activated (Verplanken & Holland, 2002), and when behaviors are likely to occur in a distant future (Eyal, Sagristano, Trope, Liberman, & Chaiken, 2009). In the current research, we focus on the role of a broad social context—culture—as a moderator of value-behavior relationships at the individual level. Indeed, while scholars have alluded to this possibility (Roccas & Sagiv, 2010), it has not been empirically tested. We suggest that the strength of norms at the national level determines the intensity of value-behavior links. Specifically, we reason that in cultures that have

strong norms for appropriate behavior (i.e., tight cultures), individuals' values will be far less predictive of behavior as compared to cultures that have weak norms for appropriate behavior (i.e., loose cultures), where individuals can freely act on their values.

2 | CROSS-CULTURAL DIFFERENCES IN THE STRENGTH OF SOCIAL NORMS

Whereas personal values are an idiosyncratic construct reflecting principles that are important to an individual, norms are a social phenomenon. Social norms reflect what people usually do (i.e., descriptive norms) or a common belief about what people should do (i.e., injunctive norms) in their society (Cialdini, Reno, & Kallgren, 1990). Similar to the personal values paradigm, ample research has documented the effect of social norms on various behaviors (for a review, see Miller & Prentice, 2016). Different societies may thus develop different social norms to facilitate or block specific behaviors among their members (Leung & Morris, 2015). For example, shaking hands may be a prevalent form of greeting in Western cultures, whereas bowing head may be a prevalent form of greeting in Eastern cultures representing differences in the *content* of social norms. Societies, however, may differ in the *strength* of social norms as well (Gelfand, Nishii, & Raver, 2006). Whereas both Western and Eastern cultures may have the same norm, the enforcement of this norm and severity of punishment for the norm violation may be harsher in Eastern cultures than in Western ones reflecting cross-cultural differences in tightness-looseness (Gelfand et al., 2011).

Drawing on research that pre-industrial societies varied on the strength of norms (Pelto, 1968), Gelfand and colleagues (2011) examined differences between tight and loose cultures across 33 nations. *Tight* cultures have strong norms and low tolerance for deviant behaviors. *Loose* cultures have weak norms and high tolerance for deviant behaviors. It has been consistently found that tight cultures employ more policies to maintain social order (e.g., more police per capita and stricter punishments), have stronger monitoring (e.g., more autocratic rule, more laws and regulations), and lower rates of deviant behaviors (e.g., less alcohol and drug use, lower rates of homelessness) than loose cultures. In contrast, loose cultures have more freedom (e.g., more political rights and civil liberties) and are more open (e.g., less ethnocentric and have more open media) than tight cultures (Gelfand et al., 2011; Harrington & Gelfand, 2014).

Tight cultures are characterized by the prevalence of strong situations in which behavior is restricted by social constraints (Gelfand et al. 2011). In these cultures, behaviors that deviate from norms are less tolerable and severely punished. Research has found that they tend to evolve to cope with chronic threats (e.g., natural disasters, invasions, pathogens; Gelfand et al., 2011). That is, strong norms are needed in contexts of high threat to help coordinate social action for survival. From the early childhood, individuals in tight cultures are socialized to adjust behavior to social institutions, follow rules, and comply with an existing order (Gelfand, Harrington, & Jackson, 2017). Thus, when choosing a particular course of action, they are more likely to consider the extent to which the behavior is in line with social expectations and are less likely to rely on their values (Roccas & Sagiv, 2010).

In contrast, loose cultures, which tend to have less threat, are characterized by the prevalence of weak situations in which there is no one predetermined way to behave (Gelfand et al., 2011). In such cultures, individuals are socialized to follow their internal guiding principles and pursue their important goals (Leung & Morris, 2015). They are attuned to their personal attributes and are likely to consider them when making decisions (Tam & Chan, 2017). Thus, when choosing an appropriate course of action, individuals in loose cultures are more likely to rely on their values, and their behavior is less likely to be driven by norms or social expectations. We, therefore, hypothesize that personal values will have weaker effects on behaviors in tight cultures and will be a stronger predictor of behaviors in loose cultures.

Recent findings provide some initial support for our reasoning. Tam and Chan (2017) found that the relationship between individual differences in environmental concerns and pro-environmental behavior in the public domain was weaker in cultures that had a high perception of external control and were stronger in loose cultures. Following similar logic, Smith (2017) has shown that the relationships between cultural values of embeddedness and helping behavior were weaker in tight versus loose cultures. These studies, however, either focused on a somewhat specific and narrow concept of individual differences (i.e., environmental concerns; Tam & Chan, 2017), or examined values at the national level (i.e., cultural embeddedness; Smith, 2017). In the current research, we aim to demonstrate that national-level tightness affects the relationships between individual differences in broad, trans-situational concepts (i.e., personal values) and behaviors at the individual level.

3 | THE CURRENT RESEARCH

To investigate the moderating effect of tightness on value-behavior links, we used archival data obtained from the World Value Survey (WVS). Our theoretical rationale regarding the role of tightness in attenuating the strength of value-behavior relationships is not limited to a particular value or a particular behavior. To show the robustness of our reasoning, we thus focused on the relationships between values

that represent both dimensions (i.e., self-transcendence and conservation values) and three behaviors from different life-domains whose manifestations occur both in private and in public: civic involvement, pro-environmental, and religious behaviors.

One of the crucial preconditions for examining the moderating effect of tightness on value-behavior relationships is a clear understanding of the theoretical bases underlying these relationships. Following this criterion, we have chosen civic involvement, pro-environmental, and religious behaviors because their relationships with personal values have been extensively studied and well documented across different cultures and social contexts (e.g., Arieli et al., 2014; Saroglou, Delpierre, & Dernelle, 2004; Schultz et al., 2005). We excluded behaviors whose relationships with personal values are equivocal or context-specific. For example, we excluded political behaviors because their relationships with values depend on political ideology: Self-transcendence values are positively associated with political activism toward left-wing parties, whereas conservation values are positively associated with political activism toward right-wing parties (for a review, see Schwartz, Caprara, & Vecchione, 2010).

3.1 | Civic involvement

Civic involvement may take many forms such as active membership in various nonprofit organizations, volunteering, participation in community programs, and other actions aiming to promote the welfare of people and the community (e.g., Omoto, Snyder, & Hackett, 2010). Past research has found that civic involvement was positively associated with self-transcendence values (e.g., Luengo Kanacri, Rosa, & Di Giunta, 2012; Radkiewicz, De Zavala, & Skarżyńska, 2008). Self-transcendence expresses the motivation for concern and care for others (Schwartz, 1992). It is, therefore, consistent with actions aimed at promoting the quality of life in a community and protecting the interests of social groups. Accordingly, research has found that endorsing self-transcendence values was positively associated with being members in various associations (e.g., Luengo Kanacri et al., 2012) and contributing to prosocial organizations (e.g., Arieli et al., 2014).

3.2 | Pro-environmental behavior

Ample research has documented the relationships between pro-environmental behaviors and self-transcendence values across cultures and social contexts (for a review, see de Groot & Thøgersen, 2018). Self-transcendence expresses the motivation for concern and care for other people and for nature (Schwartz, 1992). It is, therefore, consistent with actions aimed at protecting the environment and natural resources—actions that benefit the entire humanity. Accordingly, past studies have found that endorsing self-transcendence was positively associated with participating in a variety of pro-environmental activities (e.g., donating money to environmental groups, Karp, 1996; recycling, Nordlund & Garvill, 2002), volunteering in environmental organizations (e.g., Schultz et al., 2005), consuming sustainable products (e.g., Thøgersen, & Ölander, 2002), and reducing personal car use (e.g., Nordlund & Garvill, 2003).

3.3 | Religious behavior

Religious behaviors were found to be associated with conservation values (for a review, see Roccas & Elster, 2014). Conservation expresses the motivation for adherence to social order and preserving customs and traditions (Schwartz, 1992). It is, therefore, consistent with actions aimed at the preservation of traditional practices and rituals. Accordingly, previous research has found that endorsing conservation values was positively associated with performing religious behaviors (e.g., attending religious services, praying; for a meta-analysis, see Saroglou et al., 2004).

In the current research, we expect to replicate previous findings regarding the value-behavior relationships. Following the rationale presented above, we aim to advance the existing literature by demonstrating that these relationships are moderated by tightness, such that the relationship between each of the aforementioned behaviors and its corresponding value is highly attenuated in tight cultures. We hypothesize that:

> H1a: The relationship between self-transcendence values and civic involvement will be weaker in tight than in loose cultures.
>
> H1b: The relationship between self-transcendence values and pro-environmental behaviors will be weaker in tight than in loose cultures.
>
> H1c: The relationship between conservation values and religious behaviors will be weaker in tight than in loose cultures.

4 | METHOD

4.1 | Participants and procedure

Individual-level data on personal values and behaviors were obtained from Wave 6 (2010–2014) and Wave 5 (2005–2009) of the World Value Survey (WVS, www.worldvaluessurvey.org). Both waves included data on personal values and behaviors but were collected in different nations. The data for 18

nations were obtained from Wave 6 and for additional six nations from Wave 5. To increase our dataset, we thus combined the individual-level data from the two waves and matched them with the national-level tightness scores obtained from Gelfand and colleagues (2011). The final sample of 38,924 participants from 24 nations was included in further analyses (51.40% female; $M_{age} = 44.98$, $SD = 16.87$). The data regarding some observations were missing. We report the relevant degrees of freedom after each analysis. The demographic characteristics of the national samples are presented in Table 1.

4.1.1 | Personal values

In the WVS, personal values were measured with an abbreviated version of the Portrait Value Questionnaire (PVQ, Schwartz et al., 2001). Extensive research demonstrated cultural equivalence and validity of the original PVQ as well as its abbreviated versions across numerous nations and social contexts (e.g., Chan, in press; Davidov et al., 2008; Schwartz et al., 2001; for a review, see Schwartz, 2006). Thus, even a short version of the value questionnaire with a limited number of items provides scholars with a powerful tool for cross-cultural studies on values (for a review, see Roccas et al., 2017).

In the abbreviated PVQ, each item portrayed a hypothetical person (e.g., "Looking after the environment is important to this person; to care for nature and save life resources," for a universalism item), and participants rated the extent to which this person was like them on a 6-point scale (1 = "very much like me"; 6 = "not at all like me"). The scores were reversed, such that higher scores indicate higher importance attributed

TABLE 1 Descriptive statistics of the sample

Country	*n*	% female	Age	Tightness	IND	CI	PE	R
Australia	1,477	55.8	53.9	4.4	90	3.97	0.37	−0.47
Brazil	1,486	62.4	42.8	3.5	38	2.53	0.15	0.66
China	2,300	51.0	43.9	7.9	–	0.63	0.05	−1.05
Estonia	1,533	55.4	48.6	2.6	–	1.22	0.09	−0.67
Hong Kong	1,000	54.5	44.7	6.3	25	3.24	0.51	−0.66
Hungary	1,007	53.3	45.6	2.9	–	0.56	–	−0.22
India	5,659	42.1	40.9	11.0	48	4.19	0.36	0.54
Japan	2,443	51.8	50.7	8.6	46	1.39	0.13	−0.17
South Korea	1,200	50.7	43.2	10.0	18	2.54	0.22	0.01
Malaysia	1,300	48.6	40.0	11.8	26	1.93	0.27	0.76
Mexico	2,000	50.1	37.5	7.2	30	3.78	0.31	0.49
Netherlands	1,902	53.5	53.3	3.3	80	2.54	0.34	−0.55
New Zealand	841	57.7	51.4	3.9	79	4.76	0.31	−0.40
Norway	1,025	49.9	45.8	9.5	69	3.78	–	−0.52
Pakistan	1,200	48.2	34.3	12.3	14	0.96	0.29	0.61
Poland	966	54.3	48.1	6.0	–	1.45	0.08	0.52
Singapore	1,972	54.9	41.9	10.4	20	2.46	0.31	0.22
Spain	1,189	51.2	46.5	5.4	51	0.98	0.14	−0.59
Turkey	1,605	51.4	38.4	9.2	37	0.42	0.12	0.42
Ukraine	1,500	60.0	47.2	1.6	–	0.76	0.08	0.05
Great Britain	1,041	50.8	45.7	6.9	89	3.42	–	−0.37
United States	2,232	51.4	48.9	5.1	91	4.29	0.24	0.20
West Germany	1,034	51.1	48.9	6.5	67	2.60	0.29	−0.32
East Germany	1,012	49.7	50.1	7.5	67	1.63	0.16	−0.79

Note: IND = individualism (Hofstede, 2001), CI = civic involvement; PE = pro-environmental behavior; R = religious behavior.

to a value. To correct for individual differences in the use of the rating scale, we followed the procedure suggested by Schwartz (1992) and ipsatized the values' scores by centering each participant's response around his/her mean response on the value questionnaire. This procedure allows accurate representation of individual value priorities that can be further used in different types of regression analyses (Schwartz, 2006). Following Schwartz (1992), to assess *self-transcendence* values, items measuring universalism and benevolence were averaged into a single index ($\alpha = .75$); to assess *conservation* values, items measuring tradition, conformity, and security were averaged to create a single index ($\alpha = .61$). The internal reliability of the conservation index was relatively low, but within the usual range for values (see discussions in Arieli et al., 2016; Davidov et al., 2008).

4.1.2 | Civic involvement

Participants were presented with a list of 11 organizations (e.g., humanitarian or charitable organization, mutual aid groups). For each organization, they were asked to indicate whether they were active members (coded as 2), inactive members (coded as 1), or not members at all (coded as 0) of that type of organization. For each participant, the scores were summed across the 11 organizations to a single index ($\alpha = .81$; Min = 0; Max = 22; for a similar procedure, see Mahatmya & Lohman, 2012).

4.1.3 | Pro-environmental behavior

Participants indicated whether during the past two years they had performed two pro-environmental behaviors on a dichotomous "yes" (coded as 1)—"no" (coded as 0) scale (i.e., donated money to an ecological organization, participated in a demonstration for some environmental causes). Their responses were summed across the two behaviors to a single index (KR-20 = .39; Min = 0; Max = 2). The pro-environmental behavior was not assessed in three countries (Hungary, Norway, and Great Britain) resulting in the overall sample of 21 nations (see Table 1). The internal reliability of the pro-environmental index was low. Given this potential limitation, we also conducted the analysis for each of the behaviors separately (for a similar procedure, see Amit & Sagiv, 2013). The results were similar, albeit weaker (see below).

4.1.4 | Religious behavior

Participants indicated the frequency of performing two religious behaviors (i.e., attending religious services, praying). Attendance of religious services was assessed on a 7-point scale (1 = "more than once a week," 7 = "never, practically never") and praying was assessed on an 8-point scale (1 = "several times a day, 8 = "never, practically never"). The scales were reversed, such that higher scores indicate higher frequency. Given the scale differences, the two items were first standardized and then averaged to a single index ($\alpha = .82$).

4.1.5 | Cultural tightness

Tightness scores for 24 nations were obtained from Gelfand and colleagues (2011). Higher scores indicate tighter cultures with stronger social norms, lower tolerance for deviance, and more behavioral constraints.

5 | RESULTS

Table 2 presents descriptive statistics and sample-level correlations for the individual-level variable. To investigate the moderating effects of national-level tightness on the value-behavior links, a series of multilevel regression models was conducted in R using the nlme package. In each model, a behavior was entered as a dependent variable, a corresponding value was entered as a continuous individual-level predictor, cultural tightness was entered as a continuous national-level predictor, and the cross-level interaction between the two predictors was estimated (Aguinis, Gottfredson, & Culpepper, 2013). Centering

TABLE 2 Descriptive statistics and sample-level correlations for the individual-level variables

	Mean	*SD*	1	2	3	4
1. Self-transcendence	0.50	0.83				
2. Conservation	0.35	0.74	.11**			
3. CI	2.50	3.42	.06**	−.08**		
4. PE	0.24	0.51	.10**	−.10**	.33**	
5. R	−0.01	0.93	.03**	.16**	.18**	.07**

Note: CI = civic involvement; PE = pro-environmental behavior; R = religious behavior.

**$p < .01$.

strategy (i.e., group-mean versus grand-mean) of the individual-level predictors did not affect the results. To simplify the interpretation of the results, all predictors were thus grand-mean centered (Bliese, 2002). Table 3 summarizes the results of the three models.

We also conducted separate analyses controlling for national-level individualism and GDP. Individualism scores for 18 nations were obtained from Hofstede (2001) and matched with our dataset (see Table 1). GDP scores for all 24 nations were obtained from Gelfand et al., 2011, to match the time period when the data on cultural tightness were collected. The results were virtually identical: Controlling for individualism or GDP did not affect the relationships between values and behaviors as well as the hypothesized moderating effects of tightness on the value-behavior links.

5.1 | Civic involvement

Replicating previous findings, self-transcendence values positively predicted civic involvement explaining 1.1% of the individual-level variance: The more importance participants attributed to self-transcendence, the more likely they were to volunteer in various organizations. As hypothesized (*H1a*), the main effect of values was qualified by a significant interaction with cultural tightness explaining 1.0% of the national-level variance. Figure 2 shows that, consistent with our prediction, self-transcendence values positively predicted civic involvement in loose cultures but were unrelated to this behavior in tight cultures (simple slopes were $\gamma = 0.30$, $SE = 0.06$, $t(38{,}015) = 4.75$, $p < .001$ and $\gamma = 0.02$, $SE = 0.09$, $t(38{,}015) = 0.24$, $p > .500$, respectively). Cultural tightness had no main effect on civic involvement.

5.2 | Pro-environmental behavior

Replicating previous findings, self-transcendence values positively predicted pro-environmental behavior explaining 2.3% of the individual-level variance: The more importance participants attributed to self-transcendence, the more likely they were to donate money to ecological organizations and/or participate in demonstrations for environmental causes. As hypothesized (*H1b*), the main effect of values was qualified by a significant interaction with cultural tightness explaining 8.2% of the national-level variance. Figure 3 shows that, consistent with our prediction, self-transcendence values positively predicted pro-environmental behavior in loose cultures but were unrelated to this behavior in tight cultures (simple slopes were $\gamma = 0.07$, $SE = 0.01$, $t(34{,}931) = 5.77$, $p < .001$ and $\gamma = 0.02$, $SE = 0.02$, $t(34{,}931) = 0.68$, $p > .500$, respectively). Tightness had no main effect on pro-environmental behavior.

Given the low reliability of the pro-environmental behavior index, we also conducted the analysis for each of the behaviors separately. As hypothesized, tightness moderated the relationships between self-transcendence values and donating money to an ecological organization ($\gamma = -0.02$, $SE = 0.01$, $t(34{,}738) = 2.12$, $p = .034$). The interaction between tightness and self-transcendence in predicting participation in demonstration for environmental causes was in the hypothesized direction, albeit not significant ($\gamma = -0.006$, $SE = 0.004$, $t(34{,}549) = 1.51$, $p = .131$).

5.3 | Religious behavior

Replicating previous findings, conservation values positively predicted religious behavior explaining 4.3% of the

TABLE 3 Multilevel regression analyses for behaviors

	Civic involvement	Pro-environmental behavior	Religious behavior
Grand mean	2.32 (0.280)**	0.23 (0.026)**	−0.06 (0.100)
Individual-level effects			
Self-transcendence	0.16 (0.054)**	0.04 (0.013)**	
Conservation			0.12 (0.016)**
National-level effects			
Tightness	0.05 (0.284)	0.03 (0.026)	0.22 (0.102)*
Cross-level interactions			
Tightness × Value	−0.14 (0.055)*	−0.03 (0.014)*	−0.07 (0.016)**
ICC(1)	.16	.06	.33
k	24	21	24
N	38,019	34,935	37,679

Note: Entries are unstandardized regression coefficients with *SE* in parentheses.

*$p < .05$;

**$p < .01$.

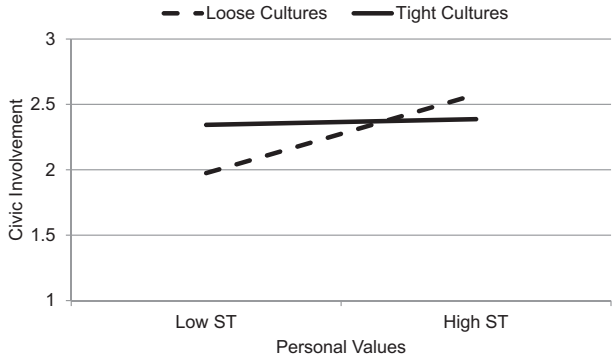

FIGURE 2 The cross-level interaction effect of self-transcendence values and cultural tightness on civic involvement. *Note*. ST = self-transcendence values. Values and cultural tightness are presented ±1 *SD* from the mean

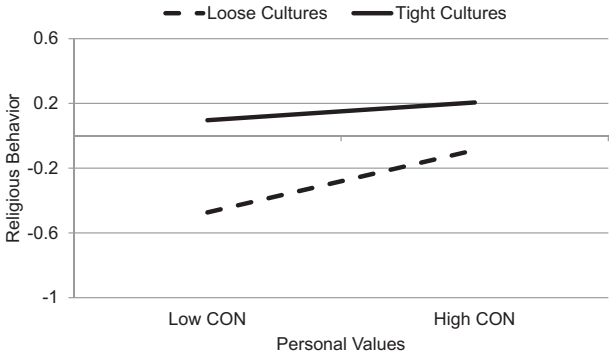

FIGURE 4 The cross-level interaction effect of conservation values and cultural tightness on religious behavior. *Note*. CON = conservation values. Values and cultural tightness are presented ±1 *SD* from the mean

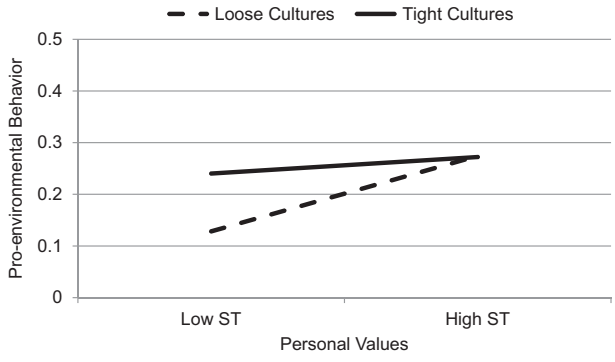

FIGURE 3 The cross-level interaction effect of self-transcendence values and cultural tightness on pro-environmental behavior. *Note*. ST = self-transcendence values. Values and cultural tightness are presented ±1 *SD* from the mean

individual-level variance: The more importance participants attributed to conservation, the more frequently they attended religious services and prayed. As hypothesized (*H1c*), the main effect of values was qualified by a significant interaction with tightness explaining 12.8% of the national-level variance. Figure 4 shows that, consistent with our prediction, conservation values strongly predicted religious behavior in loose cultures but were only marginally related to this behavior in tight cultures (simple slops were $\gamma = 0.19$, $SE = 0.02$, $t(37{,}675) = 10.58$, $p < .001$ and $\gamma = 0.05$, $SE = 0.03$, $t(37{,}675) = 2.03$, $p = .054$, respectively). In addition, tightness was positively related to religious behavior: The frequency of religious behaviors was higher in tight than in loose cultures, which is consistent with previous research (Gelfand et al., 2011).

5.4 | Supplementary analyses

One can argue that the results were obtained, at least partially, due to the restricted range of personal values and behaviors in tight cultures. To test this potential limitation, for personal values and behaviors, we first calculated their variance within each nation. We then examined the correlations between tightness and the variance of values and behaviors at the national level. There were somewhat negative correlations between tightness and the variance of conservation values ($r(24) = -.40$, $p = .051$) and the variance of religious behavior ($r(24) = -.27$, $p = .206$), indicating a narrower range of these values and behavior in tight cultures. However, the correlations between tightness and the variance of pro-environmental behavior and the variance of civic involvement were somewhat positive ($r(21) = .38$, $p = .094$ and $r(24) = .28$, $p = .179$, respectively), indicating a wider range of these behaviors in tight cultures. The correlation between tightness and the variance of self-transcendence values was near zero and insignificant ($r(24) = -.12$, $p > .500$). Thus, the consistent pattern of weaker value-behavior relationships in tight cultures is not likely to occur because of the restricted range of personal values and/or behaviors.

It is also plausible to reason that tight cultures encourage the development of values that guide individuals to follow collective norms instead of pursuing their personal goals. To test this potential explanation, we first examined the effect of national-level tightness on individual-level conservation values, which reflect the motivation to abide by norms and follow social guidelines (Schwartz, 1992). Tightness was negatively associated with conservation explaining, however, only 1.3% of the total variance in personal values ($\gamma = -0.12$, $SE = 0.046$, $t(38{,}131) = 2.69$, $p = .013$). In addition, we examined the effects of tightness on the relationships between self-transcendence values with civic involvement and pro-environmental behaviors controlling for the individual differences in sensitivity to collective norms, as reflected in conservation values. The results were virtually identical: Controlling for conservation values did not affect the relationships between self-transcendence and behaviors as well as the hypothesized moderating effects

of tightness on the value-behavior links. These results indicate that tightness is not likely to enhance personal importance attributed to conservation values, and importance attributed to conservation is not likely to affect the relationships between other values and behavior.

In addition, one can argue that the results were obtained due to the lower reliability of value indexes in tight than in loose cultures. Lower reliabilities of value indexes in tight cultures could lead to weaker value-behavior links, whereas higher reliabilities of value indexes in loose cultures could strengthen value-behavior links providing an alternative explanation for the moderating effect of tightness on the strength of these relationships. To test this potential limitation, for each nation, we calculated internal reliabilities of the value indexes and examined their correlation with national-level tightness scores. The correlations between internal reliabilities and tightness were somewhat positive but insignificant (conservation values: $r(24) = .19$, $p = .385$; self-transcendence values: $r(24) = .06$, $p = .790$). We also tested the moderating effect of tightness on each values-behavior relationship controlling for the internal reliability of a relevant value index at the national level. The results were virtually identical: Controlling for the internal reliability of values did not affect the relationships between values and behaviors as well as the hypothesized moderating effects of tightness on these relationships. Thus, the consistent pattern of weaker value-behavior relationships in tight cultures is not likely to occur because of the differences in reliability between nations eliminating this potential explanation as well.

6 | DISCUSSION

We aimed to investigate the effect of culture on the value-behavior relationships. It is almost an axiom that guiding principles in people's lives, as reflected in personal values, guide behaviors (for a review, see Roccas & Sagiv, 2017). Our results demonstrated that this axiom can be true in loose cultures—cultures with weak social norms, where individuals can act on their values, but is less applicable to tight cultures—cultures with strong social norms, where people are less likely to pursue their values. Across different life-domains, the value-behavior relationships were significantly stronger in loose cultures and were almost nonexistent in tight cultures.

Personal values are broad, trans-situational constructs (Schwartz, 1992). Thus, their relationships with specific actions are not likely to be particularly strong (Bardi & Schwartz, 2003; Rohan, 2000; for a review, see Sagiv & Roccas, 2017). Consistent with this rationale and replicating previous findings, we have found relatively weak main effects of values on behaviors. Our results, however, demonstrated that the predictive power of personal values can be enhanced when taking cross-cultural differences in the strength of social norms into account. Values are relatively strong predictors of behaviors in loose cultures, whereas their effect on behaviors disappears in tight cultures.

Importantly, by focusing on different life-domains, our results demonstrated that the moderating effect of tightness is not limited to a particular value type or a particular behavior. One could expect the moderating effect of tightness to emerge only regarding behaviors that are regulated by cultural norms. We observed a marginally significant association between tightness and religious behavior reflecting the presence of a descriptive norm regarding religious activities in tight cultures—there was a higher consensus to perform religious acts in tight than in loose cultures. It is, therefore, plausible that when individuals in tight cultures have to make a decision whether to perform religious acts or not, they are more likely to be driven by the existing norm. In contrast, individuals in loose cultures are less exposed to the norm regarding religious behaviors and consequently are more likely to be driven by their personal values.

Our results, however, demonstrated that tightness affects value-behavior relationships not only regarding culturally encouraged (i.e., religious) but also culturally indifferent (i.e., civic involvement, pro-environmental) behaviors. We did not observe any direct effect of tightness on civic involvement and pro-environmental behaviors reflecting that the descriptive norm regarding these behaviors did not differ between tight and loose cultures. These results indicate that even when a specific norm exists in both cultures to the same extent, it is a matter of social context (e.g., culture) that defines the extent to which it guides behavior: In their decisions how to behave, individuals in loose contexts are more likely to ignore what others do and rely instead on their personal values, whereas individuals in tight contexts are more likely to comply with others' behavior and ignore their personal guiding principles.

Our results are consistent with recent findings that social norms are more likely to guide behavior among people from a tight social context (i.e., low socio-economic background) than among people from loose social context (i.e., high socio-economic background; Eom, Kim, & Sherman, 2018). To provide a comprehensive picture of factors affecting behavior, future studies can combine these two lines of research and compare the predictive power of personal values versus social norms on behavior across tight and loose social context. Future studies can also expand the range of behavior to investigate additional behaviors that are more/less context-congruent.

To increase the generalizability of our theoretical reasoning, we focused on values that represent both value dimensions identified by Schwartz (1992)—self-transcendence and conservation values. Conservation values reflect the importance of following collective norms and rules, whereas self-transcendence values reflect the importance

of concern for the welfare of other people and nature regardless of the existing norms (Schwartz, 1992). Thus, from the individual-differences perspective, individuals who are high on conservation should be more sensitive to social context, whereas individuals who are high on self-transcendence should be indifferent to social context. Taking the cross-cultural perspective into account, our research revealed that in tight cultures both types of individuals are likely to become sensitive to social context ignoring their personal value priorities when choosing how to behave. The effect of culture emerged even when controlling for the individual differences in norm-sensitivity, as reflected in conservation values, indicating the robustness of the moderating effect of cultural tightness.

Unlike many other constructs that are idiosyncratic to a particular level of analysis (e.g., cultural or individual), the TL construct resembles the quasi-fractal structure having similar predictors and consequences across different levels of analyses, from nations to specific situations (Gelfand et al., 2017; see also Morris, Hong, Chiu, & Liu, 2015). Recent research has found that geographical areas within the same nation (i.e., states within the United States or provinces within China) differ in their tightness (Chua, Huang, & Jin, 2019; Harrington & Gelfand, 2014). Similarly, social class groups vary in the strength of social norms that are prevalent among their members (Harrington & Gelfand, 2019). Our results indicate that tightness at the national level moderated value-behavior relationships. Future studies can investigate the moderating effect of tightness at other levels as well. For example, values are less likely to drive the behavior of employees in tight organizations or members of social groups with strong norms.

In the current project, we examined the moderating effects of tightness on the relationships between values and self-reported behaviors. Previous research has found similar relationships between values and both self-reported and overt behaviors (e.g., Saroglou et al., 2004). Thus, it is not likely that the effect of culture on value-behavior links is affected by the method with which the behaviors are assessed. To address this potential limitation, future studies may replicate the current findings regarding overt behaviors as well.

Another limitation is the relatively low reliability of some indexes. The reliability of personal values was relatively low but within the usual range for values. Values are broad constructs, expressing basic motivations that apply across social situations. As such, the internal reliability of value measures is often relatively low (see discussions in Arieli et al., 2016; Davidov et al., 2008). Controlling for reliability of the value indexes at the national level did not change the hypothesized effects of tightness on the value-behavior links as well as the links themselves. The reliability of the pro-environmental behavior was relatively low as well. To overcome this limitation, we conducted a separate analysis for each item. The results were similar, albeit weaker, indicating the advantage of combining these items into a single index.

Overall, our results are consistent with previous findings that cultural values are stronger predictors of behaviors in tight cultures than in loose ones (Taras, Kirkman, & Steel, 2010). Taken together, these results indicate that personal guiding principles (i.e., values) are likely to guide behaviors in nations with weak norms, whereas behaviors are more likely to be driven by social guidelines in nations with strong norms. Thus, when developing practices aimed at encouraging a particular behavior, policymakers should carefully consider the strength of social norms at the national level to focus either on personal or cultural values accordingly. For example, we would predict that behavioral change efforts to end practices such as genital cutting, early childhood marriage, and domestic violence would be more successful by targeting social norms than personal values in tight cultures, whereas targeting values may be more beneficial for behavioral change in loose cultures. More generally, by understanding the drivers of behavior in different cultural contexts, we not only expand psychological science but also our capacity to promote well-being around the globe.

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CONFLICT OF INTEREST

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