

Cultural Tightness Increases Lay Theory of Learned Prejudice

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Abstract

Incorporating research on lay theories of prejudice and culture, the present research ($N_{\text{total}} = 1,912$) investigates cultural tightness-looseness as an antecedent of a lay theory of learned prejudice. Studies 1 and 4, recruiting across nine countries (United States, Mexico, Germany, Israel, Chile, France, Greece, South Africa, and Japan), demonstrated that people who lived in tighter societies more strongly believe that prejudice is learned. Studies 2 and 3 experimentally showed that U.S. participants who imagined themselves in a tight (vs. loose) society endorsed this lay theory more, regardless of the prejudice level in the simulated society. Notably, lay theory of learned prejudice was associated with greater support for educational activism and policies (Studies 3 and 4). Together, these findings expand the understanding of how people conceptualize the origins of prejudice, while advancing a cultural psychology of lay theories.

Keywords

prejudice, lay theories, cultural tightness-looseness, cultural psychology, education, activism

Introduction

Informed by the lay theories framework (Anderson & Lindsay, 1998; Hong et al., 2001; Levy et al., 2005), lay theories of prejudice refer to the different ways in which everyday formulate explanations to understand prejudices (Levy et al., 2013). Prior research has examined how lay-people conceptualize prejudices as malleable and generalized. White people who endorsed a lay theory of malleable racial prejudice were more likely to engage in learning strategies in difficult interracial interactions (Neel & Shapiro, 2012). On the contrary, lay theory of fixed prejudice reduced interest in interracial interactions (Carr et al., 2012). Further, lay theory of generalized prejudice, or belief about common perpetrators of prejudice, increased coalitional intentions (Chaney & Forbes, 2023; Pham et al., 2023), while shaping marginalized people's anticipation of discrimination and mental health (Chaney et al., 2021; Pham & Borton, 2024). Such findings demonstrate that lay theories influence people's prejudice and efforts to combat prejudice (Apfelbaum et al., 2017; Pham et al., 2023).

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Of interest to the current work, this literature has examined how lay people conceptualize the *origins* of prejudice (Esses & Hodson, 2006). Mirroring the literature on essentialism and its relation to lay theories (e.g., Cipollina et al., 2022; Haslam, 2017), lay theories about prejudice origins can be broadly categorized as essentialist versus non-essentialist. That is, research has examined various types of prejudice (e.g., against immigrants and racial minorities) and found that some people perceive prejudice as part of human nature, while others conceptualize prejudice as a product of ignorance and learnings communicated, directly and indirectly, by one's parents and environment (e.g., Hodson & Esses, 2005; Miglietta et al., 2014). That is, people may either consider prejudice as stemming from something fundamental about human nature, or as a product of learning (Chaney et al., 2024). The current research focuses on how culture predicts people's endorsement of a lay theory of prejudice as learned. Specifically, we contend that cultural tightness-looseness, specifically how strongly a culture indicates social norms need to be adhered to (Gelfand et al., 2006; Jackson et al., 2019), may impact people's lay theory of learned prejudice.

Lay Theory of Learned Prejudice

Consistent with the social learning theory of prejudice (e.g., Bandura, 1977; Barclay, 1982), a common lay belief about prejudice origins is a lay theory of learned prejudice (Chaney & Wedell, 2022), which we define as a belief that prejudices are taught and socially transmitted. This lay theory appears to be somewhat accurate. People adopt prejudice from observing interactions between a prejudiced actor and members of a social group (i.e., observing an actor demonstrating prejudice toward others), despite being unaware of the actor's bias (Schultner et al., 2024). Similarly, adolescents with more prejudiced peers personally endorsed higher levels of prejudice (Hjerm et al., 2018). Reflecting these findings, a lay theory of learned prejudice posits that people pick up prejudices from their parents, peers, and communities (Bigler & Liben, 2007; Miklikowska et al., 2019).

This lay belief may have unique implications for social change (e.g., activism and prejudice confrontation) and the mental health of marginalized people (Chaney et al., 2024; Hodson & Esses, 2005). Particularly, education is a tool of anti-prejudice activism and perceived by everyday people as such (e.g., Diem et al., 2022; Pham et al., 2024). Educating others about inequality also serves as a coping strategy in response to discrimination (Wei et al., 2010). We argue that endorsing a lay theory of learned prejudice can make a person more inclined to recognize the importance of, and personally engage in, educational activism. That is, the more one believes prejudice is taught and socially transmitted, the more likely they should view education as an effective strategy to combat this social transmission of prejudice.

Investigating lay beliefs about prejudice origins is particularly important because such beliefs may serve as antecedents of established lay theories in the literature (Chaney & Wedell, 2022). It may be the case that lay theories about the malleability and intentionality of prejudice can be shaped by a lay theory of learned prejudice. Specifically, people who endorse a lay theory of learned prejudice are perhaps more likely to perceive prejudice as malleable, which has positive implications for intergroup relations (Rattan & Georgeac, 2017). For instance, White people who endorse a lay theory of malleable prejudice were more interested in interracial interactions and more likely to engage in prejudice confrontations (e.g., Carr et al., 2012; Neel & Shapiro, 2012). However, less is known about in what conditions or specific cultures people come to endorse a lay theory of learned prejudice.

Culture Shapes Lay Theories

Lay theories are partially a product of culture (P. S. Salter et al., 2018). Therefore, taking a cultural-psychological approach to the study of lay theories is important because it affords the contextualization of lay theories in historical, cultural, and sociopolitical backgrounds. That is, lay

theories can be framed as mind-in-context, recognizing that psyche and culture are inextricable from each other (Markus & Kitayama, 2010). Culturally dominant narratives and lay theories are mutually constituted (Rivera et al., 2025). Culture is indeed a critical consideration of lay theories from the early years of this literature, with researchers seeking to understand how one's own environments impact their lay theories (Levy et al., 2005).

Empirical research demonstrates the role of culture in shaping lay theories. For instance, compared with United States (U.S.) children, Chinese children held stronger lay theories of change (i.e., how the world develops over time) with regards to various issues such as future performance, relationships, and happiness (Ji, 2008; see also Zhang et al., 2018). Across five countries: the United States, China, India, Singapore, and South Korea, people with stronger horizontal mindsets endorsed more strongly the true-self-as-guide lay theory of decision-making (i.e., belief that the best way to make decisions is to follow "who you really are;" Kim et al., 2022). Specific to lay theories of prejudice, horizontal collectivism (i.e., a culture that prioritizes conceptualization of oneself in terms of others and rejects hierarchy) predicted greater endorsement of lay theory of generalized prejudice, which was in turn associated with greater activism for outgroup marginalized members (Pham et al., 2026). Taken together, culture has been shown to be instrumental to the development of lay theories, necessitating an investigation of cultural tightness as an antecedent of lay theory of learned prejudice endorsement.

Cultural Tightness

Research on cultural psychology positions cultural tightness-looseness among the major dimensions of cultural differences (Kitayama & Salvador, 2024). Cultural tightness-looseness refers to the differing strengths of social norms and punishment for deviant behavior in a given culture (Gelfand et al., 2006). Specifically, tighter cultures have stricter social norms and higher levels of sanctions for deviance, while looser cultures have more relaxed norms and greater tolerance for deviance. Notably, tightness and collectivism are conceptually distinct, as a collectivistic culture focuses on interdependence and emphasizes goals that include others, rather than independence and self-expression goals (Oyserman, 2017; Vignoles et al., 2016). Further, cultural tightness has a different ecology than collectivism, such that cultural tightness partly results from ecological and historical threats such as wars, colonization, and natural disasters, which facilitate a need for stronger norms within a society to effectively survive these threats (Harrington & Gelfand, 2014). Thus, there are societies such as in Latin America that are high in collectivism but low in tightness (Carpenter, 2000).

Cultural tightness predicts a variety of societal-level outcomes such as lower creativity (Jackson et al., 2019) and more deaths caused by COVID-19 (Gelfand et al., 2021). On an individual level, cultural tightness reduced self-concept clarity and thus a sense of autonomy, while increasing self-objectification (Mo et al., 2025; Wang et al., 2022). Importantly, tightness uniquely shapes various phenomena independent of collectivism, such as humor production and endorsement of autonomous leadership (e.g., Aktas et al., 2016; Cao et al., 2025).

Relevant to the present work, levels of stigma, as measured by willingness to have members of various groups (e.g., immigrants, people of a different race) as neighbors, are generally higher in tighter societies (Ikizer et al., 2026). Indeed, cultural tightness increases people's prejudice (Jackson et al., 2019). Building on Gelfand et al.'s (2006) theorizing that societal tightness-looseness can shape knowledge structures such as lay theories, it is important to test how cultural tightness may influence lay theories. In this research, we focus on cultural tightness as a predictor of a lay theory of learned prejudice.

By definition, an emphasis on norms with consequences in tight societies may prompt individuals to infer that people adopt prejudices from their social environments (Gelfand et al., 2006). Indeed, people in tighter societies perceive fewer beliefs and behaviors available to them

(Uz, 2015). Simultaneously, they have greater cognitive accessibility to social norms, which may lead to the activation of social learning as an explanation for prejudiced attitudes (Aarts & Dijksterhuis, 2003). Supporting this cultural research, prior work has illustrated the impact of norms on perceptions of prejudice and intergroup relations (e.g., Hegarty & Pratto, 2001; Wellman & McCoy, 2014). Indeed, the justification-suppression model of prejudice argues that any type of prejudice is expressed to the extent that it is a socially acceptable and normative attitude to hold (Crandall et al., 2002; Crandall & Eshleman, 2003). That is, social psychological models of prejudice argue that prejudice expression is predicted by social norms. While not directly referencing where prejudice is learned, such models assume that prejudice is taught and learned early, with social norms similarly learned to shape prejudice expression. Going beyond a mere emphasis on norms, cultural tightness also involves sanctioning deviant behaviors that may explain a lay theory of learned prejudice (Gelfand et al., 2006). Specifically, a tight control of behavior may lead people to observe how the broader environment contributes to prejudices and attribute prejudices to people's circles, including teachers, family, and close others (Uz, 2015). Integrating these disparate literatures, we propose that people in culturally tighter (vs. looser) societies are more likely to endorse a lay theory of learned prejudice, in part because of their greater awareness or attention to the effect of social norms on prejudice and prejudice expression.

Current Research

Integrating a cultural approach to examine lay theories (e.g., Pham et al., 2024; Rivera et al., 2025), the present research includes four studies to evaluate the impact of cultural tightness-looseness on lay theory of learned prejudice endorsement. We combine cross-sectional, cross-cultural data (Studies 1 and 4) with experimental methods (Studies 2 and 3) to test this research question. We hypothesize that cultural tightness is associated with and increases endorsement of lay theory of learned prejudice (Studies 1–4), which is in turn linked with different attitudes and behaviors of educational activism (Studies 3 and 4). We further contend that this link with educational activism is partly explained by increased lay theory of malleable prejudice (Studies 3 and 4). Data, syntax, and materials are available: https://osf.io/hz237/overview?view_only=cd05336c27594402872e0b4bfc435f4a. Study 4 was pre-registered.¹

Study 1

Study 1 evaluated the association between cultural tightness and lay theory of learned prejudice endorsement in five countries. We hypothesized that people who live in countries higher in cultural tightness, based on both individual-level and country-level measures, would more strongly endorse a lay theory of learned prejudice. Both individual self-reports and country-level indices were included because self-reported measures based on generalized impressions of fellow citizens may reflect national auto-stereotypes and do not accurately indicate a country's cultural values (Minkov et al., 2025; Uz, 2015). Study 1 countries were selected to represent variability across a country-level index of tightness-looseness and based on availability on recruitment platform.

Method

Participants & Procedure. As we aimed for 140 participants for each target country, 727 participants were recruited from Prolific in Spring 2022 to account for exclusions. We then excluded 72 participants who failed the attention checks,² resulting in an analytic sample of 655 participants ($n_{\text{Chile}} = 131$; $n_{\text{Germany}} = 133$; $n_{\text{Israel}} = 120$; $n_{\text{Mexico}} = 131$; $n_{\text{U.S.}} = 140$). Surveys were administered

in the native language of residents of respective countries. The translation-back translation process was employed to ensure equivalence across surveys (Ægisdóttir et al., 2008; International Test Commission, 2016). Certified translators who were native speakers of the target language and proficient in English were hired to translate materials from English into the target language. Then, translated measures were translated back into English by the authorship team to be compared with the original items and adjusted if necessary (Milfont & Klein, 2018). A sensitivity power analysis via semPower (Moshagen & Bader, 2023) indicated that a sample of $N = 655$ could afford a power higher than .95 to detect all effects in the hypothesized nested analyses. The power analysis assumed ICC = .10, variances of within-cluster and between-cluster fixed effects of 0.065, variance cross-level interaction effects of 0.01, and variance of random slopes of 0.03. See Table 1 for participant demographics.

Participants completed the below measures of lay theory of learned prejudice and then cultural tightness.³ Upon completion of all measures, participants were debriefed and compensated. Additionally, we used Uz's (2015) country-level index of cultural tightness and looseness (CTL; see Table 2) for each country sample. We chose the combination (vs. domain-specific and domain-general) index due to its greatest validity. Higher CTL scores indicated higher levels of cultural looseness.

Measures. See Table 3 for descriptive statistics by country.

Cultural Tightness. Participants completed three items from Gelfand et al.'s (2011) Cultural Tightness Scale (i.e., "There are many social norms that people are supposed to abide by in this country;" "In this country, there are very clear expectations for how people should act in most situations;" "In this country, if someone acts in an inappropriate way, others will strongly disapprove") on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Internal reliabilities were adequate; McDonald's ω s = .56, .71, .71, .67, and .77 for Germany, Chile, Israel, Mexico, and the United States, respectively.

Lay Theory of Learned Prejudice. Participants completed a three-item measure ("Those who are prejudiced learned their prejudicial attitudes from others;" "Those who are prejudiced picked up their beliefs from those around them;" "People are prejudiced because their parents, teachers, or communities teach them prejudicial attitudes;" adapted from Chaney et al., 2024) on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale. ω s = .85, .87, .87, .87, and .93 for Germany, Chile, Israel, Mexico, and the United States, indicating excellent reliability.

Results

Self-Reported Cultural Tightness. We employed a nested model to evaluate the hypothesis. We cluster-mean centered self-reported cultural tightness (level-1 variable) to estimate the pooled within-country effect. After, we built an empty model; the ICC was 0.057, representing 5.7% of the variance in lay theory of learned prejudice was explained by between-country differences (a small-medium within-cluster homogeneity; Kreft & De Leeuw, 1998). The DEFF was 7.14 (Design effect; Muthen & Satorra, 1995), above 1.5 and thus necessitating multi-level modeling.

Then, we built an intermediate model using cultural tightness as a predictor of lay theory of learned prejudice and performed a likelihood-ratio test to determine whether estimating the slope residuals improved the fit. The comparison of these two models indicated estimating the slope residual variance and the covariance term was warranted, LR $\chi^2(2) = 38.75, p < .001$ (Matuschek et al., 2017). Thus, using the augmented model, we found that self-reported cultural tightness was

Table 1. Demographic Summary, Study 1.

Demographic characteristic	Chile <i>n</i> (%)	Germany <i>n</i> (%)	Israel <i>n</i> (%)	Mexico <i>n</i> (%)	U.S. <i>n</i> (%)
Age: <i>M</i> (<i>SD</i>)	26.72 (6.53)	31.27 (9.41)	30.98 (10.08)	27.19 (8.06)	36.42 (13.49)
Political Orientation: <i>M</i> (<i>SD</i>)	5.37 (1.40)	5.25 (1.37)	5.92 (1.31)	4.89 (1.82)	4.77 (1.73)
SES: <i>M</i> (<i>SD</i>)	3.75 (1.13)	3.64 (1.21)	2.98 (1.24)	3.53 (0.89)	4.09 (1.16)
Gender					
Cisgender women	34 (26.0%)	57 (42.9%)	62 (51.7%)	71 (54.2%)	97 (69.8%)
Cisgender men	89 (67.9%)	69 (51.9%)	42 (35.0%)	56 (42.7%)	35 (25.0%)
Transgender women	0 (0.0%)	4 (3.0%)	2 (1.7%)	1 (0.8%)	1 (0.7%)
Transgender men	1 (0.8%)	0 (0.0%)	1 (0.8%)	0 (0.0%)	2 (1.4%)
Non-binary or genderqueer	6 (4.6%)	2 (1.5%)	6 (5.0%)	3 (2.3%)	3 (2.1%)
Self-identified or Unknown	1 (0.8%)	1 (0.8%)	7 (5.8%)	0 (0.0%)	2 (1.4%)
Race/Ethnicity					
White	19 (14.5%)	113 (85.0%)	82 (68.3%)	8 (6.1%)	97 (69.3%)
Black	1 (0.8%)	1 (0.8%)	0 (0.0%)	0 (0.0%)	14 (10.0%)
Hispanic/Latinx	105 (80.2%)	3 (2.3%)	1 (0.8%)	121 (92.4%)	11 (7.9%)
Native or Indigenous	1 (0.8%)	0 (0.0%)	5 (4.2%)	0 (0.0%)	2 (1.4%)
Asian	0 (0.0%)	5 (3.8%)	3 (2.5%)	1 (0.8%)	6 (4.3%)
Middle Eastern/North African	1 (0.8%)	2 (1.5%)	14 (11.7%)	0 (0.0%)	1 (0.7%)
Native Hawaiian/Pacific Islander	0 (0.0%)	1 (0.8%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Biracial/Multiracial	3 (2.3%)	5 (3.8%)	6 (5.0%)	1 (0.8%)	9 (6.4%)
Not listed	1 (0.8%)	3 (2.3%)	9 (7.5%)	0 (0.0%)	0 (0.0%)
Sexual Orientation					
Lesbian/gay	12 (9.2%)	7 (5.4%)	4 (3.3%)	7 (5.3%)	7 (5.0%)
Bisexual	17 (13.0%)	14 (10.5%)	6 (5.0%)	20 (15.3%)	18 (12.9%)
Pansexual	1 (0.8%)	6 (4.5%)	4 (3.3%)	3 (2.3%)	1 (0.7%)
Queer	1 (0.8%)	2 (1.5%)	0 (0.0%)	0 (0.0%)	5 (3.6%)
Questioning/not sure	10 (7.6%)	8 (6.0%)	1 (0.8%)	2 (1.5%)	0 (0.0%)
Asexual	4 (3.1%)	8 (6.0%)	1 (0.8%)	2 (1.5%)	0 (0.0%)
Heterosexual	85 (64.9%)	85 (63.9%)	102 (85.0%)	97 (74.0%)	108 (77.1%)
Self-identified	0 (0.0%)	3 (2.3%)	2 (1.7%)	0 (0.0%)	1 (0.7%)

Table 2. Uz (2015) Cultural Tightness-Looseness (CTL) Indices for Studies 1 and 4, Highest to Lowest.

Country	Cultural Tightness-Looseness Index
France ^b	99.6
Chile ^a	86.8
Germany ^a	82.9
Mexico ^a	74.7
South Africa ^b	67.6
Greece ^b	58.3
U.S. ^{a,b}	58.0
Japan ^b	43.3
Israel ^a	N/A

Note. Superscripts a and b represent countries included in Study 1 and Study 4, respectively. Indices represent combination indices, recommended for use by Uz (2015). Most tight = 0; there is no highest possible value, but the culturally loosest country (Belgium) has a value of 119.8.

Table 3. Descriptive Statistics for Cultural Tightness and Lay Theory, By Country, Study 1.

Country	U.S.	Germany	Chile	Mexico	Israel
Cultural Tightness	5.21 (0.92)	5.33 (0.80)	5.26 (0.95)	5.29 (1.11)	4.93 (1.04)
Lay Theory of Learned Prejudice	5.76 (1.02)	5.33 (0.98)	5.72 (0.94)	6.13 (0.86)	5.76 (1.03)

Note. Standard deviations are presented in parentheses.

a significant predictor of lay theory of learned prejudice, $b = 0.25$, $SE = 0.07$, $t(653) = 3.48$, $p < .001$, 95% CI [0.11, 0.40].

Country-Level Index. Another linear regression was conducted using the CTL index (Uz, 2015) instead of participant self-report as measure of cultural tightness. This regression predicting lay theory of learned prejudice was statistically significant, $F(1, 533) = 3.93$, $p = .048$, adjusted $R^2 = .005$. As hypothesized, greater country-level cultural looseness was linked with lower endorsement of lay theory of learned prejudice, $b = -0.01$, $SE = 0.004$, $t = -1.93$, $p = .048$.

As prior research demonstrated that the effects of cultural tightness may be partially attributable to collectivism (Minkov et al., 2025), we conducted the regressions above controlling for the country-level collectivism index provided by Global Collectivism Index (GCI; Pelham et al., 2022). As anticipated, cultural looseness predicted weaker lay theory of learned prejudice, above and beyond collectivism, $F(1, 533) = 3.93$, adjusted $R^2 = .08$, $b = -0.02$, $SE = 0.004$, $t = -4.13$, $p < .001$. Note that CTL was not available for Israel, so this analysis only included participants from the other four countries.

Discussion

Study 1 demonstrated the potential impact of cultural tightness on how people explain prejudices as a product of learning from one's environment across five cultures. Specifically, using both self-reported and country-level measures, people in culturally tighter societies more strongly endorsed the belief that prejudices are learned from others. This focus on environmental factors in attribution of prejudice origins is consistent with the strong norms practiced in a tight society (e.g., Gelfand et al., 2006; Wang et al., 2022). Studies 2 and 3 proceed to experimentally test the causal effect of cultural tightness on lay theory of learned prejudice endorsement.

Study 2

Study 2 employed an experimental design to test how cultural tightness impacts lay theory of learned prejudice. Following prior research that uses simulated societies to evaluate causality in cultural psychology (e.g., Jackson et al., 2021; Wang et al., 2022), we randomly assigned participants to a tight versus loose simulated society via a two-cell between-subjects design. We hypothesized that people in the culturally tight society, compared with their loose society counterparts, would more strongly endorse lay theory of learned prejudice.

Participants & Procedure

An *a priori* power analysis (Faul et al., 2007) suggested a minimum sample size of 228 participants for a two-tailed t -test (assuming a medium-sized effect $d = 0.40$, 85% power). We recruited 231 participants from a Northeastern U.S. university's participant pool for an online survey (see Table 4 for demographic summary).

Table 4. Demographic Summaries, Studies 2 and 3.

Demographic characteristic	Study 2 <i>n</i> (%)	Study 3 <i>n</i> (%)
Age: <i>M</i> (<i>SD</i>)	18.95 (1.24)	19.04 (1.02)
Political Orientation: <i>M</i> (<i>SD</i>)	4.79 (1.40)	4.76 (1.44)
Socioeconomic Status: <i>M</i> (<i>SD</i>)	3.48 (1.06)	3.54 (0.98)
Gender		
Cisgender women	168 (72.7%)	253 (74.6%)
Cisgender men	57 (24.7%)	78 (23.0%)
Transgender women	0 (0.0%)	0 (0.0%)
Transgender men	1 (0.4%)	1 (0.3%)
Non-binary	2 (0.9%)	3 (0.9%)
Genderqueer	0 (0.0%)	3 (0.9%)
Self-identified or Unknown	1 (0.4%)	1 (0.3%)
Missing	1 (0.4%)	0 (0.0%)
Race/Ethnicity		
White	152 (65.8%)	230 (67.8%)
Black	17 (7.4%)	18 (5.3%)
Hispanic or Latino/a/e/x	30 (13.0%)	42 (12.4%)
Indigenous/Native American	1 (0.4%)	1 (0.3%)
Asian	50 (21.6%)	58 (17.1%)
Middle Eastern/North African	8 (3.5%)	4 (1.2%)
Native Hawaiian/Pacific Islander	0 (0.0%)	0 (0.0%)
Biracial/Multiracial	11 (4.8%)	7 (2.1%)
Not listed	3 (1.3%)	2 (0.6%)
Sexual Orientation		
Lesbian/gay	6 (2.6%)	10 (2.9%)
Bisexual	26 (11.3%)	38 (11.2%)
Pansexual	0 (0.0%)	6 (1.8%)
Queer	2 (0.9%)	6 (1.8%)
Questioning/not sure	3 (1.3%)	3 (0.9%)
Asexual	0 (0.0%)	3 (0.9%)
Heterosexual	189 (81.8%)	268 (79.1%)
Self-identified	4 (1.7%)	5 (1.5%)
Missing	1 (0.4%)	0 (0.0%)
Immigration Generation		
1st	30 (13.0%)	31 (9.1%)
2nd	65 (28.1%)	89 (26.3%)
3rd	16 (6.9%)	35 (10.3%)
4th	38 (16.5%)	68 (20.1%)
5th+	82 (35.5%)	115 (33.9%)

Note. Participants could select multiple races/ethnicities.

Upon consent, participants imagined themselves as a member of a future society called Tekki (Jackson et al., 2021). Here, participants were randomly assigned to one of two conditions, corresponding to a tight or loose society. Description of the tight society read: “The Tekki have **many social norms**, and there are **strong expectations for members to uphold** these practices.[. . .],” whereas the loose condition read “The Tekki have **very few social norms**, and there are **little to no expectations for members to uphold** these practices [. . .]” [emphasis in original] (see

Appendix A for full description). Then, participants completed the measures below about the Tekki society, on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale.

Measures

Cultural Tightness. As a manipulation check for cultural tightness, participants completed three items from Study 1 but specifically about Tekki, such as “There are many social norms that people are supposed to abide by in Tekki,” on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The measure indicated excellent reliability, $\omega = .93$.

Lay Theory of Learned Prejudice. Participants first read a description: “Within your society Tekki, people of higher status express prejudice and discrimination against those of lower status. That is, people with more power and privilege show negative attitudes toward marginalized people and treat them unfairly.” The purpose of this description was twofold: (1) to minimize the potential role of prevalence of prejudice as a confound and (2) to ensure that the definition of “prejudice” is as equivalent as possible across participants. Then, participants completed three items from Study 1 (e.g., “Those who are prejudiced learned their prejudicial attitudes from others”), but specifically “about people in your society Tekki,” $\omega = .88$.

Results

Confirming the manipulation, participants in the culturally tight condition perceived the Tekki society as significantly tighter ($M = 5.88$, $SD = 0.85$) than the loose condition ($M = 2.79$, $SD = 1.34$), $t(229) = 20.94$, $p < .001$, $d = 2.75$. Further, in line with hypotheses, people in the tight society endorsed lay theory of learned prejudice more strongly ($M = 5.63$, $SD = 1.11$) than those in the loose society ($M = 5.20$, $SD = 1.19$), $t(229) = 2.85$, $p = .005$, $d = 0.38$.

Discussion

Expanding Study 1, Study 2 offered experimental evidence that a culturally tight society increases endorsement of a lay theory of learned prejudice. Using a simulated society paradigm (e.g., Jackson et al., 2021), U.S. participants in an imagined tight (vs. loose) society more strongly endorsed a lay theory of learned prejudice in this society. However, one potential explanation for this effect is the greater level of prejudice perceived in tighter societies (e.g., Ikizer et al., 2026; Jackson et al., 2019). While a contextual description was provided to communicate that prejudice exists in both culturally loose and tight conditions (i.e., societies), people in the tight society may endorse a lay theory of learned prejudice more strongly in part because they anticipate *greater* prejudices in a tighter society, warranting another experiment to rule out this explanation.

Study 3

Study 3 expanded Study 2 in three ways. First, Study 3 addressed level of prejudice as a potential confound by manipulating this construct. In other words, Study 3 sought to replicate Study 2’s findings in societies that were both high and low in prejudice levels. Thus, Study 3 employed a 2(culture: tight, loose) $\times$ 2(prejudice level: high, low) between-subjects design to rule out this possibility. We hypothesized that people in a tight society would more strongly endorse a belief that prejudice is learned, regardless of prejudice levels. Further, a lay theory of learned prejudice would be higher in a high (vs. low) prejudice condition, but we hypothesized no interaction between culture and prejudice level.

Second, Study 3 examined the perceived effectiveness of educational activism as a downstream consequence of endorsing lay theory of learned prejudice. Prior work has illuminated the roles of education (e.g., Pham & Chaney, 2026; Pham et al., 2024) and prejudice confrontation in promoting equality (e.g., Chaney et al., 2025; Czopp et al., 2006). We argue that these educational forms of activism are perceived as more effective by people who endorse a lay theory of learned prejudice because education affords a suitable mode to address the learning roots of prejudice (e.g., Chaney & Forbes, 2023; Rattan, 2019). That is, if prejudice is believed to be learned, then one may believe that it can be *un*learned via education and prejudice confrontation. We thus hypothesized that people would more strongly endorse educational activism in a tight society and made no hypotheses regarding prejudice level effect.

Third, we recognized that people who more strongly believe that prejudice is learned may perceive the importance of helping prejudiced people “unlearn” their prejudices, partly due to a belief that prejudice is malleable (i.e., not fixed; Carr et al., 2012). Past research has linked endorsement of a lay theory of malleable prejudice to greater likelihood of engaging in prejudice confrontations (Carr et al., 2012) and other learning-oriented strategies (Neel & Shapiro, 2012; see also Neel & Lassetter, 2015). Thus, we sought to concurrently examine endorsement of lay theories that prejudice originates in learning and is malleable which we hypothesized would be positively correlated. We hypothesized that in a tight society, regardless of prejudice level, people would more strongly endorse a belief that prejudice is malleable given the proposed association between learned and malleable lay beliefs.

Finally, we hypothesized a mediation model where cultural tightness indirectly increases perceived effectiveness of educational activism and confrontation as well as support for educational policies serially via heightened lay theory of learned prejudice and lay theory of malleable prejudice. In other words, participants in the culturally tight society, compared with their loose counterparts, would endorse more strongly a lay theory of learned prejudice, which would be in turn associated with a stronger lay theory of malleable prejudice. This malleability belief ultimately would be linked with higher scores on the downstream activism outcomes.

Method

Participants. Based on the effect size on lay theory of learned prejudice shown in Study 2 ($d = 0.38$), an *a priori* power analysis (Faul et al., 2007) suggested a minimum sample size of 294 participants for a 2×2 between-subjects ANOVA (90% power). Using the Shiny app (Schoemann et al., 2017), a sample size of 250 was recommended to detect a serial mediation effect, assuming 90% power and moderate correlations between variables ($r_s = .40$). The analytic sample included 339 participants recruited from the same participant pool as in Study 2 but excluded Study 2 participants (see Table 4 for demographics).

Procedure. Similar to Study 2, participants imagined themselves as a member of a future society called Tekki, where they were randomly assigned to a tight or loose condition. Novel to Study 3, participants additionally reviewed a survey with five yes/no questions ostensibly completed by members of the Tekki society. Participants were randomly assigned to either the high or low prejudice condition. The percentage of “members of the Tekki society who reported negative attitudes towards those of disadvantaged/lower status” was 85% for the high prejudice condition and 15% for the low prejudice condition.

Next, participants completed a measure of cultural tightness (which also served as a manipulation check of the cultural manipulation; $\omega = .93$) and a manipulation check for prejudice level (“please estimate the percentage of people within the Tekki society holding negative attitudes towards those of disadvantaged/lower status”, scale 0–100%). Then, participants completed a measure of lay theory of learned prejudice ($\omega = .91$); measures of cultural tightness and lay theory were

identical to Study 2. Finally, participants completed four novel measures in the order below, before completing demographics and debriefing.

Measures

Lay Theory of Malleable Prejudice. Participants completed their endorsement of five items (e.g., “No matter how prejudiced someone is, they can always become less prejudiced;” Neel & Shapiro, 2012) on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*), $\omega = .82$.

Perceived Effectiveness of Education⁴. Participants reported their perceived effectiveness of six educational actions to reduce prejudice and promote equality for different marginalized groups (e.g., “educating others about discrimination,” “engaging in discussion groups about discrimination;” $\omega = .96$), using a scale from 1 (*very unlikely*) to 7 (*very likely*).⁴ The authorship team created these items based on Pham et al. (2023).

Perceived Effectiveness of Confrontation. Similar to education items above, participants indicated the perceived effectiveness of confrontation via three PI-developed items (e.g., “challenging an individual who makes a prejudiced remark;” $\omega = .91$) on a scale from 1 (*very unlikely*) to 7 (*very likely*).

Support for Educational Policies. Participants expressed their likelihood of supporting five educational policies (PI-developed) in the Tekki community (e.g., increasing funding for projects educating people how to recognize and reduce prejudice; $\omega = .90$), using a scale from 1 (*very unlikely*) to 7 (*very likely*).

Results

A series of 2×2 ANOVAs were conducted (see Table 5).

Manipulation Checks. Analyses revealed successful manipulations of cultural tightness-looseness and prejudice level. There was a main effect of culture condition on perceived cultural tightness, such that participants in the tight condition perceived the Tekki society as culturally tighter than did their loose condition counterparts. Neither the prejudice condition main effect nor the interaction was statistically significant.

Further, there was a significant prejudice condition effect, but not a culture condition effect or an interaction, on perceived prejudice level. Specifically, participants in the high prejudice condition perceived greater prejudice held by Tekki members than those in the low prejudice condition.

Primary Outcomes. As demonstrated in Figure 1, there was a significant main effect of culture condition on lay theory of learned prejudice. As hypothesized, participants in the tight condition, compared with their counterparts in the loose condition, more strongly endorsed lay theory of learned prejudice regarding the Tekki society. Further, there was a main effect of prejudice, such that the endorsement of learned prejudice theory was higher among participants in the high (vs. low) prejudice condition. There was no significant interaction between cultural tightness and prejudice level.

As for downstream outcomes, there was only one significant effect of prejudice: participants in the low prejudice condition more strongly endorsed educational activism than participants in the high prejudice condition. There were no significant effects of culture nor interaction between culture and prejudice.

Table 5. Study 3 ANOVA Results and Descriptive Statistics by Condition.

Outcome	Culture effect			Tight (n = 177)			Loose (n = 175)			Prejudice effect			High prejudice (n = 258)			Low prejudice (n = 270)			Interaction effect		
	F (1, 335)	p	d	M (SD)			M (SD)			F (1, 335)	p	d	M (SD)			M (SD)			F (1, 335)	p	d
Tight	550.62	<.001	2.56	5.67 (0.97)			2.65 (1.36)			0.11	.745	0.00	4.15 (1.92)			4.17 (1.92)			0.15	.701	0.00
Prej.	0.03	.863	0.00	50.74 (27.27)			51.90 (27.77)			338.78	<.001	2.01	70.81 (17.83)			31.94 (20.91)			1.90	.169	0.16
LTLP	12.51	<.001	0.39	5.65 (1.04)			5.24 (1.19)			15.27	<.001	0.40	5.65 (0.99)			5.24 (1.23)			0.25	.615	0.06
LTMP	1.92	.167	0.16	4.99 (1.01)			5.13 (0.96)			0.86	.354	0.11	5.01 (1.00)			5.11 (0.97)			0.02	.895	0.00
Edu	0.13	.721	0.00	5.68 (1.12)			5.63 (1.11)			6.46	.011	0.28	5.50 (1.25)			5.81 (0.98)			0.95	.331	0.11
Confr.	1.19	.275	0.13	5.47 (1.37)			5.62 (1.25)			1.22	.271	0.13	5.47 (1.40)			5.63 (1.22)			0.00	.973	0.00
EduPol.	0.00	.956	0.00	5.66 (1.13)			5.65 (1.03)			0.37	.543	0.06	5.62 (1.10)			5.69 (1.06)			0.00	.992	0.00

Note. Prej = Prejudice Level; LTLP = Lay Theory of Learned Prejudice; LTMP = Lay Theory of Malleable Prejudice.

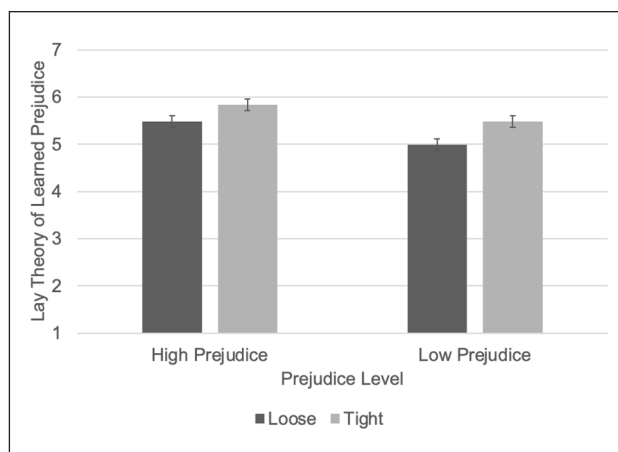


Figure 1. Effects of cultural tightness-looseness and prejudice level on lay theory of learned prejudice, Study 3.

Note. Error bars denote standard errors.

Mediation. We employed PROCESS Macro Model 6 (Hayes, 2018) to test the proposed serial mediation model for each of the three educational outcomes, while controlling for prejudice level. As hypothesized, participants in the tight condition more strongly endorsed a lay theory of learned prejudice. This increased lay theory of learned prejudice was associated with a stronger belief that prejudice is malleable, which was in turn associated with greater endorsement of all three downstream activism outcomes. Concurrently, increased lay theory of learned prejudice was directly associated with higher scores on these activism outcomes. Thus, cultural tightness led to greater perceived effectiveness of educational activism and support for educational policies via both (a) lay theory of learned prejudice alone and (b) the learned-malleable lay theory serial pathway (see Figure 2).

Discussion

Study 3 provided additional experimental evidence that cultural tightness increased lay theory of learned prejudice endorsement regardless of the prejudice level in that society. That is, prejudice levels, which are often higher in tighter societies (Ikizer et al., 2026; Jackson et al., 2019), were ruled out as a confound. Further, cultural tightness indirectly increased perceived effectiveness of educational activism via lay theory of learned prejudice, and partly via both lay theory of learned prejudice and lay theory of malleable prejudice (Carr et al., 2012). Notably, the effect of prejudice level on lay theory of learned prejudice highlights the role of perceived prevalence, or norms, of prejudice. That is, when individuals are equipped to recognize prejudice (Carter & Murphy, 2015), they are more likely to perceive prejudices as socially transmitted, which may have downstream impact on intentions to confront prejudice and responses to being confronted (Chaney & Wedell, 2022).

The manipulation used in Studies 2 and 3 may have invoked not only cultural tightness but also cues about social learning and transmission. Specifically, a social-learning schema (i.e., generalized mental structures used to store information about how ideas are socially transmitted; Roese & Sherman, 2007) may be an alternative explanation, being activated by the simulated society manipulation and then activating a lay theory of learned prejudice. Future research exploring alternative manipulations of cultural tightness are needed to more clearly demonstrate the causal effect of cultural tightness on a lay theory of learned prejudice.

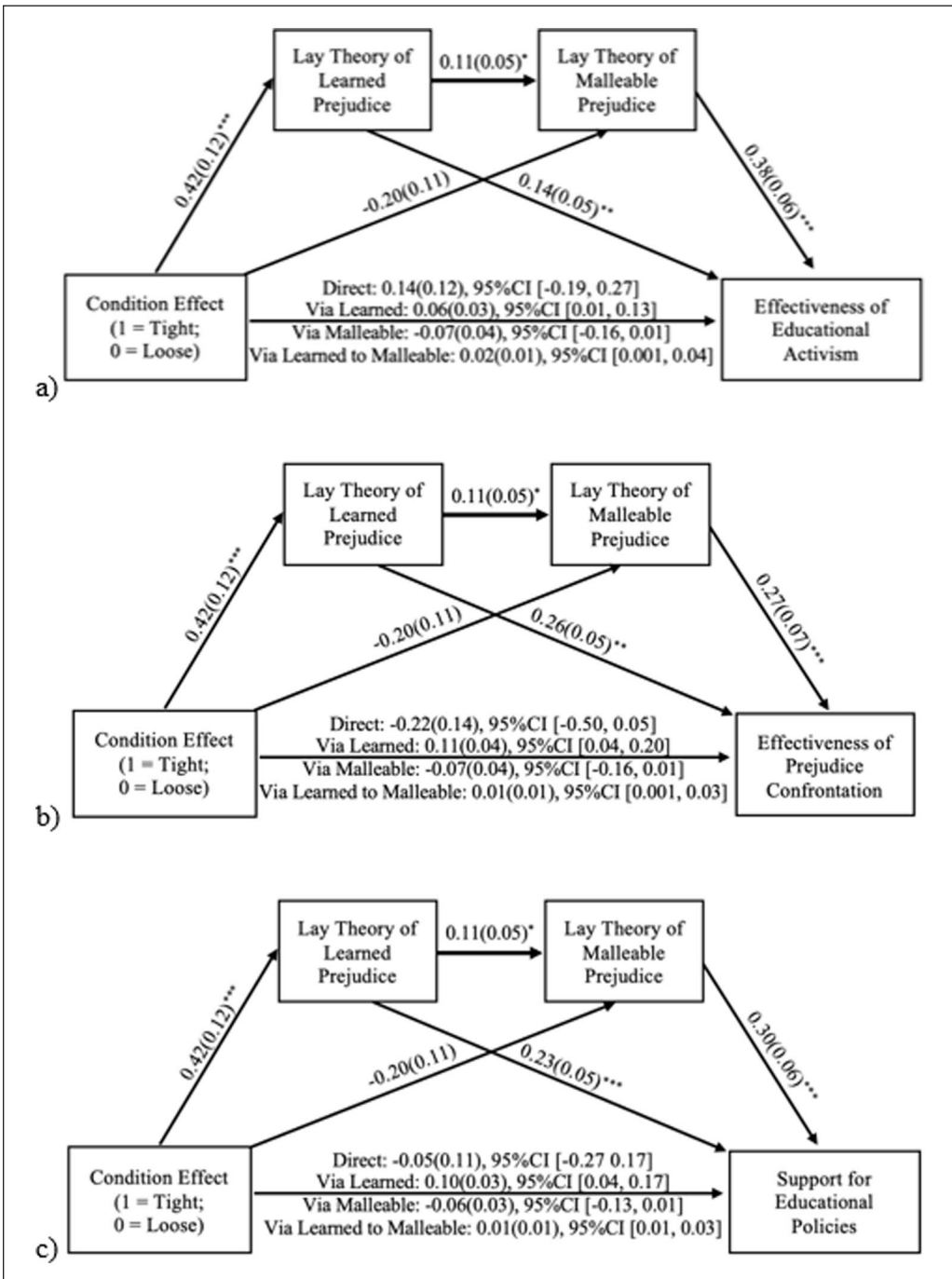


Figure 2. Serial mediation models, Study 3. Mediation models were conducted separately for each outcome: effectiveness of educational activism (a), effectiveness of prejudice confrontation (b), and support for educational policies (c).

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

We provide three explanations for lack of direct effects of cultural tightness on downstream outcomes. First, given the link between cultural tightness and prejudice, cultural tightness may

have increased participants' own level of prejudice toward disadvantaged members of the Tekki society (Albareello et al., 2023; Mula & Pierro, 2022). Second, societies higher in cultural tightness have a tendency to suppress activism efforts that challenge the status quo (e.g., Gelfand et al., 2011, 2017). Thus, cultural tightness may not have a direct impact on educational activism; rather, these outcomes may be cultivated by heightened endorsement of lay theories of learned and malleable prejudice. Finally, shifting people's activism efforts from a brief simulated society paradigm may be challenging, as these behaviors may be more grounded in people's own, everyday experiences. That is, a culture is more than a simulated society, so once people are immersed in a culture of tightness, educational activism may emerge as a long-term effect. Thus, we opted to return to a cross-cultural examination, rather than a simulated society paradigm to examine these associations again.

Study 4

In a final pre-registered study (https://osf.io/hz237/overview?view_only=cd05336c27594402872e0b4bfc435f4a), we adopted a cross-cultural design to holistically investigate the relationships between cultural tightness, lay theory of learned prejudice, and the role of education in activism. We recruited from five countries: United States, South Africa, Greece, France, and Japan, to account for the country-level variability in cultural tightness-looseness based on the CTL index (Uz, 2015). Further, Study 4 included a novel outcome of perceived education goals of activism. That is, raising public awareness is identified as a lay theory about the goal of anti-racism activism (Pham et al., 2024), and we propose cultural tightness as an antecedent. Mirroring previous studies, we hypothesized that people who are in culturally tighter societies would more strongly endorse a lay theory of learned prejudice, which would be positively associated with educational activism. Replicating Study 3, we additionally investigated the mediational role of a lay theory of malleable prejudice in how lay theory of learned prejudice predicts downstream outcomes.

Participants

We pre-registered to recruit approximately 140 participants on Prolific in Summer 2025 from each of the five countries: the United States, South Africa, Greece, France, and Japan. To account for data exclusions, 752 participants were initially recruited, but 55 participants failed one attention check and 10 others failed both. The final sample thus included 687 participants: 138 from the United States, 152 from France, 134 from Greece, 144 from South Africa, and 119 from Japan. See Table 6 for demographic summary by country. After data collection, we conducted a sensitivity power analysis using *semPower* and the same assumptions as Study 1 (Moshagen & Bader, 2023). This analysis showed that $N = 687$ afforded high power ($>.95$) for the planned nested analyses.

Procedure

After providing consent, participants first confirmed they lived in the country being recruited from. Then, they completed an expanded measure of Study 1 to 3 cultural tightness (see below) and the previous studies' measures of lay theory of learned prejudice and lay theory of malleable prejudice. After, participants completed measures of perceived educational goals of activism (novel to Study 4), effectiveness of education and confrontation for activism (Study 3), and support for educational policies in own community (Study 3), before providing demographic information and receiving debriefing. Besides the main measures reported here, participants also completed other measures, including collectivism/individualism, other lay theory of prejudice

Table 6. Demographic Summary, Study 4.

Demographic characteristic	U.S. <i>n</i> (%)	France <i>n</i> (%)	Greece <i>n</i> (%)	South Africa <i>n</i> (%)	Japan <i>n</i> (%)
Age: <i>M</i> (<i>SD</i>)	41.99 (14.10)	37.04 (11.96)	32.74 (9.52)	31.71 (9.63)	36.55 (11.42)
Political Orientation: <i>M</i> (<i>SD</i>)	3.75 (1.97)	3.90 (1.24)	4.98 (1.45)	3.68 (1.61)	4.52 (1.50)
SES: <i>M</i> (<i>SD</i>)	3.82 (1.22)	3.90 (1.24)	3.63 (1.05)	3.47 (1.18)	3.93 (1.17)
Gender					
Women	75 (54.3%)	73 (48.0%)	55 (41.0%)	89 (61.8%)	55 (46.2%)
Men	63 (45.7%)	75 (49.3%)	78 (58.2%)	55 (38.2%)	59 (49.6%)
Non-binary	0 (0.0%)	3 (2.0%)	1 (0.7%)	0 (0.0%)	2 (1.7%)
Genderqueer	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (1.7%)
Self-identified	0 (0.0%)	1 (0.7%)	0 (0.0%)	0 (0.0%)	1 (0.8%)
Transgender Status					
Yes	6 (4.3%)	3 (2.0%)	3 (2.2%)	2 (1.4%)	8 (6.7%)
No	132 (95.7%)	149 (98.0%)	131 (97.8%)	142 (98.6%)	111 (93.3%)
Race/Ethnicity					
White	96 (69.6%)	117 (77.0%)	131 (97.8%)	8 (5.6%)	39 (32.8%)
Black	33 (23.9%)	12 (7.9%)	1 (0.7%)	126 (87.5%)	5 (4.2%)
Hispanic/Latinx	8 (5.8%)	3 (2.0%)	1 (0.7%)	0 (0.0%)	3 (2.5%)
Native or Indigenous	1 (0.7%)	0 (0.0%)	1 (0.7%)	0 (0.0%)	0 (0.0%)
Asian	4 (2.9%)	6 (3.9%)	0 (0.0%)	1 (0.7%)	70 (58.8%)
Middle Eastern/North African	0 (0.0%)	13 (8.6%)	0 (0.0%)	0 (0.0%)	2 (1.7%)
Native Hawaiian/Pacific Islander	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Biracial/Multiracial	2 (1.4%)	6 (3.9%)	2 (1.5%)	6 (4.2%)	3 (2.5%)
Not listed	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (2.1%)	1 (0.8%)
Sexual Orientation					
Lesbian/gay	8 (5.8%)	10 (6.6%)	6 (4.5%)	4 (2.8%)	3 (2.5%)
Bisexual	19 (13.8%)	17 (11.2%)	2 (1.5%)	12 (8.3%)	12 (10.1%)
Pansexual	1 (0.7%)	4 (2.6%)	4 (3.0%)	0 (0.0%)	2 (1.7%)
Queer	0 (0.0%)	3 (2.0%)	2 (1.5%)	2 (1.4%)	3 (2.5%)
Questioning/not sure	0 (0.0%)	2 (1.3%)	9 (6.7%)	2 (1.4%)	6 (5.0%)
Asexual	1 (0.7%)	3 (2.0%)	0 (0.0%)	2 (1.4%)	2 (1.7%)
Heterosexual	106 (76.8%)	111 (73.0%)	111 (82.8%)	120 (83.3%)	91 (76.5%)
Self-identified	3 (2.2%)	2 (1.3%)	0 (0.0%)	2 (1.4%)	0 (0.0%)

Note. Participants could select multiple races/ethnicities.

origins, and perceived repression of activism, which are reported in the Supplement. Participants in the United States and South Africa completed the survey in English, participants in France in French, participants in Japan in Japanese, and participants in Greece in Greek.

Measures

All measures were completed on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale unless otherwise noted. See Table 7 for internal reliabilities and Table 8 for descriptive statistics by country.

Cultural Tightness. The measure of cultural tightness included all six items from Gelfand et al.'s (2011) original measure. Compared with previous studies, three additional items were included:

Table 7. McDonald's Omegas for Measure Reliability by Country, Study 4.

Measure	U.S.	France	Greece	South Africa	Japan
Cultural Tightness	.80	.62	.66	.81	.62
Lay Theory of Learned Prejudice	.92	.81	.87	.81	.85
Lay Theory of Malleable Prejudice	.87	.85	.83	.68	.80
Perceived Education as Activism Goal	.87	.90	.88	.68	.87
Effectiveness of Education	.96	.94	.89	.92	.92
Effectiveness of Confrontation	.87	.85	.90	.84	.90
Effectiveness of Educational Policies	.95	.92	.90	.89	.91

Table 8. Descriptive Statistics By Country, Study 4.

Measure	U.S.		France		Greece		South Africa		Japan	
	M	SD	M	SD	M	SD	M	SD	M	SD
Cultural Tightness	4.91	0.69	4.76	0.68	4.40	0.81	4.82	0.76	5.57	0.63
Lay Theory of Learned Prejudice	5.17	1.27	5.08	0.93	5.61	0.90	5.06	1.32	5.33	1.06
Lay Theory of Malleable Prejudice	5.04	1.19	5.03	0.95	5.06	0.96	4.61	1.11	4.82	1.05
Perceived Education as Activism Goal	5.14	1.16	5.05	0.94	5.06	0.98	4.64	1.11	4.87	1.05
Effectiveness of Education	5.76	1.07	5.25	1.29	4.86	1.18	6.17	0.76	5.27	1.20
Effectiveness of Confrontation	5.50	1.21	4.91	1.17	5.07	0.99	5.82	1.00	4.89	1.11
Effectiveness of Educational Policies	5.07	1.44	4.64	1.35	4.18	1.57	5.52	1.31	4.66	1.45

“People in this country almost always comply with social norms,” “People agree upon what behaviors are appropriate versus inappropriate in most situations this country,” and “People in this country have a great deal of freedom in deciding how they want to behave in most situations.”

Perceived Education as a Goal of Activism. Participants completed three items regarding their perception of education as a goal of activism: for example, “The goal of activism is to raise awareness about discrimination and equality” (based on Pham et al., 2024).

Results

Self-Reported Cultural Tightness

Following pre-registration, we employed a nested model, similar to Study 1. An empty model indicated an ICC of 0.026 (i.e., 2.6% of the variance explained by between-country differences, Kreft & De Leeuw, 1998). The DEFF = 4.55 (Design effect; Muthen & Satorra, 1995), which is higher than 1.5. Multilevel modeling was thus used.

An intermediate model was built using cultural tightness as a predictor of lay theory of learned prejudice. Specifically, we tested a constrained model using cultural tightness as a fixed predictor of lay theory of learned prejudice and an unconstrained model to determine if estimating the slope residuals improved the model. A likelihood-ratio test comparing these two models indicated estimating the slope residual variance and the covariance term was not warranted. That is, the unconstrained model was not a significantly better fit, $LR \chi^2(2) < 0.001, p = 1.00$ (Matuschek et al., 2017). The constrained model was thus applied, showing that cultural tightness positively

predicted lay theory of learned prejudice, $b = 0.21$, $SE = 0.06$, $t(682) = 3.53$, $p < .001$, 95% CI [0.09, 0.32].

Country-Level Index

As pre-registered, we also conducted a linear regression of the country-level Cultural Tightness-Looseness (CTL) Index predicting lay theory of learned prejudice. This regression was statistically significant, $F(1, 684) = 6.54$, $p = .011$, adjusted $R^2 = .008$, indicating that greater country-level cultural looseness was associated with lower endorsement of lay theory of learned prejudice, as hypothesized, $b = -0.01$, $SE = 0.002$, $t = -2.56$, $p = .011$.

Similar to Study 1, to examine the effects of cultural tightness above and beyond collectivism (Minkov et al., 2025), an additional regression was conducted with the country-level Global Collectivism Index (GCI; Pelham et al., 2022) as a covariate. Cultural looseness again predicted a lower endorsement of learned prejudice lay theory, controlling for collectivism, $F(1, 533) = 3.29$, adjusted $R^2 = .01$, $b = -0.01$, $SE = 0.002$, $t = -2.56$, $p = .011$.

Mediation

We again used PROCESS Macro Model 6 (Hayes, 2018) to test serial mediation models, separately for each outcome. As hypothesized, greater self-reported cultural tightness was associated with greater lay theory of learned prejudice. This learned prejudice lay theory was in turn independently associated with greater perceived educational goals of activism, greater perceived effectiveness of educational activism, greater perceived effectiveness of prejudice confrontation, and greater support for educational policies in participants' own community. Further, lay theory of learned prejudice also positively predicted lay theory of malleable prejudice, which was positively linked with all outcomes. Thus, as shown in Figure 3, the indirect effects of cultural tightness on all outcomes were mediated via both lay theory of learned prejudice and the serial lay theory of learned prejudice-lay theory malleable prejudice pathway.⁵

Discussion

Using a cross-cultural design, Study 4 replicated the impact of cultural tightness on lay theory of learned prejudice across five countries: the United States, France, Greece, South Africa, and Japan. Notably, expanding Study 3, lay theory of learned prejudice was also positively associated with perceived education goals of activism, effectiveness of educational activism and prejudice confrontation, and support for prejudice-related educational policies. In other words, lay theory of learned prejudice had positive implications for how people perceive and engage in educational activism. Replicating Study 3, the indirect effects of lay theory of learned prejudice on educational activism was partially mediated by lay theory of malleable prejudice. Across Studies 3-4, however, all constructs were measured at the same time point, which limits the capacity for causal inference in the serial mediation models. Indeed, we acknowledge the limitations of mediation analyses (Fiedler et al., 2011) and encourage researchers to leverage experimental designs that manipulate lay theories (Chaney & Forbes, 2023).

Finally, we explain that the non-significant relationship between cultural tightness and lay theory of malleable prejudice was because cultural tightness is associated with cultural homogeneity, social conformity and preference for stability over change (e.g., Gelfand et al., 2006; Uz, 2015). For instance, cultural homogeneity partly explains rigid thinking such as a lack of national innovativeness (Deckert & Schomaker, 2022), while social conformity and preference for stability may seep into how people explain social issues like prejudice (Loewenstein & Mueller, 2016).

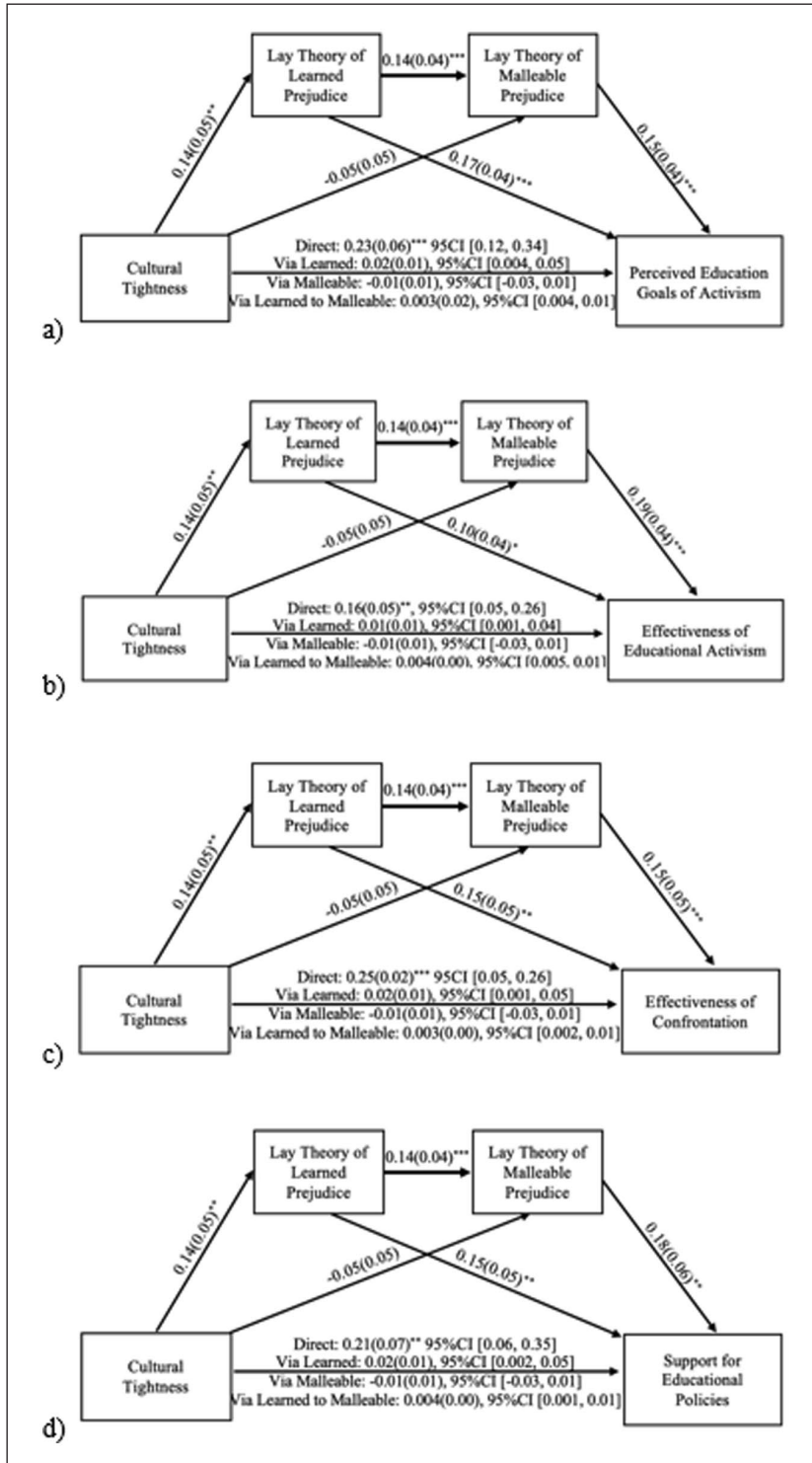


Figure 3. Serial mediation models, Study 4. Mediation models were conducted separately for each outcome: perceived education goals of activism (a), effectiveness of educational activism (b), effectiveness of prejudice confrontation (c), and support for educational policies (d).

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

General Discussion

Prior research has begun to examine how lay people conceptualize the origins of prejudice (e.g., Chaney et al., 2024; Hodson & Esses, 2005), but less is known about they develop in a culture. Integrating a cultural approach into the lay theories literature (e.g., Pham & Chaney, 2026; Rivera et al., 2025), the present research investigates the effect of cultural tightness on a belief that prejudice is learned, and in turn, engagement with educational activism.

Across two large cross-cultural studies and two experiments ($N_{\text{total}} = 1,912$), people who are higher in perceived cultural tightness of their respective country or simulated society endorse more strongly a lay belief that prejudices are learned from one's environment. This finding generalized across eight countries that have different histories of systemic discrimination (e.g., both the United States and South Africa societies abolished apartheid in later 20th century, and Israel is currently an apartheid regime) and are located in different cultural zones: North American, Eastern and Western European, Latin American, East Asian, and Middle Eastern. Country-level analyses also showed that people who live in more culturally tight countries are more likely to endorse this lay theory (Studies 1 and 4). Importantly, while prior research has attributed several effects of cultural tightness (e.g., strong reactions to norm violations) to collectivism (e.g., Minkov et al., 2023; Minkov et al., 2025), the association between cultural tightness and endorsement of lay theory of learned prejudice remained robust above and beyond collectivism, shown via both individual self-reports and country indices of cultural values. We caution that self-reported cultural tightness, due to tapping into people's generalized impressions of their fellow citizens, may reflect more national auto-stereotypes than the nation's strength of norms and sanctions against norm violations (Minkov et al., 2025; Uz, 2015).

Experimental evidence illustrated that imagining being a part of a simulated society that is culturally tight (vs. loose) increased people's lay theory of learned prejudice (Studies 2 and 3), regardless of the prejudice level of the simulated society (Study 3), demonstrating a causal effect of cultural tightness on beliefs about the origins of prejudice. Importantly, endorsing a lay theory of learned prejudice can open people up to recognize the role of education in promoting equality and ultimately perceive greater effectiveness and more strongly support more educational forms of activism (Studies 3 and 4).

Lay Theories of Prejudice

Notably, cultural tightness uniquely and consistently increases a lay theory of learned prejudice. This is because a culture of tightness entails norms of controlled behavior and sanctioning of norm deviance (Gelfand et al., 2006; Uz, 2015). While the present work focuses on cultural tightness at the broad level, prior research has argued that cultural tightness may also be domain-specific or situation-specific (Minkov et al., 2025; Triandis, 1995). For instance, while Sweden is overall tighter than the U.S. regarding a generalized index, Sweden was only higher in two out of six measured domains: norms about how people talk about other groups and about considerate public behaviors (Eriksson et al., 2022). In the present question of interest, tightness regarding how people talk about other groups may be most strongly related to a lay theory of learned prejudice.

Building on the current finding, future research should identify antecedents of other LTP origins, such as lay theories about human nature and malice as origins of prejudice. For instance, inherence heuristic, an intuitive tendency to explain patterns as a function of the inherent properties of their components, is linked with essentialist beliefs and thus may be a predictor of lay theory of human nature as prejudice origins (Cimpian & Salomon, 2014). Broadly, our findings contribute to the lay theories literature that demonstrates the implications of different origins

beliefs (Cheung & Heine, 2015). For instance, people across 30 countries held weaker beliefs that criminality (vs. intelligence and personality) were attributable to genes (Ferris et al., 2024). We recommend future work to connect different lay theories of origins to research on intergroup relations and activism.

While lay theory of learned prejudice was associated with various outcomes of educational activism in different cultures, experimental evidence is warranted to examine causality. That is, the present research did not seek to manipulate endorsement of this lay theory directly. Doing so would offer clearer insights into the implications of endorsing a lay theory that prejudice is learned. Specifically regarding marginalized people, this lay theory may lead to a desire for joint collective action (i.e., involving both advantaged and marginalized group members) given privileged people's proximity to prejudiced individuals to address prejudices (Iyer & Achia, 2021). Going beyond activism, endorsement of lay theory of learned prejudice may shape people's interracial interactions. Extending prior research linking Black Americans' lay theory of shared ignorance as prejudice origins with emotion suppression (Chaney et al., 2024), future work should investigate how White people who believe prejudice is learned respond to being confronted for their prejudices (see Chaney & Wedell, 2022). For instance, a lay belief about learned prejudice may increase White people's behavior-focused (rather than person-focused) responses, which are linked with more adaptive outcomes such as appreciation and making self-improvement plans (Wessel et al., 2023). Further, endorsement of lay theory of learned prejudice, as an antecedent of lay theory of malleable prejudice, may yield similar benefits such as increasing privileged people's interest in interracial interactions (Carr et al., 2012). Though notably, future work is needed to quantitatively demonstrate the direction of this relationship. Finally, integrating a developmental lens, endorsement of lay theory of learned prejudice may reduce White parents' avoidance of discussions of race/ethnicity with their children (Loyd & Gaither, 2018; Nieri et al., 2024) and increase acceptance of education about prejudice for children (e.g., Pereira-Jorge et al., 2026).

By demonstrating a positive association between lay theories of learned and malleable prejudice, the current work underscores that lay theories are interconnected as an organized system that everyday people use to explain the rules of society (Levy et al., 2005). Concurrently, present findings illustrate the predictive power of lay theory of learned prejudice, while promising the utility of examining lay theories of prejudice origins as an important developmental step to understand how other lay theories are formed and relate to each other. Expanding our findings, a belief that prejudice stems from broadly held malice, rather than is merely learned, may be positively correlated with a belief that prejudice is primarily intentional (rather than unintentional) which is associated with preferences for colorblindness over multiculturalism (Apfelbaum et al., 2017). Further, believing prejudices are an inevitable product of human nature may cultivate a belief in generalized prejudices that has implications for solidarity efforts (Chaney & Forbes, 2023). Specifically, if one sees a person as inherently prejudiced, they will likely see that person as prejudiced against various marginalized groups. As a result, people who endorse this lay theory can perceive the interconnectedness of struggles and thus engage in activism or support policies that advance the rights of outgroup marginalized members (Pham et al., 2023).

Finally, endorsing that prejudice is learned may interact with a lay belief that structural (vs. interpersonal) discrimination to inform the target and content of educational efforts (Rucker & Richeson, 2021). For instance, in addressing police brutality, people who are high in both lay theory of learned prejudice and lay theory of structural discrimination may support initiatives to educate people about historical disparities in the criminal justice systems, whereas those who endorse a more interpersonal lay theory may prefer educational bias trainings for police officers (see Rucker et al., 2024).

Toward a Cultural Psychology of Lay Theories

The current research offers a critical examination of how cultural tightness may shape people's understanding as well as expressions of prejudice and discrimination. While research has documented greater levels of prejudice and stigma among tighter societies (e.g., Ikizer et al., 2026; Jackson et al., 2019), we found that cultural tightness can also cultivate a lay theory of learned prejudice that has positive implications for reducing prejudices across five cultures (Studies 3–4). We note that, given the lack of experimental effect on educational activism in Study 3, cultural tightness may increase perceived repression of activism (Gelfand et al., 2011) and thus limit the types of activism to normative rather than non-normative (see Uysal et al., 2024). However, as cultural tightness is a response to historical threats such as wars, natural disasters, and oppression, evoking historical resilience can strengthen one's willingness to engage in various forms of educational activism in tight societies (Selvanathan et al., 2023).

Culture has a distinct influence on how people conceptualize prejudice and equality. In addition to the present work, prior research has shown that horizontal collectivism was associated with greater endorsement of lay theory of generalized prejudice (Pham et al., 2026). These findings are consistent with the culture-as-situated cognition framework positing that culture serves as a meaning-making framework (Oyserman, 2015). Future work should identify cultural antecedents of other lay theories, prejudice and beyond. For instance, in cultures lower in relational mobility (i.e., openness and freedom to form new relationships; Yuki & Schug, 2020), people may attribute prejudices to lacking intergroup contact and believe prejudices as unintentional. Moreover, in cultures high in dialecticism (e.g., Chinese), beliefs that changes are inevitable (i.e., what goes up must come down) may shape a lay theory that prejudice is learned (Ji, 2008; Ji & Wang, 2024). Going beyond specific lay theories, culture can shape the networks of lay theories. For instance, whereas cultural tightness may lead to homogeneity in lay theories (Loewenstein & Mueller, 2016), collectivism, which often involves a focus on context over individuals, can conceptualize lay theories on a intergroup or structural level (e.g., lay belief of power as relative control over resources; Twali et al., 2023). Together, this work can advance a holistic understanding of how people explain social issues differently across historical-cultural contexts.

Importantly, lay theories afford a unique reflection of culture and thus help reveal social inequalities embedded in cultures (Rivera et al., 2025). Focusing on cultural factors in the study of race, in line with the cultural-psychological perspective of racism (P. S. Salter et al., 2018), can challenge the individualist conception of racism in mainstream cultural narratives in the United States (Sommers & Norton, 2006). Therefore, this research goes against the predominant currents of investigating prejudice and discrimination as a “problem in the head” and instead advances the study of racism (and prejudice broadly) as mind-in-context (P. Salter & Adams, 2013). To deepen this investigation, future work should examine lay theories expressed via cultural artifacts such as news headlines, school curricula, and museums (e.g., Bonilla-Silva, 2022; Mukherjee et al., 2015). Complemented with a racially conscious approach (Pham & Chaney, 2026), a cultural psychology of lay theories can inform strategies to shift lay theories as an instrumental vehicle to promote social change on a large scale.

Conclusion

Leveraging cross-cultural and experimental methods, the present research demonstrates the impact of cultural tightness on people's beliefs that prejudices are learned, with implications for understanding and engagement with education as a form of activism. Current findings contribute to the growing efforts to understand how people develop different beliefs about prejudice, while advancing a cultural-psychological study of lay theories and prejudice.

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Ethical Considerations

Research was approved by the University of Connecticut Institutional Review Board (IRB).

Consent to Participate

Informed consent was obtained from participants of all studies.

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Data Availability Statement

Data, syntax, and materials are publicly available on OSF: https://osf.io/hz237/overview?view_only=cd05336c27594402872e0b4bfc435f4a

Notes

1. Across all studies, we measured other lay theories of prejudice origins, but do not report results on these lay theories in the main manuscript because they were outside of the scope of the current paper (see Supplemental Materials). Overall, cultural tightness is *not* consistently associated with other lay theories of prejudice origins (ignorance, malice, human nature).
2. To ensure data quality in Studies 1 and 4, two attention check questions instructed participants to select a certain response (“strongly agree” and “strongly disagree” for Study 1; “strongly disagree” and “1 - very unlikely” for Study 4).
3. See Tables S6, S8, S11, and S15 for correlation tables across studies.
4. Education and confrontation emerged as two factors in an exploratory factor analysis (see Table S9).
5. Results did not significantly change with the four covariates as presented in the linear regression. See Supplement for simple mediation models with only lay theory of learned prejudice as a mediator.

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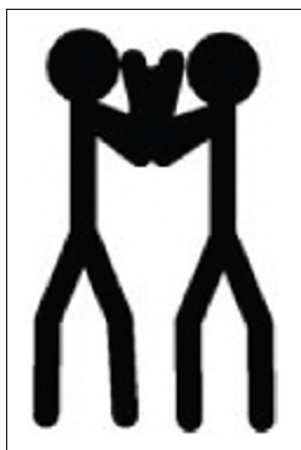
Appendix A

Studies 2-3 Cultural Tightness-Looseness Manipulation (Jackson et al., 2021)

- Tight condition

Imagine that you are a member of the **Tekki**, a future society that comes into existence around 500 years from now. You have lived with the Tekki your entire life, and you consider yourself a citizen of Tekki's culture with knowledge of and respect for your group's customs. The Tekki have **many social norms**, and there are **strong expectations for members to uphold** these practices. For instance, it is customary to greet one's family members by touching your elbows to theirs (see picture below).

Most everyone follows this cultural practice, and people would be stunned if any member of the Tekki failed to participate in this custom. You remember hearing stories about a Tekki who once tried to tap shoulders with someone outside of his family; the rest of the Tekki were shocked: "We've always done things the same way," someone told you. "**Everyone is expected to follow all of our rules and customs.**" As a member of the Tekki, you participate in this family-elbow touching practice and all other social norms.



- Loose condition

Imagine that you are a member of the **Tekki**, a future society that comes into existence around 500 years from now. You have lived with the Tekki your entire life, and you consider yourself a citizen of Tekki's culture with knowledge of and respect for your group's customs. The Tekki have **very few social norms**, and there are **little to no expectations for members to uphold** these practices. For instance, it is customary to greet one's family members by touching your elbows to theirs (see picture below).

Some people follow this cultural practice and some do not, and it wouldn't be considered out of the ordinary if any member of the Tekki failed to participate in this custom. Some Tekki tap shoulders with people outside of their family, but no one finds this strange or surprise. "We've always allowed people to do things differently," someone told you. "**No one really cares if someone doesn't follow our rules and customs.**" As a member of the Tekki, you participate some (but not all) social norms.