

Moral foundations, political identity and culture outside the USA: A metanalytical study

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Moral Foundations Theory has received great attention since its inception, especially regarding its hypothesis about the moral differences between liberals and conservatives (Graham et al., 2011). A systematic review and meta-analysis about this topic were published recently by Kivikangas et al. (2021). However, since it mainly involved samples from the USA, it did not cover the moderating effect that cultural differences can have on the relationship between political identity and moral foundations. To replicate and complement Kivikangas et al (2021) results, a meta-analysis review of every published or unpublished research available, about the relationship between political identity and moral foundations outside the USA, was conducted. After a wide web search, a total of 46 studies from 89 countries and other two political entities (Honk Kong and Taiwan) ($k = 175$; $N = 96,851$), were selected. Pooled correlations supported Moral Foundations Theory assumptions, and effect sizes were quite similar to those presented in Kivikangas et al., (2021). Individualistic and post-materialistic culture values exhibit greater moral polarization between the two anchor labels of political identity (liberal-conservative and left-right). In contrast, cultures with more traditionalist and group-oriented values show weaker associations between moral foundations and political identity. The proportion of females and political identity also emerged as significant moderators. The possible non-linear relationship between political identity and moral foundations, and the need to consider measurement bias when utilizing the Yourmorals platform and when choosing a scale to measure moral foundations scores, are discussed.

Keywords: moral foundations, political identity, ideology, group conflict, metanalysis.

Fundamentos morales, identidad política y cultura fuera de Estados Unidos: un estudio metaanalítico

La teoría de los fundamentos morales ha suscitado gran interés desde sus inicios, especialmente en lo que respecta a su hipótesis sobre las diferencias morales entre liberales y conservadores (Graham et al., 2011). Kivikangas et al. (2021) han publicado recientemente una revisión sistemática y un metaanálisis sobre este tema. Sin embargo, dado que se basaba principalmente

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en muestras de EE. UU., no abarcaba el efecto moderador que las diferencias culturales pueden tener sobre la relación entre la identidad política y los fundamentos morales. Para replicar y complementar los resultados de Kivikangas et al. (2021), se llevó a cabo una revisión metaanalítica de todas las investigaciones disponibles, publicadas o no, sobre la relación entre la identidad política y los fundamentos morales fuera de EE. UU. Tras una amplia búsqueda en la web, se seleccionaron un total de 46 estudios de 89 países y otras dos entidades políticas (Hong Kong y Taiwán) ($k = 175$; $N = 96.851$). Las correlaciones agrupadas respaldaron las hipótesis de la Teoría de los Fundamentos Morales, y los tamaños del efecto fueron bastante similares a los presentados en Kivikangas et al. (2021). Los valores culturales individualistas y posmaterialistas muestran una mayor polarización moral entre las dos etiquetas de referencia de la identidad política (liberal-conservador e izquierda-derecha). Por el contrario, las culturas con valores más tradicionalistas y orientados al grupo muestran asociaciones más débiles entre los fundamentos morales y la identidad política. La proporción de mujeres y la identidad política también se revelaron como moderadores significativos. Se analizan la posible relación no lineal entre la identidad política y los fundamentos morales, así como la necesidad de tener en cuenta el sesgo de medición al utilizar la plataforma Yourmorals y al elegir una escala para medir las puntuaciones de los fundamentos morales.

Palabras clave: fundamentos morales, identidad política, ideología, conflicto grupal, metaanálisis.

Fundamentos morais, identidade política e cultura fora dos Estados Unidos: um estudo metanalítico

A Teoria dos Fundamentos Morais tem recebido grande atenção desde o seu surgimento, especialmente no que diz respeito à sua hipótese sobre as diferenças morais entre liberais e conservadores (Graham et al., 2011). Uma revisão sistemática e uma meta-análise sobre esse tema foram publicadas recentemente por Kivikangas et al. (2021). No entanto, como envolveu principalmente amostras dos EUA, não abordou o efeito moderador que as diferenças culturais podem ter sobre a relação entre identidade política e fundamentos morais. Para replicar e complementar os resultados de Kivikangas et al. (2021), foi realizada uma meta-análise de todas as pesquisas publicadas ou não publicadas disponíveis sobre a relação entre identidade política e fundamentos morais fora dos EUA. Após uma ampla pesquisa na web, foram selecionados um total de 46 estudos de 89 países e outras duas entidades políticas (Hong Kong e Taiwan) ($k = 175$; $N = 96.851$). As correlações agrupadas corroboraram as premissas da Teoria dos Fundamentos Morais, e os tamanhos dos efeitos foram bastante semelhantes aos apresentados em Kivikangas et al. (2021). Valores culturais individualistas e pós-materialistas exibem maior polarização moral entre os dois rótulos âncora da identidade política (liberal-conservador e esquerda-direita). Em contrapartida, culturas com valores mais tradicionalistas e orientados para o grupo mostram associações mais fracas entre fundamentos morais e identidade política. A proporção de mulheres e a identidade política também se revelaram moderadores significativos. São discutidas a possível relação não linear entre identidade política e fundamentos morais, bem como a necessidade de considerar o viés de medição ao utilizar a plataforma Yourmorals e ao escolher uma escala para medir os escores dos fundamentos morais.

Palavras-chave: fundamentos morais, identidade política, ideologia, conflito de grupos, metanálise.

Moral Foundations Theory (MFT) probably is the most successful theory of moral psychology in the 21st century (Graham et al., 2013). According to the MFT, human morality evolves from “a first draft of the moral mind, organized in advance of experience by the adaptive pressures of our unique evolutionary history” (p. 63). This moral mind is organized into five moral foundations, Harm/care, Fairness/cheating, Loyalty/betrayal, Authority/subversion and Purity/degradation, where all moral aspects the individual develop. While Harm/care and Fairness/cheating are usually labeled as the *individualizing foundations*, since they encompass inter-individual aspects of moral behavior, the other three, Loyalty/betrayal, Authority/subversion and Purity/degradation, are usually labeled as the *binding foundations*, since they encompass intra-group aspects of moral behavior. In accordance with the MFT, everyone’s morality co-evolves from birth with a specific social (or group) context, and the product of that evolution is a unique set of moral foundations called *moral matrix* (Haidt, 2012). A third individualizing foundation, Liberty/oppression, was included in the MFT model afterwards (Haidt, 2012), but it was not included in the Moral Foundations Questionnaire (MFQ), and it has been dropped recently from the model (Atari et al., 2023).

On these premises, the MFT establishes that political identity is related, in general terms, with two basic moral matrixes: the *liberal* matrix, in which the individualizing foundations have a predominant role; and the conservative matrix, in which both the individual foundations and the binding foundations are equally important. In other words: according to the MFT, liberals’ morality is mainly composed by Care/Harm and Fairness/cheating, whereas conservatives’ morality is composed by a complete set of the five foundations (Graham et al., 2009; Haidt, 2012). This difference in the moral

matrix, in which liberals do not recognize as moral elements the foundations of Loyalty/Betrayal, Authority/Subversion and Purity/Degradation, would explain their potential conflict: the difficulties in rational understanding between liberals and conservatives (especially, between extremists from one side and the other, who would show the greatest moral differences), and the emotional tensions that occur due to this fact.

The explanation of political conflict in the United States, as a product of the differences in the moral configuration that liberals and conservatives have, has undoubtedly been a very controversial MFT aspect, and a very successful one, both in academic and non-academic fields. This success has been facilitated by the amount of empirical support that the MFT has received in the last decade. For example, the MFT hypothesis about the moral differences between liberals and conservatives was supported, in the seminal article “Liberals and conservatives rely on different sets of moral foundations” (Graham et al., 2009), by different versions of the MFQ, and empirical evidence from large United States and United Kingdom samples. Supporting evidence for the MFT was extended to other world regions two years later, using the standardized 30-item version of the MFQ (MFQ-30) (Graham et al, 2011). Although some later critics found some measurement invariance limitations for the MFQ-30 regarding race and religion (Davis et al., 2016; Davis et al., 2017), and others found that liberals and conservatives could rely on the same moral foundations in certain situations (Frimer et al., 2013), published empirical evidence regarding moral foundations differences between liberals and conservatives, utilizing different moral foundations measurements, seemed to support the MFT hypothesis (Graham et al., 2013).

However, two main issues remained unresolved regarding the within the MFT framework until today, both regarding the generalizability of the MFT hypothesis about the relationship between moral foundations and political identity.

The issue of generalizability regarding the operationalization of political identity

First, the MFT success regarding its hypothesis about the link between ideology and morality, has relied heavily in a single operationalization of political identity: a single-item-based self-reported political identity, ranging from “very liberal” to “very conservative”. This classic unidimensional left-right (or liberal/conservative) continuum approach, has been defended by scholars like Jost et al. (2009), who state that “cross-cutting ideological agendas are assimilated to the single left-right dimension” (p. 9). This unidimensional approach for political identity has probably always been the most utilized (Huddy et al., 2013). However, more complex operationalizations for political identity have been proposed. For example, Feldman & Johnston (2014) argued that at least two dimensions (economic and social) would be needed to properly link ideology to policy preferences. This “social dimension” inclusion in the ideology construct may be because the ideology has turned from a merely economical issue to a more complex and moral-based concept in the last decades Swedlow (2008). Therefore, since only a single-item-based self-reported political identity (from “very liberal” to “very conservative”), was utilized by the MFT research group, for example in Graham et al. (2009; 2011), the possibility that non-unidimensional definitions of political identity, or different labeling of the two ideology poles, like “left” and “right”, could lead to a different relationship between political identity and moral foundations, remained unknown.

In any case, ideological or political identity heterogeneity in a society is a highly complex variable that cannot be studied in isolation from the historical and political context of the society being studied. Both the ideological labels chosen to operationalize political identity and the very meaning of those labels must consider the specific characteristics of that context.

For instance, in the United States, ideological polarization has often been represented within the framework of a two-party system

composed of the Democratic Party and the Republican Party. The former is generally associated with more liberal tendencies, whereas the latter is typically associated with more conservative positions and less liberal tendencies.

However, this liberal-conservative dichotomy overlooks quite important ideological aspects that are central in most European countries, such as the influence of Marxism and, to some extent, social democracy. In these countries, political polarization is usually measured in terms of “left” and “right”, rather than in terms of “liberal” and “conservative.” The issue of the generalizability of the MFT hypotheses with respect to the operationalization of political identity is therefore closely tied to the broader issue of whether these hypotheses can be generalized outside the United States.

The issue of generalizability outside the United States

The MFT was born as a theory focused on cultural psychology research, and not on political psychology research. As explained in Graham et al. (2013), the focus of the theory, only turned to the study of ideological differences in the United States when they found that the five moral foundations described in Haidt & Joseph (2008) could be linked with the two sides of the culture war described in the book “Culture wars: The struggle to define America” (Hunter, 1991). These two sides of the United States culture war were identified with two distinct ideological groups: liberals and conservatives.

Despite being a theory that began explaining the political conflict in the United States, the MFT has utilized these same two terms, *liberals* and *conservatives*, both to evaluate differences in moral matrixes in the United States, and to evaluate differences in moral matrixes outside the United States. This way of measuring ideology, as previously stated, is not without problems, since the literal translation of the term *liberal* and the term *conservative* do not mean the same in all cultures, nor do they have the same relevance.

The problem of the generalizability of the MFT hypotheses may in part stem from the fact that it is not always meaningful to operationalize ideological identity in terms of “liberals” and “conservatives”. Moreover, the nature, origins, and underlying drivers of political polarization in the United States differ from those observed in other countries.

In continental Europe, for example, the influence of Marxism and worker-oriented anarchism emerged in the late nineteenth century as an alternative to the liberal-bourgeois model in general, and to religious institutions in particular. As a result, political polarization became entrenched between more social-democratic and/or communist positions, on the one hand, and more traditionalist and capitalist positions, on the other. In these countries, the political labels commonly used to describe this dichotomy have been “left” and “right,” rather than “liberal” and “conservative.” These terms originated during the French Revolution, which exerted a significant influence on continental Europe, though less so on the Anglo-Saxon world (Conversi, 2020; Dolatabadi, 2017).

In the Central and Eastern European countries that were part of the Soviet bloc until its collapse in 1991, political polarization has a different nature than in Anglo-Saxon countries and in Western and Southern Europe. Because former communist countries in Europe did not establish themselves as democratic and capitalist countries until the late 20th century, the terms “left” and “right” carry different connotations than they do in the rest of Europe. Political polarization in these countries generally occurs between more nationalist and socialist positions and more liberal and globalist ones. Issues such as sovereignty, gender, and cultural identity have also become increasingly prominent in recent years (Barša et al., 2021; Hesová, 2021).

Finally, political polarization outside Europe involves additional factors that complicate direct comparisons with European or Anglo-Saxon countries. In countries within the Islamic sphere and in Israel, political polarization is often closely linked to religion (Çakın et al.,

2024; Tepe, 2014; Ubaid & Subandi, 2023). In East Asian countries, by contrast, geostrategic considerations—such as relations with China in Taiwan or with North Korea in South Korea—must also be considered (Cheong & Haggard, 2023; Clark & Tan, 2012; Huang & Kuo, 2022; Lee et al., 2018). Finally, there are countries such as the Philippines where political parties are poorly organized, and political polarization is explained less by purely ideological factors than by support for specific leaders, who may display varying degrees of populism, authoritarianism and support for liberal-capitalist policies (Fossati, 2024).

Consequently, although Haidt's hypotheses initially received considerable empirical support, it should be noted that, since the MFT hypothesis concerning moral differences between liberals and conservatives was originally developed in the United States, most of the published empirical evidence has come from the United States, and all data from outside the United States provided by Graham et al. (2011) was compiled from one single website (YourMorals.com, located in the United States), it was unclear to what extent the MFT assumptions could be generalized outside the United States.

The meta-analysis by Kivikangas and colleagues

The publication of the systematic review and meta-analysis by Kivikangas et al. (2021), shed light on some of these issues. A total of 89 samples ($N = 226,674$), from both published and unpublished articles, with date limited from 2009 to May 2017, were included in that metanalysis. The study included samples collected from different platforms (most notably, Mechanical Turk and YourMorals), and only data collected with the MFQ-20 and the MFQ-30 questionnaires, were selected. The metanalysis encompassed both unidimensional and bidimensional measures of self-placement political identity. Unidimensional measures included both the liberal/conservative and the left/right labels, whereas bidimensional measures included both economic conservatism and social conservatism. The number of countries represented was limited: the majority of the samples (47) came from the

United States, and 17 came from European countries (Italy, Sweden, Latvia, Finland and the UK). Regarding the number of participants, more than 85% of them came from samples from an international or unspecified population.

Among all the different analyzes carried out by Kivikangas and colleagues, the following can be highlighted. First, pooled correlations between political identity and moral foundations broadly replicated the results obtained by Graham et al. (2009) and Graham et al. (2011): liberals showed significantly higher scores on the individualizing foundations, while conservatives showed significantly higher scores on the binding foundations. Second, the correlations obtained for the YourMorals.com sample appeared inflated with respect to all other samples. Third, correlations varied significantly depending on the operationalization used for political identity. For example, the correlation between political identity and Harm/care was greater in samples in which the left/right labels were utilized, than in samples where the liberal/conservative labels were utilized. And, on the contrary, the correlation between political identity and Purity/degradation was greater in samples in which liberal/conservative labels were utilized, than in samples when the left/right labels were utilized. Finally, the correlations found between political identity and the binding foundations were significantly higher in the social conservatism scale compared to the economic conservatism scale. Taken together, the results obtained by Kivikangas and colleagues correspond to the predictions made by the MFT: liberals' moral matrix is more focused on individualizing foundations, compared to conservatives' moral matrix, whereas conservative's moral matrix is more focused on binding foundations, compared to liberal's moral matrix. Finally, differences between the United States and Europe, and differences among four more countries: New Zealand, Sweden, Finland and Latvia, were evaluated. It was found that the differences between liberals/conservatives and between left/right were greater in the United States and New Zealand, compared to the five European countries.

Kivikangas et al. (2021) confirmed the assumptions of the MFT in general terms, and specifically, for both a unidimensional and a bidimensional operationalization of political identity. Therefore, it can be said that Kivikangas et al (2021) solves the issue of generalizability regarding the dimensionality of political identity that was discussed above. However, a few MFT-related problems remained unresolved. For example, since only studies that used any of the two versions of the Moral Foundations Questionnaire (MFQ-20 and MFQ-30) were included in the metanalysis, the extent to what the assumptions of the MFT are maintained when other scales and questionnaires, such as the Moral Foundations Sacredness Scale (MFSS) (Graham & Haidt, 2012), the Moral Foundations Vignettes (MFV) (Clifford et al., 2015), or other versions of the MFQ, are utilized, remained unknown. On the other hand, since most of the samples included in Kivikangas et al. (2021) came from the United States, and most of the participants came from samples whose origin was international, or was not specified, the issue of generalizability outside the United States for the MFT was not solved satisfactory. Thus, in order to address what Kivikangas et al., (2021) left unresolved in their study, cultural differences and other MFT scales must be considered.

Studying cultural region as a moderator

Jonathan Haidt and colleagues have presented empirical evidence supporting the MFT hypothesis outside the United States, across different regions of the world. Specifically, MFT data show the following regional division: United States, United Kingdom, Canada, Australia, Western Europe, Eastern Europe, Latin America, Africa, Middle East, South Asia, East Asia, and Southeast Asia (i.e. Graham et al., 2011). However, the authors' division of the world into regions is strictly geographical and does not consider cultural, religious, or linguistic factors.

To assess the extent to which the MFT hypothesis holds outside the United States, it is necessary to examine cross-national cultural

differences. Cultural, political, religious, and ideological heterogeneity across countries is considerable, and the available evidence does not allow us to determine whether the MFT hypothesis is held in each individual country.

For this reason, it is necessary either to group countries into relatively homogeneous regions based on criteria that partially account for this heterogeneity or incorporate cultural variables that can act as moderators between levels of moral foundations and political identity. Such criteria may include factors such as political violence, levels of democracy, or inequality.

However, to avoid introducing subjective bias in the selection of a key moderating factor, it is preferable to rely on established models of cultural differences. Given the range of dimensional models of culture that have been successfully developed in recent decades, this study does not focus on regions per se but rather examines the potential moderating role of continuous cultural variables in the relationship between moral foundations and political identity.

Among the models used to classify countries in terms of cultural differences, at least three stand out: Geert Hofstede's Model of Cultural Dimensions (Hofstede, 1984, 2011), Shalom H. Schwartz's Theory of Cultural Value Orientations (Schwartz, 2006) and Ronald Inglehart's cultural model (Inglehart, 1997, 2013).

The Hofstede Cultural Dimensions Theory is a theoretical framework specifically developed to study cultural differences between countries. The model initially consisted of four dimensions, but its current version comprises six scalar dimensions: Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long-Term Orientation, and Indulgence. The full model is described on Geert Hofstede's official website (<https://geerthofstede.com/>). The model was designed to explain behavioral differences that may be expected across countries, particularly in the workplace (Hofstede, 1984, 2011). For example, because Japan scores much higher on masculinity than Norway, the Japanese work environment is expected to show behaviors more strongly associated with individual responsibility and competitiveness.

In contrast, Norway lower masculinity scores emphasize values such as caring for vulnerable individuals. Scores from 119 countries can be found on The Culture Factor website (<https://www.theculturefactor.com/country-comparison-tool>).

The Hofstede Cultural Dimensions Theory has been utilized as a framework to study conflict, not only in the workplace (i.e. Nakphin et al., 2019), but also political polarization and political conflict (i.e. Soeters, 1996).

Shalom H. Schwartz's Theory of Cultural Value Orientations (Schwartz, 2006) posits seven cultural value orientations that form three cultural value dimensions that can be found across all human societies. The first two values orientations measure the extent people are autonomous or embedded in their groups, respectively. Schwartz labels the polar locations on this cultural dimension *Autonomy* versus *Embeddedness* and differentiate between *Intellectual autonomy* and *Affective autonomy*. Collective societies would exhibit higher embeddedness scores, whereas individualist societies would exhibit higher scores in autonomy. The second pair of values measure how people behave in a responsible manner that preserves the social fabric. Schwartz labels the polar locations on this cultural dimension *Egalitarianism* versus *Hierarchy*. In egalitarian societies, people recognize one another as moral equals and feel the concern for everyone's welfare, whereas in hierarchical societies, unequal distribution of power, roles, resources and hierarchical distribution of roles are seen as legitimate. The last two values orientations measure how people manage their relations to the natural and social world. Schwartz labels the polar locations on this cultural dimension *Harmony* versus *Mastery*. Whereas harmony emphasizes accepting the world as it is rather than to change it, mastery encourages change the natural and social environment to attain group or personal goals. Cultural value orientation scores for 80 countries can be found on Schwartz (2008).

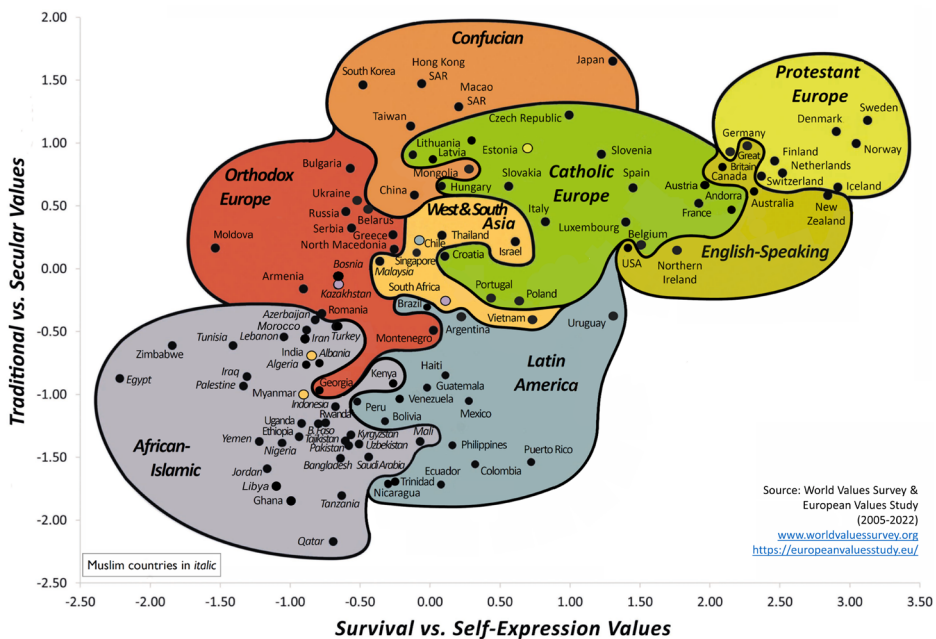


Figure 1. The Inglehart-Welzer World Cultural Map (2023)

Note. Source: <https://www.worldvaluessurvey.org/WVSNewsShow.jsp?ID=467>

Inglehart proposes a classification of countries that is presented in the 2020 Inglehart–Welzel world cultural map (<https://www.worldvaluessurvey.org/wvs.jsp>). This is a scatter map (see Figure 1) that represents a two-dimension value model variability among countries: traditional values versus secular-rational values on the vertical y-axis, and survival (materialist) values versus self-expression (post-materialist) values on the horizontal x-axis. The different countries are placed in the scatter diagram based on the responses collected in the European Values Study (<https://europeanvaluesstudy.eu>) and the World Values Survey and are also classified into eight groups based on their religion and cultural heritage: African/Islamic, Latin America, Confucian, West & South Asia, Orthodox Europe, Catholic Europe, Protestant

Europe and English-Speaking countries. Therefore, Inglehart allows cultural differences to be analyzed both by region and dimensionally, on a country-by-country basis. Extensive data from 115 countries is available for download on the World Values Survey website (Haerpfer et al., 2024).

About this study

The present metanalysis has three objectives: 1) to study to what extent MFT hypothesis regarding the relationship between political identity and moral foundations stands outside the United States; 2) to design explanatory models for the correlations between political identity (seen as a unidimensional construct) and each of the five moral foundations (measured with any version of the MFQ, MFSS or MFV), outside the United States; 3) to study the moderator effect of culture on said correlations.

This way, it is possible to make some preliminary predictions about the possible role of culture as a moderator. If MFT assumptions are correct, then we would expect greater moral differences, and therefore a stronger correlation between moral foundations and political identity in countries with higher levels of self-expression and post-materialistic values, higher autonomy and individualism. In these countries, more heterogeneity is expected, more ideological-based differences, and consequently, higher levels of individualizing moral foundations compared to binding foundations and higher correlations with ideology. On the contrary, more hierarchal, embedded, collectivist and materialist countries, on the contrary, are expected to exhibit less polarization in terms of individualizing Vs. binding moral foundations, and therefore weaker correlations between moral foundations and political identity.

Method

A search in Google Scholar and psychINFO using broad terms, “moral foundations” AND “Haidt”, from 2007 to 2020, was performed. After discarding duplicate entries, a selection of studies that included both measures of moral foundations, taken under normal, non-manipulated circumstances or non-experimental treatments, and measures of political identity, was carried out.

The inclusion and exclusion criteria were as follows: First, studies that measured self-report scores of at least one moral foundation were included. Studies that measured moral foundations grouping scores (i.e. binding foundations) were excluded, as well as studies that presented measures of moral foundations in texts, speeches or any other measure other than self-report. Second, measures of moral foundations taken by any version of the MFQ, MFSS or MFV scales were included. Measures of moral foundations taken by any ad-hoc scale or group of items, were excluded. Third, studies from the United States and measures that included at least 5% of participants from more than one country, were excluded. For studies with the full dataset available, and data from multiple countries, a sample for each country was included in the meta-analysis. Samples with less than 30 participants were excluded. Fourth, samples from countries without available cultural values scores were excluded. Fifth, since YourMorals data has been used in multiple studies, data collected from a YourMorals sample was included only once, to ensure dataset independence. Among all YourMorals-based data available, the study with the largest sample size (Graham et al., 2011) was selected. Sixth, studies that measured unidimensional measures of self-placement political identity with both liberal-conservative and left-right anchors, and unipolar anchors like conservatism or general liberalism, were included. Measurements from 2-point scale were included, and all of them were rescaled to a standard 7-point scale. Finally, bidimensional-based measures like “economic conservatism” or “social conservatism” were also excluded.

From an initial set of 5,554 entries, 62 were selected for the meta-analysis. Among those 62 studies, 30 already included zero-order Pearson's correlations between moral foundations' scores and political identity, or a link for the full database, so that correlations could be calculated. Correlations for the 32 other studies were asked by the authors by mail, and data from 15 of those studies were received. Extra data from a doctoral thesis (Saliyan, 2018) provided by the author, was included afterwards. As a result, the meta-analysis involved 46 studies from 89 countries and two other political entities (Honk Kong and Taiwan) ($k = 175$; $N = 96,851$). The flowchart of this process is shown in Figure 2. Scores for cultural variables were available for 86 countries (Hofstede model), 63 countries (Schwartz model), and 80 countries (Inglehart model).

To study heterogeneity among samples, several other possible moderator variables were selected. First, both percentage of women in the sample (49.9% average), and the average age of each sample (30.1 mean), both present in 100% of the samples, were saved. Also, the average political identity score of each sample, coded into a 7-point scale, ranging from *very liberal/left wing* to *very conservative/right wing*, (present in 95% of the samples, with a mean overall value of 3.22), was also saved.

Second, Kivikangas et al. (2021) found that samples collected by YourMorals website yielded inflated correlations, compared with the rest of the samples, a dichotomic variable *YM*, to indicate if the sample was collected ($YM = 1$) by YourMorals.com or not ($YM = 0$), was coded to control this possible bias.

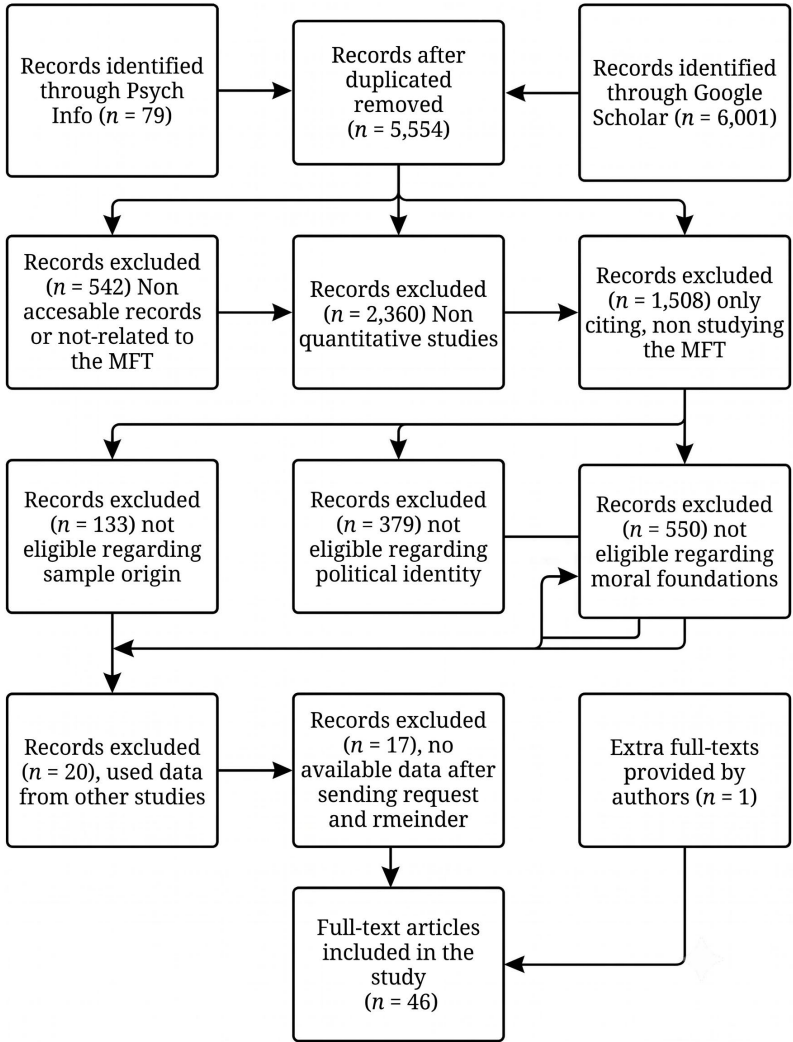


Figure 2. Flowchart of the studies' search

Third, two more variables were coded to control possible measurement bias. Since the most utilized MFT-based scale is the MFQ-30, the *MFQ30* variable was coded to study possible differences between correlations for which moral foundations had been measured by the MFQ-30 ($MFQ30 = 1$) or not ($MFQ30 = 0$). Also, the *POL-ID* variable was coded to study possible differences between correlations for which political identity had been measured utilizing the left/right anchors ($POL-ID = 0$) or the liberal/conservative (or general conservative) anchors ($POL-ID = 1$). The *POL-ID* variable was not coded for samples which presented either a mixture of anchors (left-liberal/right-conservative), or two measures, one for each pair of anchors.

Fourth, a total of 17 cultural variables were included as possible moderators: Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long-Term Orientation, and Indulgence from Hofstede's Cultural Dimensions Theory; Affective Autonomy, Intellectual Autonomy, Embeddedness, Egalitarianism, Hierarchy, Harmony and Mastery from Shalom H. Schwartz's Theory of Cultural Value Orientations; Secular Values, Self-expression Values, Traditional Values and Survival Values, from Inglehart's value transformation model. The moderating role of each group of variables were analyzed separately, in different explanatory models.

Codification of studies

Zero-Pearson correlations between the political identity and each moral foundation score, for each sample, were saved or computed. Two studies presented a 2-point scale for political identity. Therefore, Cohen-d differences were computed, and a transformation into zero-Pearson correlation, using formulae from Botella & Sánchez-Meca (2015, p. 55), was carried out in both cases. In other three samples, in which both correlations for left/right and liberal/conservative anchors were available, the average value was computed.

Zero-Pearson correlations were coded positively. This means that a greater and positive value for the correlation indicates a stronger relationship between moral foundations and conservatism or right-wing

identification. Likewise, a greater and negative value for the correlation indicates a stronger relationship between moral foundations and liberalism or left-wing identification.

Statistical analyses for the metanalyses

First, using the box-plot analysis for univariate data (Mosteller & Hoaglin, 1991) possible outliers were searched, and their effect was controlled, to ensure validity to the results (Viechtbauer & Cheung, 2010).

Second, to normalize each Pearson's correlation's distribution, a Fisher's Z-transformation was calculated for each correlation. For each of the five moral foundations, pooled Fisher's Z and their confidence intervals were calculated, and transformed back into the Pearson's correlation metric afterwards to facilitate the interpretation of the results (Borenstein et al., 2009). A random-effects model was taken, as a non-zero heterogeneity among pooled correlations was expected (Borenstein et al., 2009; Sánchez-Meca & Marín-Martínez, 2008). Heterogeneity for every pooled correlation was tested through the *Q* and statistics (Huedo-Medina et al., 2006).

Third, publication bias analyses were computed for every moral foundation. Analyses encompassed both a Kendall's Tau adjusted rank correlation test for funnel plot asymmetry (Begg & Mazumdar 1994) and Orwin's fail safe number tests (Orwin, 1983).

Fourth, a series of meta-regressions, taking correlations between political identity and moral foundations as the dependent variable, were carried out. Six simple meta-regressions for each moral foundation, taking each of the candidates described above (female percentage, average age, average political identity, YM, MFQ30, POL-ID), as independent variables, were computed, and significant moderators were selected. The heterogeneity explained by each significant moderator was tested through the *Q* and statistics, and the percentage of inter-study variance explained by each possible moderator was calculated using the coefficient (Aloe et al., 2010).

Fifth, a series of simple meta-regressions for each moral foundation, taking each of the culture variables described above were computed,

and significant moderators were selected. Next, in order to find out which group of variables explained a unique amount of heterogeneity, a series of multiple meta-regressions, taking every selected moderator as an independent variable and every possible combination of variables, were also computed, and Q , statistics, and the coefficient, were calculated for each. Finally, explanatory models with significant values for , significant predictors, and the highest coefficients, were selected. The aim was to estimate three explanatory models for each foundation, one for each cultural framework.

All analyses and data preparations were carried out using Excel 2010, Wilson's meta-analysis macros for SPSS, and Metaphor package for R (Viechtbauer, 2010; Wilson, 2005).

Results

Pooled estimates and heterogeneity

Results for pooled correlation and heterogeneity analysis for every moral foundation can be found in Table 1.

Pooled correlations are statistically significant across all moral foundations. Individualizing foundations (Harm/care and Fairness/cheating) are negatively associated with political identity, whereas binding foundations (Loyalty/betrayal, Authority/subversion, and Purity/degradation) show positive associations. The effect size for Harm/care is small, while the effect sizes for Fairness/cheating and the three binding foundations have a medium size, following Lovakov & Agadullina (2021) interpretations. Heterogeneity is statistically significant and substantial across all moral foundations.

Analysis of publication bias

Both Kendall's Tau adjusted rank correlation test and Orwin's fail safe number tests were carried for each of the five foundations, to test possible publication bias-related validity threat on Table 1 results.

Table 1*Pooled correlations and heterogeneity analysis for each moral foundation*

Moral Foundation	<i>k</i>	<i>N</i>		95% CI		<i>Q</i>	<i>F</i>
Harm	173	96,365	-.1535	[-.1768; -.1299]	.019903	1996.3	91.4
Fairness	173	96,365	-.2435	[-.2683; -.2184]	.025335	2494.2	93.1
Loyalty	173	96,365	.2809	[.2579; .3037]	.021665	2157.8	92.0
Authority	173	96,365	.3883	[.3643; .4117]	.028590	2792.5	93.9
Purity	175	96,851	.3636	[.3399; .3869]	.027079	2669.6	93.5

Note. *k* = number of independent samples; = pooled correlation estimate; 95% CI = confidence interval; = between-study variance; *Q* = Cochran's heterogeneity *Q* statistic with *k*-1 degrees of freedom. All *Q* values are significant ****p* < .001; *F* = heterogeneity percentage.

As shown in Table 2, Orwin's fail-safe numbers range from 596 for Harm/Care to 1501 for Authority/Subversion. These values represent the number of studies with non-significant effect sizes that would need to be included in the meta-analysis to reduce the pooled correlations reported in Table 1 to non-significance. Thus, the correlation results for all five foundations can be considered robust to the potential inclusion of new data in the future. Kendall's tau analyses did not yield significant results for any foundation, suggesting no evidence of publication bias affecting the pooled estimates or the heterogeneity reported in Table 1.

Table 2*Analysis of publication bias*

Moral Foundation	Orwin	Kendall's tau	<i>p</i>
Harm	596	-.0609	.2343
Fairness	906	-.0542	.2900
Loyalty	1028	-.0130	.7990
Authority	1501	-.0141	.7828
Purity	1363	-.0350	.4916

Table 3

Selected meta-regressions

Moral Foundation	Predictors	<i>k</i>					
Harm	F, POL, YM	165	102.6	.00579	68.4	74.2	
Fairness (Hoefstede)	F, POL, MFQ30, Indiv, Indul	149	237.4	.00521	79.5	73.1	
Fairness (Schwartz)	F, POL, MFQ30, AA, Egalit	136	216.3	.00605	76.3	77.4	
Fairness (Inglehart)	F, POL, MFQ30, SelfV	153	241.4	.00539	78.9	73.7	
Loyalty	POL, YM, MFQ30	164	177.0	.00770	64.4	79.4	
Authority (Schwartz)	POL, YM, MFQ30, Egalit	136	295.1	.00734	74.4	80.9	
Purity (Hoefstede)	POL, YM, MFQ30, LongTerm	157	363.4	.00730	72.9	79.0	
Purity (Inglehart)	POL, YM, MFQ30, TradV	154	314.74	.00825	69.1	81.1	

Note. POL = average score of political identity; F = percentage of women; Indiv = Individualism; LongTerm = Long-Term Orientation; Indul = Indulgence; AA = Affective Autonomy; Egalit = Egalitarianism; SelfV = Self-expression values; TradV = Traditional Values; *k* = number of independent samples; = between-study variance; = *Q* statistic, indicates if the model explains a significant amount of heterogeneity. *Q* values are significant ****p* < .001; *F* = heterogeneity percentage.

Moderator analyses

To investigate whether and to what extent potential moderators account for the heterogeneity reported in Table 1, a series of simple and multiple meta-regression analyses, with the correlations between political identity and moral foundations as the dependent variable, were conducted. These include meta-regressions and explanatory models that yielded a significant *Q* statistic, included only significant predictors, and achieved the highest *R*² values for each of the three cultural frameworks.

Significant moderators were identified for all moral foundations, allowing explanatory models to be estimated. As shown in Table 3, heterogeneity decreased to a moderate level (now ranges between 73.1% and 88.1%). It is important to note that reflects total heterogeneity, including within-sample variability, which cannot be accounted for in meta-analyses due to their inherently inter-study focus. That is, it includes within-sample heterogeneity, which meta-analysis, by its nature as an inter-study approach, cannot explain. By contrast, between-study heterogeneity, as captured by the inter-study variance, declined more substantially: the selected models explain between 68.4% and 79.1% of the total inter-study variance.

Table 3 indicates a limited role of cultural factors in explaining the correlations between political identity and moral foundations. No cultural dimension emerged as significant for Harm/care or Loyalty/betrayal, and only for Fairness/cheating were three meta-regression models estimated, one for each cultural framework (Hofstede, Schwartz, and Inglehart). The significant cultural dimensions identified for Fairness/cheating and Authority/subversion are primarily related to individual values and orientations (Individualism, Indulgence, Affective Autonomy, Egalitarianism, and Self-Expression values), whereas for Purity/Degradation they are associated with Long-Term Orientation and Traditional values. Table 4 and Table 5 reveal two consistent patterns. First, as expected, in countries where dimensions related to individual values and orientations are higher, the correlations between political identity and moral foundations are stronger. Second, in countries where Long-Term Orientation and Traditional values are higher, these correlations are weaker.

The percentage of women in the sample also emerges as a significant moderator of the relationship between individualizing foundations and political identity, but not of the relationship between binding foundations and political identity. As shown in Table 4, higher proportions of female participants are associated with weaker correlations between individualizing foundations and political ideology.

Table 4

Selected explanatory models for individualizing foundations

Cons	F	POL	YM	MFQ30	Indiv.	Indul.	AA	Egalit.	SelfV.
Harm/care									
-.392***	.003**	.042***	-.058*						
Fairness/cheating									
-.454***	.004 ***	.067***		-.108***	-.002***	-.001*			
-.395***	.004 ***	.070***		-.110***					-.358***
.104***	.004***	.067 ***		-.114***			-.055*	-.097**	

Note. The table shows unstandardized coefficients for each predictor. Each file represents one explanatory model. F = percentage of women; Cons = constant; POL = average score of political identity; YM = YourMorals sample; Indiv = Individualism; Indul = Indulgence; AA = Affective Autonomy; Egalit = Egalitarianism; TradV = Traditional Values; * $p < .05$, ** $p < .01$, *** $p < .001$.

Political identity emerges as a significant moderator for every foundation. This indicates that the association between political ideology and moral foundations is not linear but varies as a function of the sample's average ideological position.

Table 4 and Table 5 show that political identity is related with lower correlations in absolute value between political identity itself and moral foundations in every case. In other words, the more conservative (or right-wing) a sample is on average, the smaller the differences in binding foundation scores between liberals (left-wingers) and conservatives (right-wingers) within that sample.

MFQ30 emerges as a significant moderator for every foundation except Harm/care. This indicates that the association between political ideology and moral foundations differs depending on whether the MFQ-30 or other MFT-related scales are used. Specifically, Tables 4 and 5 show that correlations between moral foundations and political ideology are stronger in absolute terms when the MFQ-30 is employed.

Table 5*Selected explanatory models for binding foundations*

Constant	POL	YM	MFQ30	LongTerm	Egalit	TradV
Loyalty/betrayal						
.299***	-.052**	.121***	.123***			
Authority/subversion						
-.494***	-.037*	.171***	.169***		.171***	
Purity/degradation						
.454***	-.066***	.141***	.196***	-.002***		
.418 ***	-.066***	.141***	.196***			-.025*

Note. The table shows unstandardized coefficients for each predictor. Each file represents one explanatory model. *POL* = average score of political identity; *YM* = *YourMorals* sample; *LongTerm* = Long-Term Orientation; *Egalit* = Egalitarianism; *TradV* = Traditional Values; $p < .05$, ** $p < .01$, *** $p < .001$.

Samples from *YourMorals* exhibit a significant bias for almost all moral foundations (except Fairness/cheating), consistent with the findings of Kivikangas et al. (2021). Specifically, correlations appear to be inflated for both Harm/care and the binding foundations, thereby amplifying the differences in moral foundation scores between liberals (or left-wingers) and conservatives (or right-wingers) relative to non-*YourMorals* samples.

Finally, neither age nor POL-ID exhibits a significant moderating effect. This means that the relationship between moral foundations and political ideology does not vary as a function of age, and that differences in moral foundations between liberals and conservatives are not significantly different from those observed between left-wing and right-wing individuals.

Discussion

The present meta-analysis had three main objectives: (1) to examine the extent to which the Moral Foundations Theory (MFT) hypothesis regarding the relationship between political identity and moral foundations holds outside the United States; (2) to develop explanatory models for the correlations between political identity (conceptualized as a unidimensional construct) and each of the five moral foundations (measured using any version of the MFQ, MFSS, or MFV) outside the United States; and (3) to assess the moderating effect of culture on these correlations.

Regarding the first objective, the results, based on evidence from samples across all continents, indicate that MFT hypotheses hold outside the United States. While liberals show greater concern for inter-individual moral concerns, grouped into the two individualizing foundations, conservatives show greater concern for intragroup moral concerns, grouped into the three binding foundations. These differences are statistically significant across all five moral foundations. Analyses of publication bias further indicate that these results are robust to the inclusion of new evidence in the future. Moreover, contrary to what Kivikangas et al. (2021) found, no significant differences were observed with respect to the use of different anchor labels for political identity (liberal–conservative or left–right).

This result is especially interesting, as it suggests the existence of two types of morality that appear to correspond to two different tendencies of understanding political society, or two competing ideological tendencies.

On the one hand, there is a conservative (or “right-wing”) ideology that endorses a moral framework encompassing not only concerns related to individual rights and well-being, but also those related to the preservation of the group itself, conceived as a historical and moral entity. For example, this conservative perspective involves the defense of historical social structures, traditions and roles.

On the other hand, there is an ideological perspective that rejects the group as a moral subject and instead defends primarily issues pertaining to individuals. The defense of individual rights, for instance, is a defining feature of classical liberalism (e.g. Rawls, 1971) and this emphasis can also be observed today in self-identified “left-wing” parties, particularly in the context of the post-Cold War shift toward postmaterialist values (e.g. Inglehart, 1997). The results of the present meta-analysis support this interpretation.

The question that would remain to be answered, then, is why Kivikangas et al. (2021) found differences depending on the anchor labels used for political identity (i.e. liberal–conservative vs. left–right). A plausible explanation is that other cultural variables may more effectively moderate the relationship between political identity and moral foundations than the specific labels used to denote the individualist–group-oriented ideological poles.

The role of culture, values and ideology in pooled correlations

Tables 3, 4 and 5 show an important moderating role of cultural aspects in the pooled correlations between political identity and moral foundations that is consistent with the hypotheses raised in the theoretical introduction. Specifically, greater moral differences, and therefore a stronger correlation between moral foundations and political identity, are found in countries with higher levels of self-expression, post-materialistic values, higher autonomy and individualism.

By contrast, more hierarchal, embedded, collectivist and materialist countries are expected to exhibit lower levels of polarization between individualizing and binding moral foundations, and consequently weaker correlations between moral foundations and political identity. Indeed, the cultural dimensions that act as moderators that accentuate moral polarization between liberals and conservatives are more post-materialistic and individual-based (Individualism, Indulgence, Affective Autonomy, Egalitarianism, and Self-Expression values), while the cultural dimensions that act as moderators that attenuate moral

polarization between liberals and conservatives are more materialistic and group-based (Long-Term Orientation and Traditional values).

Overall, these findings suggest that in societies with a more individualistic cultural and axiological orientation, greater social heterogeneity and more pronounced ideology-based differences are to be expected. This, in turn, is associated with higher levels of individualizing moral foundations relative to binding foundations, as well as stronger correlations with political ideology.

The role of culture can also be related to the YM variable. Data derived from the YourMorals platform exhibit a clear sampling bias, as they come from participants, who completed the original version of the questionnaire online in English, regardless of their country of residence. However, many individuals from countries included in the analysis (e.g. Latvia, Turkey, Morocco, Russia, etc.) are neither English speakers nor familiar with the YourMorals website. Consequently, the YourMorals samples are composed of individuals who already have some degree of connection to the Anglo-Saxon world, which may reflect values and cultural orientations closer to those of Anglo-Saxon/Protestant contexts, traditionally characterized by higher levels of post-materialism than other regions (see Figure 1).

The results reported in Tables 3, 4 and 5 support this hypothesis, as the YM variable emerges as a significant moderator for four out of the five moral foundations. In all cases, this variable is associated with increased moral polarization between liberals and conservatives.

Finally, the role of culture is also reflected in the variable political identity. If the Moral Foundations Theory (MFT) hypotheses are correct, and a conservative identity corresponds to a less individualistic moral framework, then one would expect that in more conservative societies such non-individualism would be associated with lower social heterogeneity and, consequently, reduced political polarization. The results indicate that political identity significantly moderates the relationship between political identity and the five moral foundations. As shown in Tables 4 and 5, political identity attenuates the correlations between moral foundations and political identity across all estimated

models and is therefore associated with lower levels of moral polarization among both conservatives and liberals.

The role of other moderators in pooled correlations

Two additional variables emerge as significant moderators in Table 3: the percentage of females (F), which appears as a moderator only for the individualizing foundations, and MFQ30, which is a significant moderator for all moral foundations except Harm/care. In both cases, and as shown in Tables 4 and 5, the direction of the moderating effects is consistent: F weakens the association between political identity and individualizing foundations, whereas MFQ30 strengthens it.

The relationship between gender and moral foundations has recently been examined in 67 countries by Atari et al. (2020). However, this finding for F is particularly noteworthy, as it opens the door to future research on the relationship between gender, moral foundations and political identity.

By contrast, the moderating effect of MFQ30 may point to limitations in the validity of the scales used within MFT, as one would expect that the choice of scale would not substantially affect the relationship between moral foundations and political identity. Further research is therefore needed to compare the different instruments used in the MFT literature and to examine this apparent lack of measurement invariance or validity.

Limitations

The present study has three main limitations. The first is related to the sample inclusion and exclusion criteria described in the Method section. Specifically, samples from the United States were not included, nor were studies employing two-dimensional measures of political identity. However, this limitation is mitigated when the present study is considered as a complement to the meta-analysis conducted by Kivikangas et al. (2021). That meta-analysis primarily included samples from the United States and incorporated two-dimensional measures of

political identity. Its results supported the Moral Foundations Theory assumptions in both United States samples and studies using two-dimensional political identity measures. Accordingly, including such data in the present meta-analysis would have been largely redundant.

Second, the present study has sampling limitations. For instance, there are no samples with an average age above 52.17 years, nor any samples with less than 16% female participants. In addition, the number of samples from Asia is relatively small compared to other regions such as Europe, and the dataset includes 89 countries, which is substantially fewer than the 193 member states of the United Nations.

Third, given that a revised version of the MFQ has recently been released (Atari et al., 2023), future research should update and extend the present findings using this updated scale.

Conclusions

The results obtained from samples across 91 countries and territories help explain much of the heterogeneity observed in the relationship between political identity and moral foundations. Specifically, cultures characterized by more postmaterialist and individualistic values exhibit greater moral polarization between the two anchor labels of political identity (liberal-conservative and left-right). This effect can be seen both in samples drawn from the YourMorals platform and in samples whose average political orientation leans toward liberalism or left-wing positions. In contrast, cultures with more traditionalist and group-oriented values show weaker associations between moral foundations and political identity. A similar effect is observed for individualizing foundations in samples with a higher proportion of females.

The present study represents a significant advance in understanding the relationship between political identity and moral foundations. As a complement to the meta-analysis conducted by Kivikangas et al. (2021), it not only replicates their findings in samples from outside the United States but also addresses several issues that had remained unresolved until now.

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