







ORIGINAL ARTICLE OPEN ACCESS

# Cultural Humility: A Catalyst for Increasing Future Contact Intentions

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**Received:** 25 October 2024 | **Revised:** 7 October 2025 | **Accepted:** 4 November 2025

**Funding:** This study was funded by University of Ferrara Fondo per l'Incentivazione alla Ricerca (FIR) 2021 grant and by Italian Ministry of University and Research Progetto di Ricerca di Interesse Nazionale (PRIN) 2022 grant (F53D23006350006).

**Keywords:** cultural humility | future contact intentions | intergroup anxiety | intergroup contact | intergroup relations

## ABSTRACT

Cultural humility, that is an interpersonal stance characterized by openness and self-reflection towards different cultural backgrounds and awareness of status and power imbalances, has become increasingly important in promoting positive and egalitarian intergroup relations. In three studies, we tested whether cultural humility could promote higher intentions of future contact with outgroup members, and the mechanisms underlying this association (i.e., intergroup anxiety, perceived threat, empathy). In (cross-sectional) Study 1 ( $N = 390$ ), we found that participants' self-reported cultural humility was associated with higher levels of future contact intention and that intergroup anxiety mediated such association. In Study 2 ( $N = 312$ ) and Study 3 ( $N = 274$ ), we experimentally induced cultural humility. In both studies participants in the cultural humility induction condition reported significantly higher intentions of future intergroup contact compared to those in the control condition, but such effect was not mediated by intergroup anxiety. In contrast, in Study 3, cultural humility decreased perceived threat, which mediated the relationship between cultural humility and future contact intentions. No mediation by empathy emerged. Overall, these findings support the growing literature emphasizing the potential of cultural humility in promoting positive intergroup relations.

## 1 | Introduction

In an increasingly globalized, ethnically and culturally diverse world, understanding and navigating cultural differences has become a fundamental requirement. Cultural humility is an individual variable, defined as an interpersonal stance characterized by respect and an absence of superiority towards individuals from different cultural backgrounds, emerging as a significant concept in promoting positive relations (Hook et al. 2013; McElroy-Heltzel et al. 2018; Owen et al. 2016; Ratanashevorn et al. 2024; Wilcox et al. 2022). Cultural humility is an ongoing process of self-reflection and self-criticism,

recognizing and questioning status and power imbalances, and engaging in respectful collaborations with individuals from different backgrounds (Mosher et al. 2017; Tervalon and Murray-García 1998). Cultural humility thus enables relationships based on mutual respect and cooperation, promoting a continuous process of self-examination throughout life (Foronda et al. 2016). Embracing cultural humility, therefore, involves understanding and appreciating cultural differences (Hook et al. 2013), continuously working on adopting the perspective of others, and creating respectful, trustworthy, and honesty-based relationships (Tervalon and Murray-García 1998; Yeager and Bauer-Wu 2013).

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Such characteristics have the potential to create a fertile ground for intergroup contact, and specifically for intergroup interactions where the conditions described by Allport (1954) for the creation of positive and constructive contact between different groups can be fulfilled. Indeed, despite increasing multiculturalism, a wealth of research has demonstrated that segregation persists (e.g., Al Ramiah et al. 2015; Dixon et al. 2008, 2020), representing a barrier to intergroup contact and to its potential to improve intergroup relations. Moreover, as diversity increases, majority groups often react defensively, perceiving these changes as a threat to their social and cultural position (Craig and Richeson 2014, 2017; Hodson et al. 2022). This defensive response is often reinforced by social trends that are hostile to diversity, such as the rise of right-wing populist movements in Europe and globally, which have gained ground by promoting nationalist and anti-immigrant sentiments (Mudde 2019).

Several scholars have recently paid attention to antecedents of intergroup contact, seeking to understand how such defensive responses can be mitigated and how conditions for constructive engagement can be created. Recently, Kauff et al. (2021) proposed a three-level taxonomy regarding predictors of contact, that is micro-level (interpersonal and intrapersonal variables), meso-level (intergroup and intragroup variables) and macro-level (variables associated with the social context in which groups are embedded). We propose that cultural humility, as an individual variable, can fit within the micro-level as a predisposing factor that promotes positive outgroup contact.

Therefore, the primary goal of this study was to investigate the association between cultural humility and increased willingness to have contact with people from different backgrounds. Second, to establish causality, we went beyond cross-sectional data (Study 1) and experimentally tested whether an induction of cultural humility enhances future contact intentions (Studies 2-3). Third, we aimed to identify the mediators of this association, testing intergroup anxiety (Studies 1-3), perceived threat and empathy (Study 3). Finally, given the lack of an experimental manipulation of cultural humility, another goal was to propose a brief induction of cultural humility and test the construct validity of this induction.

## 1.1 | Cultural Humility and Intergroup Relations

Research on general humility and its sub-domains (e.g., intellectual humility) has received increasing attention over the years. In this regard, general humility consists of the ability to recognize one's strengths and weaknesses, to manifest interpersonal behavior focused on others and to control one's egocentrism (Davis et al. 2011), while intellectual humility is about understanding the limits of one's knowledge, being open to new ideas and regulating arrogance in presenting one's point of view (McElroy et al. 2014). Studies that have manipulated general humility have found higher attentiveness to others and an attenuation of negative behavioral intentions (Van Tongeren et al. 2018; Study 2), thus promoting harmonious interpersonal interactions (Shi and Chen 2024). Similarly, intellectual humility has been found to play a role in influencing political tolerance,

social equality, and agreement with different points of view (Krumrei-Mancuso and Newman 2021). Recent research has begun to explore the role of intellectual humility in reducing cognitive and social biases, including prejudice (Itzchakov et al. 2024; see also Bowes et al. 2022 for political myside bias).

In the sub-domain of cultural humility, early work (Foronda et al. 2016; Tervalon and Murray-García 1998) focused mainly on the medical and educational sectors. This study has suggested that cultural humility has a positive impact on the relationship between health professionals and patients and has the potential to improve the health outcomes of marginalized populations (Kools et al. 2015). It is only in recent times that attention has been focused on the role of cultural humility in influencing prejudice and discrimination in the broader context of intergroup relations. For instance, cultural humility has been found to be linked to greater openness to immigration and reduced prejudice (Captari et al. 2019), lower negative reactions toward individuals with different values and beliefs (Choe et al. 2019), increased religious tolerance towards non-Christian and atheist out-groups (Van Tongeren et al. 2016), and, more generally, to the promotion of more positive attitudes towards individuals belonging to different groups (AlSheddi 2020).

### 1.1.1 | Distinguishing Cultural Humility From Related Constructs

Cultural humility is a complex and multifaceted concept, and although it shares key attributes with constructs already analyzed in the literature (i.e., intercultural competence; valuing diversity; openness to experience; perspective-taking), it is at the same time different from them. Indeed, intercultural competence (Bennett et al. 2004; Meleady et al. 2021; Leung et al. 2014; Whaley and Davis 2007) involves traits (e.g., open-mindedness), worldviews (e.g., cultural inclusivity), and skills (e.g., adaptability) which are necessary to operate effectively in diverse contexts, and which can be acquired. Instead, cultural humility does not represent a set of competencies but rather a relational and ethical stance grounded in awareness of one's limitations, recognition of status and power asymmetries, and ongoing reflexivity (see Foronda et al. 2016). In this sense, while intercultural competence focuses on what an individual "knows" or "knows how to do", cultural humility highlights how an individual "is" and "stands" in the relationship, underscoring the processual and dynamic nature of intercultural encounters.

Similarly, cultural humility goes beyond valuing diversity (Tropp and Bianchi 2006), which implies a general appreciation for cultural differences, by requiring active analysis of one's own biases and privileges. It also differs from openness to experience (DeYoung 2015; Hotchin and West 2022), which involves curiosity toward novelty but lacks the ethical and relational elements central to humility, even though openness is among its components (Foronda et al. 2016). Finally, although perspective-taking (Wang et al. 2014) and cultural humility both involve engaging with others' experiences, perspective-taking refers primarily to a cognitive skill, whereas humility entails a broader, sustained relational orientation.

### 1.1.2 | Cultural Humility and Intergroup Contact Intentions

Moving from the conceptual domain to its implications, recent studies have introduced the concept of cultural humility within the context of intergroup contact. For instance, in a cross-sectional study, Rullo et al. (2022) found that cultural humility was associated with Italian respondents' more positive contact and less negative contact with immigrants and Muslims. Furthermore, cultural humility moderated the association between contact opportunity and negative contact. Specifically, only among participants with low cultural humility contact opportunity was associated with higher negative contact. Overall, literature suggests that cultural humility emerges as a key factor in promoting constructive intergroup relations, thereby contributing to the reduction of prejudice and the consequent improvement of social harmony.

In this regard, cultural humility could also be a distinctive antecedent of future intergroup contact intentions. By its very definition (Foronda et al. 2016), cultural humility combines three inseparable aspects: (a) critical self-reflection on one's own prejudices and limitations, (b) respectful openness to the perspectives of others, and (c) awareness of status and power asymmetries, which may act together to promote intergroup contact. Thus, by encouraging respectful curiosity towards the outgroup, cultural humility fosters a reciprocal learning orientation that can facilitate behavioral openness towards intergroup encounters. Furthermore, adopting a humble and non-judgmental approach mitigates negative evaluations, making the idea of contact with others more accessible. Finally, cultural humility may prompt individuals to perceive interactions with the outgroup as opportunities for personal growth and enrichment.

In line with this rationale, early applied evidence indicates that cultural humility is not just a disposition but is reflected in concrete interpersonal outcomes. In psychotherapy, cultural humility perceived by the client is positively associated with a stronger working alliance and improved therapy (Hook et al. 2013), demonstrating that a respectful and other-oriented approach coexists with greater engagement within an actual helping relationship. In the healthcare sector, interprofessional training explicitly designed to promote culturally humble care for marginalized populations (Kools et al. 2015) showed how cultural humility supports professionals' commitment across cultural boundaries. Together, these findings provide evidence that cultural humility could be consistent with commitment-oriented approaches in other contexts as well, not just therapeutic and healthcare settings. Consequently, we suggest that cultural humility may stimulate intentions to engage in future contacts with outgroup members.

## 1.2 | Mechanisms Linking Cultural Humility and Intergroup Contact Intentions

Previous research has highlighted several psychological processes that can represent facilitators or barriers to intergroup contact. These include intergroup anxiety, as well as perceived threat (Stephan et al. 2015) and empathy (Batson and Ahmad 2009). Accordingly, since the seminal work by Stephan

and Stephan (1985), intergroup anxiety—the discomfort that individuals may experience when interacting, or when anticipating an interaction, with outgroup members—has received wide attention. In this regard, intergroup anxiety is consistently associated with more prejudice and with lower intentions of future contact with outgroup members (Plant and Devine 2003; Stephan et al. 2002; Turner et al. 2013) rendering it one of the most important barriers in promoting intergroup contact.

From this perspective, cultural humility, promoting acceptance of cultural differences, an ongoing process of adopting the perspective of others and a non-judgmental approach to other cultures, has the potential to establish a sound basis for reducing intergroup anxiety. In this regard, Visintin et al. (2024) incorporated instructions aimed at eliciting cultural humility during imagined intergroup contact, that is the mental simulation of an intergroup encounter (Turner et al. 2007), and analyzed whether culturally humble imagined contact reduced prejudice and increased future contact intentions via a reduction of intergroup anxiety. They found that making cultural humility salient during imagined contact reduced intergroup anxiety compared to a standard imagined contact condition and to a control condition. Intergroup anxiety was in turn associated with both higher prejudice and lower intentions for future contact with the out-group, and therefore culturally humble imagined contact had indirect effects on reduced prejudice and on increased future contact intentions through lowered intergroup anxiety.

Moreover, the non-judgmental approach typical of cultural humility also promotes a climate of trust regarding the intentions of the other, thereby hindering the processes responsible for the amplification of anxious intergroup reactions (Plant and Devine 2003). This perspective is supported by findings from the healthcare context, where cultural humility has been adopted to improve interactions with patients from diverse backgrounds (Kools et al. 2015). In line with this, it is plausible to expect that the same approach could be beneficial in reducing anxiety toward outgroups in the general population as well. Considering these findings, we argue that cultural humility could be associated with lower intergroup anxiety, and in turn with higher future contact intentions.

On the other hand, as pointed out by Stephan et al. (2015), intergroup threat perceptions develop when members of one group view another group as a possible source of danger. Cultural humility could be associated with lower perceived threat because its relational attitude based on awareness of one's own background and openness to other cultures promotes recognition of groups other than one's own as a resource for mutual learning and growth, rather than as a threat (Captari et al. 2019). From this perspective, previous results have shown that cultural humility is negatively associated with perceived threat (Captari et al. 2019; Van Tongeren et al. 2016; Visintin and Rullo 2021), thus having the potential to reduce threat and its detrimental effects on future contact intentions with members of other cultures. Indeed, perceived threat is a barrier for future contact intentions.

Following intergroup threat theory (Stephan et al. 2015), the perception of threat associated with the outgroup can generate a

defensive reaction aimed at protecting one's own group, often expressed through avoidance of the other. Accordingly, previous research has highlighted that perceived threat leads to negative attitudes toward out-groups (Corenblum and Stephan 2001), as well as a reduction in willingness to engage in contact with members of other groups (Brambilla et al. 2013). Although related, anxiety and threat capture distinct aspects: intergroup anxiety reflects an anticipatory affective reaction to contact, while perceived intergroup threat refers to a cognitive evaluation of potential negative consequences (Stephan et al. 2015; Stephan 2014), and within Integrated Threat Theory they are treated as distinct constructs (Stephan and Stephan 2000). Therefore, cultural humility could reduce threat, which in turn should be related to lower intentions to engage in future contact with outgroup members.

Finally, empathy is defined as the capacity to recognize, comprehend, and respond to the emotional states of others (Dovidio et al. 2010). Cultural humility could be associated with higher empathy toward outgroup members because its core processes directly cultivate empathy toward outgroup members, through its characteristics of altruism, spirit of sharing and relationships marked by solidarity (Foronda et al. 2016). Empathy toward outgroup members, in turn, should facilitate positive intergroup interactions (Batson and Ahmad 2009; Finlay and Stephan 2000) and be associated with greater intention to engage in contact with the outgroup as consistently shown by the literature (Cocco et al. 2023; Tang et al. 2024). Indeed, intergroup emotions are a predictor of behaviors toward out-groups (Weiner 1980; Zuo et al. 2023) and can significantly influence group members' willingness to initiate or avoid intergroup contact (Ron et al. 2017). Empathy, as a positive emotion associated with understanding others, is related with positive attitudinal and behavioral outcomes at both the interpersonal and intergroup levels (Batson and Ahmad 2009), thus promoting contact-seeking.

Taken together, these three processes—intergroup anxiety, perceived threat, and empathy—capture complementary pathways through which cultural humility may increase intentions for intergroup contact.

## 2 | Overview of the Research

The overarching aim of this study was to examine the potential of cultural humility to enhance willingness to engage with individuals from cultural backgrounds different from one's own. To this end, three studies were conducted. The research was conducted in Italy and analyzed the point of view of the majority group of Italian nationals, while the target outgroup were immigrant people in Italy.

The aim of Study 1, employing a cross-sectional design, was to examine the relationship between self-reported cultural humility, intergroup anxiety and future contact intentions. It was hypothesized that higher levels of cultural humility would be associated with higher levels of future contact intention and lower levels of intergroup anxiety. Additionally, it was expected that intergroup anxiety would mediate the association between cultural humility and future contact intentions. Study 2 and

Study 3 were implementations of Study 1. The aim of these two studies was to examine the relationship between experimentally induced cultural humility and future contact intentions while analyzing the role of three different mediators: intergroup anxiety (Studies 2 and 3), empathy and perceived threat (Study 3).

To accomplish this, we designed an experimental manipulation intended to induce cultural humility, contrasted with a control condition in which participants did not engage in any task (Study 2) or engaged in a similar task not aimed at eliciting cultural humility (Study 3). The instructions to evoke cultural humility were specifically developed for this experiment, drawing on foundational literature that defines and conceptualizes cultural humility (Foronda et al. 2016; Hook et al. 2013; Tervalon and Murray-García 1998). Given that this is, to the best of our knowledge, the first experimental manipulation aimed at inducing cultural humility, we included a measure of cultural humility (adapted from Hook et al. 2013), which was treated as a manipulation check. Accordingly, we tested whether the experimental manipulation was successful in increasing cultural humility compared to the control condition.

Turning to our hypotheses, in Studies 2 and 3 we expected that eliciting cultural humility would decrease intergroup anxiety and increase future intergroup contact intentions compared to the control condition. We also expected that intergroup anxiety would mediate the effect of cultural humility induction on future contact intentions in Studies 2 and 3. In Study 3, we also explored whether our cultural humility induction would decrease perceived threat and increase empathy, and whether these variables would mediate the association between cultural humility induction and future contact intentions.

The present research program offers new insights that significantly enrich the existing literature for several reasons. Firstly, as there is no validated experimental manipulation of cultural humility, it aims to propose such a manipulation and test its construct validity (Studies 2 and 3). Secondly, it aims to test whether cultural humility is associated with future contact intentions, using both cross-sectional (Study 1) and experimental (Studies 2 and 3) designs. Indeed, previous work bridging cultural humility literature and intergroup contact theory relied on cross-sectional data focused on previous contact experiences (Rullo et al. 2022) or on the imagined contact paradigm combined with instructions aimed at eliciting cultural humility during the imagined intergroup encounter (Visintin et al. 2024). While such studies paved the way for testing cultural humility as an antecedent of future contact intentions, their scope differs from that of the current research. Rullo et al. (2022) focused exclusively on actual positive and negative contacts with immigrants or Muslims in Italy, with standard contact measures that do not include the willingness to initiate contact. Therefore, respondents likely considered causal contact or not actively sought contact, with limited consequences for desegregation.

By contrast, in the current research program we directly assessed whether participants are willing to have new contact with outgroup members and therefore contribute to reducing

segregation barriers. The same outcome variable was included in the imagined contact experiment by Visintin et al. (2024). However, their focus was on integrating cultural humility into the imagined contact paradigm, and therefore on proposing a reinforcement of imagined contact instructions to improve its effectiveness. Instead, in the current research we directly experimentally manipulated cultural humility, by encouraging participants to think about how to be culturally humble - without the imagination of an intergroup encounter.

Finally, the current research program also tested three potential mediators of the effects of cultural humility on future contact intentions. In Study 1 and 2 we focused on intergroup anxiety, given its central role as a mediator in the intergroup contact literature (Pettigrew and Tropp 2008), and in Study 3 we extended the model to also explore the role of perceived threat and empathy as potential mediators. The datasets generated and analyzed during the current research are available at [https://osf.io/xd7cq/?view\\_only=2c1bf444974e4698bc69397bd11f8c5c](https://osf.io/xd7cq/?view_only=2c1bf444974e4698bc69397bd11f8c5c).

### 3 | Study 1

#### 3.1 | Methods

##### 3.1.1 | Participants

A convenience sample of students from an Italian university was recruited for Study 1 via a link on online learning platforms. Given that correlation stabilization begins to occur with a sample size of about 250 observations (Schönbrodt and Perugini 2013), our aim was to recruit at least 250 participants.

Initially, 411 respondents took part in this study. However, since the study analyzed attitudes towards individuals from other cultures, participants with non-Italian nationality ( $n = 10$ ) were removed before any analysis. Furthermore, participants who did not answer correctly the attention check (see “*Procedure*” section) were excluded ( $n = 11$ ). The final sample thus consisted of 390 participants. We also conducted a sensitivity power analysis using the website “Monte Carlo Power Analysis for Indirect Effects” (Schoemann et al. n.d) with the standard deviations of and the correlation matrix between the predictor (Self-Reported Cultural Humility), the dependent variable (Future Contact Intentions) and the mediator (Intergroup Anxiety) of the present study as the input method. The results revealed that our sample size of 390 participants was adequate to achieve statistical power  $> 80\%$  ( $\alpha = 0.05$ ).

Regarding gender, 82.6% were women, 16.7% were men, and 0.8% identified themselves as nonbinary. The mean age of the participants was 24.26 ( $SD = 8.33$ ). The study was approved by the Ethics Committee of the Department of Humanities, University of Ferrara (code: 2024#002).

##### 3.1.2 | Procedure

The questionnaire was administered via the Qualtrics platform. Once all pertinent information regarding the study had been

read, participants were asked to provide their informed consent to participate. Subsequently, a series of measures were administered to investigate participants’ cultural humility, intergroup anxiety, and future contact intentions towards immigrant people in Italy.

Self-reported cultural humility was measured through 12 items with a response scale from 1 (*not at all like me*) to 4 (*completely like me*). The measure is an adaptation of Hook et al.’s (2013) cultural humility scale. To reduce social desirability, Schwartz et al. (2001) procedure for assessing human values was used. Participants were then asked to rate how similar a person was to them with respect to cultures different from their own. Examples of items are “Is open to exploring cultural differences” and “Often starts from certain preconceptions when considering another culture” (reverse-coded). After reverse-coding the appropriate items, the measure showed acceptable reliability (Cronbach’s  $\alpha = 0.75$ ) and a composite score was calculated by averaging answers, with higher scores indicating higher cultural humility.

Intergroup anxiety was measured through six items with a response scale from 1 (*not at all*) to 7 (*very much*), adapted from Visintin et al. (2017). Participants were asked to think about an encounter with an immigrant person in the future and to rate how embarrassed, anxious, shy, comfortable (reverse-coded), relaxed (reverse-coded), and nervous they would feel. After reverse-coding the appropriate items, the measure showed good reliability (Cronbach’s  $\alpha = 0.84$ ), and we averaged the answers to create a composite score, with higher scores indicating higher intergroup anxiety.

Future contact intentions were measured through 5 questions with a response scale from 1 (*not at all*) to 7 (*very much*), adapted from Husnu and Crisp (2010). Examples of questions are “Do you plan to get acquainted with immigrant people in the future?” and “Do you plan to spend time with immigrant people in the future?”. The measure showed high reliability (Cronbach’s  $\alpha = 0.94$ ), and we averaged the answers to create a composite score, with higher scores indicating higher intentions for future contact.

Finally, a series of socio-demographic questions were asked. In addition, an attention check was included in the questionnaire where participants were asked to select the last option on the response scale. Participants who did not answer correctly were excluded from the analysis. Results did not change when participants who failed the attention check were not excluded from data analysis. The questionnaire included additional measures that may be provided upon request to the corresponding author.

##### 3.1.3 | Data Analysis and Results

Table 1 presents the means, standard deviations, and correlations between self-reported cultural humility, intergroup anxiety, and future contact intentions. As hypothesized, participants’ cultural humility correlated positively with future contact intentions and negatively with intergroup anxiety. Furthermore, intergroup anxiety was negatively correlated with future contact intentions.

**TABLE 1** | Means (standard deviations) and correlations of the variables in Study 1.

Variable	Mean (SD)	1	2
1. Cultural humility	3.41 (0.37)		
2. Intergroup anxiety	3.11 (1.19)	−0.349	
3. Future contact intentions	5.28 (1.36)	0.512	−0.387

Note: All correlations are significant,  $ps < 0.001$ .

Next, we investigated whether intergroup anxiety mediated the association between cultural humility and future contact intentions (Model 4 in Process, Hayes 2013, 5000 bootstrapped samples). As hypothesized, we found that cultural humility was associated with lower intergroup anxiety ( $B = -1.122$ ,  $SE = 0.153$ ,  $p < 0.001$ , 95% CI =  $[-1.423, -0.822]$ ), which was in turn negatively associated with future contact intentions ( $B = -0.271$ ,  $SE = 0.052$ ,  $p < 0.001$ , 95% CI =  $[-0.373, -0.170]$ ). Accordingly, there was a positive indirect effect of cultural humility on future contact intentions via intergroup anxiety ( $B = 0.305$ ,  $BootSE = 0.071$ , 95% CI =  $[0.177, 0.455]$ ). Furthermore, the direct association between cultural humility and future contact intentions was still significant ( $B = 1.580$ ,  $SE = 0.166$ ,  $p < 0.001$ , 95% CI =  $[1.254, 1.906]$ ).

To recap, Study 1 provided initial evidence of the beneficial role of cultural humility for fostering future contact intentions. Indeed, we found that Italian nationals' cultural humility was associated with more behavioral intentions to have contact with immigrants. Such association was mediated by intergroup anxiety. While such findings fully supported our hypothesis, causality could not be established because of the cross-sectional nature of data. Therefore, in Study 2 we experimentally manipulated cultural humility, and tested whether the cultural humility induction increased future contact intentions, and whether such effect is mediated by reduced intergroup anxiety.

## 4 | Study 2

### 4.1 | Methods

#### 4.1.1 | Participants

A convenience sample of students from two Italian universities was employed for Study 2. Following Brysbaert (2019) suggestion for sample size when comparing two groups, we aimed at recruiting at least 200 participants. To maximize the possibility to reach the required sample size, we recruited participants through a link in online teaching platforms.

Initially, 326 respondents took part in this study. However, since the study analyzed attitudes towards individuals from other cultures, participants with non-Italian nationality ( $n = 11$ ) were removed before any analysis. Furthermore, participants who did not answer the attention check (see "Procedure" section) correctly were excluded ( $n = 3$ ). The final sample thus

consisted of 312 participants. A sensitivity power analysis, informed by the indirect effect observed in Study 1, indicated that a sample of  $N = 312$  would be expected to provide 99% power to detect an indirect effect of the same magnitude observed in Study 1 ( $\alpha = 0.05$ ; Monte Carlo Power Analysis for Indirect Effects, Schoemann et al. n.d). Regarding gender, 89.4% were women, 10.3% were men, and 0.3% identified themselves as "other." The mean age of the participants was 28.68 ( $SD = 10.33$ ). The study was approved by the Ethics Committee of the Department of Humanities, University of Ferrara (code: 2024#002).

#### 4.1.2 | Procedure

The experiment was administered using the Qualtrics platform. Once the participants had been informed of the details pertinent to the study and had consented to participate in the research, they were randomly assigned to either the experimental condition of "cultural humility induction" or the "control condition" where no task was performed. In the condition of "cultural humility induction," we invited participants to think about how their approach when interacting with people with a different cultural background could be humble and non-judgmental, open to learn about other cultures and to reflect about status and power imbalances. Next, we invited them to write down three to five concrete actions they could implement so that the cross-cultural encounter matches such characteristics.

Subsequently, self-reported cultural humility (Cronbach's alpha = 0.75), intergroup anxiety (Cronbach's alpha = 0.84), and future contact intentions towards immigrant people in Italy (Cronbach's alpha = 0.94) were investigated with the same measures used in Study 1.

Finally, a series of socio-demographic questions were asked. In addition, the questionnaire included an attention check, as described in Study 1. The questionnaire included additional measures that may be provided upon request to the corresponding author.

#### 4.1.3 | Data Analysis and Results

Preliminary analyzes showed that there were no significant differences between the experimental conditions with respect to participants' gender,  $\chi^2(2) = 1.27$ ,  $p = 0.530$ , and age,  $t(310) = 1.30$ ,  $p = 0.195$ , suggesting successful randomization of participants to the two conditions.

Means and standard deviations of future contact intentions, intergroup anxiety, and self-reported cultural humility by experimental condition are shown in Table 2. To test the effect of the experimental condition on the variables of interest, independent-samples  $t$ -tests were conducted. In all data analysis, the "control condition" was coded -1 while the "cultural humility induction" condition was coded +1. Self-reported cultural humility was higher among participants in the experimental condition compared to those in the control condition,  $t(310) = -2.04$ ,  $p = 0.042$ ,  $d = 0.23$ . This corroborates the

**TABLE 2** | Means (and standard deviations) of the variables by experimental condition in Study 2.

Outcome variable	Cultural humility induction	Control condition
Cultural humility	3.53 (0.35)	3.44 (0.36)
Intergroup anxiety	2.95 (1.17)	2.93 (1.19)
Future contact intentions	5.84 (1.19)	5.54 (1.37)

construct validity of our experimental induction of cultural humility.

Consistently with our hypothesis, future contact intentions were higher among participants in the experimental condition than among participants in the control condition,  $t(309) = -2.07$ ,  $p = 0.040$ ,  $d = 0.24$ . In contrast, contrary to hypothesis, no significant difference was found in intergroup anxiety as a function of the experimental condition,  $t(309) = -0.16$ ,  $p = 0.874$ ,  $d = 0.02$ . In the analyses of intergroup anxiety and future contact intentions, there is one less degree of freedom because one participant (in the “control condition”) did not respond to the aforementioned measures.

When testing whether intergroup anxiety mediated the effect of cultural humility induction on future contact intentions (Model 4 in Process, Hayes 2013, 5000 bootstrapped samples), we found a direct effect of cultural humility on future contact intentions ( $B = 0.154$ ,  $SE = 0.070$ ,  $p = 0.030$ , 95% CI = [0.015, 0.292]) controlling for intergroup anxiety. Unsurprisingly, given that intergroup anxiety did not differ between the two experimental conditions, there was no significant indirect effect of humility induction on future contact intentions via intergroup anxiety ( $B = -0.003$ ,  $BootSE = 0.020$ , 95% CI = [-0.041, 0.038]). In fact, the effect of experimental condition on intergroup anxiety was not significant ( $B = 0.011$ ,  $SE = 0.067$ ,  $p = 0.874$ , 95% CI = [-0.121, 0.143]); conversely, intergroup anxiety was negatively associated with future contact intentions ( $B = -0.287$ ,  $SE = 0.060$ ,  $p < 0.001$ , 95% CI = [-0.404, -0.169]).

To recap, Study 2 provided experimental evidence that cultural humility increases future intergroup contact intentions. However, our cultural humility induction did not decrease intergroup anxiety, and therefore there was no mediation via intergroup anxiety. Then, we conducted a third study in which we explored the role of two other potential mediators: empathy and perceived threat. Furthermore, Studies 1 and 2 relied on student samples, and we could not know whether the effects of cultural humility on future contact intentions generalized beyond student samples. To address this limitation, Study 3 involved a general population sample. In addition, Study 2 had a limitation in the control condition: participants did not perform any task, which resulted in shorter completion times compared to those in the cultural humility condition. Accordingly, in Study 3 participants in the control condition performed an active task unrelated to cultural humility and intergroup relations more broadly. Finally, in Studies 1 and 2 we did not conduct a priori power analyses to estimate the adequate sample size and did not pre-register our hypotheses. Such limitations are overcome in pre-registered Study 3.

## 5 | Study 3

### 5.1 | Methods

#### 5.1.1 | Participants

Unlike in Studies 1 and 2, a sample of Italian citizens not exclusively composed of university students was employed. Before running the experiment, we conducted a priori power analysis. As pre-registered, intergroup anxiety, which was tested as mediator in Studies 1 and 2, was treated as the main mediator, and intergroup threat and empathy were included as additional exploratory mediators. The a priori power analysis was conducted using the website “Monte Carlo Power Analysis for Indirect Effects” (Schoemann et al. n.d) based on the results of Study 1 and Study 2, with the standard deviations of and the correlation matrix between the predictor (Self-Reported Cultural Humility in Study 1 and Cultural Humility Induction in Study 2), the dependent variable (Future Contact Intentions) and the mediator (Intergroup Anxiety) as the input method. The standard deviation and correlation values for this analysis were calculated by averaging standard deviations and correlations from the two previous studies. The a priori power analysis indicated that a total of approximately 270 participants would be needed to achieve a statistical power of 80%.

Initially, 275 respondents took part in this study. However, participants who did not answer the attention check (see “Procedure” section) correctly were excluded ( $n = 1$ ). The final sample thus consisted of 274 participants. Regarding gender, 48.9% were women, 48.9% were men, and 2.2% identified themselves as nonbinary. The mean age of the participants was 35.04 (SD = 10.32). The study was approved by the Ethics Committee of the Department of Humanities, University of Ferrara (code: 2024#002). We pre-registered hypotheses, sample size justification, procedure, and data analysis plan on AsPredicted. The pre-registration is available at: <https://aspredicted.org/jqjt-rmbt.pdf>.

#### 5.1.2 | Procedure

The experiment was conducted using the Qualtrics platform and distributing the link via Prolific. Once the participants had been informed of the details pertinent to the study and had consented to participate in the research, they were randomly assigned to either the “cultural humility induction” or the “control condition.” Unlike in Study 2, the control condition was active, and we asked participants to reflect on their typical day, inviting them to think about how they spend their days, from early morning activities to the evening. The cultural humility induction was the same as Study 2. Next, we

invited participants to write down three to five concrete actions they could do to ensure that the intercultural encounter reflected the characteristics of what they read (“cultural humility induction”) or three to five descriptions of their daily routines (“control condition”). Subsequently, self-reported cultural humility (Cronbach’s alpha = 0.77), intergroup anxiety (Cronbach’s alpha = 0.86), and future contact intentions towards immigrant people in Italy (Cronbach’s alpha = 0.95) were investigated with the same measures used in the previous two studies.

Empathy was measured through 5 items from Tam et al. (2009), with a response scale from 1 (*not at all*) to 5 (*very much*). Participants were asked to think about immigrant people and indicate to what extent they felt moved, compassion, sense of tenderness, human warmth, and emotional closeness towards them. The measure showed good reliability (Cronbach’s alpha = 0.88), and a composite score was calculated by averaging answers, with higher scores indicating higher empathy toward immigrant people.

Perceived threat was measured through 6 items from Visintin and Rullo (2021), with a response scale from 1 (*strongly disagree*) to 4 (*strongly agree*). Participants were asked to express their level of agreement with a series of statements such as: “The resources Italy spends on immigrants are higher than the contributions these people make to the country” and “Italian identity is threatened by the presence of immigrants in Italy.” The measure showed good reliability (Cronbach’s alpha = 0.89), and we averaged the answers to create a composite score, with higher scores indicating higher perceived threat.

Finally, a series of socio-demographic questions were asked. In addition, an attention check was included in the questionnaire, as described in Study 1.

### 5.1.3 | Data Analysis and Results

Preliminary analysis showed that there were no significant differences between the experimental conditions with respect to participants’ gender,  $\chi^2(2) = 1.49$ ,  $p = 0.474$ , and age,  $t(272) = 1.71$ ,  $p = 0.088$ , suggesting successful randomization of participants to the two conditions.

Means and standard deviations of future contact intentions, intergroup anxiety, empathy, perceived threat, and self-reported cultural humility by experimental conditions are shown in Table 3. To test the effect of the experimental condition on the

variables of interest, independent-samples  $t$ -tests were conducted. In all data analysis, the “control condition” and “cultural humility induction” conditions were coded as in Study 2. Self-reported cultural humility was higher among participants in the experimental condition compared to those in the control condition,  $t(272) = 3.19$ ,  $p = 0.002$ ,  $d = 0.39$ , corroborating the construct validity of our experimental induction of cultural humility as in Study 2.

Consistently with our hypothesis, future contact intentions were higher among participants in the experimental condition than among participants in the control condition,  $t(272) = 4.23$ ,  $p < 0.001$ ,  $d = 0.51$ . Again, in line with our predictions, perceived threat was higher among participants in the control condition compared to those in the experimental condition,  $t(272) = 2.26$ ,  $p = 0.024$ ,  $d = 0.27$ . Contrary to our hypothesis, no significant difference was found in intergroup anxiety,  $t(272) = 0.94$ ,  $p = 0.350$ ,  $d = 0.11$ , and empathy,  $t(272) = 0.41$ ,  $p = 0.682$ ,  $d = 0.05$ , as a function of the experimental condition.

Testing our mediation model (Model 4 in Process, Hayes 2013, 5000 bootstrapped samples) about the effect of cultural humility induction on future contact intentions with three simultaneous mediators (intergroup anxiety, perceived threat, and empathy), we found a direct effect of cultural humility on future contact intentions ( $B = 0.293$ ,  $SE = 0.065$ ,  $p < 0.001$ , 95% CI = [0.165, 0.420]). Moreover, we found an indirect effect via perceived threat ( $B = 0.061$ ,  $BootSE = 0.030$ , 95% CI = [0.010, 0.126]); in fact, cultural humility induction decreased perceived threat ( $B = -0.087$ ,  $SE = 0.038$ ,  $p = 0.024$ , 95% CI = [-0.163, -0.011]), which in turn was negatively associated with future contact intentions ( $B = -0.697$ ,  $SE = 0.112$ ,  $p < 0.001$ , 95% CI = [-0.918, -0.476]).

Given that intergroup anxiety and empathy did not differ between the two experimental conditions, there were no significant indirect effects of our cultural humility induction on future contact intentions via intergroup anxiety ( $B = -0.004$ ,  $BootSE = 0.007$ , 95% CI = [-0.021, 0.008]) and empathy ( $B = -0.012$ ,  $BootSE = 0.030$ , 95% CI = [-0.074, 0.044]). Indeed, the effect of experimental condition was not significant on intergroup anxiety ( $B = 0.064$ ,  $SE = 0.068$ ,  $p = 0.350$ , 95% CI = [-0.070, 0.197]), or on empathy ( $B = -0.020$ ,  $SE = 0.049$ ,  $p = 0.682$ , 95% CI = [-0.117, 0.076]); in addition, intergroup anxiety was not associated with future contact intentions ( $B = -0.066$ ,  $SE = 0.058$ ,  $p = 0.256$ , 95% CI = [-0.180, 0.048]), while empathy was positively associated with the outcome variable ( $B = 0.594$ ,  $SE = 0.087$ ,  $p < 0.001$ , 95% CI = [0.423, 0.766]). The results pattern was the same when mediators were tested one by one,

**TABLE 3** | Means (and standard deviations) of the variables by experimental condition in Study 3.

Outcome variable	Cultural humility induction	Control condition
Cultural humility	3.39 (0.34)	3.25 (0.37)
Intergroup anxiety	3.29 (1.13)	3.16 (1.12)
Empathy	3.05 (0.75)	3.09 (0.87)
Perceived threat	1.58 (0.56)	1.76 (0.71)
Future contact intentions	5.23 (1.18)	4.55 (1.44)

except for the association between intergroup anxiety and future contact intentions ( $B = -0.192$ ,  $SE = 0.070$ ,  $p = 0.007$ , 95% CI =  $[-0.330, -0.053]$ ), which was significant in the model not including perceived threat and empathy.

In line with Study 2, Study 3 provided experimental evidence that cultural humility increases future intergroup contact intentions. While we did not find support for the mediation roles of intergroup anxiety (consistently with Study 2) and empathy, the cultural humility induction reduced perceived threat, which in turn was negatively associated with future contact intentions. Therefore, in Study 3 we found evidence of an indirect effect via perceived threat, but not via intergroup anxiety or empathy.

## 6 | Discussion and Conclusions

Despite increasing ethnic and cultural diversity, segregation between groups persists (e.g., Al Ramiah et al. 2015; Dixon et al. 2008, 2020), limiting intergroup contact experiences which might be beneficial for positive and egalitarian intergroup relations. Therefore, strategies to boost intergroup contact intentions are needed. As a possible antecedent of future intergroup contact intentions, in this research program we focused on cultural humility, i.e. an approach characterized by self-reflection and lifelong self-criticism, mutual respect and cooperation, acknowledgment and willingness to address status and power imbalances (Foronda et al. 2016; Hook et al. 2013; Mosher et al. 2017; Tervalon and Murray-García 1998; Yeager and Bauer-Wu 2013). Indeed, previous research suggested that cultural humility is associated with reduced prejudice against several outgroups (e.g., AlSheddi 2020) and provided preliminary cross-sectional evidence that cultural humility is associated with more positive intergroup contact and less negative intergroup contact (Rullo et al. 2022).

Therefore, we conducted a cross-sectional and two experimental studies testing whether cultural humility is associated with higher future intergroup contact intentions. In Study 1, consistently with our prediction, we found a positive association between self-reported cultural humility and intentions of future contact with outgroup members. In addition, intergroup anxiety mediated such association. In Studies 2 and 3, we proposed a brief and simple induction of cultural humility. We found that such induction has construct validity, as it increased self-reported cultural humility compared to control condition. Furthermore, consistently with our prediction, the experimental induction of cultural humility increased participants' intentions of future intergroup contact compared to a control condition both in Study 2 and Study 3. However, such effect was not mediated by intergroup anxiety, which did not decrease as a function of the cultural humility induction compared to the control condition.

Given the absence of effects on intergroup anxiety in Study 2, in Study 3 we investigated perceived threat and empathy in parallel with anxiety as mediators. While we did not find support for the mediation role of empathy, we did find that threat mediated the effects of cultural humility induction on future contact intentions. Indeed, the cultural humility induction

decreased participants' perceived threat, which was in turn negatively associated with intentions for future contact. One possible explanation for the fact that cultural humility induction reduced perceived threat, but not intergroup anxiety, concerns the different nature of these two variables. Perceived threat implies a cognitive appraisal of danger to one's group's values, cultural identity or social position (Stephan et al. 2015) and may be particularly sensitive to an intervention that stimulates reflexive processes and recognition of status and power asymmetries, such as that based on cultural humility. Indeed, the invitation to reflect on one's cultural beliefs and value intergroup equality can directly reduce threatening outgroup representations. In contrast, intergroup anxiety is an anticipatory affective response, linked to the anticipation of an interaction with an outgroup member, and often stems from prior experiences, unfamiliarity or expectations of rejection (Stephan 2014). Given its more automatic and emotional nature, intergroup anxiety may be less likely to be influenced by a brief cognitive and self-reflective intervention, such as the one used in our studies. This explanation could also be the reason for the lack of effect regarding empathy, which might need longer and more structured interventions. At the same time, although previous research suggested that eliciting cultural humility during imagined contact may reduce intergroup anxiety (Visintin et al. 2024), it is possible that more intensive interventions than the one adopted in our research are required to observe significant changes.

Therefore, we contributed to the growing literature showing beneficial effects of cultural humility for intergroup relations (e.g., AlSheddi 2020; Captari et al. 2019). We extended previous research by analyzing an outcome which was not previously investigated in cultural humility literature, i.e. future intergroup contact intentions. In addition, the present work goes beyond the current studies that have analyzed the role of cultural humility in intergroup contact. Indeed, the aim was to extend the scope compared to previous studies - mainly cross-sectional (Rullo et al. 2022) or limited to imaginary contact scenarios (Visintin et al. 2024) - by showing that even a brief reflective exercise on one's own culturally humble approach is sufficient to enhance the propensity to establish contact with members of different groups. Thus, we offer preliminary experimental evidence with promising practical transferability, suggesting that cultural humility may serve as an active, measurable and potentially applicable lever to foster intergroup dialog.

Furthermore, our research also contributes to literature on antecedents of intergroup contact (Bagci et al. 2020; Mazziotta et al. 2011; Paolini et al. 2016, 2018; Turner and Cameron 2016; Wang et al. 2014), suggesting that cultural humility can boost intergroup contact behavioral intentions. From a theoretical perspective, cultural humility can be conceptualized as a micro-level individual predictor of contact seeking (Kauff et al. 2021), offering a broader motivational and relational framework that can foster greater willingness for meaningful intergroup contact.

Some limitations of the research program need to be acknowledged. While the employment of a general population sample in Study 3 allowed us to generalize our results beyond student

populations, future research should replicate our findings in other intergroup contexts, to investigate the effectiveness of cultural humility inductions across different cultures and target outgroups. Moreover, while behavioral intentions are strongly predictive of actual behavior (e.g. Ajzen 2011), future research should test the effects of cultural humility on actual intergroup contact. It is also noteworthy that, although the results of Studies 2 and 3 show the beneficial effects of our manipulation in promoting more positive intergroup relations, the long-term results have not yet been investigated. Given the shortness of our cultural humility induction, and that the outcomes were measured just after the induction, it is not known whether effects would last overtime. Therefore, future research could implement multi-session cultural humility induction programs and test whether their effects last over time. Furthermore, subsequent studies could also benefit from exploring alternative forms of cultural humility induction.

Another limitation is the absence of a direct comparison between cultural humility and other established predictors of intergroup contact intentions, such as self-efficacy, perspective taking or self-expansion. Future research should empirically examine its unique contribution when tested together with these variables, allowing a clearer understanding of its value in predicting intergroup contact behavior. In addition, the present research did not control for the actual quantity or quality of participants' previous intergroup contacts. Given that individuals with frequent and high-quality intergroup contacts are more likely to experience less intergroup anxiety and to be prone to intergroup interactions in the future (e.g., Paolini et al. 2016), future studies should also control for previous intergroup contact to better distinguish the unique role of cultural humility from the effects of previous intergroup experiences.

Notwithstanding the aforementioned limitations, our research has practical and applied implications. We demonstrated the beneficial effects of cultural humility to promote intergroup contact. Furthermore, we developed an induction of cultural humility that has construct validity and which has the potential to increase intentions of intergroup contact. Given that such induction only requires a reflection about how one's approach can be culturally humble, it is easy to implement, does not require major efforts or a long time, and does not pose risks to participants. Therefore, such cultural humility induction could be used in several settings as a tool to prepare for future intergroup contact. The applicability of these findings may be particularly promising in contexts where it is important to promote positive intergroup relations. In educational settings, for example, cultural humility training can be integrated into existing curricula, encouraging students to reflect on their cultural assumptions and adopt a humbler approach, thus creating a more inclusive and harmonious environment (for some examples see Foronda et al. 2018, 2022; Solchanyk et al. 2021). In addition, cultural humility training can be a powerful tool for improving social cohesion. Programs designed to bring together people from different cultural backgrounds can incorporate cultural humility training to facilitate more meaningful and respectful interactions, leading to stronger community bonds and a greater willingness to engage in contact and collaborative activities, ultimately strengthening the social fabric.

In conclusion, in a globalized and multicultural world, cultivating cultural humility might be crucial for fostering genuine connections and understanding across diverse groups, ultimately enriching our collective experience and promoting intergroup harmony.

#### Author Contributions

**Tania Garau:** conceptualization, methodology, data analysis and interpretation, writing – original draft, writing – review and editing. **Calogero Lo Destro:** conceptualization, methodology, writing – review and editing. **Marika Rullo:** conceptualization, methodology, writing – review and editing. **Stylianios Syropoulos:** conceptualization, methodology, writing – review and editing. **Francesca Prati:** writing – review and editing. **Emilio Paolo Visintin:** conceptualization, methodology, data analysis and interpretation, writing – original draft, writing – review and editing. All authors approved the final version of the article.

#### Acknowledgments

This study was funded by University of Ferrara Fondo per l'Incentivazione alla Ricerca (FIR) 2021 grant and by Italian Ministry of University and Research Progetto di Ricerca di Interesse Nazionale (PRIN) 2022 grant (F53D23006350006). Open access publishing facilitated by Universita degli Studi di Ferrara, as part of the Wiley - CRUI-CARE agreement.

#### Consent

Informed consent was obtained from all individual participants included in the Study.

#### Conflicts of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

#### Data Availability Statement

The information needed to reproduce all the reported results is available at [https://osf.io/xd7cq/?view\\_only=2c1bf444974e4698bc69397bd11f8c5c](https://osf.io/xd7cq/?view_only=2c1bf444974e4698bc69397bd11f8c5c).

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