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**IDEOLOGY AND MORAL FRAMING EFFECTS ON THE REACTION TO  
DIFFERENT SOCIAL THREATS**

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# IDEOLOGY AND MORAL FRAMING EFFECTS ON THE REACTION TO DIFFERENT SOCIAL THREATS

## Abstract

Left-wing and right-wing individuals generally present different attitudes and opinions towards various socio-political issues. For instance, right-wing (and Right-Wing Authoritarian - RWA and Social Dominant Oriented - SDO) individuals tend to support more gender and economic inequalities, be more suspicious about the environmental crisis and show higher levels of intolerance towards immigrants. In recent years, the ideological divide between the two political factions have reached extreme levels of polarisation, leaving no space for constructive discussion. However, according to some authors, the *cultural war* that is firing up between left-wing and right-wing people, may be in part explained by different moral values endorsed by the two political groups. Indeed, the Moral Foundations Theory (Graham et al., 2009) states that leftists rely more on the moral values aimed at preserving individuals' rights (i.e., Care and Fairness), whereas rightists tend to rely more on the moral values aimed at protecting the in-group (i.e., Authority, Loyalty and Purity). For this reason, previous literature showed that re-framing certain issues with moral values more coherent with the target group's morality may lead to attitude change. In the present project, five studies are presented aimed at testing the effect of the moral framing of different socio-political issues on participants' explicit and implicit attitude change. In each study, after completing a self-reported measure of the political orientation, the RWA and SDO scales, participants watched a video (or read a text in Study 4) dealing with a specific social issue (i.e., gender inequalities in Study 1, economic inequalities in Study 2 and Study 3, environmental crisis in Study 4, and immigration in Study 5). The message was framed differently according to the manipulation condition (i.e., individualising frame, binding frame

or control condition). Thereafter, participants completed some measures of explicit and implicit attitude toward the problem. In Study 1 (N = 261), the binding moral frame of gender inequalities led right-wing participants to show lower support for the unfair gender system. Similarly, in Study 2 (N = 307) and Study 3 (N = 248), right-wing participants assigned to the binding moral frame condition of the economic inequalities reported lower levels of support for the unfair economic system and lower levels of implicit preference for approaching inequalities compared to other right-wing participants in the control condition. In Study 4 (N = 108), the survey was administered to Singaporean participants. However, in this specific socio-economic context, the moral framing did not lead to significant effects of the moral framing of the environmental crisis. Finally, in Study 5 (N = 230), right-wing participants assigned to the binding moral frame showed lower intolerance toward the immigrants and less fear of the consequences of the immigration compared to other right-wing participants in the control condition. Similarly, high SDO participants reported lower levels of implicit negative attitudes towards immigrants compared to other high SDO participants in the control condition. Taken together, the studies suggest that, although the effects were small and not stable across different measures of political orientation, the moral framing may be an effective technique aimed at bridging the ideological gap between left-wing and right-wing individuals.

### **Declaration**

No portion of this work has been submitted in support of any other application for degree or qualification at this or any other University or institute of learning.





# 1 General introduction

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## 1 Political orientation

### 1.1 Political orientation and its ideological antecedents

Together with the diffusion of democracies in Western countries, political representatives started to express a multitude of different opinions and ideas that were broadly categorised in two opposite political alignments. From the French Revolution, the main political movements were differentiated in *left-wing* and *right-wing* political currents. This labelling derives from the physical collocation that the French politicians occupied during the National *Assemblée* in 1789 (Larochelle, 1982). Individuals with more radical and revolutionary ideas used to place on the left of the President, whereas those who held more traditionalistic and monarchic opinions used to stay at the right. Nowadays, most Western European and other democratic countries (e.g., U.S., Argentina, Australia and South Africa) employ this wide distinction in order to define the political alignment of the parties. In some countries the labels assume different names, for example in the U.S. the political right is defined as *conservatism* and the Republican party embodies this alignment, while the political left is named *progressivism/liberalism* and the Democratic party embraces its ideas. Overall, this distinction is helpful in simplifying political communication (Fuchs & Klingemann, 1990) and also, at individual level, it could be a firm base for identification with a social group (Huddy, 2001; Tajfel & Turner, 1979). Psychology has been interested in understanding what are the components that lead individuals to align with a political party instead of another. According to scholars, different elements interact in order to form a coherent political ideology. Gerring (1997, p. 980) defined the political ideology as referring to “*a set of idea-elements that are bound together, that belong to one another in a non-random fashion*”. More

recently, Jost (2006, p. 653) described the political ideology as “*an interrelated set of moral and political attitudes that possesses cognitive, affective, and motivational components*”.

Taken together, these definitions suggest that the political ideology is an ensemble of values, attitudes, and beliefs that are relatively stable across time and that play a crucial role in defining the self in relation to the group membership. As a consequence, political ideology has an influence in real life decisions and behaviours, and key differences between conservatives and liberals are observable. Indeed, several studies have been conducted to show individuals’ different reactions to specific social issues in relation with their political orientation. For example, van Holm et al. (2020) demonstrated that during the COVID-19 pandemic, liberals were more prone to follow government recommendations in order to avoid further spreading of the virus as compared to conservatives. Another example (Swigart et al., 2020) suggests that also in the workplace the political orientation of the leader influences its decision and the culture and climate of the organization. Specifically, Swigart et al. (2020) showed that liberal CEOs are more willing to distribute economic resources, invest in order to avoid gender disparity and engage in initiatives of social responsibility compared to conservative CEOs. Importantly, Jost et al. (2003) proposed a theory aimed at explaining the psychological differences between liberals and conservatives. According to the authors, liberals and conservatives differently organise their political ideology along two fundamental dimensions. The first one is the support (liberals) vs. resistance (conservatives) to change and the second one is the refusal (liberals) vs. acceptance (conservatives) of inequalities.

According to the Dual Process Motivational model of ideological attitudes (DPM - Duckitt & Sibley, 2009), these two dimensions represent two distinct social worldview beliefs from which the Right-Wing Authoritarianism (RWA - Altemeyer, 1981) and Social Dominance Orientation (SDO - Sidanius & Pratto, 2001) constructs originate. More specifically, Duckitt and Sibley (2009) identified two worldview antecedents that predict high levels of RWA and

SDO, which in turn contribute to the formation of a conservative political orientation. On one hand, RWA derives from considering the world as a particularly threatening and dangerous place. On the other hand, SDO stems from the belief of the world as a competitive jungle. RWA and SDO can be defined as complex interactions of beliefs, attitudes and behaviours that derive from socialisation. Considering RWA, Altemeyer (1981) was the first psychologist who coined this term in order to describe an authoritarian personality, based on previous work from Adorno et al. (1950). According to Altemeyer (1981), RWA can be separated in three different aspects: Submission to an authoritarian figure, aggressiveness in the name of an authoritarian figure and conformism in thoughts and behaviours. Numerous studies have been conducted in order to confirm that RWA positively predicts political conservatism (e.g., Altemeyer, 1981; Van Hiel & Mervielde, 2002; Wilson & Sibley, 2013). SDO, instead, indicates individual support for hierarchy and for a society based on inequalities (Pratto et al., 1994; Sidanius & Pratto, 2001). Indeed, social dominant oriented individuals tend to operate in order to maintain and gain power over other out-groups. Also for SDO, studies demonstrated its positive predictive role of political orientation (e.g., Grina et al., 2016; Ho et al., 2015; Pratto et al., 1994). These constructs are fundamental for every political psychologist who wants to better explore the effect of the political orientation in relation with other variables. For this reason, different measures have been validated for the self-reported political orientation, RWA and SDO and they will be described in greater detail in the next section, with a special focus on the Italian validation of the translated scales.

### *1.1.1 Measures of the political orientation and its antecedents*

A general measure of the political orientation can be obtained by directly asking participants to collocate themselves along a continuum from left-wing/liberal to right-wing/conservative. In a simple way, this measure reflects participants' political self-alignment. Numerous studies

have employed this general measure of political orientation (to name a few: Gries & Crowson, 2010; Jost, 2006; Kanai et al., 2011; Settle et al., 2010). However, some authors suggested that the political orientation can also be further separated in its social and economic shades (e.g., Everett, 2013; Feldman & Johnston, 2014; Yilmaz & Saribay, 2017). Indeed, economic conservatism is not always associated also with social conservatism (Yilmaz & Saribay, 2017) and for this reason it may be opportune to measure the economic and social aspects of the political orientations separately and consider them as two distinct measurements of the political alignment if they do not show a high correlation. To address the multiple aspects of the political orientation, Everett (2013) proposed a 12-item scale of both social and economic conservatism and numerous authors employed measures of self-reported general, social and economic political orientation (Harnish et al., 2018; Pratto et al., 1994). Citing Pratto et al. (1994, p. 745), there is a need to “*measure political-economic conservatism separately from policy attitudes*”. In the present work we mostly employed (i.e., in 4 studies out of 5) a 3-items self-report measure of the political orientation in line with Harnish et al. (2018) and Pratto et al. (1994), asking participants to report their general orientation, as well as in relation to economic and socio-political issues. Only in one study participants only reported their general political orientation.

Concerning RWA, the RWA scale measures “*the degree to which people defer to established authorities, show aggression toward out-groups when authorities sanction that aggression, and support traditional values endorsed by authorities*” (Saunders & Ngo, 2017). Adorno et al. (1950) were the first who proposed the F-scale aimed at assessing authoritarian personality, however several criticisms were raised by the scientific community (e.g., absence of reversed items). For this reason, Altemeyer (1981, 1988) proposed a new scale to measure participants’ tendency to right-wing authoritarianism that overcame the limitations of the F-scale by Adorno et al. (1950). Short versions of the Altemeyer’s RWA scale (1981, 1988) are

available (e.g., Bizumic & Duckitt, 2018; Zakrisson, 2005). Also, Italian short versions of the scale have been validated (Manganelli Rattazzi et al., 2007; Roccato et al., 2009) and employed in the Italian context (e.g., Caricati et al., 2017; Mancini et al., 2020). The Italian RWA scales differed from the original one, not only for the language, but also for the items. For example, the Manganelli Rattazzi et al.' scale (2007) is composed by 14 items that measure the submission and authoritarian aggression (7 items) and the conservatism (7 items), whereas the Roccato et al.'s scale (2009) is composed by 12 items, half of them reversed. In the present work we employed the Zakrisson's RWA scale (2005) for the English-speaking samples and the Roccato et al.'s Italian version of the RWA scale (2009) for the Italian samples.

SDO is a measurement of "*the general desire to establish and maintain hierarchically structured intergroup relations regardless of the position of one's own group(s) within this hierarchy*" (Sidanius & Cotterill, 2016, p. 152). Different versions of the SDO scale have been validated. Pratto et al. (1994) proposed a 14-items version of the SDO scale aimed at assessing individuals' preference for inequalities among social groups. In more recent years, the most employed scale consists of a shorter version of the original scale based on 7-items (SDO7 - Ho et al., 2015). With this scale, the authors proposed a measure able to assess the two different aspects of the SDO construct: SDO-D, Dominance and SDO-E, Egalitarianism. Also for this scale, an Italian version has been validated by Di Stefano and Roccato (2005). In the current studies, the SDO-7 English scale (Ho et al., 2015) was employed for the English-speaking sample and the 8-item Italian translation by Di Stefano and Roccato (2005) was administered to the Italian samples.

The three political measures of self-reported political orientation, RWA and SDO have been included in several studies aimed at assessing their relation with disparate psychological

constructs. For example, one of the constructs most studied in association with political orientation is the sensitivity to the threat.

As this association is considered in the studies presented in the current dissertation, the following chapter will be dedicated to the discussion of the main results emerged from previous literature.

## **1.2 Political conservatism and threats**

Individuals' reactions toward threats have been studied from the early inception of social psychology and in relation to different aspects (e.g., social threat: Faley & Tedeschi, 1971; Liska, 1992; cultural threat: McLaren, 2002; Oswald, 2005; physical threats: Arikan, 2022; Terry et al., 2013). After the publication of the work by Jost et al. (2003), great focus has been devoted to the study of the relation between political conservatism and the sensitivity to threats. In the original paper of Jost et al. (2003) the authors successfully tried to define and theorise political conservatism by analysing multiple approaches from different fields of psychology. As a result, Jost et al. (2003) defined conservatism as motivated by different social and cognitive motives. According to the conservatism as motivated social cognition model, the ideology of conservatism is predicted by personality traits and also by epistemic and existential needs. In particular, according to Jost et al. (2003), conservative people tend to be resistant to change, to justify inequalities and to be more sensitive to threats and uncertainty. For example, Ju and You (2022) showed that South-Korean conservative participants had higher risk perception of the COVID-19 infectious disease compared to other liberal participants. In addition, linguistic analysis performed on the Twitter accounts of liberals and conservatives revealed that generally liberals employ language related to benevolence, whereas conservatives use more words related to threats, anxiety, anger, and security (Sterling et al., 2020). Also Duckitt and Fisher (2003) demonstrated the existence of a causal path between the perception

of threat and ideological authoritarianism. Importantly, the authors considered the effect of threats on both the two factors of the RWA scale and showed that threat induces changes in the dangerous world beliefs that, in turn, increase the authoritarian social control factor, but a weaker path was found for the conservatism factor. In addition, Sinclair et al. (2022) showed that a realistic and concrete threat such as increase of crime and unemployment could not only increase participants' ideological authoritarianism, but also their tolerance towards other people that support extreme ideas, namely right-wing extremists. Moreover, Nail et al. (2009) demonstrated that threat also induces liberals to react like conservatives in front of feelings of personal vulnerability (see also Nail & McGregor, 2009). Therefore, threat appears to lead people, regardless of their personal disposition, to have motivated conservatism reactions when experiencing a situation of danger. Roccato et al. (2020) recently replicated this effect with an Italian sample. They demonstrated that the COVID-19 pandemic and the associated economic threat led individuals to support the need for an antidemocratic political system. Interestingly, the authors highlighted that the endorsement for anti-democratic leaders originated also from individuals who were not initially predisposed towards such a political system. Similarly, Landau et al. (2004) demonstrated that reminding participants about their own death or about the terroristic attack of the 11<sup>th</sup> September 2001, induced individuals, regardless their political orientation, to support more a charismatic leader such as George W. Bush instead of John Kerry. In addition, Rosenfeld and Tomiyama (2021) showed that COVID-19 as a recent worldwide threat induced participants to report small increases in their conformity to the traditional gender stereotype. No difference emerged when considering the shift to ideological conservatism from before the pandemic outbreak. However, the authors suggested that a higher adherence to gender roles should be considered as a domain-specific attitude change in a conservative direction in response to the pandemic more justifiable compared to a more complicated global shift in self-reported political ideology. In addition, emotions seem to have

a crucial role in the endorsement of authoritarian policies after perceiving a threat. Indeed, anxiety leads left-wing participants to support more right-wing responses to the terrorism threat, meanwhile anger induces right-wing participants to strengthen their political attitudes when threatened (Vasilopoulos et al., 2018). No effect of anxiety was registered for right-wing participants, as well as no effect of anger was found for left-wing participants. Importantly, the motivated social cognition perspective (Jost et al., 2003) considered both epistemic motives (i.e., Need for closure - NFC) and threat management as contributors to higher levels on the RWA scale. However, to the best of our knowledge, only De keersmaecker et al. (2017) investigated how the two predictors interrelate. They demonstrated in a two-wave longitudinal study that dispositional NFC is associated with higher levels of RWA, but only when individuals do not perceive an external threat. When individuals experienced high levels of external threat, the association between NFC and RWA was no more significant, indicating that, in line with Nail et al. (2009), contextual factors play a crucial role in predicting individuals' endorsement of right-wing ideology, regardless of their dispositional traits. Considering all these studies, Jost et al. (2017) performed a meta-analysis aimed at clarifying the role of threats on political orientation and confirmed the conservatism as motivated social cognition model (Jost et al., 2003). They demonstrated that threats, and specifically mortality salience, generally induce individuals to express conservative preferences in terms of ideas and vote for leaders or parties. In addition, Napier et al. (2018) suggested that a complementary reaction could result from inducing in participants a sense of security. Indeed, the authors showed that when conservative participants feel safe they show greater social liberalism but not economic liberalism. Similarly, conservative participants in the safety condition showed less resistance to change compared to other conservative participants in the control condition, but same levels of acceptance of economic inequalities, indicating that socially, but not economically, conservatism is affected by the perception of security and safety.



Despite the multitude of studies in favour of the theory, Jost et al.'s model (2003) of conservatism as motivated social cognition is not exempted from criticism. For example, according to Greenberg and Jonas (2003), the epistemic, cognitive, and social motives listed in the model that should lead to conservatism, contribute instead to ideological rigidity independently whether the ideology is right-wing or left-wing. In line with their reasoning, they suggest a new orthogonal modality to assess participant's political ideology. One content dimension is the continuum between right and left ideology, whereas the other content-free dimension identifies whether there is ideological rigidity in the justification of their attitudes. Also, recent studies conducted in Asia suggest that the association between conservatism and sensitivity to threat is extremely context-dependent. Indeed, in China the conservative Left reported higher levels of system-justification tendency and authoritarianism that are generally associated with right-wing political alignment in the West. On the contrary, the liberal Right in China showed lower levels of intolerance for ambiguity that are more linked to the Western Left (Beattie et al., 2022). Similarly, Singapore has been shown to be one exception to the well-known negative relation between RWA and positive attitude toward the out-groups. Roets et al. (2015) demonstrated that high-RWA Singaporeans also have a more positive attitude toward the out-groups and support multiculturalism. This likely happens because Singapore has a strong political authority that, nevertheless, explicitly endorses multiculturalism. Indeed, the results demonstrated that the surprising positive association is mediated by the perception of the government to endorse multiculturalism. More drastic criticism to Jost et al. (2003) came from the Terror Management Theory (TMT - Greenberg et al., 1992). The TMT states that people have reactions aimed at protecting their psychological selves when they are reminded about mortality. According to the TMT, threats lead individuals to polarise their original point of view. Indeed, the authors demonstrated that threats do not lead everyone to become more conservative; it depends on their worldview. For example, tolerance mitigates the effect of

mortality salience in negative attitudes toward dissimilar others; therefore, liberals who are committed to a worldview that embraces tolerance, when threatened with the salience of their own death do not respond with increased negativity toward dissimilar target as, on the contrary, conservatives did. Similarly, Bassett et al. (2015) tested the effect of the threat of mortality salience on individuals' political orientations in terms of adherence to liberal vs. conservative morality (Moral Foundations Theory - Graham et al., 2009, 2013; Haidt, 2013; Haidt & Graham, 2007; Haidt & Joseph 2004 and Miller, 2008, see paragraph 2.2), which, respectively, highly value individualising foundations (i.e., *Care* and *Fairness*, moral values that focus on the protection of the individual's rights) or binding foundations (i.e., *Authority*, *Loyalty* and *Sanctity*, moral values that focus on the protection of the group and family's interests). The authors demonstrated that consistent with the TMT (Greenberg & Jonas, 2003) and contrary to the conservatism as motivated social cognition theory (Jost et al., 2003), after reminding liberals of their morality, they supported even more the individualising rather than the binding foundations, becoming even more liberals. Also Laham and Corless (2016) considered morality and its association with political orientation and threats. According to the authors, disgust related threat sensitivity is associated with conservatism and the endorsement of binding foundations, in accordance with Jost et al.' model (2003). On the contrary, the authors suggest that social evaluation threat sensitivity (fear of criticism and rejection) is associated with social liberalism and the endorsement of individualising foundations. In addition, some authors indicated that the role of the identification with the political party and the in-group political candidates should be considered. Major et al. (2018) showed that the effect of threats on political attitudes and voting intentions is moderated not only by the political orientation of individuals, but also by their identification. They found a similar effect when the 2016 election of Trump was considered. The authors demonstrated that reminding of the change in racial demographics of the United States to participants who strongly identified as White Americans

- which implies greater diversity - led them to more likely support Trump's election and anti-immigration policies, as well as to display an increased opposition to correctness norms and to Sanders. No such effects were found when participants with low identification as White Americans were considered. Notably, Asbrock and Fritsche (2013) examined the role of identification to the in-group considering the effect of the terrorism threat on authoritarian attitudes after describing it as a personal vs. collective threat. They showed that the framing of the threat at a personal level induced participants to endorse more authoritarian attitudes (e.g., agree with introducing torture against terrorists), but only for people who strongly identified with the group under attack. The moderation effect of the identification with the attacked in-group when the threat is described at a personal level indicates the group-based nature of this effect. Indeed, as the group serves as a social resource for self-esteem, threats to basic psychological needs elicit group-level reactions. Surprisingly, no such effect resulted when the terrorism threat was described at a collective level. According to the authors, participants may have not felt that same level of danger when the threat was framed at a collective level. Another explanation the authors proposed is that personal threats operate at a more symbolic and subconscious level whereas collective threat elicits direct and deliberate responses. For this reason, the delay task that the authors included in the survey may have helped to detect only symbolic and subconscious responses that may only be expected by a threat framed at a personal level.

Another impactful criticism was made by Crawford (2017). The author suggested that conservatives are not always more sensitive to threats, but it depends on which threat is considered and on how conservatism is defined. According to the Compensatory Political Behavior (CPB) model, meaning and physical threats elicit a symmetrical response in conservatives (at least economic conservatives) and liberals. However, when social conservatives encounter a physical threat their compensatory behaviour is stronger resulting

in an asymmetrical ideological response compared to liberals and economic conservatives. Hence, based on the arguments provided by Crawford (2017), research has been started to consider that not every threat leads to increased conservatism, yet it depends on which specific threat is examined.

### **1.3 Issue ownership and political polarisation**

There is a diffuse conviction that the political discourse around some social issues or perceived threats is “own” by a specific political party (Egan, 2013) and no margin for a collaborative debate between the alignments is considered possible. Therefore, according to the “issue ownership” theory (Budge & Farlie, 1983; Budge et al., 1983; Petrocik, 1989) not every threat is related to conservatism, on the contrary there are some social issues that are perceived as threats only by liberals. For example, according to Seeberg (2017), generally, left-wing parties are more related with issues concerning the welfare state (e.g., health, education), whereas right-wing parties are more strongly connected with issues of national interests (e.g., immigration, law and order). His research demonstrated that these issue ownerships are quite stable across countries and time. Similarly, Brandt et al. (2021) demonstrated that the association between threat and political orientation depends both on the type of threat considered and on the examined country. Although they found differences between countries, generally threats to personal and group security were associated with cultural right-wing beliefs, while economic and police threats were associated with left-wing economic and cultural beliefs. Indeed, Fiagbenu and Kessler (2022) showed that when economic threats are taken into account, liberals considered the stock market as a more dangerous and riskier place compared to conservatives, suggesting once again that liberals and conservatives show similar psychological processes for threat management and uncertainty reduction, although these strategies are context dependent. Moreover, some

studies have considered the importance that the issue ownership has in influencing voting behaviour. Indeed, studies showed that parties may win elections as a function of whether they are perceived as the best option for handling certain problems (e.g., Budge & Farlie, 1983; Budge et al., 1983; Green-Pedersen, 2007; Petrocik, 1996). For this reason, numerous studies were performed in order to understand the influence of issue ownership in different presidential elections in the US (e.g., Damore, 2004; Petrocik, 1996; Petrocik et al., 2003), showing that individual voting behaviour is significantly influenced by the perceived ownership of issues that are considered personally important. Not surprisingly, the effect of the issue ownership has been studied also in the European context (e.g., Dennison & Goodwin, 2015; Gilardi et al., 2021; Odmalm, 2011; Smith, 2010), demonstrating that, even if most European countries do not have a bipolar political system, the divide in the ownership of different social and economic issues is still well-defined for the major parties. For example, the debate about immigration sees left-wing parties encouraging measures for supporting the immigrants and right-wing parties that tend to protect the boundaries of their countries in order to assure more resources for their citizens. The effect of the “issue ownership” can also reverse the association between political conservatism and sensitivity to threats if the conservative party discourse about the threat is not alarming. More specifically, Calvillo et al. (2020) demonstrated that, although conservatism is generally associated with greater sensitivity to threats, political leaders and the coverage of an issue by partisan media can reverse this tendency. In fact, due to the liberal politicisation of the threat of COVID-19, this threat has been underestimated among individuals with higher levels of approval of President Trump. Moreover, empirical studies suggest that threats can even “shift” people to the left, depending on the nature of the threat. Previous research tested the effect of threats only considering threats in contexts “owned” by conservatives (e.g., terrorism). Eadeh and Chang (2020) demonstrated in 3 studies with different perceived liberal ownership threats

(i.e., health care, environmental, and financial threats) that threatened participants increased their support for liberal attitudes.

More importantly, although the politicisation of social issues has always been part of the political system, in recent years political polarisation based on ideological differences on social themes has become a real social issue that affects not only relations between politicians aligned with different parties, but also among lay people. According to Hunter (1991), North America is experiencing a proper “culture war” based on the ideological division between liberals and conservatives. Notably, the phenomenon is not only limited to the US, but the “cultural war” seems to also perturb other European countries (Duffy et al., 2019). Real-life consequences are visible due to this divide. For example, Motyl et al. (2014) demonstrated that the ideological divide between liberals and conservatives (i.e., “*the cultural war*”) implicitly influences also lay individuals' decisions about the community in which to live. Indeed, the authors showed through correlational and experimental studies that people tend to migrate from contexts in which they perceive ideological misfit to contexts in which they perceive more ideological fit. Other more extreme examples of real-life consequences are the more and more violent manifestations in favour or against social issues that have flown in aggressive counter-protests from the other part. Few but incisive examples of this kind of violence are the armed counter-protesters who took part at the demonstration of the Black Live Matters movement in Ohio town (Horton, 2020) and the murder of a doctor outside an abortion clinic from Anti-abortion protesters during a manifestation (Booth, 1994). The polarisation of political ideology created two different factions that are no longer able and willing to talk to each other and reason about the other party's point of view. Moreover, the media and new forms of online communication (i.e., social networks) helped in increasing the divide. Indeed, these forms of communication had favoured the echo chamber effect (Cota et al., 2019; Garimella et al., 2018; Garrett, 2009; Jamieson & Cappella, 2008). This effect

outlines all the situations in which particular beliefs are amplified and exasperated by a closed system, resulting in a continuous reinforcement and polarisation of a worldview. As a consequence, individuals have the perception that their opinion is the correct one and shared by the majority. Individuals who have been frequently exposed to echo chambers in the past find it more difficult to understand the position of people who embrace different perspectives and to establish a productive debate with them. To sum up, in more recent days the phenomenon of political polarisation seems to have been exacerbated. Individuals strenuously defend their worldview and the margin for dialogue between factions has narrowed. More specifically, there are some social issues based on which the more dogged battles are undertaken. From one side, the right-wing parties and voters justify inequalities and oppose pro-environmentalism and immigration. From the other side, left-wing parties and affiliates fight against inequalities and strive to reverse climate change and guarantee a decent life to immigrants. In our studies we considered the social issues of gender and socioeconomic inequalities, environmental crisis and immigration and investigated a strategy in order to bridge the ideological divide between the two alignments on these social threats. Moreover, as generally left-wing individuals already show a positive attitude about these different issues, in the current project we focused on changing right-wing participants' attitude to align with others left-wing individuals.

Moreover, as generally left-wing individuals already show positive attitudes about these different issues, in the current project we hypothesized that interventions might be more effective in changing the attitudes of participants who more strongly endorse right-wing ideologies. Hence, also for the sake of simplicity, in the presentation of the hypotheses and findings, we will mainly refer to the perspective of right-wing participants. However, it should always be reminded that political ideology could be mapped on a continuum and it is not just a matter of two opposite groups. This implies that the effects under investigation here

might be expected to be increasingly stronger while moving toward the right-end of the continuum.

## **1.4 Political polarisation across different social issues**

### *1.4.1 Inequalities*

Inequalities, and particularly economic inequalities, have been rising in recent years across the globe (Brandolini & Smeeding, 2011; Piketty, 2014; Solt, 2020). In the last three decades, the global top 1% of the world population increased their income twice as much as the poorest 50% segment of the population (Alvaredo et al., 2017). Importantly, differences in economic distributions lead to numerous social and health problems, such as lower well-being and trust, and higher status anxiety (Delhey & Dragolov, 2014; Wilkinson & Pickett, 2010, 2017). For this reason, economic inequality is one of the main issues that societies are facing today (Wilkinson & Pickett, 2017). Similarly, in many cultures, men and women are not treated equally (Kinias & Kim, 2012). Indeed, gender inequality is often part of the cultural tradition of these societies and opposing the system is not always desirable as it may cause marginalisation. In recent years, great progress has been made compared to the past, however women are still hindered in various domains. For example, women are underrepresented in leadership positions (Elder, 2004), earn less money than men (OECD, 2022), and hold fewer seats in parliaments (World Bank, 2021). Although economic and gender inequalities prevent societies to prosper (Cingano, 2014) and therefore should be perceived as a problem to solve, several people support inequalities and do not challenge the unfair system to which they belong. Moreover, there is strong evidence that people's beliefs toward inequality are a function of their subjective perceptions rather than depending on objective data about economic disparities (Bartels, 2016; Kuziemko et al., 2015; Niehues, 2014) which, in turn, lead people to be generally unaware of the problem or to underestimate



it (Clark & D'Ambrosio, 2015; Engelhardt & Wagener, 2014; Hauser & Norton, 2017; Osberg & Smeeding, 2006). Other than perception, personal tendencies and personality traits may influence individuals' support for inequalities. The System Justification Theory (SJT) was formulated in 1994 by Jost and Banaji. They claimed that some individuals have a greater tendency to justify the system, sometimes also at the expense of individual and collective self-interest. According to the theory, individuals need to hold positive attitudes about the social structure in which they are inserted and for this reason, in some circumstances, they tend to defend this structure even if it is unfair. Indeed, sometimes people high in system justification tend to favour the out-group and discourage the in-group if this helps to support the social order. As for Jost et al. (2003), conservatives are more resistant to change and tend to more strongly justify inequalities compared to liberals. More specifically, conservatism can be considered as a system-justifying ideology (Jost, 2019; Napier & Jost, 2008), therefore conservatives tend to defend the existing social, economic, and political orders more than liberals. Moreover, research has been performed in order to test whether the SJT could be applied also to specific domains. For this reason, studies regarding the Gender System Justification (GSJ - Jost & Kay, 2005) and the Economic System Justification (ESJ - Jost & Thompson, 2000) were conducted. From these specific applications of the SJT, it emerged that conservatives seem to justify more the system based on traditional gender roles and the unfair economic distribution of the resources. In addition to Jost et al.' work on the SJT and its application, other research has demonstrated the positive association between conservatism and support for inequalities. For example, Dorey (2010) in his book described how the support for inequalities has been successfully described by the Conservative party in Great Britain as desirable, inducing voters to believe that inequalities are a necessary part of the system in order to make the Country prosper. Moreover, conservatives tend to perceive the inequalities as a consequence of individuals' choices and not derived from an unfair

system. Indeed, conservatism is positively associated with internal causal attributions for poverty and wealth, and negatively associated with external causal attribution (Bobbio et al., 2010). In the domain of gender inequalities, Laurin et al. (2013) found that conservatism predicted the legitimization of inequalities within the system. Importantly, although no differences between liberals and conservatives emerged in the justification of the unfair gender system when the system was described as stable, conservatives, differently from liberals, still legitimised the system also when it was described as possible to change. Davidai and Ongis (2019) gave a potential explanation of why conservatives tend to justify the system and liberals tend to challenge it. According to the authors, both conservatives and liberals view life as zero-sum thinking, yet in different ways. Although individuals from both the alignments consider that one party gains only at the expense of another party's losses, conservatives show this way of thinking only when the status quo is challenged, whereas liberals exhibit this thinking only when the status quo is preserved. Specifically, in Study 4 they demonstrated that emphasising how the distribution of wealth preserves the status quo decreases zero-sum thinking among conservatives while it increases such thinking among liberals. In contrast, emphasising how the accumulation of wealth can challenge existing social structures leads to opposite results. In addition, studies demonstrated that the association between self-identification with the right-wing and justification of inequalities is stable also when other measures of political orientation are considered. For example, Jedinger and Burger (2019) showed that RWA is associated with opposition to redistribution policies, but only for participants who were high in political sophistication. On the contrary, negative or no association was found between RWA and opposition to redistribution of resources among high RWA individuals who did not consider themselves as having knowledge about politics. Concerning SDO, Ponce de Leon et al. (2020) demonstrated that Republicans seem to be hostile to policies aimed at redistributing resources more than to equality per se. They

showed that when policies aimed at the redistribution of resources were described as an opportunity to increase the quality of education in poor areas (i.e., Republican-non-aversive condition), Republicans were more likely to support these solutions, however this effect was found only in Republicans low in SDO. Indeed, Republicans high in SDO showed to be inflexible toward any kind of framing of such policies, suggesting that high SDO individuals reject an egalitarian distribution of resources. More broadly, as already introduced (see paragraph 1.3), other evidence suggests that conservatives are less concerned with the inequalities compared to liberals. For example, Seeberg (2017) and Brandt et al. (2021) demonstrated that, generally, left-wing people - all around the world (Brandt et al., 2021) - consider economic inequalities and lack of welfare state as threats, whereas right-wing parties do not. Briefly, these studies showed that right-wing individuals more strongly support inequality compared to left-wing individuals. More generally, this difference is also accentuated at the institutional level when political parties are considered (e.g., Dorey, 2010; Hickson, 2009), causing an increasing polarisation between the two alignments. However, people who support inequalities often do so only because they are unaware of the real problems that inequalities cause to the society and economy. For this reason, interventions should be conceived in order to increase the awareness of the inequality issue and therefore induce right-wing individuals to support policies aimed at dismantling a social system that can be disadvantageous for everyone.

#### *1.4.2 Environmental crisis*

The environmental crisis has become one of the most urgent problems to address in order to preserve the human race for the, not so far, future. NASA in 2015 published a picture of the Earth from space, giving to the lay audience an opportunity to realise how fast our planet has changed in the last few decades, compared to the previous picture released in 1972.

Importantly, climate change is not only causing harm to humans, but also to the animals, the oceans, marine life, the forests, and virtually all life-sustaining systems on Earth (Field, 2014). Therefore, the scientific community is unanimous in considering urgent, essential, and unified the responses in order to reverse the declining process of irreparable changes inflicted to natural systems (Gleick et al., 2010; IPCC, 2007), starting from restructuring how the economies function (Stern, 2013). Indeed, what is more dramatic is that humans caused this damage with their actions (IPCC, 2007) to the extent that Crutzen (2006) suggested that the era we are living should be called the “anthropocene”, given the centrality given to humans and the disregard designated to nature. Although in more recent years the scientific community has reinforced its message and had successfully persuaded a vast audience of lay individuals of the urgency to save our planet (Bertoldo et al., 2013; Dunlap et al., 1993), many people are still not concerned about the environmental threats (Leiserowitz et al., 2013). Moreover, even though in some cases individuals are genuinely worried about this crisis, a “*fabled gap*” persists between attitudes and behaviours (Gifford, 2011, p. 290). Indeed, although the value-attitude-behaviour hierarchical model (Homer & Kahle, 1988) was empirically demonstrated also with a cross-cultural sample (Milfont et al., 2010) showing that the values predict pro-environmental behaviour by the mediation role of the attitudes toward the environment, this association is not always as strong as expected. For example, Dunlap et al. (2000) reported a correlation of only .31 between pro-environmental attitudes and behaviour. Similarly, Cordano et al. (2003) and Iwata (2004) reported very low correlations between attitudes and intentions ( $r = .10$ ) or behaviour and perceived efficacy ( $r = .29$ ). More broadly, at the international level, agreements are difficult to reach and when they are established, they are often way too prudent (Schüssler et al., 2014). More importantly, the escalation of devastating consequences that the environmental crisis is causing may lead people to higher levels of denial (Vess & Arndt, 2008). In addition, some

studies suggested that political orientation may predict people's concern for the environmental crisis and their intentions to behave eco-sustainably. Indeed, since the very dawn of the environmental crisis, right-wing individuals revealed to be slightly less worried regarding the consequences of climate change compared to left-wing voters (Baldassare & Kaz, 1992; Van Liere & Dunlap, 1980). However, in more recent years the difference in concern about the environmental crisis between the political alignments has drastically increased due to the politicisation of the discourse around the problem. In the US, the debate about climate change has been politicised since 1990 (McCright & Dunlap, 2000, 2011). According to McCright et al. (2016), similar politicisation of the issue is happening in the EU with liberals and left-wing oriented individuals more concerned about climate change and more willing to fight against it. This divide between political alignments was not replicated in Ex-Communist countries in the EU where identification with left-wing parties is still controversial. Also, McCright and Dunlap (2011) showed that education has no (or slightly negative) influence on conservatives' concern about climate change. On the contrary, high levels of education were positively correlated with greater concern about global warming for liberals. According to Smith and Hempel (2022) values and political orientation interact and predict individuals' support for environmental policies and concern for climate change. Indeed, although the self-transcendence value alone (universalism, benevolence, and prioritising the concern and welfare of others) positively predicted participants' levels of support for environmental action and conservation value (tradition, conformity, security and emphasising maintenance of the status quo and stability) negatively predicted it, the effect of the political orientation reinforced these tendencies. For example, the political liberalism strongly influenced the positive effect of self-transcendence on pro-environmental attitudes and behaviours. Moreover, psychological distance has been proved to be a key aspect in the perception of climate change (Singh et al., 2017; Spence et al., 2012). It seems that

perceiving the effects of climate change close to the self increases the concern about climate change and, subsequently, the intention to engage in more pro-environmental actions and to support more adaptation policies. However, at the same time, also perceiving that climate change is a global phenomenon that affects every part of the planet increases participants' intention to behave ecologically. Chu and Yang (2018) investigated the effect of psychological distance in relation with political orientation in predicting participants' attitude toward climate change. The authors found that psychological proximity (vs. psychological distance) reduces (vs. increases) the effect of the political polarisation based on one's ideology on the attitude toward climate change. Other studies focused on the effect of mortality salience on pro-environmental attitudes and behaviour (e.g., Fritsche et al., 2010; Harrison & Mallett, 2013; Vess & Arndt, 2008). For example, mortality salience can strengthen the positive effect of social norms on pro-environmental behaviours (Fritsche et al., 2010). Moreover, mortality salience has been shown to have different effects on individuals' environmental concerns as a function of their environmental contingency of self-worth. Indeed, mortality salience reminders resulted in more concern about the environment only on those who derive their self-esteem from environmental behaviour (i.e., generally left-wing individuals). On the contrary, participants low in environmental contingency of self-worth (i.e., generally right-wing individuals, Vess & Arndt, 2008) when reminded of their own death decreased their environmental concern. Similarly, mortality reminders together with the salience of pro-environmental norms increased collective eco-guilt only among individuals who strongly endorse environmental values (Harrison & Mallett, 2013). Moreover, Shulman et al. (2022) explored the effect of a threat that is unrelated to environmental crisis (i.e., COVID-19) on environmental concern and behavioural intentions. The authors found that only the salience of COVID-19 from real life experience made participants to be more concerned about the environment and more willing to act eco-

friendly, whereas the manipulation about the collective experience of COVID-19 did not yield the same results. In addition, it was shown that the more intense and closer to the self was the experience about COVID-19, the more participants reported to be pro-environment. Importantly, the strong negative association between conservatism and concern for the environmental issue is stable even when other measures of political ideology are considered, such as RWA and SDO. On one hand, RWA has been found to decrease support for a new power plant, positive attitudes toward river decontamination and general pro-environmental attitudes (Schultz & Stone, 1994; see also Stanley et al., 2017). On the other hand, as SDO is defined as the individual tendency to dominate other groups and nature, it is not surprising that SDO was found to predict support for human actions that are detrimental for nature, but that are aimed at benefit the social elite (Jackson et al., 2013; Milfont & Sibley, 2014). More generally, SDO resulted also to be associated with climate change denial (e.g., Häkkinen & Akrami, 2014; Jylhä & Akrami, 2015; Jylhä et al., 2016; Milfont et al., 2013, Study 4; Stanley et al., 2017). Liberals and conservatives not only show different levels of concern toward the environmental crisis, but also, they report different engagement in pro-environmental behaviours. For example, several studies (e.g., Sanchez-Sabate & Sabaté, 2019) suggested that the majority of people are not aware of one of the most effective and low-cost changes they can do: adopting sustainable and healthy diets. Most important, sustainable and healthy diets are particularly connected with low consumption of red and processed meat (Willett et al., 2019). With a systematic review about individuals' perception of meat and willingness to consume meat alternatives, Hartmann and Siegrist (2017) showed that individuals are not aware of the massive impact on the environment of meat consumption. Moreover, the review suggested that consumers are generally not willing to reduce their meat consumption or to replace it with insects meat, plant-based proteins or cultured meat. It emerged that the habit of consuming meat is more strongly rooted in the

identity of participants who align with right-wing parties (Milfont et al., 2021; Monteiro et al., 2017; Pfeiler & Egloff, 2018) and obtain higher scores in the RWA and SDO scales (Allen et al., 2000; Dhont & Hodson, 2014; Milfont et al., 2021; Monteiro et al., 2017; Pfeiler & Egloff, 2018). Notably, these studies suggested that the association between political conservatism and meat consumption is stable across different measures of the political attitude. Moreover, studies highlighted that for these individuals eating meat is an identitarian factor that goes beyond the actual pleasure resulting from the taste of meat (Branković & Budžak, 2021; Monteiro et al., 2017; Mosier & Rimal, 2020); for this reason, they generally hold a negative attitude towards the vegetarian and vegan movements (Stanley, 2021). Further examples also indicated that conservatives were less in favour of investment in energy-efficient technology than politically liberals (Gromet et al., 2013), less willing to sustain governmental actions aimed at addressing the environmental crisis (Konisky et al., 2008) such as supporting the Carbon Emission Tax (Berger & Wyss, 2021). Taken together these studies show that conservatives are less concerned about climate change and consequently less involved in pro-environmental actions compared to liberals. This divide is well emphasised in the discourse of the main political parties. Indeed, U.S. Democratic presidents and candidates started to insert the need to reverse climate change as a fundamental objective of their political agenda from Clinton, followed by Gore, Obama and Biden whereas the Republican counterparts proposed themselves as the opponents to pro-environmental policies (Bolsen & Shapiro, 2018). This results in lower intention for right-wing individuals to engage in pro-environmental behaviours, such as consuming less meat, and support policies aimed at protecting the environment, such as the Carbon Emission Tax. Although the politicisation of the environmental issues over the years has caused a division between the right-wing and the left-wing alignments, there is still some space for interventions aimed at creating a sense of alarm for right-wing individuals regarding the



consequences of climate change. Indeed, some authors suggest that differences between right-wing and left-wing individuals in pro-environmental attitudes and behaviours could be a consequence of the way the problem of the environmental crisis is described (Egan, 2013; Seeberg, 2017; Wolsko et al., 2016). According to them, the environmental issue is typically framed in ideological and moral terms that hold greater appeal for left-wing individuals (e.g., Feinberg & Willer, 2013; Feygina et al., 2010; Kidwell et al., 2013). Therefore, right-wing individuals' scepticism toward the environmental-related issues could be a result of how the discourse is framed, and not a real general disinterest for the problem.

### *1.4.3 Immigration*

Immigration is one of the most important societal issues about which politicians discuss in order to implement plans aimed at managing great flows of people coming in Western countries. According to the World Migration Report (McAuliffe & Triandafyllidou, 2021), in 2019 there were 272 million of migrants worldwide, approximately 3.5% of the entire population, and importantly this number is more than tripled from 1970. Moreover, the war that is now taking place in Ukraine is expected to constrain millions of people to leave their homes and to find refuge in foreign countries. As of May 24<sup>th</sup> 2022, already 6.6 millions of people had left Ukraine ("How many Ukrainian", 2022), establishing the fastest-growing migration crisis that Europe ever faced since World War II. Politically, the migration phenomenon divides the alignments, with left-wing parties encouraging measures for supporting the immigrants and right-wing parties that tend to protect the boundaries of their countries in order to assure more resources for their citizens. The Italian context is emblematic of the immigration phenomenon in Western societies. At the beginning of 2021, approximately 6 million immigrants resided in Italy (regularly and irregularly) out of a population of almost 60 millions of people (Fondazione I.S.M.U., 2022). However, although

only 10% of the population is made by immigrants, the Italians' perception is extremely overestimated. According to Valbruzzi (2018), the citizens estimate that immigrants are 25% of the entire population and this overvaluation is the most exaggerated in all the EU countries. Importantly, it has been demonstrated that when immigrants are perceived as posing a symbolic threat (to the worldview of the in-group) and realistic threat (to the political and economic power) to the in-group, individuals show negative attitudes toward immigrants (Stephan et al., 2005). One of the factors that induce individuals to the overrating is the great emphasis given to the "immigration crisis" by politics (Cervi et al., 2020; Krzyżanowski et al., 2018). The right-wing political public speaking about immigration has for a long time been instigated by intolerance and illiberalism (Bulli & Soare, 2018; Geddes, 2008) and this yielded to a general distrust and prejudice towards immigrants (Sniderman et al., 2004). In recent years, the opposite moral rhetoric of the need to help immigrants who are trying to escape from difficult situations in their home countries has been blamed of "righteousness". However, this accusation could steam from the impossibility for right-wing people to identify with the moral rhetoric employed by left-wing parties in describing the immigration phenomenon. Indeed, the discourse undertaken by Italian left-wing parties about the immigration is abundant with references that align more with left-wing's morality. Thus, this frame may have helped in increasing the psychological distance between the opinion about immigration of the two political alignments. This resulted in the definition of two well separated political speeches that viewed the left-wing parties to "own" (Egan, 2013; Seeberg, 2017) the debate about welcoming immigrants, and the right-wing parties to "own" the debate about the border security, leaving no space for dialogue. Indeed, also at individual level, Rightists generally hold more negative attitudes towards immigrants (e.g., Al-Kire et al., 2022; Banton et al., 2020; Varela et al., 2013) compared to Leftists. Russo et al. (2019) suggested that the mere presence of immigrants in the country is not a cause of prejudice and

support for anti-immigration policies for right-wing individuals, but it depends on the numerosity of immigrants in the territory. Indeed, only living in a country with a large presence of immigrants led Rightists to show more intolerance toward the out-group. In addition, conservatives' national identification *per se* was not associated with intolerance toward immigrants; actually, a stable sense of national belonging is associated with more positive attitudes towards the out-group (Verkuyten et al., 2022). According to the authors, it is only national narcissism that predicted more intolerance and negative out-group attitudes. Importantly, Lammers and Baldwin (2018) found that conservatives seem to be more nostalgic about the past society compared to liberals and they demonstrated that they can show a positive attitude toward liberals' ideas if they are framed as a desirable past state. Indeed, in Study 4 conservatives showed greater support for immigration when it was described with a past focus (i.e., immigration of Syrians described as an old phenomenon that existed from the earliest days in Germany's recorded history). In addition, the threat of the COVID-19 pandemic reinforced right-wing and left-wing participants' opinion about immigration (Rigoli, 2020). The author demonstrated that after the COVID-19 outbreak, left-wing individuals showed higher support for immigration whereas right-wing individuals decreased their tolerance for immigrants. When RWA and SDO are considered, similar results emerge. For example, Craig and Richeson (2014), found that RWA and SDO predicted support for controversial immigration policies which disproportionately and negatively affected a minority group (see also Satherley & Sibley, 2016). Importantly, although SDO predicted the support for such policies both in the home country and in a foreign nation, RWA was predictive only of these policies in the home country, indicating that the perception of a cultural threat to the in-group mediated the relation between high levels of RWA and support the controversial immigration policies. Another application of the DPM (Duckitt & Sibley, 2009), demonstrated that both RWA and SDO predicted prejudice

toward immigrants, but different processes are involved (Cohrs & Asbrock, 2009). The authors showed that the effects of RWA, but not SDO, were stronger when the out-group was perceived to be socially threatening and as having low status. Moreover, Newman et al. (2014) showed that social dominance motives led individuals to experience more anger when dealing with intergroup relations and exchanges due to cultural barriers (e.g., language) which in turn increased the perception that immigrants are a threat to American culture and culminated in intensified support for anti-immigration policies. Concerning RWA, it has been found to be a stronger predictor of support for anti-immigration policies compared to SDO, (Peresman et al., 2021). Notably, the authors also found that for British participants, higher levels of RWA increased intolerance towards Eastern European, Sub-Saharan African, and Muslim immigrants much more than hostility toward those from Western European and Commonwealth countries. Finally, Araújo et al. (2020) examined the relation between RWA/SDO and the support for immigration in 20 different countries. With their cross-cultural study, they demonstrated that mostly SDO, but also RWA are predictive of negative attitudes toward immigrants. Importantly, they also found that this association was stronger in countries with societally high levels of perceived Islamic fundamentalism as a threat. Taken together these studies suggest that at the individual, but also at the institutional level, right-wing individuals and parties tend to oppose immigration and hold a negative attitude toward immigrants. However, as Lammers and Baldwin (2018) proposed, some interventions are possible in order to change right-wing individuals' opinion about immigration. Indeed, as for the inequality and the environmental crisis issues, the discourse around the immigration is extremely politicised and mostly described with a moral content close to left-wing sensibility. Interventions should be conceived aimed at re-framing the immigration issue with words and moral contents that right-wing individuals would more easily embrace.

## **2 Morality**

Morality has been demonstrated to be one of the key factors shaping people's most relevant decisions. According to literature, we form our judgments about the social world based on two fundamental dimensions: warmth and competence (Fiske et al., 2002; Judd et al., 2005). Although these "Big Two" (Abele & Wojciszke, 2013; Paulhus & Trapnell, 2008) were named in different ways by different authors (e.g., communion vs. agency, Abele & Wojciszke, 2013; trustworthiness vs. dominance, Todorov et al., 2008; warmth vs. competence, Fiske et al., 2002; Judd et al., 2005), they share the same common core. According to the Stereotype Content Model (SCM - Fiske et al., 2002), social groups are perceived on the basis of these two dimensions which arise different emotions and stereotypes toward groups (Cuddy et al., 2008). Different behaviours could be predicted towards the target groups as a function of their perceived competitiveness and status that are aimed at approaching or avoiding their members. For example, groups perceived low in competence but high in warmth could be actively helped as they are not considered a threat to the self (e.g., elderly people). On the contrary, high in competence but low in warmth social groups could be actively discriminated and attacked because they are perceived as a possible threat (e.g., Jews in Europe). According to Abele and Wojciszke (2013), individuals confer greater importance to the communion (i.e., warmth) dimension compared to the agency (i.e., competence) dimension when judging other individuals. More importantly, the warmth dimension may be considered as formed by two sub-components, namely morality and sociability (e.g., Kervyn et al., 2015; Leach et al., 2007), and some authors demonstrated that the impact of the morality subdimension on impression formation is greater compared to not only the competence dimension, but also the sociability subdimension (Brambilla & Leach, 2014; Brambilla et al., 2011, 2012, 2013; see also van Leeuwen et al., 2012; Wojciszke et al., 1998; Ybarra et al., 2001). In addition, the predominance of morality over competence and

sociability extends also to impression updating (Brambilla et al., 2019). Moreover, Skitka et al. (2005), showed that people base their judgments when deciding to either approach or avoid others on how much the strangers share the same attitude on important moral convictions. For these reasons, morality has been studied as one of the most important dimensions based on which we form judgments and we shape our behaviours. In the next paragraphs the central role of morality along different aspects will be discussed. Above all, the focus will be on the key role that morality has on persuasive communication.

## **2.1 Persuasion based on moral values**

In the previous chapters it has been discussed how the discourse around specific social issues is often politically polarized and that there is an ideological deep gap among individuals who support different political parties that causes impossibility in understanding others' reasons. The divide is partially caused by the way the parties describe the topic. Indeed, research demonstrated that the political alignments often employ words that have a moral connotation when describing these issues, therefore individuals who do not share the same moral values of the political source may not support these messages (Egan, 2013; Seeberg, 2017; Wolsko et al., 2016). This is especially the case for the environmental crisis. Indeed, left-wing parties deal with the problem of climate change with a moral emphasis on the importance of treating nature and animals fairly that could not be similarly central for right-wing individuals. For this reason, researchers suggest trying to *frame* the social issue with different words that could be more appealing for right-wing individuals, such as referring to the importance of maintaining the cities clean and respecting the country in which they are living (e.g., Feinberg & Willer, 2013; Feygina et al., 2010; Kidwell et al., 2013). Hence, individuals can be persuaded in changing their attitudes towards climate change and other relevant social issues as soon as these topics are described with a proper frame that aligns with their

morality. The moral framing is an example of tailored communication. In fact, in recent years, tailored communication has received more and more consideration. For example, with the advent of social media, a huge quantity of personal data has been shared with organisations and governments that use this information for commercial, political and other purposes. These structures understood the unequalled potentiality of the data by using this information for presenting their product in a way that perfectly suited the target's interests and opinions. Examples of tailored communication suggest that it can be efficient in increasing the perceived benefits of solar energy (Endrejat et al., 2020), in changing participants' negative attitude towards genetically modified food (Sleboda & Lagerkvist, 2022) and, more broadly, in enhancing message relevance concerning health communication and programs (Bonner et al., 2014). Other examples of tailored communication show that when the message is aligned with participants' tendency to build their attitude on an affective or cognitive base (i.e., structural bases) this results in greater processing efficiency (See et al., 2013; see also Ng et al., 2022). Importantly, individuals seem to have a lay knowledge of their tendency to form attitudes on an affective or cognitive bases (i.e., meta-bases), and the study suggested that also tailoring the communication according to participants' meta-bases of attitudes resulted in higher persuasion as people are more interested in reading and processing the matched message (See et al., 2013). Other examples of tailored communication aimed at describing the relevant information in line with participants' approach-avoidance motivation framework that partially depends on their political orientation. Studies suggest that liberals tend to have an optimistic view of human nature (Graham et al., 2009), therefore their direction of behaviour is described by approach motivations guided by positive stimuli (Elliot et al., 2006). On the contrary, the attention of conservatives seems to be grabbed more by negative stimuli compared to positive ones (Carraro et al., 2011; Castelli & Carraro, 2011). For this reason, their directions of behaviour

are guided by avoidance motivations. Indeed, Denis et al. (2022) demonstrated that participants donate more to non-profit organisations when the persuasive communication is framed according to their approach or avoidance motivations as a function of their political orientation. Tailored communication based on morality, such as the moral framing technique, revealed to be particularly efficient in changing attitudes, especially regarding the environmental crisis issue (e.g., Feinberg & Willer, 2013, 2015; Wolsko, 2017; Wolsko et al., 2016). Most of the works that were conducted with the aim of morally reframe the messages about specific socio-political issues based their theoretical background on the Moral Foundations Theory (MFT, Graham et al., 2009, 2013; Haidt, 2013; Haidt & Graham, 2007; Haidt & Joseph 2004; Miller, 2008). According to the theory, individuals rely on different sets of values and for this reason if the communication is framed with words that are morally coherent with the target's morality, this will result in greater appeal and possibility to change the pre-existing attitude.

## **2.2 Moral Foundations Theory**

According to the authors of the MFT, right-wing and left-wing individuals rely on different sets of moral foundations (Graham et al., 2009). Precisely, morality can be disentangled in 5 moral foundations (Graham et al., 2009, 2013; Haidt, 2013; Haidt & Graham, 2007; Haidt & Joseph 2004 and Miller, 2008). Although right-wing individuals seem to rely on all the 5 moral foundations, left-wing individuals embrace more the *individualising* foundations (*Care* and *Fairness*) and value less the *binding* foundations (*Loyalty*, *Authority* and *Sanctity*). Specifically, *Care* is the moral value of taking care of other humans, animals or nature in general and not intentionally harming them. *Fairness* is related to the importance given to justice and equality. *Loyalty* is the moral value of being loyal to one's in-group and self-sacrifice for the group. *Authority* consists of the respect for authority and leadership, and it



also underlies the importance given to tradition and conventionalism. Finally, *Sanctity* refers to striving to live in a noble and elevated way according to religious and spiritual principles. Importantly, for Yilmaz and Saribay (2019), the moral foundations cannot simply be reduced to the core motives of political ideology (i.e., resistance to change and opposition to equality), indeed they are able to explain a unique variance in political orientation which, according to Haidt and Graham (2007), may help explain the reason behind the *culture war* between liberals and conservatives. Haidt and Graham (2007) also suggest that liberals and conservatives assign different relevance to the 5 moral foundations and this moral misalignment may cause discord and attrition between the two factions. For instance, the participation in different protests and the perceived morality of such manifestations are mediated by the importance given to certain moral foundations. Supporters of the Black Lives Matter movement embrace more the individualising foundations and less the binding foundations, on the other side, protesters for gun-rights do not share the same moral concerns: They show higher endorsement for binding foundations and less for individualising foundations (Richardson & Conway, 2022).

Haidt (2012; Haidt & Joseph, 2004) exposed their theory to the general public connecting it to the classic literature about morality of the past and suggesting that his reasoning is different because for the first time he seceded from the rationalist point of view demonstrating that morality may not be a rational reflection but it may generate from intuition and emotions, especially gut and disgust feelings. In addition, as the author suggested (Graham et al., 2009), studies demonstrated the heritability of moral foundations (Zakharin & Bates, 2022; see also Kandler et al., 2019; Smith et al., 2017), showing that two main clusters could be found in the offspring that referred to the binding and individualising domains. Moreover, the authors (Graham et al., 2011) created the Moral Foundations Questionnaire (MFQ) aimed at measuring individuals' endorsement of the five moral

foundations and they validated it with participants from different Countries. Doğruyol et al. (2019) demonstrated that the Moral Foundations Questionnaire revealed a good fit both in WEIRD (i.e., Western, educated, industrialised, democratic, and rich countries) and non-WEIRD countries. However, factor loadings across groups were not equivalent, suggesting to not use the instrument in order to compare WEIRD and non-WEIRD countries. On the contrary, Davis et al. (2016) tested the applicability of the questionnaire on a Black sample and demonstrated that in a Black sample the relation between the binding foundations and conservatism was weaker than for White people. Indeed, Black people are generally more religious, but at the same time more liberals than White individuals. Importantly, the questionnaire was also employed in order to assess how individuals exclude or include others based on morality issues. Interestingly, the theory was also employed in order to explore different moral reasoning between neurotypical individuals and those with psychopathologies. For instance, Dempsey et al. (2022) showed that no difference emerged between neurotypical and autistic children in their moral inclinations, challenging previous literature that indicated that autistic individuals have limited moral agency.

As previous work has demonstrated, individuals tend to exclude or include individuals in their group based on their agreement on moralised social issues (Motyl, et al., 2014; Skitka et al., 2005). Specifically, Dehghani et al. (2016) showed that the Sanctity moral foundation strongly predicted social distance more than any other moral foundations. In addition, Koleva et al. (2012) demonstrated the central role of the Sanctity moral foundation in predicting participants' attitude in different social controversies. Indeed, it resulted as the most important predictor compared to the other foundations and also its effect remained stable even when controlling for socio-political attitudes and demographics. In line with Dehghani et al. (2016) and Koleva et al. (2012), Frimer et al. (2013) confirmed the leading role of Sanctity in judging whether a public person is moral or not.

The questionnaire has also been analysed in association with other variables, such as religious attitudes, attitudes and behaviours during the COVID-19 pandemic and, more importantly for the aim of the present project, the political orientation. For instance, the relation between the MFT and religious orientation has been investigated (Brint & Abrutyn, 2010; Ludeke et al., 2013). Bulbulia et al. (2013) showed that different moral foundations are differently associated with the four categorical typologies of religious orientation (i.e., Quest, Intrinsic, Extrinsic Personal, and Extrinsic Social) theorised by the Religious Orientation theory (e.g., purity is associated with more intrinsic orientation). Therefore, the MFT and RO were revealed to be mutually supporting approaches.

Moreover, several studies examined the relation between the MFT and attitudes and behaviours related to restrictions during the COVID-19 pandemic. For example, Schmidtke et al. (2022) showed that individuals who reported high support for the Authority and also for the Sanctity moral foundations and low endorsement of the Care moral foundation were more hesitant towards vaccination. In addition, Chan (2021) explored which moral foundations underlay US participants' behaviours during COVID-19 pandemic. Specifically, the author found that the individualising foundations predicted the compliance with the restrictions, whereas the Sanctity foundation only predicted compliance with wearing face masks and social distancing. Interestingly, the relation between COVID-19 concern and the endorsement of the moral foundations has been studied also related to the prejudice against immigrants (Bianco et al., 2021). Indeed, higher levels of concern for the COVID-19 pandemic positively predicted the negative prejudice towards immigrants and the perception of these out-groups as a threat. More importantly, the study suggested that this relation is mediated by both the Need for Cognitive Closure and the endorsement of the binding moral foundations.

As already mentioned and more importantly for the purpose of the current dissertation, the relation between the MFQ and the political orientation has been tested in several ways.

Regarding the political difference between conservatives and liberals in embracing the moral foundations, van Leeuwen and Park (2009) confirmed the MFT by testing the differences between liberals and conservatives in the importance attributed to the different moral foundations. In line with MFT, both explicit and implicit measures of preference for binding foundations were associated with conservatism. The differences between liberals and conservatives in their support for moral foundations were also confirmed by Turner-Zwinkels et al. (2021) and Kivikangas et al. (2021). Turner-Zwinkels et al. (2021) showed that the liberal moral beliefs system is more segregated between individualising and binding foundations, whereas the conservative moral beliefs system reveals more integration between individualising and binding foundations. On the other hand, Voelkel and Brandt (2019) partially confirmed the MFT showing that there exists a moral divide between conservatives and liberals that is not context-specific. However, their result showed that moral values also depend on the target group. Indeed, their results confirmed that the moral acts of a target are also evaluated based on whether he/she is from the political in-group vs. out-group. Frimer (2020) failed at replicating Graham et al.' (2009) study on how liberals and conservatives differently employ moral foundations words. In five studies conducted in similar and different contexts compared to the original study, the replication success rate was 30%, meaning that 70% of the replications failed. Finally, the meta-analysis of the five studies found some support for the hypothesis that conservatives support more authority and purity foundations, but not for the hypothesis that liberals embrace more the Care and Fairness foundations. For Loyalty, the evidence even counters the MFT, suggesting that this foundation is more relevant for liberals. Moreover, according to Clifford (2017) the moral foundation of Loyalty is the one that is most closely related to partisan identity. Indeed, his research demonstrated that even when controlling for the political orientation and the political extremism, the Loyalty moral foundation still predicts the identification with a political party.

In addition, Tarry et al. (2022) tested the relation between political orientation, moral foundations and the support for social distancing during COVID-19. The results suggested that more positive social distancing attitudes and behaviours were associated with left-wing political orientations and endorsement of the individualising moral foundations. On the other side, negative attitudes towards social distancing and the report of reduced compliance with the restrictions were more strongly associated with right-wing political orientation and binding moral foundations.

Concerning RWA and SDO, not only the axis between conservatism and liberalism is associated with different moral intuitions: Federico et al. (2013) demonstrated also that two antecedents of political ideology (i.e., RWA and SDO) are differently associated with binding and individualising foundations. Indeed, SDO and its belief antecedent of the world as a competitive jungle emerged to be negatively associated with the endorsement of individualising foundations. On the other hand, RWA and its antecedent belief of a dangerous world are associated with increasing concern for binding moral foundations. Kugler et al. (2014) confirmed Federico et al.'s results (2013) demonstrating that the relation between conservatism and binding foundation is mediated by high RWA scores, and, at the same time, the relation between liberalism and individualising foundation is mediated by low scores on the SDO scale. Therefore, the authors wondered whether binding foundations could be considered as operating on the same moral plane of individualising foundations, given that they are associated with attitudes and beliefs that are generally predictors of prejudice and discrimination. Conversely, Lane et al. (2021) analysed moral terms used in Twitter posts and demonstrated that binding foundations, except for Sanctity, are not only associated with RWA, but also with "tribal equalitarianism" that, according to the authors, shows signatures suggestive of left-wing authoritarianism. In other words, the findings support the idea that

binding foundations are linked to extremism and anger that could go beyond the political orientation of conservatives and liberals.

Some authors also analysed the relation between political orientation and morality in order to understand which comes first and help predicting the other. Originally, MFT has been considered as an explanation of political values (Clifford, 2017; Miles, 2016), however the authors demonstrated that the causal and predictive relationship between MFT and political orientation goes the other way around. In fact, context, motivated reasoning, and dispositional attitudes appeared to influence morality, contradicting the theoretical framework of MFT as an explanatory theory of ideology (Hatemi et al., 2019; see also Kreutz, 2022). In line with this work, Strupp-Levitsky et al. (2020) demonstrated that moral intuition revealed to be more a consequence rather than a cause of political ideology. They successfully tested a model in which epistemic and existential needs predict the liberal or conservative ideology which, in turn, lead people to embrace different moral judgments. Specifically, they showed that individualising foundations are driven by emphatic sensitivity, whereas binding foundations are linked to epistemic and existential needs to reduce uncertainty and threat. The link between epistemic needs to reduce anxiety with conservative ideology and, subsequently, with binding foundations provided further evidence to the idea that the moral foundations theory and the theory of ideology as motivated social cognition can be considered as compatible rather than incompatible.

Other theories were also considered as possible integrations or oppositions to the MFT. For instance, the Moral Politics Theory (MPT - Lakoff, 1996) was aimed at explaining the role of morality in predicting political orientation. Feinberg et al. (2020) demonstrated that MPT models of the strict father and the nurturant parent are unified and independent belief systems able to uniquely predict conservatism and liberalism. At the same time, they showed that morally bi-conceptual individuals (i.e., individuals who strongly endorse both the strict father

and the nurturant parent model) are the ones who shift political attitudes as a consequence of situational factors, such as the moral frame of a particular issue. In addition, according to Schein and Gray (2015), a model of dyadic morality would better explain how morality is organised. The results of their studies showed the central role of harm in judging whether an action is moral and they did not find consistent differences between liberal and conservatives in their evaluations. Therefore, the authors suggested that harm is the universal common structure on which morality is based. Differences among cultures and social groups could be explained with the fact that some groups may see different sources of threats in the world. For example, conservatives, according to the MFT, have a wider moral domain and according to the dyadic interpretation, this occurs only because they tend to see relatively more threats in the world. Finally, some studies showed the scarce predictive value of the theory in relation to practical moral behaviours (O'Grady et al., 2019). According to van den Berg et al. (2022), this lack of predictability may be due to the context specificity of moral-decision making. In other words, they found that the MFQ is a poor predictor of everyday concrete moral behaviours, on the contrary questions about morality that referred to the same context of the concrete moral behaviour showed higher predictability compared to the broad moral questions of the MFQ. Taken together these studies suggest that, although some criticism is made to the MFT, overall, the concept of the 5 moral foundations has been employed as a theoretical background for several studies and showed sufficient evidence of replicability of the original findings. For this reason, when in recent years greater emphasis has been given to the framing effect and the tailored communication, researchers who explored the effect of the re-framing as a function of moral values, harked back to the MFT to implement their experimental studies.

### **2.3 Moral framing**

Moral framing can be defined as “a technique in which a position an individual would not normally support is framed in a way that is consistent with the individual’s moral values” (Feinberg & Willer, 2019) and the framing technique is employed “to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation” (Entman, 1993, p. 52). Notably, frames successfully influence individuals’ attitude and behaviour when the content of the message is aligned with preexisting meaning structures and schemas established by personal experience (Scheufele, 1999). For instance, following the MFT, different authors tested the efficacy of the moral framing when messages are described with individualising foundations for liberals and binding foundations for conservatives. Research about moral framing and its effects in politics come from different research fields (e.g., Liu & Peifer, 2022; Spielvogel, 2006; Telkamp & Anderson, 2022). Several studies have been conducted to explore the effects of the moral framing when conservatives and liberals are the target of the re-framed message. For example, Day et al. (2014) explored two possible effects that the moral framing of specific issues (i.e., immigration, the environment, economic markets, social programs, and education) may induce among participants as a function of their political orientation. First, they demonstrated that the entrenching hypothesis is fully confirmed: Participants who read the moral framed message aligned with their morality entrenched their political attitudes. Second, the persuasion hypothesis is only partially confirmed: Only conservative participants exposed to the individualising frame expressed more support for liberal attitudes. More specifically, some research focused on trying to intervene on specific attitudes and behaviour. Thus, the moral framing effect has been proved to be effective in different domain: charitable donations (Hoover et al., 2018), environmental crisis (Feinberg & Willer, 2013; Wolsko et



al., 2016), political campaign (Voelkel & Feinberg, 2018; Voelkel, et al., 2021), and same sex marriage (Feinberg & Willer, 2015) to name a few.

Regarding charitable donations, messages published in social media that are aimed at inducing people to engage in donation behaviour employ more frequently the Care and Loyalty moral frames (Hoover et al., 2018). Moreover, Winterich et al. (2012) examined whether political identification with conservatives or liberals may influence donations to charity organisations as a function of the moral foundations of the charity. The results showed that the donation increased when the charity's moral foundations aligned with the political identity of the participant. The effects of the moral framing related to charity donations has been studied also in relation with the donation recognition (Paramita et al., 2022). The authors found that when the recognition of the donation was combined with a binding message, participants, regardless of their political orientation, were more willing to donate to the organisation. The effect was true both for Indonesian and US participants. More importantly to the aim of the project, to our knowledge few studies were conducted with the goal of examining the moral framing technique in relation to the problem of social inequalities. For example, Feinberg and Willer (2015) showed that when the political issues of universal health care (Study 3) are considered, messages described with moral values more appealing to political opponents revealed to be more effective in increasing their support for the Affordable Care Act (ObamaCare). Moreover, in the same paper, the authors showed that participants have a lay knowledge of the moral framing technique. Indeed, participants understood that to increase the appeal for the same-sex marriage issue in conservatives, they should have to frame the message to be more aligned with the targets' morality (Study 1). However, the moral framing technique has mostly been studied in relation to the climate change attitudes. Wolsko et al. (2016) demonstrated that climate change may obtain more support from liberals compared to conservatives because generally the issue is framed with

individualising moral terms that hold greater appeal for liberals (see also Feinberg & Willer, 2013, 2015; Wolsko, 2017). Consequently, the authors showed that when framing the need for action to reverse climate change with binding foundations conservative participants reported more positive attitudes and behaviours compared to other conservative participants in the individualising frame or in the control condition. Frequently, conservative participants in the binding framing group reached the same level of liberals in their pro-environmental attitudes and behaviours. Kidwell et al. (2013) demonstrated further the moral framing effect on climate change issues, showing that the matching frame induces liberals and conservatives not only to have more eco-sustainable intentions but also to act pro-environmentally (i.e., to recycle) across time. Similarly to Wolsko et al. (2016), Hurst (2020) analysed the effect of the moral framing on the need for environmental action depending on individuals' political orientation. Furthermore, they considered the role of the political source of the message as a possible booster of the effect when congruent with the moral framing. They found that the morally framed message with binding foundations successfully influenced conservative participants compared to the message based on individualising foundations, but only when the source of the message was conservative, indicating that the moral framing in itself is not always sufficient in order to produce the expected results. Similarly, it has been demonstrated that the effect of the moral framing is possible because of the perceived credibility of the message. For instance, liberals tend to perceive the individualising framed messages about the impact of climate change more credible compared to the binding framed messages, and thus, they tend to show more support for eco-sustainable policies and more positive pro-environmental behavioural intentions (Huang et al., 2022). In a similar vein, Lau et al. (2022) were interested in studying whether the frame of the environmental crisis could increase participants' pro-environmental behavioural intentions when the cultural values were considered. Their study suggested that when the message is framed around the *economic*

*development* value, Indian participants showed higher intentions to contribute to a carbon offset. On the contrary, US participants showed greatest pro-environmental intention when the communication was described with a focus on the liberty of *choice*.

Few studies considered the immigration crisis as the object of the moral framing technique (Grigorieff et al., 2018; Kaufmann, 2016; Mobayed & Sanders, 2022; Nath et al., 2021; Voelkel et al., 2022). In these studies, the authors showed that generally a re-framing of the immigration issue induced participants to report less negative attitudes toward this phenomenon. Notably, Voelkel et al. (2022) did not find any difference as a function of participants' political ideology.

Finally, the effect of the moral framing was extended to when the goal is to persuade individuals who support a cause to bear it less. Specifically, Voelkel and Feinberg (2018) showed that, in the context of political campaigns, conservative participants who were exposed to a negative political campaign against Trump based on the Loyalty moral foundation showed less intention to vote for Trump. Weaker but similar results emerged when liberal participants read a negative political campaign against Hillary Clinton based on the Fairness moral foundation. Importantly to the aim of the present project is that Kodapanakkal et al. (2022) show that the moral framing could result in negative side effects when the main aim of the persuasion is to bridge the divide. Indeed, their studies suggest that moral framing induces people to moralise their attitude and to be less prone to compromise their opinion to meet the other part. In addition, Boeuf (2019) tested the effect of moral framing as a function of one's political orientation on the perception of health risk related to food. The author demonstrated that moral framing of the health risk communication has a negative impact when the framed message is incongruent with the political orientation of the individual, but no effect when it is congruent. Importantly, the study suggests that moral framing can also be effective in the form of backlashing when it is directed to the

inappropriate target group (e.g., binding moral frame to liberal participants). Moreover, although numerous are the studies that present successful attempts of moral framing in relation with political orientation, Gelfand (2022) demonstrated that moral framing is not effective in trying to persuade Republicans vs. Liberals wearing face masks in time of COVID-19 pandemic. Another example from Kim et al. (2022) revealed that messages that encourage pro-environmental behaviours are no more effective for conservative participants when they are described with binding foundations than when a control and neutral message is presented. Indeed, conservatives presented a similar level of political polarisation on conservation intentions and willingness to receive more information about environmental protection both in the binding frame conditions and in the control one. Finally, and more encouraging, to our knowledge only one study reported the effects of a real intervention based on the moral framing technique. Kalla et al. (2022) explored the effects of the moral framing in a field experiment in which canvassers for the right of abortion listened and collected data about the participants/voters' moral values and then tailored their persuasive messages in line with the target's values. Data were promising suggesting that participants were more motivated to take action and a tendency also emerged for a shift in policy attitude.

### **3 The present research**

In the present dissertation, 5 studies are described that share the same theoretical background. Indeed, the main aim of the studies was to test the effect of the moral framing of different socio-political issues as a function of the political orientation of the respondents. Specifically, we considered the gender inequalities in Study 1, the economic inequalities in Study 2 and Study 3, the environmental crisis in Study 4 and the immigration phenomenon in Study 5. According to the MFT, individuals embrace different moral values as a function of their political affiliation, therefore we tried to re-frame the discourse about the inequalities, the

environmental crisis and the immigration with words that refer to the relevant moral foundations of the target. Two main hypotheses are anticipated for the entire project. Overall, we expected to find different judgments about the social issues between left-wing (also low RWA and SDO) and right-wing (also high RWA and SDO) individuals. For instance, we expected left-wing individuals to be more concerned about the socio-economic and gender inequalities and about the environmental crisis, whereas we anticipated that they would be less worried about the immigration phenomenon compared to other right-wing individuals (H1). At the same time, we hypothesised that a moral framing of these topics may slightly change right-wing (and high RWA and high SDO) participants' attitude. More specifically, we supposed that when a message about the socio-economic and gender inequalities, as well as about the environmental crisis, is described with words more coherent with right-wing individuals' morality (i.e., with binding foundations), this target group will show more concerned attitudes toward these issues. Conversely, we expected that when a message framed with binding foundations about the advantages of immigration is presented to right-wing participants, they would change more positively their attitudes toward the immigrants (H2). Importantly, the main focus of the studies was on the attitude change of right-wing participants as we expected ceiling (or floor) effects for left-wing participants when measuring their attitudes concerning inequalities, climate change, and immigration. However, it is important to specify that as in the current project the political ideology is assessed as a continuum, we expect the moral framing to increasingly have effect in changing participants' attitudes while moving from the left-end toward the right-end of the continuum.

In addition, the five studies extended the previous findings in two different directions. First, we considered other measures of political ideology, namely RWA and SDO. According to the DPM (Duckitt & Sibley, 2009), RWA and SDO are influenced by different processes and motives and therefore may play distinct roles in predicting the interested outcomes. In the

current project we included the three different measures of the political orientation (i.e., self-reported political orientation, RWA and SDO) in order to increase the predictability of the moral framing effect and, more specifically, with the aim of compare these measure and delineate which operationalisation of the political ideology best captures the potential of the moral framing. Indeed, to our knowledge, previous literature did not consider other measures of the political orientation if not a self-reported collocation along a continuum or identification with a political party (e.g., Feinberg & Willer, 2015; Voelkel et al., 2022; Wolsko, 2017; Wolsko et al., 2016). Specifically, in the current project we tested whether the moral framing effect is weaker when RWA and SDO are considered instead of the self-reported measure of the political orientation. As previous literature suggests that RWA is positively associated with only the binding moral foundations and SDO is negatively associated with only the individualising moral foundations (Federico et al., 2013), whereas the political orientation is associated with both individualising and binding moral foundations, it is expected that RWA and SDO may not be as strong predictors of the moral framing effect as the political orientation is (H3).

Second, we extended the previous literature in Study 1, Study 3 and Study 5, trying to replicate the results about the change of attitude obtained at an explicit level, also at an implicit level by employing the Implicit Association Test (IAT - Greenwald et al., 1998, Study 1 and Study 5) and the Visual Approach and Avoidance to the Self Task (VAAST - Rougier et al., 2018, Study 3). To our knowledge, no study has so far tried to explore the effect of moral framing at an implicit level before. As explicit measures are influenced by participants' social desirability and their pre-existing schemas, we tested whether the effect of the moral framing is still present when implicit measures are considered, in other words, when participants have no possibility to adjust their responses. Apart from social desirability bias, we have no reason to anticipate different patterns of results for explicit and implicit

attitudes. Therefore, it is expected to find effects of the moral framing technique also when the implicit measures are considered, so that right-wing (and high RWA and high SDO) individuals would show similar changes of attitudes both explicitly and implicitly (H4).

Moreover, two minor hypotheses were drawn and tested in the studies.

We included non-US samples in all the studies. Indeed, we tried to replicate the moral framing technique in different socio-political contexts. Almost the totality of the studies that investigated the moral framing effect recruited US participants (e.g., Feinberg & Willer, 2015; Voelkel et al., 2022; Wolsko, 2017; Wolsko et al., 2016), therefore no information is available regarding the generalizability of the effect in other countries where different political systems and moral reasoning are present. For this reason, we tried to replicate the effect of the moral framing with non-US participants. Specifically, we asked Italian participants to take part in the experiment, except for Study 4, in which Singaporean participants completed the study. Notably, the US presents a bipolar political system based on two main political parties: The Democratic party and the Republican party, whereas Italy is a multi-party democracy and Singapore has de facto a one-party political system. Nevertheless, the three countries share the same political dichotomy between left-wing/liberalism and right-wing/conservatism and differences between the alignments follow the distinctions common in the US (e.g., Beattie et al., 2022). Taking into consideration these commonalities, we tested the replicability of the moral framing effect with non-US participants. It is anticipated that the moral framing technique should exert the same effects also with Italian and Singaporean participants (H5).

Finally, in Study 2 we also examined the effect of the source of the message in moderating the moral framing effect on participants' attitude change in line with the study of Hurst (2020). Hurst (2020) showed that when the political orientation of the source was coherent with the moral framing of the message (i.e., conservative source and binding moral framed

message), conservative participants were more persuaded by the message, compared to when no information about the political orientation of the source was given. In line with this finding, in Study 2 it is expected that the right-wing politically oriented source of the message would enhance the persuasive effect of the binding moral frame of the economic inequalities for right-wing (and high RWA and SDO) participants. Therefore, in this case right-wing participants would show even less support for inequalities compared to other experimental conditions (H6).

In the following chapters the 5 studies will be presented. Study 1 deals with the gender inequalities, whereas in Study 2 and Study 3 the issue of the socio-economic inequalities is described. More specifically, in Study 2 we considered the role of the source of the message, while in Study 3 we deepen the study of the effect of the moral framing at an implicit level. As previously illustrated, in Study 4 we tested the moral framing of the environmental crisis with Singaporean participants and in Study 5 we investigated the attitude change when the problem of the immigration is narrated. In the final chapter, the general discussion will be presented in which the main results will be commented on, highlighting the limitations, the future directions and the implications of the findings.



# 4 Study 1

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The main aim of Study 1 was to study whether moral framing techniques could be employed in order to decrease people's support for traditional gender roles. To this end, the issue of gender inequalities was presented according to different frames. Indeed, participants, after reporting their political orientation, were randomly assigned to one of the three conditions of the study. In the individualising and in the binding moral frame conditions, participants watched a video first introducing the issue of gender inequality and next describing it using either individualising or binding moral words, respectively. In a third control condition, a neutral video was presented. We hypothesised that generally right-wing participants would have shown higher support for the gender inequalities, both explicitly and implicitly. However, we expected this tendency to be reduced when they were assigned to the condition including the binding moral frame of the problem.

## 4.1 Method

### 4.1.1 Participants

Participants were recruited online both through the Prolific Academic UK ( $N = 174$ ) and by a snowball procedure, taking advantage of the network of acquaintances of some research assistants ( $N = 252$ ). Participants recruited through Prolific earned £2.44 for participating. As the questionnaire was in Italian, participants were required to be fluent with the language in order to complete it. The entire study was administered online from November 20<sup>th</sup> 2021 until January 1<sup>st</sup> 2022. For the final analyses, only 261 were considered, namely all the respondents who completed the survey without failing any of the 2 attention checks. A sensitivity analysis was performed by employing RStudio (version 2022.12.0+353) with the

package *pwr*. The analysis showed that by considering a power of .90, level of significance at .05, with our sample size we can detect a  $f^2 = .04$ . The final sample included 123 women, 135 men and 3 did not identify with the two genders. The mean age was 30.79 years ( $SD = 12.56$ ).

#### *4.1.2 Procedure*

After having provided the informed consent, participants were asked to complete a few socio demographic questions (i.e., age, gender, educational title and socioeconomic status).

Subsequently, participants indicated their self-reported political orientation, completed the RWA (Roccatò et al., 2009) and SDO scales (Di Stefano & Roccatò, 2005) and answered to the Care and Loyalty items of the MFQ (Bobbio et al., 2011). Then, participants were randomly assigned to one of the three manipulation conditions: Individualising frame, binding frame or control group. In the individualising and binding frame conditions, participants watched a video in which the problem of gender inequalities was described. The final message was framed by making use of individualising vs. binding moral words.

Participants in the control group watched a neutral video. After the manipulation, participants completed the GSJ scale (Jost & Kay, 2005), reported the political orientation of an ideal leader able to deal with the problem of gender inequalities and indicated how much they feared the consequences of the gender inequalities. Importantly, as a final task, participants completed the IAT (Carpenter et al., 2019) aimed at assessing their implicit attitude toward gender inequalities.

### 4.1.3 Measures

#### 4.1.3.1 Manipulation videos

Participants assigned to the individualising and binding frame conditions watched a video in which the problem of the gender inequalities was explained through an interview to an heterosexual young couple<sup>1</sup>. The man and the woman described how the birth of their child compromised their career differently, suggesting that the woman suffered more negative consequences (e.g., giving up her job to care for the new-born). At the end of the video, a final message was displayed in which it was explained why gender inequalities are problematic. This message was framed with individualising moral words in the individualising frame condition (e.g., equality, civil rights, and take care) or binding moral words in the binding frame condition (e.g., Christian family, security and respect). The videos lasted 262 seconds, including the final moral framed messages. In the control group participants watched a tutorial video for building a garden table (163 seconds). All participants could not proceed with the survey before the end of the video.

#### 4.1.3.2 Pre-manipulation measures

Self-reported political orientation. The self-reported measure of the political orientation consisted of 3 items assessing participants' general orientation ("How do you consider your political orientation?"), as well as in relation to economic ("Concerning economic issues (e.g., taxes, public spending, state intervention in the economy) are you more...?") and, socio-political issues ("Concerning social issues (e.g., civil rights, immigration, assistance to

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<sup>1</sup> Pretest on manipulation videos (N = 50, N<sub>female</sub> = 30, N<sub>male</sub> = 10, N<sub>other</sub> = 10;  $M_{age} = 23.73$ ,  $SD_{age} = 5.56$ ) showed that the individualising message was considered more close to the political left compared to the binding message ( $p < .001$ ). Moreover, participants reported that the Care foundation was better described by the individualising message compared to the binding message ( $p < .001$ ). Conversely, the Authority, Loyalty and Sanctity moral foundations were better described by the binding message compared to the individualising message ( $ps < .002$ ). Even though no differences were found for the Fairness foundation ( $p = .28$ ), a tendency emerged for participants to consider this foundation better described in the individualising message compared to the binding message.

those in need) are you more...?"). Each answer was reported along a continuum from (0) close to left-wing to (100) close to right-wing. The 3 items showed excellent internal consistency ( $\alpha = .92$ ) and therefore a unique score based on the mean of the 3 items was computed.

Ideological attitudes. The RWA (Roccatto et al., 2009) and SDO (Di Stefano & Roccatto, 2005) scales were administered to measure participants' ideological attitudes. For each of the 12 items of the RWA scale and for the 8 items of the SDO scale participants indicated their agreement from 1 (strongly disagree) to 5 (strongly agree). Six items of the RWA and 4 items of the SDO scale were reversed coded (e.g., RWA: "No crime, not even the most serious, should be punished with the death penalty", SDO: "We should strive for everyone to earn similar amounts of money"). Both the RWA ( $\alpha = .79$ ) and SDO ( $\alpha = .82$ ) scales showed good internal consistency.

Care and Loyalty items from the MFQ. All the items for Care and Loyalty from the original Italian MFQ (Bobbio et al., 2011) were administered. We decided to measure only the Care and Loyalty moral foundations in order to reduce the number of items participants had to complete. Indeed, the original MFQ is composed by 60 items and requires great amount of time to be filled out. Therefore, participants completed the two subscales of Relevance and Agreement composed of 6 items each, 3 for Care and 3 for Loyalty. Examples of items from the subscale of Relevance are: "Whether or not someone suffered emotionally" and "Whether or not someone showed a lack of loyalty". Examples of items from the subscale of Agreement are: "It can never be right to kill a human being" and "People should be loyal to their family members, even when they have done something wrong". Participants answered the Relevance subscale indicating how much they considered relevant each topic from (1) not at all relevant to (6) extremely relevant. Similarly, participants indicated their level of agreement in the Agreement subscale from (1) strongly disagree to (6) strongly agree.

However, the reliability of the two dimensions was questionable: Care,  $\alpha = .67$  and the Loyalty,  $\alpha = .65$ .

#### *4.1.3.3 Post-manipulation measures*

Gender System Justification (GSJ) scale. Participants completed the 8-item GSJ scale (Jost & Kay, 2005) indicating their opinion from (1) strongly disagree to (6) strongly agree. An example of an item is: “In general, relations between men and women are safe”. Two items were reversed coded (e.g., “Gender roles need to be radically restructured”). The scale showed good internal consistency ( $\alpha = .86$ ).

Political orientation of an ideal leader. Participants indicated the political orientation of an ideal leader who would be able to deal with gender inequalities along a continuum from (0) extreme left to (100) extreme right. In line with Roccato et al. (2020; see also Jost et al., 2017; Landau et al., 2004), because a threat manipulation can increase participants’ support for right-wing leaders, we tested whether the effect of the moral framing may intervene by attenuating this tendency when the frame is coherent with the participant’s moral values.

Fear of consequences. The fear of the consequences due to gender inequalities was assessed with 3 items. Participants reported how much they feared the consequences of gender inequalities at a personal, national and global level along a continuum from (0) not at all to (100) very much. The 3 items showed good internal consistency ( $\alpha = .80$ ), therefore a unique score based on the mean of the items was computed.

#### Implicit Association Test (IAT).

Participants completed a survey-based IAT in Qualtrics created by employing the *iatgen* extension (Carpenter et al., 2019). We assessed participants’ mental associations between images of *gender equality* vs. *gender inequality* and the categories of *pleasantness* vs. *unpleasantness*. Participants completed 7 categorization blocks in which by pressing the

instructed buttons on their keyboard. In each trial, either an image or a word appeared. Images displayed situations of *gender equality* (e.g., a man and a woman cleaning the house together) vs. *gender inequalities* (e.g., a woman cleaning the house while a man is relaxing on the sofa; all the stimuli are reported in the Appendix A). Words referred to *pleasant* (i.e., awesome, happiness, joy, love, pleasant, and rainbow) or *unpleasantness* concepts (i.e., disaster, horrible, sadness, sorrow, tremendous, and ugly). Participants had to categorise the stimulus into the correct category (i.e., *inequality* vs. *equality* or/and *unpleasantness* vs. *pleasantness*; labels were always shown in the upper corners of the screen) by pressing the correct key button (i.e., *E* vs. *I*). During the critical trials, stimuli alternated between images of *gender equality* vs. *inequalities* or words of *pleasantness* vs. *unpleasantness*. The intertrial interval between trials was 250 ms. When participants made errors, they had to correct their answer before proceeding. The entire task lasted approximately 5 minutes. Specifically, Block 1 was a practice block (20 trials) of only images of *gender equality* vs. *gender inequality*. Participants had to correctly sort the inequality images with the button *E* and the equality images with button *I*. Block 2 was another practice block (20 trials) in which only words of *pleasantness* vs. *unpleasantness* were presented. Participants had to correctly categorise the unpleasant words with the button *E* and the pleasant words with button *I*. Next, two combined blocks were presented that were crucial for examining participants' speediness for equality-compatible stimuli. In Block 3, 20 practice trials were administered using both images and words. Participants had to categorise *gender inequality images* and *unpleasant words* by pressing the *E* button in the keyboard. Similarly, they had to categorise *gender equality images* and *pleasant words* by pressing the key button *I* (i.e., “equality-compatible” block). Block 4 was identical to Block 3 and participants completed 40 critical trials (scoring uses data from Block 3 and Block 4). Thereafter, another practice block was presented (Block 5), consisting of the 40 trials of images of *gender equality* vs. *inequality* with the sides

reversed (i.e., *E* key-button for *equality* and *I* key-button for *inequality*). This helped counterbalance left–right associations learned in the early blocks. Finally, participants repeated the combined block with the categories in their reversed positions (i.e., “equality-incompatible” block: *equality* and *unpleasant*, *inequality* and *pleasant*). As before, this is divided into 20 practice trials (Block 6) and 40 critical trials (Block 7). Differently from the original version of the IAT (Greenwald et al., 1998), no other counterbalanced versions of the task were created. As our interest was in examining the effect of the manipulation on participants’ implicit attitude, we considered that a single version of the task to be administered to all participants enabled us to better investigate the effect.

Data in the combined blocks (Block 3 + Block 4 and Block 6 + Block 7) were then analysed following Greenwald et al. (1998) algorithm. A standardised difference score (*D* score) was calculated for each participant, indicating in which condition (equality-compatible vs. equality-incompatible) participants had a better performance. A *D* score of 0 indicates no difference in attitude toward equality and inequality; a positive score indicates that one had a more positive attitude toward equality rather than inequality; and a negative score indicates that one had a more positive attitude toward inequality rather than equality.

## **4.2 Results**

Descriptive statistics and zero order correlations between variables considered in the final analyses are presented in Table 1.

**TABLE 1** | Descriptive statistics and correlation coefficients in Study 1.

<b>Variable</b>	<b><i>M</i></b>	<b><i>SD</i></b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>1. Political orientation</b>	34.85	23.03	-							
<b>2. RWA</b>	2.20	.58	.67***	-						
<b>3. SDO</b>	1.85	.67	.53***	.61***	-					
<b>4. Care</b>	4.83	.71	-.19**	-.20**	-.47***	-				
<b>5. Loyalty</b>	3.87	.80	.26***	.48***	.11	.36***	-			
<b>6. GSJ</b>	2.63	1.04	.52***	.56***	.44***	-.06	.37***	-		
<b>7. Political orientation of an ideal leader</b>	34.01	20.67	.82***	.60***	.38***	-.17**	.24***	.48***	-	
<b>8. Fear of consequences</b>	61.63	22.92	-.41***	-.39***	-.43***	.31***	-.09	-.38***	-.28***	-
<b>9. IAT</b>	1.10	.34	.06	.04	.04	.09	.08	.11	-.02	-.12

\*\* $p < .01$ , \*\*\* $p < .001$ .

**Table 1:** Means, standard deviations, and Pearson's  $r$  zero order correlations between the variables considered in the analyses.



Importantly, the correlations between the moral foundations and the ideological antecedents confirmed previous results reported in the literature, indicating that the individualising foundations (i.e., Care) are more negatively associated with SDO compared to RWA, whereas the binding foundations (i.e., Loyalty) are more positively associated with RWA compared to SDO (Federico et al., 2013).

#### *4.2.1 Plan of the analyses*

For each dependent variable (i.e., GSJ, political orientation of an ideal leader, fear of consequences and IAT) the same analyses were performed. Specifically, for each measure, we ran three different multiple regression models. In the first model (Model 1), we included as predictors the self-reported political orientation measure, the two dummy variables of the manipulation groups (computed considering the control manipulation as the reference group) and their interactions, we also added the gender of the participants, their age and their education title as covariates. In the second and third models, we replaced the self-reported political orientation measure with RWA (Model 2) and SDO (Model 3).

All the 3 Models were also performed adding the Care and Loyalty measures as covariates for each dependent variable, in order to control for the possible effect of the two moral foundations in influencing attitude change. However, as results did not significantly change and given the low internal consistency of these measures, we decided to report here the results of the Models that did not include these variables as covariates.

#### *4.2.2 Differences between manipulation conditions*

First of all, different one-way ANOVAs were performed to explore the effects of the manipulation conditions on each dependent variable, regardless of the political orientation of

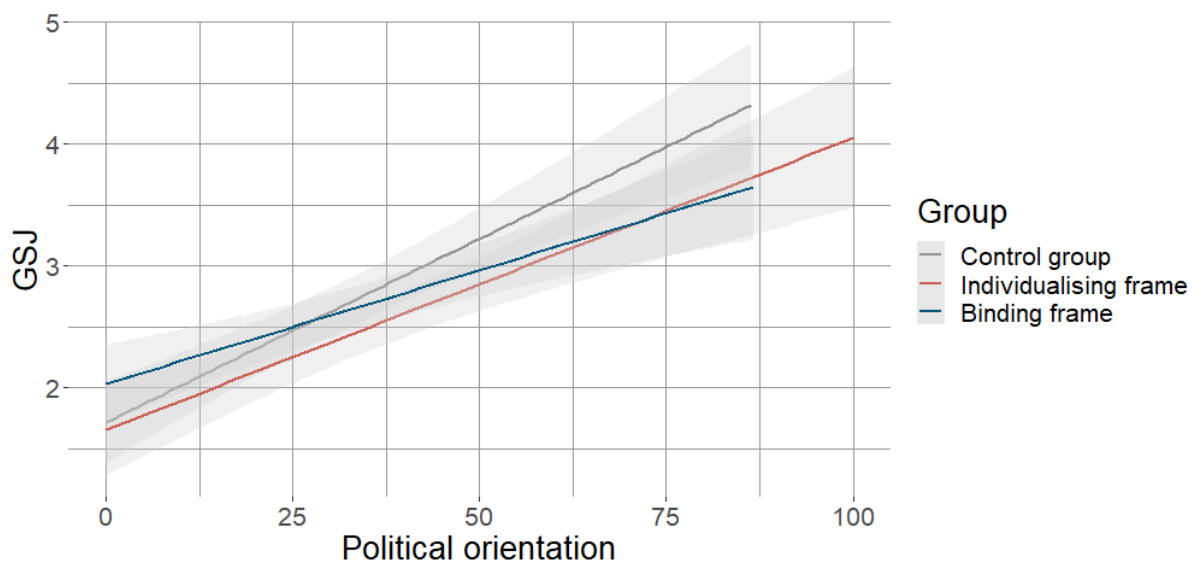
the participants. Table 2 reports the means, the standard deviations, and the F values of these comparisons.

<b>Variable</b>	<b>Control group <i>M(SD)</i></b>	<b>Individualising frame condition <i>M(SD)</i></b>	<b>Binding frame condition <i>M(SD)</i></b>	<b>F</b>	<b>df</b>	<b><i>p</i></b>	<b><math>\eta^2_p</math></b>
<b>GSJ</b>	2.67(1.10)	2.55(1.06)	2.69(.98)	1.12	2(250)	.32	.001
<b>Political orientation of an ideal leader</b>	33.71(20.91)	34.29(20.55)	33.96(20.83)	.01	2(250)	.98	.001
<b>Fear of consequences</b>	54.47(23.47)	63.74(23.69)	62.75(21.54)	2.83	2(250)	.06	.02
<b>IAT</b>	1.41(.32)	1.08(.38)	1.08(.31)	.79	2(243)	.46	.001

**Table 2:** Means, standard deviations, and Fisher's F for the ANOVA models tested for each dependent variable.

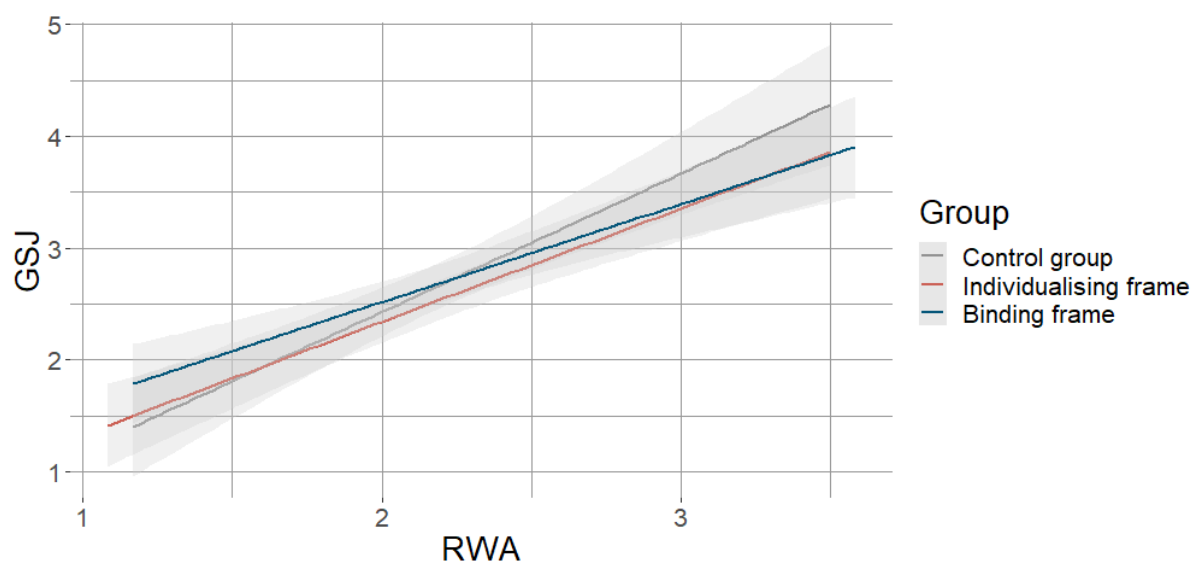
#### 4.2.3 Gender System Justification (GSJ)

First, we analysed participants' justification of the traditional gender roles. Therefore, we considered participants' score on the GSJ scale as dependent variable. In Model 1 ( $F(13,247) = 11.08$ , Adjusted  $R^2 = .34$ ,  $p < .001$ ), a general effect of the political orientation emerged,  $B = .61$ , Estimate = .03,  $SE = .004$ ,  $t = 6.23$ ,  $p < .001$ . Generally, right-wing participants showed higher justification of the traditional gender roles compared to left-wing participants. In addition, a tendency for the interaction between the political orientation and the dummy variable of the binding frame emerged,  $B = -.32$ , Estimate = -.01,  $SE = .006$ ,  $t = -2.57$ ,  $p = .01$ . Simple slope analysis suggests that when in the binding moral frame condition, right-wing participants showed levels of justification of the traditional gender roles more similar to left-wing participants (Estimate = .01,  $SE = .004$ , 95% CI [.01, .02]), compared to other right-wing participants in the control group (Estimate = .03,  $SE = .004$ , 95% CI [.02, .04]). In sum, the difference between the responses of right- and left-wing participants was attenuated in the binding frame condition. Figure 1 shows this interaction. No other significant result emerged, all  $ps > .06$ .



**Figure 1:** The moderating role of the manipulation on the relation between the political orientation and the GSJ measure.

Thereafter, we performed the same analysis replacing the political orientation measure with RWA (Model 2 -  $F(13,247) = 14.12$ , Adjusted  $R^2 = .40$ ,  $p < .001$ ). A significant effect of the RWA emerged,  $B = .67$ , Estimate = 1.21, SE = .18,  $t = 6.73$ ,  $p < .001$ . High RWA participants justified more the gender inequalities compared to low RWA participants. More importantly, the interaction between RWA and the binding moral frame emerged,  $B = -.59$ , Estimate =  $-.55$ , SE = .23,  $t = -2.36$ ,  $p = .02$ . As for model 1, the simple slope analysis suggests that when in the binding moral frame condition, high RWA participants showed levels of justification of the traditional gender roles more similar to low RWA participants (Estimate = .66, SE = .15, 95% CI [.36, .96]), compared to other high RWA participants in the control group (Estimate = 1.21, SE = .18, 95% CI [.85, 1.56]). Figure 2 shows that the binding moral frame of the gender inequalities induced high RWA participants to have attitudes more similar to those of low RWA participants. No other significant results emerged, Model 2 all  $ps > .09$ .



**Figure 2:** The moderating role of the manipulation on the relation between RWA and the GSJ measure.

Finally, in Model 3 we considered SDO as predictor instead of the self-reported political orientation or RWA (Model 3 -  $F(13,247) = 9.09$ , Adjusted  $R^2 = .29$ ,  $p < .001$ ). However, only the general effect of SDO emerged,  $B = .46$ , Estimate = .71,  $SE = .16$ ,  $t = 4.53$ ,  $p < .001$ . Overall, high SDO participants showed greater levels of justification of the unfair gender system compared to low SDO participants. No other significant results emerged, Model 3 all  $ps > .10$ .

#### *4.2.4 Political orientation of an ideal leader*

Secondly, we considered the political orientation of an ideal leader who would be able to deal with the problem of gender inequalities as a dependent variable. In the three models (Model 1:  $F(13,247) = 40.58$ , Adjusted  $R^2 = .66$ ,  $p < .001$ ; Model 2:  $F(13,247) = 12.27$ , Adjusted  $R^2 = .36$ ,  $p < .001$ ; Model 3:  $F(13,247) = 4.73$ , Adjusted  $R^2 = .16$ ,  $p < .001$ ), only the general effect of the political orientation ( $B = .80$ , Estimate = .72,  $SE = .06$ ,  $t = 11.48$ ,  $p < .001$ ), RWA ( $B = .69$ , Estimate = 24.55,  $SE = 3.67$ ,  $t = 6.69$ ,  $p < .001$ ), and SDO ( $B = .38$ , Estimate = 11.57,  $SE = 3.38$ ,  $t = 3.43$ ,  $p < .001$ ) emerged. Results suggest that, overall, right-wing, high RWA and high SDO participants showed higher preference for a right-wing leader compared to other left-wing, low RWA and low SDO participants. No other significant effects emerged from the analyses, Model 1, all  $ps > .15$ ; Model 2, all  $ps > .08$ ; Model 3, all  $ps > .55$ .

#### *4.2.5 Fear of consequences*

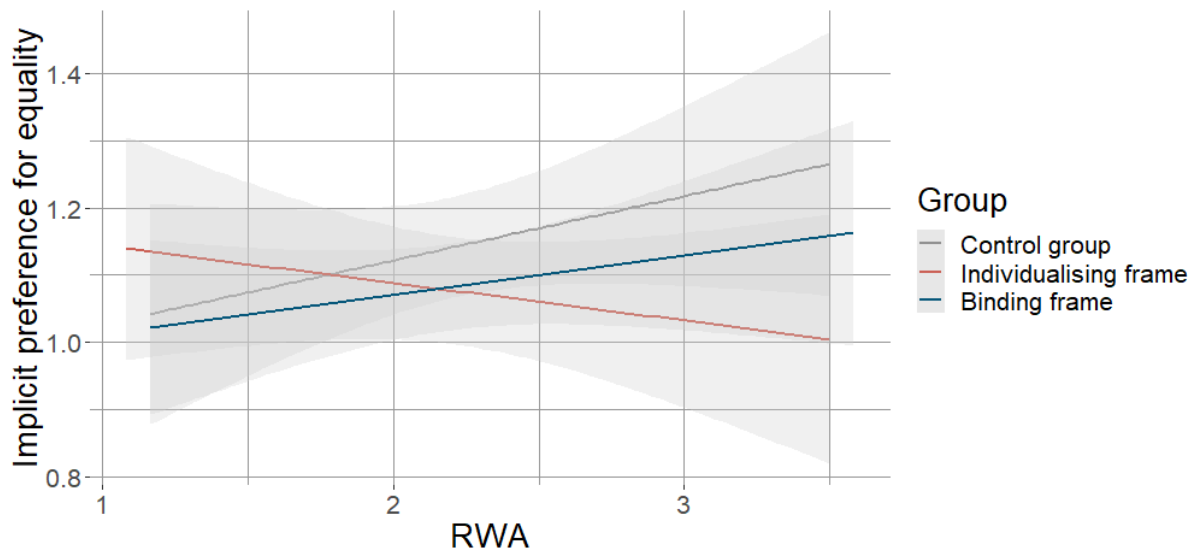
Thereafter, we analysed the effect of the manipulations on participants' fear of the consequences due to gender inequalities. Overall, the general effect of the political orientation (Model 1 -  $F(13,247) = 13.86$ , Adjusted  $R^2 = .39$ ,  $p < .001$ ;  $B = -.26$ , Estimate = -.26,  $SE = .09$ ,  $t = -2.82$ ,  $p = .01$ ), RWA (Model 2 -  $F(13,247) = 14.52$ , Adjusted  $R^2 = .40$ ,  $p < .001$ ;  $B = -.34$ , Estimate = -13.28,  $SE = 3.93$ ,  $t = -3.38$ ,  $p < .001$ ) and SDO (Model 3 -

$F(13,247) = 16.66$ , Adjusted  $R^2 = .44$ ,  $p < .001$ ;  $B = -.43$ , Estimate = -14.85, SE = 3.05  $t = -4.86$ ,  $p < .001$ ) emerged for the three different models. Right-wing, high RWA and SDO participants showed less fear of the consequences of gender inequalities compared to left-wing, low RWA and SDO participants. No other significant effects emerged from the analyses, Model 1, all  $ps > .23$ ; Model 2, all  $ps > .19$ ; Model 3, all  $ps > .06$ .

#### 4.2.6 *Implicit Association Test (IAT)*

Finally, we assessed participants' implicit attitude toward gender inequalities. Generally, participants showed an implicit positive attitude toward gender equality ( $M = 1.10$ ,  $SD = .34$ , one-sample t-test with 0 as reference  $t(253) = 51.32$ ,  $p < .001$ ,  $d = 3.22$ ). When Model 1 ( $F(13,240) = 1.11$ , Adjusted  $R^2 = .01$ ,  $p = .35$ ) and Model 3 ( $F(13,240) = .89$ , Adjusted  $R^2 = .01$ ,  $p = .57$ ) were performed, the analyses did not yield to any significant results, all  $ps$  Model 1  $> .06$  and all  $ps$  Model 3  $> .21$ .

However, when Model 2 was considered ( $F(13,240) = 1.05$ , Adjusted  $R^2 = .003$ ,  $p = .40$ ), the effect of the interaction between RWA and the dummy variable of the individualising frame emerged,  $B = -.64$ , Estimate = -.19, SE = .10,  $t = -1.98$ ,  $p = .048$ . As shown in Figure 3, although high RWA participants showed slightly higher levels of implicit preference for inequalities compared to low RWA participants in the control condition (Estimate = .10, SE = .08, 95% CI [-.05, .26]), this tendency is reversed when in the individualising moral frame condition (Estimate = -.09, SE = .06, 95% CI [-.21, .03]). No other significant effect emerged from the analysis, all  $ps > .10$ .



**Figure 3:** The moderating role of the manipulation on the relation between the political orientation and the IAT measure.

#### 4.2.7 Comparison between the different measures of the political orientation

Following the general aim of the project, we finally compared the effect of the interaction between the different measures of the political orientation and the dummy variable of the binding moral frame across the three Models. In other words, we explored which measure of the political orientation (i.e., self-report political orientation, RWA or SDO) best predicted the effect of the moral framing in changing participants' attitudes toward the gender inequalities. To allow the comparison of the betas, all the continuous variables were standardised before performing the three Models. As shown in Table 3, when gender inequalities are considered, the self-reported political orientation and the RWA measures seem to best predict the effect of the moral framing.



Variable	Political orientation	RWA	SDO
GSJ	-.20*	-.18*	-.13
Political orientation of an ideal leader	.05	-.03	.02
Fear of consequences	-.02	.02	.07
IAT	-.02	-.08	-.02

\* $p < .05$ .

**Table 3:** Beta coefficients of the effect of the interaction between the different measures of the political orientation and the dummy variable of the binding frame for each dependent variable measured in Study 1.

### 4.3 Discussion

The main aim of Study 1 was to investigate whether framing the gender inequalities with words more coherent with right-wing morality would have induced these participants to show greater level of concern and negative attitude toward the gender inequalities, both explicitly and implicitly. Overall, right-wing, high RWA and high SDO participants showed higher levels of justification of the system based on gender inequalities, higher intention to vote for a right-wing leader and lower concern toward this social issue. However, when considering the justification of the gender unfair system, right-wing and high RWA participants assigned to the binding condition showed lower level of justification compared to other right-wing and low RWA participants in the control condition, demonstrating that the moral frame can be effective in inducing right-wing and high RWA participants to show more similar attitudes to the ones of left-wing and low RWA participants. Importantly, the moral framing effect also emerged when the implicit measures was considered. High RWA participants showed lower levels of implicit preference for equality when assigned to the individualising moral frame condition, indicating that at implicit level the moral framing could result in backlash effects when participants are assigned to the moral frame that is less coherent with their moral

values. Finally, from the comparison of the different measures of political orientation, Study 1 suggests that both the self-reported measure of the political orientation and the RWA similarly predicted the effect of the moral framing, whereas no effects were detected for the SDO measure.

Although the results were weak and not stable across the different measures of political orientation, they were promising, and we decided to explore further the effect of the moral framing with another kind of social inequalities, namely the socio-economic inequalities. In addition, in Study 2 we considered the role of the source of the message. Indeed, we examined the effect of the moral framing with the additive information of the political affiliation of the source of the message.

## 5 Study 2

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Study 2 was aimed at assessing participants' attitudes toward the socioeconomic inequalities after watching a tailored video-message describing that social issue. Moreover, different information about the political affiliation of the source of the message was provided as a function of the experimental condition. Specifically, participants were randomly assigned to one of the 5 conditions included in the study. In two conditions, socioeconomic inequalities were described using an individualising moral frame and the source of the message could be either a left-wing or a right-wing politician. Similarly, in other 2 conditions the source of the message could be either a left-wing or a right-wing politician but a binding moral frame about socioeconomic inequalities was introduced. In a fifth control condition a neutral video was displayed and therefore there was neither a political source nor any mention to socioeconomic inequalities. In all conditions, participants' political orientation, RWA, and SDO were assessed. Overall, we expected right-wing participants to show a more positive attitude toward the socioeconomic inequalities compared to left-wing participants. However, we hypothesised that right-wing participants would have reported more concern about the socioeconomic inequalities when listening to a message framed in terms of binding moral foundations. In addition, we expected that when the political affiliation of the source was coherent with the binding moral frame of the message (i.e., a right-wing source), the effect of the binding moral frame would have been amplified for right-wing participants.

It is also anticipated that the effect of the moral framing should influence participants' general evaluation of the source of the message. Specifically, we hypothesised that when a right-wing source presents a binding moral framed message, this would positively influence right-wing (and high RWA and SDO) participants' opinion of the source.

## 5.1 Method

### 5.1.1 Participants

Three-hundred-fifty-three participants were recruited online through the Prolific Academic UK and they earned £1.60 for participating. As the questionnaire was in Italian, participants should have been fluent with the language in order to complete it. The entire study was administered online on November 23th 2021. However, only 307 participants (151 female, 147 male and 9 did not identify with the two genders) completed the questionnaire and did not fail the attention checks and therefore were considered for the final analyses. The mean age of the participants was 27.74 years ( $SD = 8.29$ ). A sensitivity analysis was performed by employing RStudio (version 2022.12.0+353) with the package *pwr*. The analysis showed that by considering a power of .90, level of significance at .05, with our sample size we can detect a  $f^2 = .04$ .

### 5.1.2 Procedure

After having provided the informed consent, participants were asked to complete the RWA (Roccatò et al., 2009) and SDO scales (Di Stefano & Roccatò, 2005), the Care and Loyalty items of the MFQ (Bobbio et al., 2011) and one item aimed at assessing their self-reported political orientation. Thereafter, participants randomly watched a video in which a political candidate of either a left-wing or a right-wing party was describing the socioeconomic inequalities issue with either an individualising or a binding moral frame. One-fifth of the participants were assigned to the control condition. After the manipulation, participants reported how much they generally liked and self-identified with the source of the message (this part of the survey was not shown to the control group), completed the ESJ scale (Caricati, 2008), indicated the political orientation of an ideal leader who would be able to deal with inequalities and expressed how much they feared the consequences of the

socioeconomic inequalities. Finally, participants completed a few socio-demographic questions about their age, gender, educational title, and socioeconomic status.

### 5.1.3 Measures

#### 5.1.3.1 Manipulation videos

Participants in all the manipulation groups, except for the control group, watched a video in which a local political candidate to the municipal election interviewed a social operator<sup>2</sup>. Information about the political affiliation of the politician was given (i.e., left-wing vs. right-wing candidate). In the video, the social operator described the problem of the socioeconomic inequalities stressing how it was leading an increasing number of people to live in poverty. At the end of the video, a final message was displayed and read by the politician, and it differed according to the experimental condition. Participants in the two individualising conditions read a message in which the problem of the socioeconomic inequalities was framed with individualising moral words (e.g., take care, fairness, support and social inclusion). On the contrary, participants in the binding conditions read a message that described the socioeconomic inequalities with binding moral words (e.g., public order, loyalty, security, honest work). The videos lasted 165 seconds, including the final moral framed messages. In the control group participants watched the same control video of Study 1 which had similar length of the videos employed in the other conditions (163 seconds). All participants could not proceed with the survey before the end of the video.

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<sup>2</sup> Pretest on manipulation videos (N = 55, N<sub>female</sub> = 41, N<sub>male</sub> = 12, N<sub>other</sub> = 2;  $M_{age} = 25.82$ ,  $SD_{age} = 10.13$ ) showed that the individualising message was considered more close to the political left compared to the binding message ( $p < .001$ ). Moreover, participants reported that the Care and Fairness foundations were better described by the individualising message compared to the binding message ( $ps < .001$ ). Conversely, the Authority, Loyalty and Sanctity moral foundations were better described by the binding message compared to the individualising message ( $ps < .001$ ).

### *5.1.3.2 Pre-manipulation measures*

Ideological attitudes. The RWA (Roccatò et al., 2009) and SDO (Di Stefano & Roccatò, 2005) scales were administered. Both the RWA ( $\alpha = .79$ ) and SDO ( $\alpha = .83$ ) scales showed good internal consistency.

Care and Loyalty items from the MFQ. All the items of Care and Loyalty from the original Italian MFQ (Bobbio et al., 2011) were administered. The reliability of the Care subscale was questionable ( $\alpha = .64$ ) and the Loyalty subscale showed slightly acceptable internal reliability ( $\alpha = .72$ ).

Self-reported political orientation. Participants reported their general political orientation (“How do you consider your political orientation?”) along a continuum from (0) close to left-wing to (100) close to right-wing.

### *5.1.3.3 Post-manipulation measures*

Agreeableness of the political candidate. Participants in the four experimental conditions were asked to report their agreeableness of the political candidate for the municipal election who was the source of the message by means of 4 items. First, participants indicated how much they liked the interview made by the political candidate along a continuum from (0) not at all to (100) very much. Second, they reported whether they would like to listen to other interviews from the same source in a 4-points Likert scale from (1) absolutely not to (4) absolutely yes. Third, participants indicated how much they shared the point of view of the political candidate along a continuum from (0) not at all to (100) very much. Finally, they indicated how much they identified with the political candidate along a continuum from (0) not at all to (100) very much. The scores of the 4 items were standardised in order to test their internal consistency. As the 4 items showed very good internal consistency ( $\alpha = .89$ ), a unique standardised score based on the mean of the responses to the 4 items was computed.

Economic System Justification (ESJ) scale. Participants completed the 12-item ESJ scale (Caricati, 2008) indicating their opinion from (1) strong disagreement to (7) strong agreement. An example of item is: “Social class differences reflect differences in the natural order of things”. Five items were reversed coded (e.g., “There are many reasons to think that the economic system is unfair”). The scale showed good internal consistency ( $\alpha = .83$ ).

Political orientation of an ideal leader. Participants indicated the political orientation of an ideal leader who would be able to deal with socioeconomic inequalities along a continuum from (0) extreme left to (100) extreme right.

Fear of consequences. The fear of the consequences due to socioeconomic inequalities was assessed with 3 items. Participants reported how much they feared the consequences of socioeconomic inequalities at a personal, national, and global level along a continuum from (0) not at all to (100) very much. The 3 items showed acceptable internal consistency ( $\alpha = .73$ ), therefore a unique score based on the mean of the responses to the 3 items was computed.

## **5.2 Results**

Descriptive statistics and zero order correlations between variables considered in the final analyses are presented in Table 4.

**TABLE 4** | Descriptive statistics and correlation coefficients in Study 2.

<b>Variable</b>	<b>M</b>	<b>SD</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>1. Political orientation</b>	31.17	21.06	-							
<b>2. RWA</b>	2.08	.55	.57***	-						
<b>3. SDO</b>	1.71	.62	.47***	.48***	-					
<b>4. Care</b>	4.79	.67	-.25***	-.23***	-.49***	-				
<b>5. Loyalty</b>	3.56	.86	.19***	.49***	.13**	.24***	-			
<b>6. Agreeableness of the political candidate</b>	.00	.87	-.003	.02	-.27***			-		
<b>7. ESJ</b>	2.94	.91	.47***	.56***	.61***	-.36***	.27***		-	
<b>8. Political orientation of an ideal leader</b>	31.62	18.76	.81***	.49***	.36***	-.22***	.14***		.41***	-
<b>9. Fear of consequences</b>	70.81	16.01	-.28***	-.24***	-.35***	.35***	-.05		-.42***	-.27***

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

**Table 4:** Means, standard deviations, and Pearson's  $r$  zero order correlations between the variables considered in the analyses.



Notably, the correlations between the moral foundations and the ideological antecedents confirmed previous results reported in the literature, indicating that the individualising foundations (i.e., Care) are more negatively associated with SDO compared to RWA, whereas the binding foundations (i.e., Loyalty) are more positively associated with RWA compared to SDO (Federico et al., 2013).

### *5.2.1 Plan of the analyses*

As for Study 1, for each dependent variable (i.e., agreeableness of the political candidate, ESJ, political orientation of an ideal leader and fear of consequences) the same analyses were performed. We ran 3 different multiple regression analyses for each dependent variable. In the first model (Model 1), we included as predictors the self-reported political orientation measure, four dummy variables of the manipulation groups (computed considering the control manipulation as the reference group) and their interactions, we also included the gender, the age and the educational title of the participants as covariates. In the second and third models, we replaced the self-reported political orientation measure with RWA (Model 2) and SDO (Model 3). Importantly, for the agreeableness of the political candidate dependent variable, participants in the control group did not complete this part of the survey, therefore we excluded them from the analysis. The three Models that were performed for this dependent variable included the measure of political orientation (i.e., self-reported political orientation in Model 1, RWA in Model 2 and SDO in Model 3), the moral framing (i.e., individualising vs. binding), the political orientation of the source (i.e., left-wing vs. right-wing) and their interactions.

The 3 Models for each dependent variable were also performed adding the Care and Loyalty measures as covariates in order to control for the possible effects of the two moral foundations in influencing participants' change of attitude. However, as results did not

significantly change and given the low internal consistency of these measures, we decided to report here the results of the Models that did not include these variables as covariates.

### *5.2.2 Differences between manipulation conditions*

First of all, different one-way ANOVAs were performed to explore the effect of the manipulation conditions on each dependent variable, regardless of the political orientation of the participants. Table 5 reports the means, the standard deviations, and the F values of these comparisons.

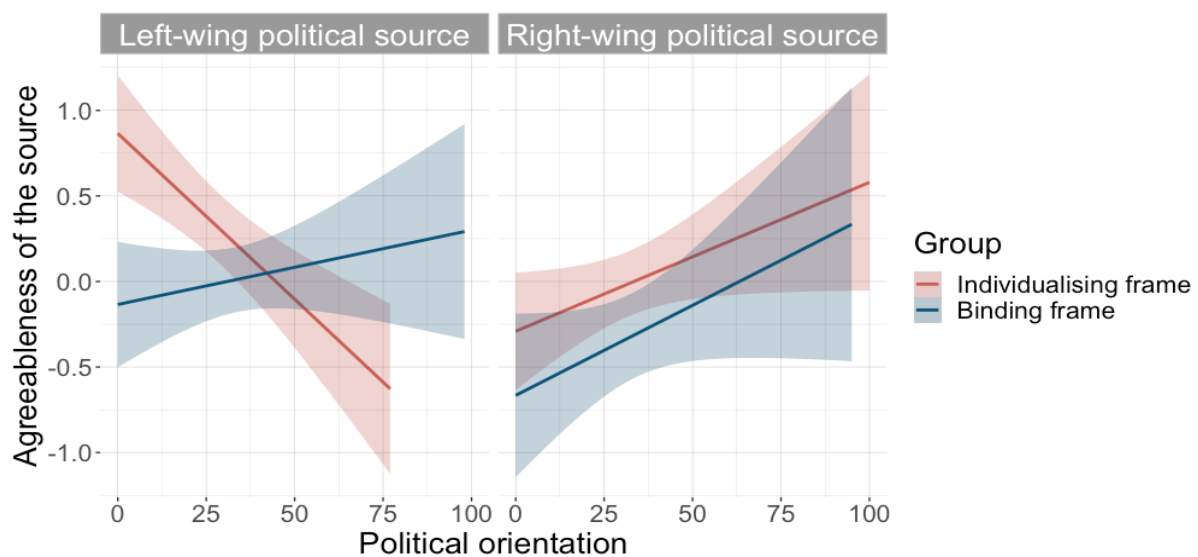
<b>Variable</b>	<b>Control group <i>M(SD)</i></b>	<b>Individualising frame and left- wing source condition <i>M(SD)</i></b>	<b>Individualising frame and right- wing source condition <i>M(SD)</i></b>	<b>Binding frame and left-wing source condition <i>M(SD)</i></b>	<b>Binding frame and right-wing source condition <i>M(SD)</i></b>	<b>F</b>	<b>df</b>	<b><i>p</i></b>	<b><math>\eta^2_p</math></b>
<b>Agreeableness of the political candidate</b>	-	.31(.89)a	-.01(.75)ab	.01(.75)ab	-.31(.98)b	4.85*	3(231)	.003	.06
<b>ESJ</b>	2.87(.96)	2.79(.96)	2.91(.91)	2.99(.79)	3.13(.91)	.60	4(294)	.66	.001
<b>Political orientation of an ideal leader</b>	27.89(17.84)	28.62(20.17)	32.83(18.98)	33.14(18.38)	35.90(17.76)	1.41	4(294)	.23	.02
<b>Fear of consequences</b>	72.29(15.19)	72.55(17.97)	71.08(15.04)	68.89(14.99)	69.19(16.88)	.47	4(294)	.75	.001

**Table 5:** Means, standard deviations, and Fisher’s F for the ANOVA models tested for each dependent variable. *Note.* Different letters indicate significant differences across columns for the significant ANOVA. *Bonferroni post-hoc* comparison,  $p < .001$ .

### 5.2.3 Agreeableness of the political candidate

First of all, we investigated whether participants' opinion about the political candidate was influenced by the political affiliation of the candidate, the moral frame of the message as well as the political orientation of the participants. In Model 1 ( $F(15,227) = 3.03$ , Adjusted  $R^2 = .11$ ,  $p < .001$ ), a significant effect of the political orientation of the participant emerged,  $B = -.41$ , Estimate =  $-.02$ ,  $SE = .01$ ,  $t = -3.29$ ,  $p = .001$ . Overall, right-wing participants perceived the political candidate more negatively compared to left-wing participants. Also, the effect of the political orientation of the source of the message emerged ( $B = -.64$ , Estimate =  $-1.12$ ,  $SE = .26$ ,  $t = -4.24$ ,  $p < .001$ ). Generally, participants liked more the left-wing political candidate ( $M = .16$ ,  $SD = .83$ ) than the right-wing political candidate ( $M = -.16$ ,  $SD = .88$ ). Moreover, the effect of the moral frame emerged,  $B = -.52$ , Estimate =  $-.88$ ,  $SE = .28$ ,  $t = -3.24$ ,  $p = .001$ . Participants considered the source more agreeable when she pronounced an individualising message ( $M = .15$ ,  $SD = .84$ ) instead of a binding message ( $M = -.15$ ,  $SD = .88$ ). The two-way interaction between the moral framing and the political orientation of the participant ( $B = .55$ , Estimate =  $.02$ ,  $SE = .01$ ,  $t = 2.96$ ,  $p = .003$ ) and the political orientation of the source with the political orientation of the participant ( $B = .68$ , Estimate =  $.03$ ,  $SE = .01$ ,  $t = 3.82$ ,  $p < .001$ ) emerged. They were qualified by the three-way interaction between the political orientation of the participants, the political orientation of the source of the message and the moral framing,  $B = -.41$ , Estimate =  $-.02$ ,  $SE = .01$ ,  $t = -2.00$ ,  $p = .046$ . Simple slope analysis revealed that right-wing participants in the individualising message from a left-wing politician group condition showed lower level of agreeableness of the source compared to left-wing participants, Estimate =  $-.02$ ,  $SE = .01$ , 95% CI [ $-.001$ ,  $-.01$ ]. However this difference was no longer significant for participants in the individualising frame from a right-wing politician condition (Estimate =  $.01$ ,  $SE = .01$ , 95% CI [ $.001$ ,  $.02$ ]), and for participants in the binding frame from a left-wing politician condition (Estimate =  $.005$ ,  $SE = .01$ , 95% CI

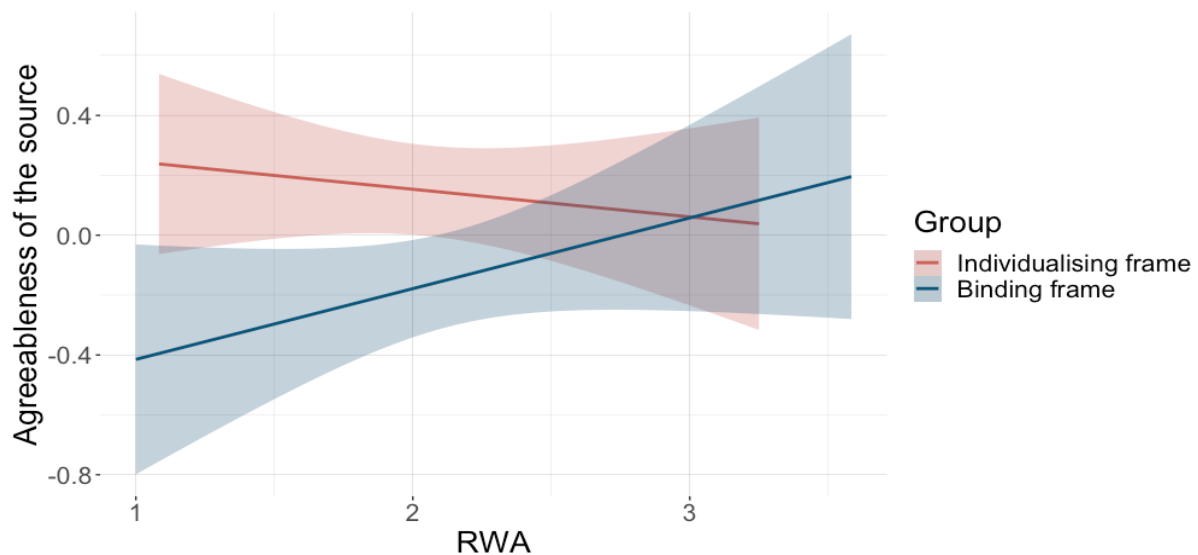
[-.001, .01]). More importantly, when participants were assigned to the binding message from a right-wing politician group, right-wing participants showed greater agreeableness of the source compared to left-wing participants, Estimate = .01, SE = .01, 95% CI [.001, .02]. These results suggest that participants have a different perception of political candidate. Especially, right-wing individuals showed lower levels of agreeableness of the left-wing political candidate in the individualising moral frame condition. Figure 4 shows these interactions. No other significant effect emerged,  $p = .16$ .



**Figure 4:** The effects on the perceived agreeableness of the political candidate.

Next, we performed the same analysis replacing the self-reported measure of political orientation with RWA (Model 2,  $F(15,227) = 2.1$ , Adjusted  $R^2 = .06$ ,  $p = .01$ ). The main effect of the moral frame ( $B = -1.01$ , Estimate = -1.76, SE = .66,  $t = -2.66$ ,  $p = .01$ ) and the political orientation of the source ( $B = -.81$ , Estimate = -1.41, SE = .59,  $t = -2.40$ ,  $p = .02$ ) emerged. As for Model 1, participants liked more the candidate when it was described as a left-wing political source instead of a right-wing political candidate and when the message was framed with individualising moral words compared to binding moral words.

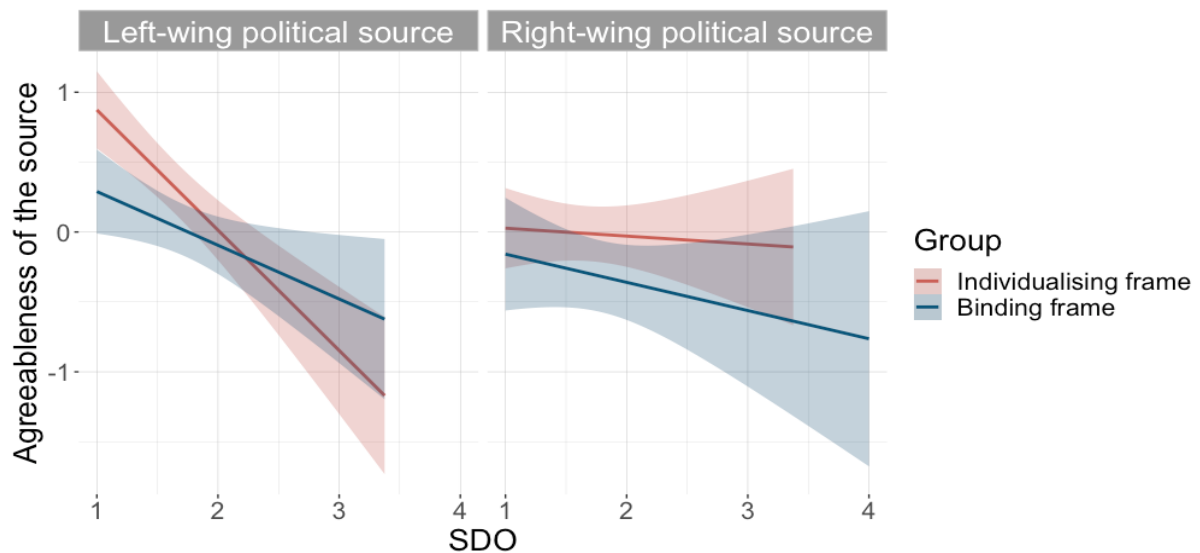
More importantly, only the two-way interaction between RWA and the moral framing emerged ( $B = .94$ , Estimate = .73, SE = .31,  $t = 2.37$ ,  $p = .02$ ). Simple slope analysis, graphically represented in Figure 5, revealed that although high RWA participants in the individualising frame showed similar levels of agreeableness of the politician as other low RWA participants (Estimate = -.01, SE = .14, 95% CI [-.34, .23]), when high RWA participants were in the binding moral frame condition, they showed a significant higher level of agreeableness of the source compared to other low RWA participants (Estimate = .31, SE = .16, 95% CI [.001, .62]). No other significant effects emerged, all  $ps > .05$ .



**Figure 5:** The effect of the moral framing manipulation on the relation between RWA and the agreeableness of the political candidate measure.

Finally, the same analysis was replicated employing the SDO measure (Model 3,  $F(15,227) = 3.82$ , Adjusted  $R^2 = .15$ ,  $p < .001$ ). A general effect of SDO emerged from the analysis,  $B = -.64$ , Estimate = -.90, SE = .17,  $t = -5.18$ ,  $p < .001$ . Overall, high SDO participants showed lower levels of agreeableness for the source of the messages compared to low SDO participants. Moreover, the effect of the political orientation of the source of the message ( $B = -.97$ , Estimate = -1.69, SE = .43,  $t = -3.96$ ,  $p < .001$ ), and the effect of the moral framing ( $B$

= -.66, Estimate = -1.15, SE = .46,  $t = -2.52$ ,  $p = .01$ ) emerged. Generally, participants liked more the candidate when it was described as a left-wing political source instead of a right-wing political candidate and when the source pronounced an individualising message instead of a binding message. As for Model 1, the two-way interaction between the moral framing and SDO ( $B = .61$ , Estimate = .55, SE = .25,  $t = 2.96$ ,  $p = .03$ ), and the interaction between the political orientation of the source and SDO ( $B = .94$ , Estimate = .84, SE = .24,  $t = 3.51$ ,  $p < .001$ ) emerged. They were qualified by the three-way interaction between the SDO, the political orientation of the source of the message and the moral framing,  $B = -.66$ , Estimate = -.69, SE = .35,  $t = -2.01$ ,  $p = .046$ . Figure 6 depicts this interaction. Simple slope analysis showed that when in the individualising message from a left-wing political source group, high SDO participants significantly liked less the political candidate compared to low SDO participants (Estimate = -.90, SE = .18, 95% CI [-1.25, -.56]). However when in the individualising message from a right-wing source group (Estimate = -.07, SE = .17, 95% CI [-.40, .26]), in the binding message from a right-wing candidate group (Estimate = -.35, SE = .19, 95% CI [-.72, .01]) or in the binding message from a right-wing candidate group manipulation (Estimate = -.21, SE = .17, 95% CI [-.54, .12]) this difference was no more significant. No other significant effect emerged,  $p = .08$ .



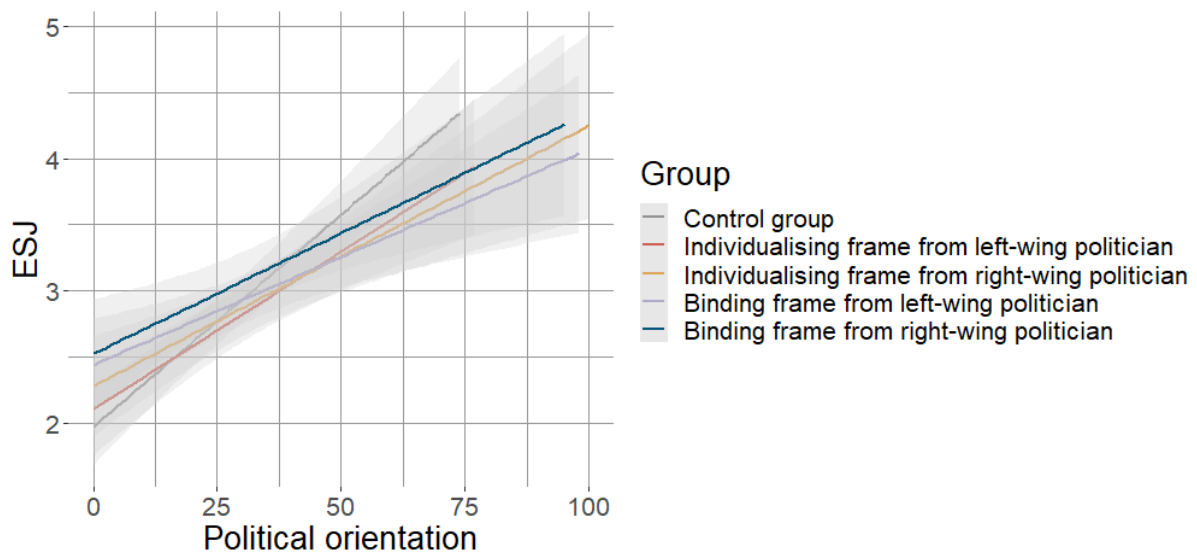
**Figure 6:** The effect of the manipulations on the relation between SDO and the agreeableness of the political candidate measure.

#### 5.2.4 Economic System Justification (ESJ)

We considered the effect of the manipulation in interaction with the political orientation measures on participants' tendency to justify an unfair economic system. For Model 1 ( $F(17,289) = 8.4$ , Adjusted  $R^2 = .29$ ,  $p < .001$ ), a general effect of the political orientation emerged,  $B = .74$ , Estimate = .03,  $SE = .005$ ,  $t = 6.72$ ,  $p < .001$ . Overall, right-wing participants more strongly justified the system compared to left-wing participants. Moreover, the effect of the dummy variable of the binding framed message from a right-wing source emerged,  $B = .26$ , Estimate = .60,  $SE = .25$ ,  $t = 2.38$ ,  $p = .02$ . Although *Tukey HSD post-hoc tests* is not significant ( $p > .93$ ), there was a tendency for participants in the binding message from a right-wing political candidate condition ( $M = 3.13$ ,  $SD = .91$ ) to show higher justification of the system compared to participants in the individualising frame from a left-wing source condition ( $M = 2.79$ ,  $SD = .96$ ). Finally, the analysis yielded the significant effect of the two-way interactions between the political orientation and the dummy variables of the individualising frame from a right-wing source ( $B = -.24$ , Estimate =  $-.01$ ,  $SE = .01$ ,  $t = -2.12$



$p = .03$ ), of the binding frame message both from a left-wing ( $B = -.27$ , Estimate =  $-.02$ ,  $SE = .01$ ,  $t = -2.25$ ,  $p = .03$ ) or a right-wing ( $B = -.28$ , Estimate =  $-.02$ ,  $SE = .01$ ,  $t = -2.33$ ,  $p = .02$ ) political source conditions. Simple slope analysis revealed that even though in all the conditions there was a positive association between right-wing political orientation and the justification of the economic system, this relation was stronger in the control group (Estimate =  $.03$ ,  $SE = .005$ , 95% CI  $[.02, .04]$ ) and decreased when participants were assigned to the individualising frame condition from a right-wing source (Estimate =  $.02$ ,  $SE = .005$ , 95% CI  $[.01, .03]$ ) and both to the binding frame conditions (from a left-wing political source: Estimate =  $.02$ ,  $SE = .005$ , 95% CI  $[.01, .03]$ ; from a right-wing political source: Estimate =  $.02$ ,  $SE = .005$ , 95% CI  $[.01, .03]$ ) and the individualising frame condition from a right-wing political candidate (Estimate =  $.02$ ,  $SE = .005$ , 95% CI  $[.01, .03]$ ). Figure 7 shows these interactions. No other significant result emerged, all  $ps > .07$ .



**Figure 7:** The moderating role of the manipulation on the relation between the political orientation and the ESJ measure.

Thereafter, we replicated the same analysis considering the RWA as predictor instead of the political orientation (Model 2 -  $F(17,289) = 11.05$ , Adjusted  $R^2 = .36$ ,  $p < .001$ ). However,

only the significant effect of RWA emerged,  $B = .63$ , Estimate = 1.04,  $SE = .16$ ,  $t = 6.52$ ,  $p < .001$ . Overall, high RWA participants justified more the unfair economic system. The analysis yielded to no other significant result, all  $ps > .21$ .

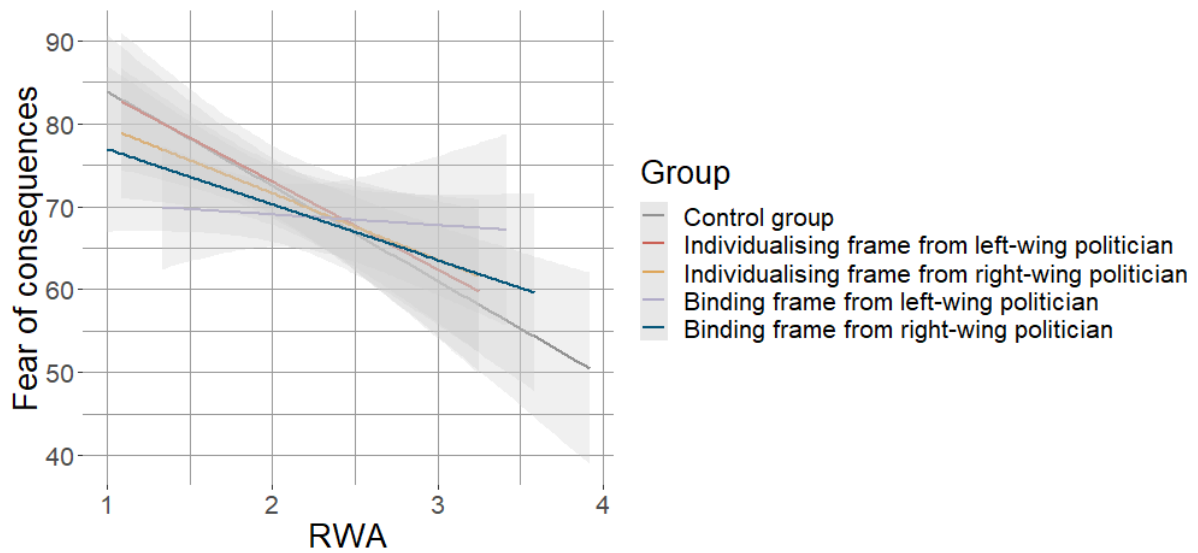
Similarly, to the previous analysis, when SDO was considered as predictor (Model 3 -  $F(17,289) = 11.96$ , Adjusted  $R^2 = .38$ ,  $p < .001$ ), no significant results emerged (all  $ps > .61$ ), except for the general effect of the SDO,  $B = .62$ , Estimate = .90,  $SE = .14$ ,  $t = 6.42$ ,  $p < .001$ . Overall, high SDO participants justify more the economic system compared to low SDO participants.

### *5.2.5 Political orientation of an ideal leader*

Next, we assessed participants' preference for the political orientation of an ideal leader who would be able to deal with the socioeconomic inequalities problem. For each tested model, the general effect of the political orientation (Model 1 -  $F(17,289) = 34.46$ , Adjusted  $R^2 = .65$ ,  $p < .001$ ;  $B = .78$ , Estimate = .69,  $SE = .07$ ,  $t = 9.96$ ,  $p < .001$ ), RWA (Model 2 -  $F(17,289) = 7.88$ , Adjusted  $R^2 = .28$ ,  $p < .001$ ;  $B = .50$ , Estimate = 17.12,  $SE = 3.51$ ,  $t = 4.88$ ,  $p < .001$ ) and SDO (Model 3 -  $F(17,289) = 5.03$ , Adjusted  $R^2 = .18$ ,  $p < .001$ ;  $B = .47$ , Estimate = 13.98,  $SE = 3.31$ ,  $t = 4.22$ ,  $p < .001$ ) emerged. Right-wing participants and participants high in RWA and SDO showed greater preference for a right-wing leader compared to left-wing and low RWA and SDO participants. In Model 3 also the effect of the dummy variable of the binding frame from a right-wing source emerged,  $B = .37$ , Estimate = 17.46,  $SE = 8.80$ ,  $t = 1.98$ ,  $p = .05$ . Overall, participants in the binding condition from a right-wing source ( $M = 35.90$ ,  $SD = 17.76$ ) showed higher preference for a right-wing leader compared to other participants in the control group ( $M = 27.89$ ,  $SD = 17.84$ ). No other significant effects emerged from the analyses, Model 1, all  $ps > .08$ ; Model 2, all  $ps > .22$ ; Model 3, all  $ps > .18$ .

### 5.2.6 Fear of consequences

Finally, we investigated participants' fear of the consequences due to socioeconomic inequalities. Overall, the general effect of the political orientation (Model 1 -  $F(17,289) = 3.50$ , Adjusted  $R^2 = .12$ ,  $p < .001$ ;  $B = -.44$ , Estimate =  $-.34$ ,  $SE = .09$ ,  $t = -3.59$ ,  $p < .001$ ), RWA (Model 2 - ( $F(17,289) = 3.18$ , Adjusted  $R^2 = .11$ ,  $p < .001$ ;  $B = -.37$ , Estimate =  $-10.60$ ,  $SE = 3.32$ ,  $t = -3.19$ ,  $p = .001$ ) and SDO (Model 3 -  $F(17,289) = 3.83$ , Adjusted  $R^2 = .14$ ,  $p < .001$ ;  $B = -.30$ , Estimate =  $-7.62$ ,  $SE = 2.91$ ,  $t = -2.62$ ,  $p = .01$ ) emerged. Right-wing, high RWA and SDO participants showed less concern for the consequences of the socioeconomic inequalities compared to left-wing, low RWA and SDO participants. Moreover, when considering Model 2, also the effect of the dummy variable of the binding message from a left-wing source emerged,  $B = -.65$ , Estimate =  $-25.68$ ,  $SE = 11.54$ ,  $t = -2.23$ ,  $p = .03$ . Participants reported lower levels of fear for the consequences of socioeconomic inequalities when in the binding frame from a left-wing political source ( $M = 68.89$ ,  $SD = 14.99$ ) compared to the control group ( $M = 72.29$ ,  $SD = 15.19$ ). Notably, the general effect was qualified by the two-way interaction with the RWA,  $B = .62$ , Estimate =  $11.26$ ,  $SE = 5.39$ ,  $t = 2.09$ ,  $p = .04$ . Simple slope analysis suggested that although in the control condition high RWA participants showed lower fear of the consequences of the socioeconomic inequalities compared to low RWA participants (Estimate =  $-10.60$ ,  $SE = 3.32$ , 95% CI [ $-17.14$ ,  $-4.07$ ]), this difference was no more significant for participants in the binding message from a left-wing political candidate (Estimate =  $.66$ ,  $SE = 4.26$ , 95% CI [ $-7.73$ ,  $9.05$ ]). Figure 8 shows this interaction. No other significant effects emerged from the analyses, Model 1, all  $ps > .07$ ; Model 2, all  $ps > .26$ ; Model 3, all  $ps > .23$ .



**Figure 8:** The moderating role of the manipulation on the relation between RWA and the fear of consequences measure.

### 5.2.7 Comparison between the different measures of the political orientation

We finally compared the interaction effect between the different measures of the political orientation and the dummy variable of the binding moral frame across the three Models (all the continuous variables were standardised). As shown in Table 6, when the socio-economic inequalities are described, the self-reported measure of the political orientation seems to best predict the effect of the moral framing.

Variable	Political orientation	RWA	SDO
Agreeableness of the source	-.24*	-.23*	-.26 *
ESJ – left-wing source	-.16*	-.04	-.01
ESJ – right-wing source	-.16*	-.07	.01
Political orientation of an ideal leader – left-wing source	.01	-.01	-.07
Political orientation of an ideal leader – right-wing source	-.02	-.05	-.10
Fear of consequences – left-wing source	.13	.15*	.06
Fear of consequences – right-wing source	.13	.07	.01

\* $p < .05$ .

**Table 6:** Beta coefficients of the effect of the interaction between the different measures of the political orientation and the dummy variable of the binding frame for each dependent variable measured in Study 2.

### 5.3 Discussion

Study 2 was aimed at assessing the effect of the moral framing of the problem of the socioeconomic inequalities in relation with the information about the political affiliation of the source of the message. Overall, we found partial support for our hypotheses. First, right-wing, high RWA and high SDO participants showed greater support for inequalities, higher preference for a right-wing leader and lower levels of fear for the consequences of the problem. However, when right-wing participants were assigned to the binding frame of the socioeconomic inequalities irrespective of the source, they showed lower levels of justification of the socioeconomic inequalities. Moreover, when high RWA participants were assigned to the binding frame of the socioeconomic inequalities from a left-wing source, they showed a tendency to be more concerned for the consequences of the socioeconomic inequalities.

In addition, we also tested the effect of the moral framing when intergroup dynamics are considered. Indeed, we asked participants their level of agreeableness of the source of the message who was described as part of the in-group or the out-group (i.e., political affiliation similar vs. dissimilar to the one of the participants). The results suggested that generally right-wing and high SDO participants showed lower level of agreeableness of the source of the message. However, this tendency lessened when these participants (also high RWA participants) were assigned to a binding moral frame or when the source of the message was described as right-wing oriented.

Moreover, after comparing the interaction effect across the different measures of the political predisposition and leaning, the self-reported measure of the political orientation emerged to be the best predictor of the moral frame. Results also revealed that this effect is not stable among different measures of political orientation and among different assessments of attitudes toward the problem of socioeconomic inequalities. More importantly, the additive information about the source of the message did not strengthen the effect of the moral framing. For this reason, in Study 3 we tried to replicate the effect of the moral framing of the socioeconomic inequalities, yet we removed any information about the political affiliation of the source of the message. In addition, we tested whether the effect of the moral framing would have replicated with an implicit measure of attitude toward the socioeconomic inequalities.

# 6 Study 3

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In Study 3 we further explored the effect of the moral framing of the socioeconomic inequalities problem. In this study, the political affiliation of the source of the message was not manipulated and it remained unspecified. Moreover, participants' implicit attitudes toward the socioeconomic inequalities were assessed by using the VAAST (Rougier et al., 2018). As for Study 2, we hypothesised that right-wing, high RWA and high SDO participants would have shown a more general positive attitude toward socioeconomic inequalities, both explicitly and implicitly, compared to left-wing, low RWA and low SDO participants. Nevertheless, we expected that this difference would have been less accentuated when right-wing, high RWA, and high SDO participants were assigned to the binding moral frame condition.

## 6.1 Method

### 6.1.1 Participants

Participants ( $N = 348$ ) were recruited by a snowball sample composed by the network of acquaintances of some research assistants. As the questionnaire was in Italian, participants should have been fluent with the language in order to complete it. The study was administered online from February 28<sup>th</sup> 2022 until April 1<sup>st</sup> 2022. As 100 participants did not complete the survey or failed any of the 2 attention checks, they were excluded from the final analyses. Therefore, the final sample included 248 participants (164 women, 81 men and 3 did not identify with the two genders). The mean age was 27.58 years ( $SD = 10.55$ ). A sensitivity analysis was performed by employing RStudio (version 2022.12.0+353) with the

package *pwr*. The analysis showed that by considering a power of .90, level of significance at .05, with our sample size we can detect a  $f^2 = .04$ .

### *6.1.2 Procedure*

After providing the informed consent, participants answered a few socio demographic questions (i.e., age, gender, educational title, and socioeconomic status). Next, participants completed 3 items about their self-reported political orientation, the RWA scale (Roccatto et al., 2009), the SDO scale (Di Stefano & Roccatto, 2005) and the Relevance subscale of the MFQ (Bobbio et al., 2011). Subsequently, participants were randomly assigned to watch one of the three videos shown also in Study 2 (i.e., individualising frame vs. binding frame vs. control). After the manipulation, participants completed the ESJ scale (Caricati, 2008), indicated the political orientation of an ideal leader who would be able to deal with inequalities and expressed how much they feared the consequences of the socioeconomic inequalities. Finally, participants completed the VAAST online (Aubé et al., 2019) with which we assessed their implicit attitudes toward socioeconomic inequalities.

### *6.1.3 Measures*

#### *6.1.3.1 Manipulation videos*

The same videos shown in Study 2 were displayed also in Study 3. The only difference was that no information about the political affiliation of the source of the message was provided here. All participants could not proceed with the survey before the end of the video.

#### *6.1.3.2 Pre-manipulation measures*

Self-reported political orientation. Participants completed the same 3 items of self-reported political orientation as for Study 1. The 3 items showed excellent internal consistency ( $\alpha =$



.92) and therefore a unique score based on the mean of the responses to the 3 items was computed.

Ideological attitudes. Participants completed the RWA (Roccatto et al., 2009) and SDO (Di Stefano & Roccatto, 2005) scales. Both the RWA ( $\alpha = .76$ ) and SDO ( $\alpha = .72$ ) scales showed acceptable internal consistency.

MFQ Relevance subscale. Participants completed the Relevance subscale from the original Italian MFQ (Bobbio et al., 2011). The Relevance subscale consists of 15 items assessing the perceived relevance of the 5 moral foundations. Specifically, 3 items were presented for each dimension. Examples of items are: “Whether or not someone showed a lack of respect for authority” (Authority), “Whether or not someone was denied his or her rights” (Fairness) and “Whether or not someone acted in a way that God would approve of” (Sanctity). Participants answered the items indicating how much they considered relevant each topic from (1) not at all relevant to (6) extremely relevant. The reliability of the 5 subscales was not always satisfactory (Care  $\alpha = .71$ , Fairness  $\alpha = .68$ , Loyalty  $\alpha = .74$ , Authority  $\alpha = .62$ , and Sanctity  $\alpha = .49$ ). Hence, we calculated the reliability of the Individualising foundation (i.e., Care and Fairness,  $\alpha = .77$ ) and the Binding foundations (i.e., Authority, Loyalty and Sanctity,  $\alpha = .80$ ). Given the greater internal consistency of this conceptualization, we decided to compute two unique scores based on the means of the Individualising and Binding foundations.

#### *6.1.3.3 Post-manipulation measures*

Economic System Justification (ESJ) scale. Participants completed the ESJ scale (Caricati, 2008). The scale showed acceptable internal consistency ( $\alpha = .77$ , for more details see Study 2).

Political orientation of an ideal leader. Participants indicated the political orientation of an ideal leader who would be able to deal with inequalities.

Fear of consequences. The fear of the consequences due to socioeconomic inequalities was assessed. The 3 items showed acceptable internal consistency ( $\alpha = .73$ ), therefore a unique score based on the mean of the items was computed.

Visual Approach and Avoidance to the Self Task (VAAST). The VAAST is an implicit measure of approach/avoidance tendencies. Specifically, it mimics approach and avoidance movements of the whole self by manipulating the visual information provided to the participants. The online-VAAST was programmed in PsyToolkit (Stoet, 2010, 2017), a platform allowing to conduct off/online surveys and experiments, following Aubé et al. (2019) instructions<sup>3</sup>. Participants were instructed to perform the task only on a computer (not with a mobile phone and tablet) and indications about the appropriate browser were provided (i.e., the task did not properly run with Safari).

In our task, participants saw a minimal room as background in which centre the stimulus (i.e., 25 images of equality and 25 images of inequality) appeared and their task was to perform the correct instructed movement. In the equality-compatible Block (10 training trials + 40 critical trials), participants were instructed to approach equality images by pressing the *Y* key button and to avoid inequality images by pressing the *N* button on their keyboard. Each stimulus randomly appeared only once in the Block. On the contrary, in the equality-incompatible Block (10 training trials + 40 critical trials), the instructions were reversed (i.e., approach inequality images with the *Y* key button and avoid equality images with the *N* key button) and the same images presented in the equality-compatible Block were again randomly presented

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<sup>3</sup> Sixty images were created and pretested for the perceived equality dimension. Specifically, 30 images were constructed for the category of equality and 30 were shaped for the category of inequality. Each image was composed of two different images. For the equality category, the two images represented a similar standard of living (i.e., both represented extreme luxury, extreme poverty or middle-class standard of living). For the inequality category, the two images portrayed polarisation of standard of living (i.e., luxury vs. poverty). Fifty-six participants ( $N_{\text{female}} = 35$ ,  $N_{\text{male}} = 20$ ,  $N_{\text{other}} = 1$ ;  $M_{\text{age}} = 29.48$ ,  $SD_{\text{age}} = 15.14$ ) completed the pretest in which they had to express how much each of the images represented equality along a continuum from extreme inequality (0) to extreme equality (100). We kept for the Study only the 25 images for each category that obtained the most polarised scores. The selected 25 images of equality and 25 images of inequality differed for the perceived equality dimension ( $p < .001$ ).

only once in the equality-incompatible Block. The order of the two Blocks was counterbalanced between participants. The 10 stimuli (i.e., 5 images of equality and 5 images of inequality) presented in the training phase of the equality-compatible Block, were also displayed in the training phase of the equality-incompatible Block, and were not further presented in the critical part of each Block.

At the beginning of each trial, participants saw a circle in the centre of the screen. After pressing the start key (i.e. *H* key button), a fixation cross appeared replacing the circle with a delay of 800 ms. Similarly, after 800 ms, the stimulus appeared replacing the fixation cross, at that point, participants had to press the correct key button to perform the instructed movement as a function of the specific Block they were performing. Once the correct button was pressed, an animation appeared on the screen that mimicked the movement. Indeed, when the correct approach movement was performed, the minimal room in the background and the stimulus seemed to get closer to the self (obtained with a sequence of screenshots of both the stimulus and the environment). On the other hand, when the correct avoidance movement was performed, the minimal room in the background and the stimulus seemed to get further to the self. After completing the trial, the stimulus disappeared and after 500 ms, a new trial started with the circle in the centre of the screen. At that point, participants had to press the *H* key button to proceed. In the training phase of each Block, a cross appeared when the participants performed the wrong movement and it disappeared only when the mistake was corrected. In the critical part of the Blocks, no information about the correctness of the answer was given (See Appendix C). The reaction times (RTs) for each trial and the number of mistakes were registered. Following Aubé et al.' procedure (2019), we excluded the incorrect responses (3%) and RTs below 450ms and above 2500ms (4%). Moreover, to simplify the interpretation of the findings, our final score was obtained by subtracting the RTs of approach from the RTs of avoidance for each stimulus for each participant. As a

consequence, a score of 0 indicates no difference in speed for the movements of approach and avoidance; a positive score indicates lower RTs for approach (i.e., approach preference); and a negative score indicates lower RTs for avoidance (i.e., avoidance preference).

## **6.2 Results**

Descriptive statistics and zero order correlations between variables considered in the final analyses are presented in Table 7.

**TABLE 7** | Descriptive statistics and correlation coefficients in Study 3.

<b>Variable</b>	<b><i>M</i></b>	<b><i>SD</i></b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>1. Political orientation</b>	30.90	19.93	-							
<b>2. RWA</b>	2.04	.52	.67***	-						
<b>3. SDO</b>	1.61	.50	.48***	.42***	-					
<b>4. Individualising foundations</b>	4.87	.68	-.22**	-.20**	-.33***	-				
<b>5. Binding foundations</b>	3.44	.75	.36***	.46***	.12	.35***	-			
<b>6. ESJ</b>	2.71	.80	.51***	.53***	.56***	-.34***	.28***	-		
<b>7. Political orientation of an ideal leader</b>	34.02	19.59	.77***	.52***	.34***	-.14*	.28***	.43***	-	
<b>8. Fear of consequences</b>	71.32	14.42	-.32***	-.33***	-.29***	.24***	-.04	-.47***	-.22***	-
<b>9. Implicit preference for equality (VAAST)</b>	208.21	345.22	-.09	-.13*	-.11	.01	-.05	-.21**	-.05	.04

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

**Table 7:** Means, standard deviations, and Pearson's  $r$  zero order correlations between the variables considered in the analyses.

Also when the Individualising and Binding foundations were considered instead of the single dimensions of Care and Loyalty, the correlations between the moral foundations and the ideological antecedents confirmed previous results reported in the literature. Indeed, individualising foundations were more negatively associated with SDO compared to RWA, whereas the binding foundations were more positively associated with RWA compared to SDO (Federico et al., 2013).

### *6.2.1 Plan of the analyses*

For ESJ, political orientation of an ideal leader and fear of consequences measures the same analysis was performed. We performed three different multiple regression analyses for each dependent variable. In Model 1, we included as predictors the self-reported political orientation measure, two dummy variables of the manipulation groups (computed considering the control manipulation as the reference group) and their interactions. In the second and third models, we replaced the self-reported political orientation measure with RWA (Model 2) and SDO (Model 3). For the VAAST, we performed three different mixed models considering the political orientation (Model 1) or RWA (Model 2) or SDO (Model 3), the two dummy variables of the manipulation groups (computed considering the control manipulation as reference group), the category of the images (i.e., equality vs. inequality) and their interactions as fixed factors, we also added the gender, the age and the educational title of the participants as covariates. We included the id of the participant and the id of the images as random factors. All the 3 Models were also performed adding the Individualising and Binding foundations as covariates for each dependent variable in order to control for the possible effect of the moral foundations in influencing participants' change of attitude. However, as results did not significantly change, we decided to report here the results of the Models that did not include these variables as covariates.

### *6.2.2 Differences between manipulation conditions*

First of all, different one-way ANOVAs were performed to explore the effect of the manipulation conditions on each dependent variable, regardless of the political orientation of the participants. Table 8 reports the means, the standard deviations, and the F values of these comparisons.

<b>Variable</b>	<b>Control group <i>M(SD)</i></b>	<b>Individualising frame condition <i>M(SD)</i></b>	<b>Binding frame condition <i>M(SD)</i></b>	<b>F</b>	<b>df</b>	<b><i>p</i></b>	<b><math>\eta^2_p</math></b>
<b>ESJ</b>	2.66(.82)	2.71(.83)	2.78(.75)	.32	2(235)	.73	.001
<b>Political orientation of an ideal leader</b>	31.50(18.67)	36.60(22.09)	34.08(17.62)	1.54	2(237)	.22	.01
<b>Fear of consequences</b>	70.98(13.74)	71.41(15.70)	71.60(13.95)	.06	2(237)	.94	.001
<b>VAAST</b>	7.28(409.52)	-6.34(406.87)	-15.54(396.72)	1.78	2(208)	.17	.001

**Table 8:** Means, standard deviations, and Fisher's F for the ANOVA models tested for each dependent variable.



### 6.2.3 Economic System Justification (ESJ)

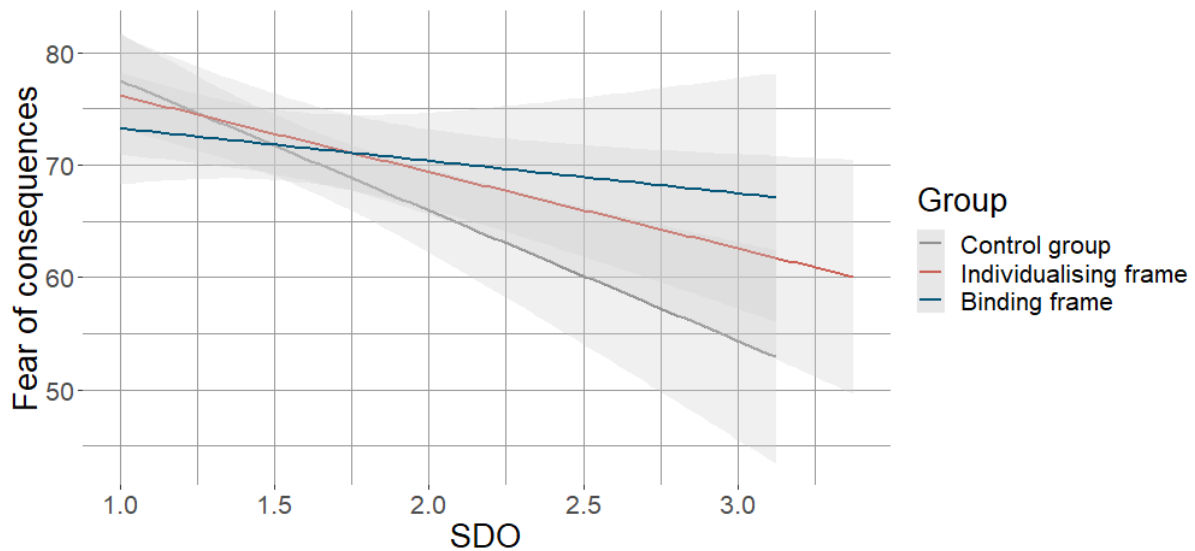
First, we performed Model 1 ( $F(13,232) = 7.51$ , Adjusted  $R^2 = .26$ ,  $p < .001$ ), Model 2 ( $F(13,232) = 7.74$ , Adjusted  $R^2 = .26$ ,  $p < .001$ ) and Model 3 ( $F(13,232) = 8.48$ , Adjusted  $R^2 = .28$ ,  $p < .001$ ) on the dependent variable ESJ. For each model, only the general effect of political orientation ( $B = .55$ , Estimate = .02,  $SE = .004$ ,  $t = 6.21$ ,  $p < .001$ ), RWA ( $B = .55$ , Estimate = .84,  $SE = .15$ ,  $t = 5.65$ ,  $p < .001$ ) and SDO ( $B = .69$ , Estimate = 1.09,  $SE = .16$ ,  $t = 6.73$ ,  $p < .001$ ) emerged. Generally, right-wing participants and participants high in RWA and SDO showed higher levels of justification of the unfair economic system compared to left-wing and low RWA and SDO participants. No other significant effect emerged neither for Model 1 (all  $ps > .14$ ), Model 2 (all  $ps > .65$ ) nor Model 3 (all  $ps > .10$ ).

### 6.2.4 Political orientation of an ideal leader

Thereafter, we considered participants' preference for an ideal leader who would be able to deal with the problem of socioeconomic inequalities. However, for each model, only the general effect of political orientation (Model 1 -  $F(13,234) = 29.19$ , Adjusted  $R^2 = .60$ ,  $p < .001$ ;  $B = .75$ , Estimate = .74,  $SE = .06$ ,  $t = 11.63$ ,  $p < .001$ ), RWA (Model 2 -  $F(13,234) = 6.87$ , Adjusted  $R^2 = .24$ ,  $p < .001$ ;  $B = .59$ , Estimate = 22.37,  $SE = 3.72$ ,  $t = 6.01$ ,  $p < .001$ ) and SDO (Model 3 -  $F(13,234) = 3.92$ , Adjusted  $R^2 = .13$ ,  $p < .001$ ;  $B = .46$ , Estimate = 17.90,  $SE = 4.30$ ,  $t = 4.17$ ,  $p < .001$ ) emerged. Overall, right-wing, high RWA and SDO participants preferred a right-wing leader compared to left-wing participants and low RWA and SDO participants. No other significant effects emerged neither for Model 1 (all  $ps > .61$ ), Model 2 (all  $ps > .06$ ) nor Model 3 (all  $ps > .15$ ).

### 6.2.5 Fear of consequences

We then performed Model 1, Model 2 and Model 3 considering the fear of consequences of the socioeconomic inequalities as dependent variables. Again, we found the general effect of the political orientation (Model 1 -  $F(13,234) = 2.75$ , Adjusted  $R^2 = .08$ ,  $p = .001$ ;  $B = -.36$ , Estimate =  $-.26$ ,  $SE = .07$ ,  $t = -3.74$ ,  $p < .001$ ), RWA (Model 2 -  $F(13,234) = 2.90$ , Adjusted  $R^2 = .09$ ,  $p < .001$ ;  $B = -.37$ , Estimate =  $-10.41$ ,  $SE = 2.99$ ,  $t = -3.49$ ,  $p < .001$ ) or SDO (Model 3 -  $F(13,234) = 2.48$ , Adjusted  $R^2 = .07$ ,  $p = .003$ ;  $B = -.42$ , Estimate =  $-12.08$ ,  $SE = 3.27$ ,  $t = -3.69$ ,  $p < .001$ ). Generally, right-wing participants and participants high in the RWA and SDO dimensions feared less the consequences due to socioeconomic inequalities compared to left-wing and low RWA and SDO participants. Moreover, in Model 3 the two-way interaction between SDO and the binding moral frame emerged,  $B = .52$ , Estimate =  $-9.52$ ,  $SE = 4.73$ ,  $t = 2.01$ ,  $p = .045$ . Simple slope analysis revealed that although when in the control condition high SDO participants showed lower levels of fear for the consequences of the inequalities compared to other low SDO participants (Estimate =  $-12.08$ ,  $SE = 3.27$ , 95% CI [ $-18.53$ ,  $-5.63$ ]), this difference was no more significant when participants in the binding moral frame condition were considered (Estimate =  $-2.56$ ,  $SE = 3.47$ , 95% CI [ $-9.38$ ,  $4.27$ ], *Tukey HSD post-hoc test*  $p = .11$ ). Figure 9 shows this interaction. No other significant effects emerged for Model 1 (all  $ps > .39$ ), Model 2 (all  $ps > .19$ ) nor Model 3 (all  $ps > .07$ ).



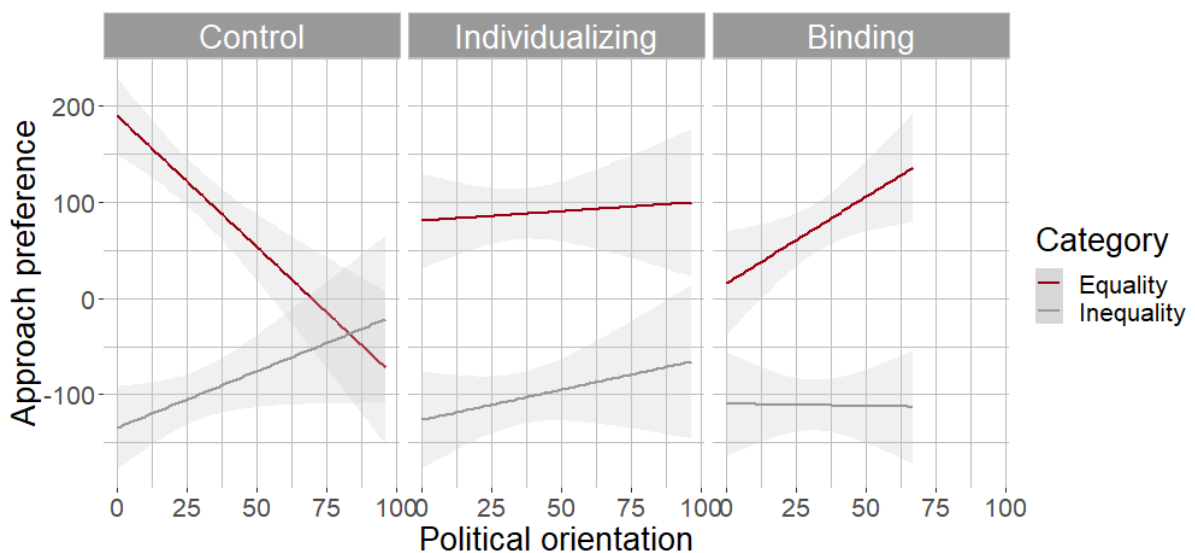
**Figure 9:** The moderating role of the manipulation on the relation between SDO and the fear of consequences due to the economic inequalities.

#### 6.2.6 Visual Approach and Avoidance to the Self Task (VAAST)

Finally, we assessed participants' implicit attitude toward the socioeconomic inequalities. Data for these analyses refer to only 212 participants ( $N_{\text{female}} = 136$ ,  $N_{\text{male}} = 73$ ,  $N_{\text{other}} = 3$ ;  $M_{\text{age}} = 27.88$ ,  $SD_{\text{age}} = 10.66$ ) who successfully completed the task. The Marginal  $R^2$  of Model 1 was .07 and the Conditional  $R^2$  of the model was .08. The ICC for the random factors was .01. In Model 1, the main effect of the political orientation emerged,  $B = -.14$ , Estimate = -2.67,  $SE = .63$ ,  $t = -4.25$ , 95% CI [-3.91, -1.44]. Generally, right-wing participants showed a preference for the avoidance of the images compared to left-wing participants. Moreover, the effect of the two dummy variables also emerged, individualising frame:  $B = -.13$ , Estimate = -113.13,  $SE = 35.56$ ,  $t = -3.18$ , 95% CI [-182.84, -43.42] and binding frame:  $B = -.20$ , Estimate = -172.85,  $SE = 37.77$ ,  $t = -4.58$ , 95% CI [-246.89, -98.80]. Overall, participants in the two moral framing conditions showed a preference for avoiding the images (individualising frame:  $M = -6.34$ ,  $SD = 406.87$ ; binding frame:  $M = -15.54$ ,  $SD = 396.72$ ) compared to participants in the control condition ( $M = 7.28$ ,  $SD = 409.52$ ). In addition, the

effect of the category of the images was also significant,  $B = -.40$ , Estimate = -324.31, SE = 29.67,  $t = -10.93$ , 95% CI [-382.49, -266.14]. Unsurprisingly, participants showed a preference for avoiding inequality images ( $M = -105.56$ ,  $SD = 394.24$ ) compared to equality images ( $M = 90.06$ ,  $SD = 390.59$ ). All the two-way interactions significantly emerged from the analysis (category with the dummy variable of the individualising frame:  $B = .11$ , Estimate = 117.25, SE = 46.20,  $t = 2.54$ , 95% CI [26.68, 207.81], category with the dummy variable of the binding frame:  $B = .18$ , Estimate = 197.61, SE = 49.25,  $t = 4.01$ , 95% CI [101.06, 294.16], category with the political orientation:  $B = .21$ , Estimate = 3.94, SE = .83,  $t = 4.72$ , 95% CI [2.30, 5.57], political orientation with the dummy variable of the individualising frame:  $B = .15$ , Estimate = 2.88, SE = .92,  $t = 3.13$ , 95% CI [1.08, 4.68], political orientation with the dummy variable of the binding frame:  $B = .20$ , Estimate = 4.45, SE = 1.04,  $t = 4.28$ , 95% CI [2.41, 6.49]. These interactions were qualified by the three-way interactions between the category, the political orientation and the dummy variable of the individualising frame ( $B = -.13$ , Estimate = -3.51, SE = 1.19,  $t = -2.94$ , 95% CI [-5.84, -1.17]) and the dummy variable of the binding frame ( $B = -.19$ , Estimate = -5.79, SE = 1.37,  $t = -4.23$ , 95% CI [-8.46, -3.11]). In order to better understand the three-way interactions, we decomposed our sample based on the manipulation group. Therefore, we performed a mixed model with the category, the political orientation and their interaction as fixed factors and the id of the participants and the id of the images as random factors for each manipulation group. We also added the gender, the age and the educational title of the participants as covariates. Only when the control group was considered the two-way interaction between the political orientation and the category of the image emerged,  $B = .20$ , Estimate = 3.97, SE = .84,  $t = 4.76$ , 95% CI [2.33, 5.60]. As shown in Figure 10, panel on the left, although right-wing participants showed a preference for approaching inequality images compared to left-wing individuals (Estimate = 1.46, SE = .68, 95% CI [.11, 2.81]), right-wing participants also

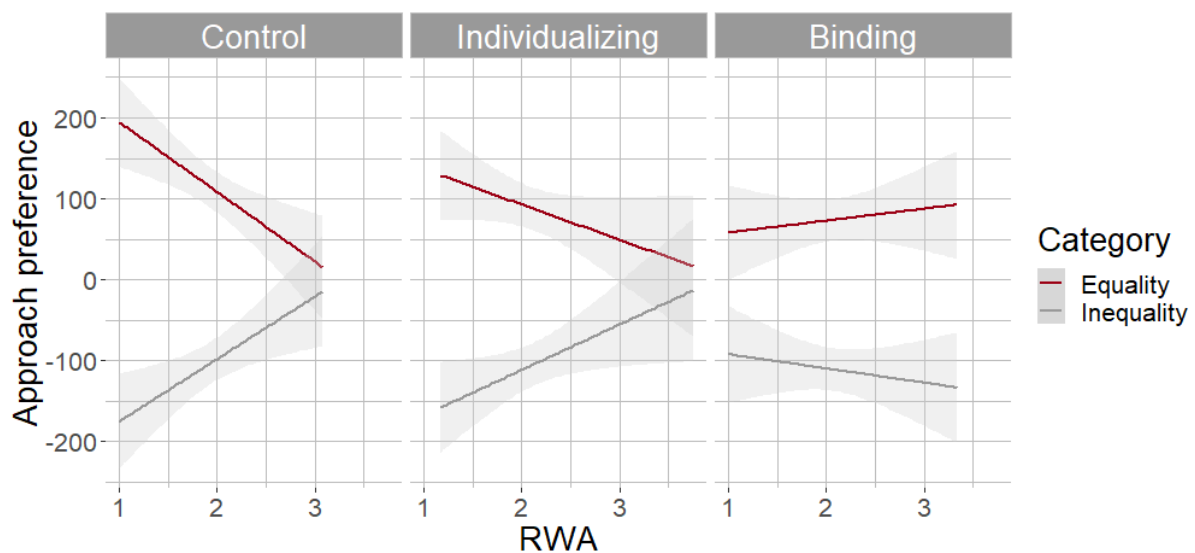
showed a preference for avoiding equality images compared to left-wing participants (Estimate = -2.51, SE = .66, 95% CI [-3.81, -1.22]). Importantly, the two-way interaction was no longer significant for participants in the individualising (B = .06, Estimate = .43, SE = .86,  $t = .50$ , 95% CI [-1.25, 2.12]) and binding frame condition (B = -.09, Estimate = -1.79, SE = 1.07,  $t = -1.69$ , 95% CI [-3.88, .31]). The central and right panels in Figure 10 show that when in the individualising, right-wing participants preferred similarly as the left-wing participants to approach equality images. Indeed, when in the individualising group, left-wing and right-wing participants, showed the same approach preference for both equality (Estimate = .09, SE = .74, 95% CI [-1.38, 1.56]) and inequality images (Estimate = .52, SE = .76, 95% CI [-.98, 2.02]). More importantly, when in the binding frame, right-wing participants preferred even more than left-wing participants to approach equality images (Estimate = 2.04, SE = .76, 95% CI [.55, 3.53]) and no differences emerged for right-wing and left-wing participants in approaching inequality images (Estimate = .26, SE = .77, 95% CI [-1.27, 1.78]).



**Figure 10:** The moderating role of the manipulation and the category on the relation between the political orientation and the approach preference in the VAAST.

The Marginal  $R^2$  of Model 2 was .07 and the Conditional  $R^2$  of the model was .08. The ICC for the random factors was .02. In Model 2, we partially replicated results from Model 1. First, the general effect of RWA emerged,  $B = -.10$ , Estimate = -81.09, SE = 29.65,  $t = -2.74$ , 95% CI [-139.22, -26.96]. Overall, high RWA participants showed a preference for avoiding the images compared to low RWA participants. As for Model 1, the effect of the dummy variable of the binding frame ( $B = -.25$ , Estimate = -220.42, SE = 82.10,  $t = -2.62$ , 95% CI [-385.30, -55.54]) and the category of the images ( $B = -.66$ , Estimate = -535.17, SE = 76.53,  $t = -6.99$ , 95% CI [-685.21, -385.13]) emerged, too. On the contrary, the effect of the dummy variable of the individualising frame had no significant effect in Model 2,  $B = -.10$ , Estimate = -87.17, SE = 85.17,  $t = -1.02$ , 95% CI [-254.14, 79.80]. Second, the two-way interactions between the category and the dummy variable of the binding frame ( $B = .37$ , Estimate = 413.70, SE = 108.55,  $t = 3.81$ , 95% CI [200.91, 626.50]), the category and RWA ( $B = .44$ , Estimate = 165.02, SE = 38.15,  $t = 4.33$ , 95% CI [90.23, 239.81]) and RWA and the dummy variable of the binding frame ( $B = .23$ , Estimate = 91.27, SE = 40.60,  $t = 2.25$ , 95% CI [11.69, 170.85]), were qualified by the three-way interaction between RWA, the category and the dummy variable of the binding frame ( $B = -.38$ , Estimate = -196.12, SE = 52.37,  $t = -3.75$ , 95% CI [-298.80, -93.45]). To better understand the three-way interaction, we performed Model 2 in each separate manipulation group. Therefore, we considered the RWA, the category of the images (i.e., equality vs. inequality) and their interactions as fixed factors and the id of the participant and the id of the images as random factors for each manipulation group. When the control group was considered, the two-way interaction between the category and RWA emerged,  $B = .42$ , Estimate = 166.48, SE = 38.24,  $t = 4.35$ , 95% CI [91.35, 241.21]. Figure 11, panel on the left show that high-RWA participants showed a preference for approaching the inequality images compared to low-RWA participants (Estimate = 95.9, SE = 31.9, 95% CI [32.9, 158.97]), however, at the time they showed significantly higher

preference for avoiding the equality images that low-RWA participants (Estimate = -70.6, SE = 31.2, 95% CI[-132.2, -8.91]). On the contrary, when the binding frame group was considered, the two-way interaction was no more significant,  $B = -.09$ , Estimate = -32.49, SE = 35.55,  $t = -.91$ , 95% CI [-102.03, 37.05], meaning that high RWA participants and low RWA participants showed the same level of approach tendencies for equality (Estimate = 19.4, SE = 25.0, 95% CI [-29.9, 68.6]) and inequality images (Estimate = -13.1, SE = 25.7, 95% CI [-63.8, 37.5]), Figure 11, panel on the right. No other effect emerged from the analysis.



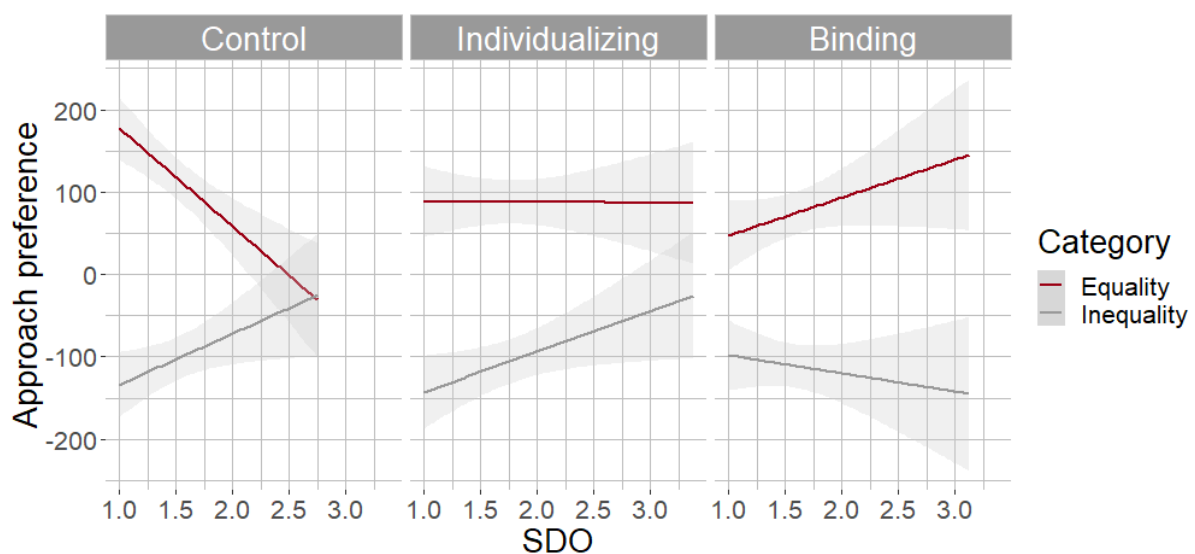
**Figure 11:** The moderating role of the manipulation and the category on the relation between RWA and the approach preference in the VAAST.

The Marginal  $R^2$  of Model 3 was .07 and the Conditional  $R^2$  of the model was .08. The ICC for the random factors was .01. With Model 3 in which SDO was included as predictor, we replicated the results from Model 1 that focused on political orientation. The general effect of SDO emerged,  $B = -.15$ , Estimate = -118.40, SE = 30.51,  $t = -3.88$ , 95% CI [-178.20, -58.60]. Overall, high SDO showed a preference for avoiding the images compared to low SDO participants. Moreover, both the effects of the dummy variable of the individualising ( $B = -$

.23, Estimate = -201.35, SE = 66.47,  $t = -3.03$ , 95% CI [-331.66, -71.04]) and binding ( $B = -.33$ , Estimate = -285.57, SE = 71.68,  $t = -3.98$ , 95% CI [-426.10, -145.05]) frame emerged. As for Model 1, participants showed a preference for avoiding images when in the individualising and binding frame compared to the control condition. Similarly, the effect of the category emerged too,  $B = -.61$ , Estimate = -490.75, SE = 62.76,  $t = -7.82$ , 95% CI [-613.78, -367.72]. Participants showed a preference for avoiding the inequality images compared to equality images. Thereafter, the analysis yielded to significant effects of all the two-way interactions (category with the dummy variable of the individualising frame:  $B = .19$ , Estimate = 207.93, SE = 85.98,  $t = 2.42$ , 95% CI [39.37, 376.49], category with the dummy variable of the binding frame:  $B = .37$ , Estimate = 409.49, SE = 93.06,  $t = 4.40$ , 95% CI [227.05, 591.93], category with SDO:  $B = .40$ , Estimate = 180.71, SE = 39.22,  $t = 4.61$ , 95% CI [103.82, 257.61], SDO with the dummy variable of the individualising frame:  $B = .25$ , Estimate = 112.16, SE = 38.89,  $t = 2.88$ , 95% CI [35.92, 188.41], SDO with the dummy variable of the binding frame:  $B = .31$ , Estimate = 157.88, SE = 44.11,  $t = 3.58$ , 95% CI [71.42, 244.35]). More importantly, the three-way interactions between the dummy variables of the individualising and binding frame with SDO and the category emerged (individualising frame:  $B = -.22$ , Estimate = -129.76, SE = 50.17,  $t = -2.59$ , 95% CI [-228.12, -31.39], binding frame:  $B = -.37$ , Estimate = -246.97, SE = 57.30,  $t = -4.31$ , 95% CI [-359.30, -134.63]). To better understand the three-way interaction effects, we performed Model 3 in each of the manipulation groups. Therefore, we considered the SDO, the category of the images (i.e., equality vs. inequality) and their interactions as fixed factors and the id of the participant and the id of the images as random factors for each manipulation group. Only when the control group was considered (Figure 12, panel on the left), the two-way interaction between the category and SDO emerged,  $B = .37$ , Estimate = 182.18, SE = 39.30,  $t = 4.64$ , 95% CI [105.41, 259.38]. Simple slope analysis reveals that high SDO participants showed a



preference for approaching the inequality images compared to low SDO participants (Estimate = 75.3, SE = 33.1, 95% CI [9.9, 140.6]), but at the same time they showed a preference for approaching the equality images compared to low SDO participants (Estimate = -106.9, SE = 32.3, 95% CI [-170.8, -43.1]). When individualising and binding frame conditions were considered, the two-way interactions were no longer significant (individualising frame:  $B = .12$ , Estimate = 50.86, SE = 31.50,  $t = 1.61$ , 95% CI [-11.33, 112.07], binding frame:  $B = -.15$ , Estimate = -68.57, SE = 41.36,  $t = -1.66$ , 95% CI [-149.47, 12.33]). As represented in Figure 12, central panel, high SDO participants in the individualising condition showed the same preference for approaching the inequality images compared to low SDO participants (Estimate = 34.4, SE = 28.3, 95% CI [-21.5, 90.3]), and they showed no different preference compared to low-SDO participants for equality images (Estimate = -16.5, SE = 27.5, 95% CI [-70.9, 38]). When the binding group was considered, Figure 12, right panel, no more differences in preference were detected for both the equality and inequality images as a function of participants' SDO (equality: Estimate = 46.3, SE = 29.5, 95% CI [-12, 104.6] and inequality: Estimate = -22.3, SE = 30.3, 95% CI [-82, 37.5]).



**Figure 12:** The moderating role of the manipulation and the category on the relation between SDO and the approach preference in the VAAST.

### 6.2.7 Comparison between the different measures of the political orientation

Finally, we compared the interaction effect between the different measures of the political orientation and the dummy variable of the binding moral frame across the three Models (all the continuous variables were standardised). As shown in Table 9, the measure that best predicts the moral framing effect of the socio-economic inequalities is the SDO measure.

Variable	Political orientation	RWA	SDO
ESJ	.03	-.02	-.10
Political orientation of an ideal leader	.03	-.14	-.11
Fear of consequences	.05	.11	.17*
VAAST	-.10*	-.10*	-.11*

\* $p < .05$ .

**Table 9:** Beta coefficients of the effect of the interaction between the different measures of the political orientation and the dummy variable of the binding frame for each dependent variable measured in Study 3.

## 6.3 Discussion

Study 3 was aimed at replicating Study 2 also at an implicit level and without any mention of the political affiliation of the source of the message. Overall, right-wing, high RWA and high SDO participants showed greater support for inequalities, higher preference for a right-wing leader and lower levels of fear for the consequences of the problem. Importantly, we did not replicate the effect of the binding frame found in Study 2 at the explicit level, namely on self-reports (except for the measure of fear of the consequences due to the socio-economic inequalities). However, when the implicit measure was considered, right-wing, high RWA and high SDO participants in the binding frame condition (and when the political orientation and SDO measures were considered also in the individualising frame) showed greater

positive attitude toward equality compared to other right-wing, high RWA and high SDO participants in the control group. Notably, we also found a backlash effect for left-wing, low RWA and low SDO participants assigned to the binding moral frame. In this condition, they reported lower levels of preference for equality compared to other left-wing, low RWA and low SDO participants in the control condition.

Moreover, from the comparison of the three measures of political orientation, in Study 3 SDO measure emerged to be the best predictor of the moral framing effect.

In sum, results from Study 3 are controversial. On one hand, we did not replicate results from Study 2, and we did not find evidence for a moral framing effect at the explicit level. On the other hand, when the implicit measure was considered, we found strong and consistent results that confirmed that a binding moral frame may lead right-wing, high RWA and high SDO participants to a more positive attitude toward the socioeconomic inequalities problem.

Moving further from the socioeconomic inequalities, in Study 4 we tried to replicate the effect of the moral framing with another social issue which is considered as “owned” by the left-wing parties, namely the environmental crisis. However, because a multitude of studies have already examined the effect of the moral framing related to the environmental crisis and confirmed its effect (e.g., Feinberg & Willer, 2013; Huang et al., 2022; Wolsko et al., 2016), we decided to try to replicate these studies in a different political context. For this reason, we administered Study 4 to Singaporean participants.

# 7 Study 4

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In Study 4 we considered the social issue of the environmental crisis. When climate change is considered, right-wing individuals are more sceptical about the relevant scientific evidence compared with left-wing individuals (Campbell & Kay, 2014). The main aim of the study was to induce right-wing participants to be more concerned about the environmental crisis through the reading of a message about the issue containing a binding moral frame. Previous studies demonstrated the efficacy of the moral framing technique to change right-wing participants' attitudes and behaviours towards the environmental crisis (e.g., Feinberg & Willer, 2013, 2019; Wolsko et al., 2016), however, to the best of our knowledge, no studies have so far explored whether the moral framing technique is effective also with a non-US sample. Therefore, the main aim of the current Study was to explore whether the results from previous studies about the moral framing of the environmental crisis are replicable also in Asia, specifically in Singapore. As in the previous studies, participants reported their political orientation and then they were assigned to one of the three manipulation conditions. In the individualising and in the binding moral frames groups, they read a small paragraph about the environmental crisis framed according to the manipulation group. In the control group, participants read a general sentence about the environmental crisis. Thereafter, participants indicated their concern for climate change and their intention to engage in eco-sustainable behaviours.

## 7.1 Method

### 7.1.1 Participants

Participants were students at the National University of Singapore (NUS) enrolled at the Research Participation programme. As part of the programme, they received one credit for participating in the study. The entire study was administered online from March 29<sup>th</sup> 2022 until April 15<sup>th</sup> 2022. One-hundred-eighteen participants were recruited, however 108 participants completed the survey and did not fail any attention check. The final sample included 81 women, 26 men and 1 did not identify with the two genders. The mean age was 20.53 years ( $SD = 1.46$ ). A sensitivity analysis was performed by employing RStudio (version 2022.12.0+353) with the package *pwr*. The analysis showed that by considering a power of .90, level of significance at .05, with our sample size we can detect a  $f^2 = .10$

### 7.1.2 Procedure

After having provided their informed consent, participants were randomly assigned to one of the three conditions. In the binding and individualising frame conditions, they read a paragraph in which the need for action to reverse climate change was framed with binding vs. individualising moral words. In the control group, participants read a general statement about the concern for the environment. Thereafter, participants completed part of the Attitudes towards Climate Change and Science Instrument scale (ACSI, Dijkstra & Goedhart, 2012), reported how much they feared the consequences of the environmental crisis, and answered to an up-to-date version of the General Ecological Behaviour Measure adapted from Kaiser (1998). Finally, after completing the RWA scale (Manganelli Rattazzi et al., 2007), the SDO scale (Ho et al., 2015), and the entire MFQ (Graham et al., 2011), participants reported their political orientation and answered some socio demographic questions (i.e., age, gender, educational title, and socioeconomic status).

### 7.1.3 Measures

#### 7.1.3.1 Manipulation texts

Manipulation texts were retrieved from Wolsko et al. (2016). Specifically, participants in all the three conditions read a general sentence about the environment: *“Many people around the world are concerned about the health of the natural environment. We are interested in what you think and feel about this issue”*. In addition, participants assigned to the individualising frame read also: *“Show your love for all of humanity and the world in which we live by helping to care for our vulnerable natural environment. Help to reduce the harm done to the environment by taking action. By caring for the natural world you are helping to ensure that everyone around the world gets to enjoy fair access to a sustainable environment. Do the right thing by preventing the suffering of all life-forms and making sure that no one is denied their right to a healthy planet. SHOW YOUR COMPASSION!”*. On the contrary, the text for the binding condition was: *“Show you love your country by joining the fight to protect the purity of Singapore’s natural environment. Take pride in the Singapore tradition of performing one’s civic duty by taking responsibility for yourself and the land you call home. By taking a tougher stance on protecting the natural environment, you will be honouring your Country. Demonstrate your respect by following the examples of your religious and political leaders who defend Singapore’s natural environment. SHOW YOUR PATRIOTISM!”*. The time spent reading the texts was registered.

#### 7.1.3.2 Post-manipulation measures

Attitudes towards the urgency of climate change subscale from Attitudes towards Climate Change and Science Instrument scale (ACSI). Participants completed the 6-items subscale of the Attitudes towards the urgency of climate change from the ACSI scale (Dijkstra &

Goedhart, 2012) indicating their opinion from (1) strongly disagree to (5) strongly agree. An example of the items is: “Climate change is a threat to the world” and 2 items were reversed coded. The scale showed good internal consistency ( $\alpha = .82$ ).

Fear of consequences. The fear of the consequences of the environmental crisis was assessed with 3 items. Participants reported how much they feared the consequences of the environmental crisis at a personal, national, and global level along a continuum from (0) at all to (100) very much. The 3 items showed good internal consistency ( $\alpha = .80$ ), thus a unique score based on the mean of the responses to the 3 items was computed.

Pro-environmental behaviour scale. We assessed participants’ intention to behave in a eco-friendlier way in the future with an adapted version of the General Ecological Behaviour Measure (Kaiser, 1998). Participants indicated their intention to follow a list of pro-environmental behaviours (e.g., I will use my own bag in supermarkets instead of plastic bags, I will wait until I have a full load before doing my laundry) on a 5-point Likert scales from (1) never to (5) always. The option “not applicable” was given. The internal consistency of the scale was questionable ( $\alpha = .64$ ).

Ideological attitudes. Participants completed the RWA (Manganelli Rattazzi et al., 2007) and SDO (Ho et al., 2015) scales. The RWA scale showed acceptable internal consistency ( $\alpha = .71$ ), whereas SDO showed good internal consistency ( $\alpha = .85$ ).

MFQ. Participants completed the entire MFQ (Graham et al., 2011). It consists of 30 items separated in 15 items for the Relevance subscale and 15 items for the Agreement subscale. Specifically, 3 items were presented for each dimension in each subscale. Examples of items for the agreement scale are: “If I were a soldier and disagreed with my commanding officer’s orders, I would obey anyway because that is my duty” (Authority), “Justice is the most important requirement for a society” (Fairness) and “I would call some acts wrong on the grounds that they are unnatural” (Sanctity). The reliability of the moral foundations scales

ranged from unacceptable to acceptable: Care  $\alpha = .59$ , Fairness  $\alpha = .56$ , Loyalty  $\alpha = .64$ , Authority  $\alpha = .62$ , and Sanctity  $\alpha = .74$ .

Self-reported political orientation. Participants reported their political orientation with 3 items as for Study 1. The 3 items showed good internal consistency ( $\alpha = .83$ ) and therefore a unique score based on the mean of the 3 items was computed.

## **7.2 Results**

Descriptive statistics and zero order correlations between variables considered in the final analyses are presented in Table 10.



**TABLE 10** | Descriptive statistics and correlation coefficients in Study 4.

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
<b>1. Political orientation</b>	41.42	14.79	-						
<b>2. RWA</b>	2.75	.40	.37***	-					
<b>3. SDO</b>	2.35	.50	.40***	.35***	-				
<b>4. Individualising foundations</b>	3.88	.42	.02	-.05	-.40***	-			
<b>5. Binding foundations</b>	3.28	.51	.43***	.62***	.25**	.35***	-		
<b>6. Attitude toward the urgency of climate change</b>	4.08	.53	-.30**	-.23*	-.43***	.30*	-.11	-	
<b>7. Fear of consequences</b>	69.90	17.33	-.32*	-.24	-.39**	.23	-.12	.58***	-
<b>8. Pro-environmental behaviour scale</b>	3.81	.53	-.11	-.15	-.24*	.12	-.09	.43***	.42***

\* $p < .05$ ; \*\*  $p < .01$ ; \*\*\* $p < .001$ .

**Table 10:** Means, standard deviations, and Pearson's  $r$  zero order correlations between the variables considered in the analyses.

In Study 4 we found the same correlations between the moral foundations and RWA and SDO that emerged from previous studies conducted in Italy. The individualising foundations are more negatively associated with SDO compared to RWA, whereas the binding foundations are more positively associated with RWA compared to SDO (Federico et al., 2013).

### *7.2.1 Plan of the analyses*

The same multiple regression model was performed three times for each dependent variable (i.e., Attitude toward the urgency of climate change, fear of consequences, and pro-environmental behaviour). Specifically, for each outcome, we performed three different models. In the first model (Model 1), we included as predictors the self-reported political orientation measure, the two dummy variables of the manipulation groups (computed considering the control manipulation as the reference group) and their interactions, we also included the gender, the age, the educational title and the socio-economic status of the participants as covariates. In the second and third models, we considered RWA (Model 2) and SDO (Model 3) instead of the self-reported political orientation. All the 3 Models were also performed adding the Individualising and Binding foundations as covariates for each dependent variable in order to control for the possible effect of the moral foundations in influencing participants' change of attitude. However, as results did not significantly change and given the low internal consistency of these measures, we decided to report here the results of the Models that did not include these variables as covariates.

### *7.2.2 Differences between manipulation conditions*

Different one-way ANOVAs were performed to explore the effect of the manipulation conditions on each dependent variable, regardless of the political orientation of the participants. Table 11 reports the means, the standard deviations, and the F values of these comparisons

<b>Variable</b>	<b>Control group <i>M(SD)</i></b>	<b>Individualising frame condition <i>M(SD)</i></b>	<b>Binding frame condition <i>M(SD)</i></b>	<b>F</b>	<b>df</b>	<b><i>p</i></b>	<b><math>\eta^2_p</math></b>
<b>Attitude toward the urgency of climate change</b>	4.09(.43)	4.13(.58)	4.03(.58)	.62	2(93)	.54	.01
<b>Fear of consequences</b>	68.36(13.39)	70.84(21.20)	70.55(16.83)	.66	2(93)	.52	.01
<b>Pro- environmental behaviour scale</b>	3.91(.57)	3.78(.56)	3.74(.44)	.71	2(93)	.50	.01

**Table 11:** Means, standard deviations, and Fisher's F for the ANOVA models tested for each dependent variable.

### *7.2.3 Attitude toward the urgency of climate change*

First, we considered participants' attitude toward the urgency of climate change. For the 3 Models no significant results emerged (Model 1 -  $F(11,90) = 1.92$ , Adjusted  $R^2 = .09$ ,  $p = .047$ ; all  $ps > .25$ ; Model 2 -  $F(11,90) = 1.43$ , Adjusted  $R^2 = .04$ ,  $p = .17$  all  $ps > .24$ ; Model 3 -  $F(11,90) = 2.84$ , Adjusted  $R^2 = .17$ ,  $p = .003$ ; all  $ps > .06$ ).

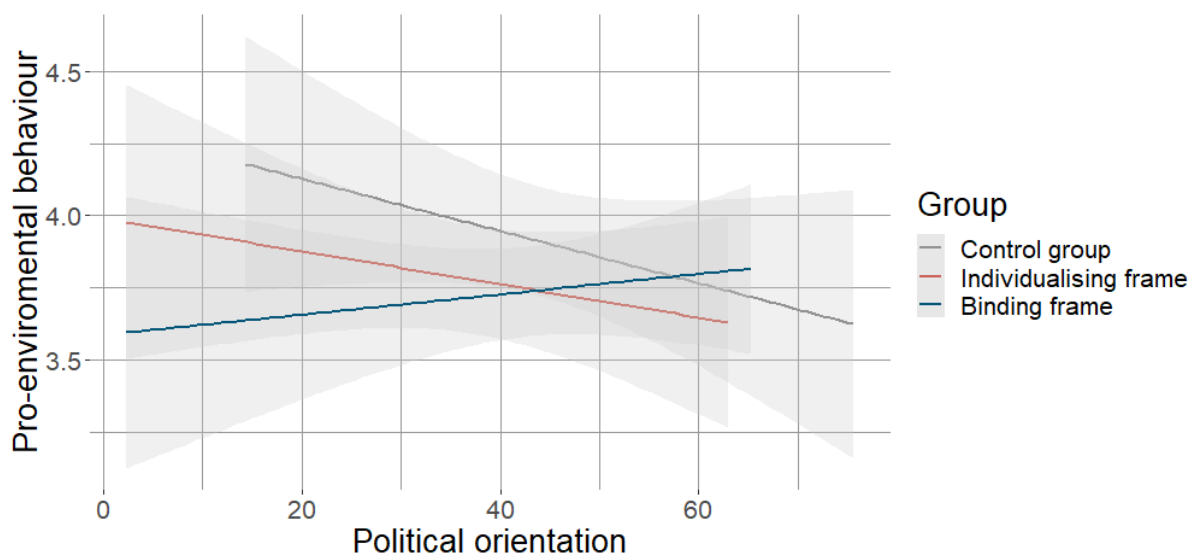
### *7.2.4 Fear of consequences*

Thereafter, we assessed participants' fear of the consequences of climate change. For Model 1 ( $F(11,90) = 1.8$ , Adjusted  $R^2 = .08$ ,  $p = .07$ ) and Model 3 ( $F(11,90) = 2.56$ , Adjusted  $R^2 = .15$ ,  $p = .01$ ), the general effects of the political orientation ( $B = -.39$ , Estimate =  $-.44$ ,  $SE = .21$ ,  $t = -2.03$ ,  $p = .045$ ) and SDO ( $B = -.42$ , Estimate =  $-14.03$ ,  $SE = 5.54$ ,  $t = -2.53$ ,  $p = .01$ ) emerged. Overall, right-wing and high SDO participants showed lower levels of fear toward the consequences of the environmental crisis compared to left-wing and low SDO participants. The analyses yielded no other significant results, Model 1 all  $ps > .39$ , Model 2 ( $F(11,90) = 1.17$ , Adjusted  $R^2 = -.02$ ,  $p = .32$ ) all  $ps > .16$ , Model 3 all  $ps > .47$ .

### *7.2.5 Pro-environmental behaviour*

Finally, we performed the three Models on the pro-environmental behaviour measure. When Model 1 was considered ( $F(11,90) = 1.36$ , Adjusted  $R^2 = .04$ ,  $p = .20$ ), the significant effect of the political orientation emerged,  $B = -.42$ , Estimate =  $-.02$ ,  $SE = .01$ ,  $t = -2.17$ ,  $p = .03$ . Overall, right-wing participants declared to engage less in pro-environmental behaviours compare to left-wing participants. Moreover, the effect of the dummy variable of the binding frame emerged,  $B = -1.00$ , Estimate =  $-1.14$ ,  $SE = .46$ ,  $t = -2.48$ ,  $p = .02$ . Participants who were assigned to the binding frame of the environmental crisis showed lower levels of engagement in pro-environmental behaviour as compared to participants assigned to the

control group (for means and standard deviations see Table 11). More importantly, also the interaction effect between the political orientation and the dummy variable of the binding moral frame emerged,  $B = .89$ , Estimate = .02, SE = .01,  $t = 2.24$ ,  $p = .03$ . As shown in Figure 13, although right-wing participants showed lower level of engagement in pro-environmental behaviour compared to left-wing participants when they were assigned to the control group (Estimate = -.02, SE = .01, 95% CI [-.03, -.001]), this difference was not significant for participants assigned to the binding frame condition: Right-wing and left-wing individuals showed the same levels of engagement in pro-environmental activities (Estimate = .01, SE = .01, 95% CI [-.01, .02]). No other significant effect emerged from the analysis, all  $ps > .28$ .



**Figure 13:** The moderating role of the manipulation on the relation between the political orientation and the pro-environmental behaviour.

When Model 2 ( $F(11,90) = 1.14$ , Adjusted  $R^2 = .01$ ,  $p = .34$ ) and Model 3 ( $F(11,90) = 1.48$ , Adjusted  $R^2 = .04$ ,  $p = .15$ ), were considered, no significant results emerged, Model 2 all  $ps > .05$  and Model 3 all  $ps > .12$ .

### 7.2.6 Comparison between the different measures of the political orientation

Finally, we compared the effect of the interaction between the different measures of the political orientation and the dummy variable of the binding moral frame across the three Models (all the continuous variables were standardised). As shown in Table 12, the measure of political orientation that best predicts the moral framing effect of the environmental crisis is the self-reported measure of the political orientation.

Variable	Political orientation	RWA	SDO
Attitude toward the urgency of climate change	-.14	-.13	-.09
Fear of consequences	.12	.14	.07
Pro-environmental behaviour	.34*	.15	.07

\* $p < .05$ .

**Table 12:** Beta coefficients of the effect of the interaction between the different measures of the political orientation and the dummy variable of the binding frame for each dependent variable measured in Study 4.

## 7.3 Discussion

Study 4 was aimed at replicating the effect of the moral framing on the environmental crisis social issue in a different political context, namely Singapore. However, results showed that the pattern of results that was found in previous literature may not extend to Singaporean participants. Indeed, only weak evidence of the relation between right-wing orientation and low levels of pro-environmental attitudes and behaviours was detected and the effect of the moral framing emerged only when the self-reported measure of political orientation was considered in relation with the engagement in pro-environmental activities. Two possible explanations may help in understanding the lack of the moral framing effect. First, few

participants completed the questionnaire (N = 108). Based on previous work on the moral framing, at least 200 participants should be recruited to test the effect of the moral framing. Therefore, Study 4 may be under-powered. Second, the replicability of the moral framing effect may not succeed in Singapore. As Beattie et al. (2022) and Roets et al. (2015) suggest, political ideology in Singapore and China is associated differently with attitudes towards diverse social issues. The different operationalization of the political left and right in Asia may lead to misleading results when the Occidental point of view is applied to non-Asian countries.

In Study 5 we moved from Singapore and returned to administer the questionnaire to an Italian sample. We decided to test the effect of the moral framing considering another social issue, that is immigration. Differently from previous studies, in Study 5 we considered a social issue that, according to the literature (Al-Kire et al., 2022; Banton et al., 2020; Varela et al., 2013), is perceived as a threat only by right-wing individuals. Therefore, the aim of the last study was to assess whether the moral framing technique was effective also in changing the strong and negative opinion that right-wing, high RWA and high SDO participants hold towards immigrants and the immigration phenomenon.



# 8 Study 5

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Differently from previous studies, the aim of Study 5 was to re-frame a social issue that is already considered as threatening by right-wing individuals and to change their negative attitude toward the issue. Specifically, we considered the immigration phenomenon. Previous literature suggests that rightists generally have a more negative attitude towards immigrants (e.g., Craig & Richeson, 2014; Satherley & Sibley, 2016) compared to leftists. Moreover, few studies have attempted to re-frame the immigration issue with moral words more aligned with right-wing morality (Grigorieff et al., 2018; Kaufmann, 2016; Mobayed & Sanders, 2022; Nath et al., 2021) and showed that this new description helped in inducing everyone to show more positive attitudes toward immigration. In addition, two recent studies also considered the moral framing effect of immigration in relation to the political orientation of the participants (Nath et al., 2021; Voelkel et al., 2022). Although Voelkel et al. (2022) did not find interaction between the moral framing and the political orientation, Nath et al. (2021) showed that the binding moral frame persuaded the rightists to support more immigration and the individualising moral frame entrenched leftists' positive attitude toward the immigrants. In our Study, participants after reporting their political orientation/RWA/SDO, were randomly assigned to watch one video. In the individualising and the binding groups, the video displayed two persons who told their positive story as immigrants in Italy. At the end of the video, a morally framed message was presented that described the importance of immigration with individualising vs. binding moral words. We hypothesised that generally right-wing participants would have shown a higher level of intolerance towards immigrants and the immigration phenomenon. However, we expected this tendency to be reduced when they were assigned to the binding moral frame of the issue.

## 8.1 Method

### 8.1.1 Participants

Participants were recruited with a snowball sample composed by the network of acquaintances of some research assistants ( $N = 625$ ). As the questionnaire was in Italian, participants should have been fluent with the language in order to complete it. The entire study was administered online from November 19<sup>th</sup> 2021 until June 6<sup>th</sup> 2022. For the final analyses only 230 participants were considered, that is the participants who correctly completed the survey without failing any of the 2 attention checks. A sensitivity analysis was performed by employing RStudio (version 2022.12.0+353) with the package *pwr*. The analysis showed that by considering a power of .90, level of significance at .05, with our sample size we can detect a  $f^2 = .05$ . The final sample included 140 women and 90 men. The mean age was 29.87 years ( $SD = 13.56$ ).

### 8.1.2 Procedure

Once provided the informed consent, participants were asked to complete a few socio-demographic questions (i.e., age, gender, educational title and socioeconomic status). Thereafter, participants completed a 3-item measure of self-reported political orientation, the RWA scale (Roccatto et al., 2009), the SDO scale (Di Stefano & Roccatto, 2005), and the Care and Loyalty items of the MFQ (Bobbio et al., 2011). Participants were then randomly assigned to one of the three manipulation conditions (i.e., individualising frame, binding frame or control group). In the individualising and binding frame conditions, participants after watching a video<sup>4</sup> in which two persons told their positive experience as immigrants to

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<sup>4</sup> Pretest on manipulation videos ( $N = 46$ ,  $N_{\text{female}} = 28$ ,  $N_{\text{male}} = 12$ ,  $N_{\text{other}} = 6$ ;  $M_{\text{age}} = 23.98$ ,  $SD_{\text{age}} = 5.54$ ) showed that the individualising message was considered closer to the political left compared to the binding message ( $p < .001$ ). Moreover, participants reported that the Care and Fairness foundations were better described by the individualising message compared to the binding message ( $p < .002$ ). Conversely, the Authority, Loyalty and Sanctity moral foundations were better described by the binding message compared to the individualising message ( $p_s < .001$ ).

Italy, read a message about the immigration phenomenon including either individualising or binding moral words. Participants in the control group only watched a neutral video. After the manipulation, participants completed the NATIS scale (Negative Attitude Toward the Immigrants Scale - Varela et al., 2013), reported the political orientation of an ideal leader who would be able to deal with the issue of immigration and indicated how much they feared the consequences of immigration. Finally, we assessed participants' implicit attitudes toward a specific out-group that represents the second largest religious majority of immigrants in Italy (i.e., Muslims) with the IAT (Carpenter et al., 2019).

### *8.1.3 Measures*

#### *8.1.3.1 Manipulation videos*

In the individualising and binding conditions, participants watched a video in which two persons described their successful experience of immigration. The first person was an adult woman from the Philippines who spoke a sufficient level of Italian and described the love she found in Italian people who received her. The other person was a second-generation Romanian young girl who told the difficulties she encountered to be accepted by her peers when she was a child; however, she also expressed her joy for feeling completely accepted by the society now that she grew up. At the end of the video, a final message was displayed in which the immigration phenomenon was described as a resource for Italy. According to the manipulation condition, the message comprised either individualising moral words (e.g., human rights, human enrichment, and equality) or binding moral words (e.g., security, glory, and honest work). The videos lasted 200 seconds, including the final moral framed messages. In the control group participants watched a tutorial video for building a garden table (163 seconds). All participants could not proceed with the survey until the end of the video.

### *8.1.3.2 Pre-manipulation measures*

Self-reported political orientation. Participants' political orientation was assessed with 3 items as in Study 1. The 3 items showed excellent internal consistency ( $\alpha = .93$ ) and therefore a unique score based on the mean of the 3 items was computed.

Ideological attitudes. Participants completed the RWA (Roccatto et al., 2009) and SDO (Di Stefano & Roccatto, 2005) scales. Both scales showed good internal consistency, RWA scale,  $\alpha = .82$  and SDO scale,  $\alpha = .80$ .

Care and Loyalty items from the MFQ. All the items for Care and Loyalty from the original Italian MFQ (Bobbio et al., 2011) were administered. However, the reliability of the Care dimension was poor ( $\alpha = .57$ ) and for the Loyalty dimension was questionable ( $\alpha = .67$ ).

### *8.1.3.3 Post-manipulation measures*

Negative Attitude Toward the Immigrants Scale (NATIS). Participants completed the 12-items NATIS (Varela et al., 2013) indicating their opinion along response scales ranging from (1) strongly disagree to (5) strongly agree. An example of the items is: "There are too many immigrants in Italy". One item was reversed coded: "Immigrants should be given the same rights as native citizens". The scale showed good internal consistency ( $\alpha = .89$ ).

Political orientation of an ideal leader. Participants indicated the political orientation of an ideal leader who would be able to deal with the immigration crisis along a continuum from (0) extreme left to (100) extreme right.

Fear of consequences. The fear of the consequences due to immigration was assessed with 3 items as for Study 1. The 3 items showed good internal consistency ( $\alpha = .86$ ), therefore a unique score based on the mean of the items was computed.

Implicit Association Test (IAT).

Participants completed a survey-based IAT in Qualtrics created by employing the *iatgen* extension (Carpenter et al., 2019). We assessed participants' mental associations between *Italian names* vs. *Muslim names* and the categories of *pleasantness* vs. *unpleasant*. The same procedure for the IAT presented in Study 1 was replicated. The only difference concerns the stimuli. In each trial, participants had to correctly categorize *Italian names* (i.e., Chiara, Marta, Sara, Andrea, Luca and Marco) vs. *Muslim names* (i.e., Aicha, Karima, Latifa, Abdul Kamal and Mohamed) or words of *pleasantness* (i.e., awesome, happiness, joy, love, pleasant and, rainbow) vs. *unpleasantness* (i.e., disaster, horrible, sadness, sorrow, tremendous and, ugly). A standardised difference score (*D* score) was calculated for each participant following Greenwald et al.' algorithm (1998), indicating in which condition (equality-compatible vs. equality-incompatible) participants had a better performance. A *D* score of 0 indicates no difference in attitude toward Italian names and Muslim names; a positive score indicates that the respondent has a more positive attitude toward Italian names rather than Muslim names; a negative score indicates that the respondent has a more positive attitude toward Muslim names rather than Italian names.

## **8.2 Results**

Descriptive statistics and zero order correlations between variables considered in the final analyses are presented in Table 13.

**TABLE 13** | Descriptive statistics and correlation coefficients of Study 5.

<b>Variable</b>	<b><i>M</i></b>	<b><i>SD</i></b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>1. Political orientation</b>	34.66	22.64	-							
<b>2. RWA</b>	2.19	.62	.65***	-						
<b>3. SDO</b>	1.68	.60	.46***	.43***	-					
<b>4. Care</b>	4.89	.66	-.13*	-.11	-.34***	-				
<b>5. Loyalty</b>	3.98	.82	.45***	.51***	.08	.24***	-			
<b>6. NATIS</b>	1.90	.69	.64***	.63***	.51***	-.11*	.40***	-		
<b>7. Political orientation of an ideal leader</b>	36.55	22.35	.87***	.58***	.38***	-.09	.47***	.61***	-	
<b>8. Fear of consequences</b>	28.83	21.02	.58***	.48***	.39***	-.09	.35***	.71***	.59***	-
<b>9. IAT</b>	.75	.33	.06	.11	.03	-.08	.14*	.13	.02	.13*

\* $p < .05$ ; \*\*\* $p < .001$ .

**Table 13:** Means, standard deviations, and Pearson's  $r$  zero order correlations between the variables considered in the analyses.

Importantly, also in Study 5 the correlations between the moral foundations and RWA and SDO confirmed previous results reported in the literature and in the previous studies, showing that the individualising foundation (i.e., Care) is more negatively associated with SDO compared to RWA, whereas the binding foundation (i.e., Loyalty) is more positively associated with RWA compared to SDO (Federico et al., 2013).

### *8.2.1 Plan of the analyses*

Multiple regression analyses were performed for each dependent variable (i.e., NATIS, political orientation of an ideal leader, fear of consequences, and IAT). In addition, for each measure, we performed 3 different models. In Model 1, we included in the regression as predictors the self-reported political orientation measure, the two dummy variables of the manipulation groups (computed considering the control manipulation as reference group) and their interactions, we also added the gender, the age and the educational title of the participants. In Model 2 and Model 3, we replaced the self-reported political orientation measure with RWA and SDO, respectively. All the 3 Models were also performed adding the Care and Loyalty measures as covariates for each dependent variable in order to control for the possible effect of the two moral foundations in influencing participants' change of attitude. However, as results did not significantly change and given the low internal consistency of these measures, we decided to report here the results of the Models that did not include these variables as covariates.

### *8.2.2 Differences between manipulation conditions*

Different one-way ANOVAs were performed to explore the effect of the manipulation conditions on each dependent variable, regardless of the political orientation of the participants. Table 14 reports the means, the standard deviations, and the F values of these comparisons.

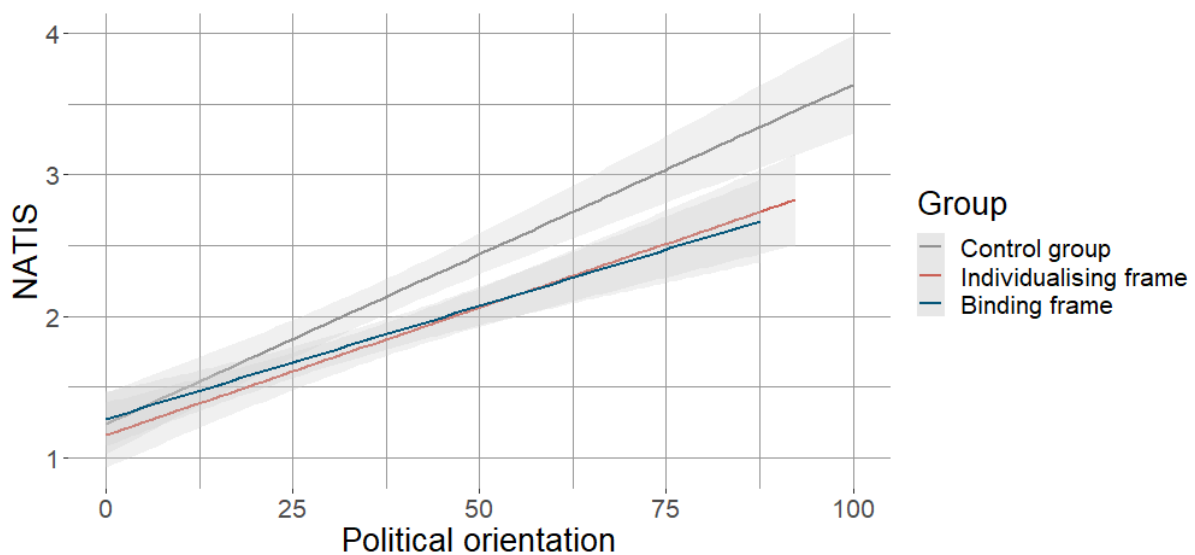
Variable	Control group <i>M(SD)</i>	Individualising frame condition <i>M(SD)</i>	Binding frame condition <i>M(SD)</i>	F	df	<i>p</i>	$\eta^2_p$
NATIS	2.09(.80)a	1.82(.62)ab	1.79(.60)b	3.15	2(221)	.04	.03
Political orientation of an ideal leader	38.73(24.61)	37.68(22.83)	33.84(19.84)	.93	2(221)	.36	.001
Fear of consequences	32.00(23.73)	28.56(19.19)	26.35(19.73)	.94	2(221)	.39	.001
Pro- environmental behaviour scale	.77(.33)	.72(.34)	.75(.33)	.24	2(217)	.79	.001

**Table 14:** Means, standard deviations, and Fisher's F for the ANOVA models tested for each dependent variable. *Note.* Different letters indicate significant differences across columns for the significant ANOVA. *Bonferroni post-hoc* comparison,  $p < .05$



### 8.2.3 Negative Attitude Toward the Immigrants Scale (NATIS)

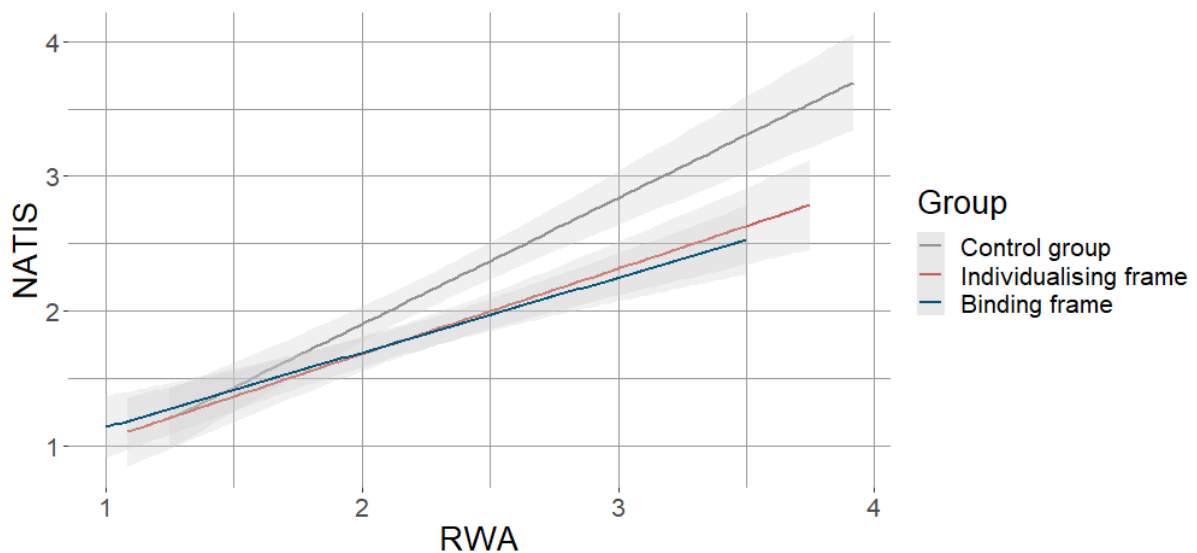
First of all, participants' tolerance toward the immigrants was considered. As for Model 1 ( $F(11,218) = 19.91$ , Adjusted  $R^2 = .48$ ,  $p < .001$ ), the effect of the political orientation emerged,  $B = .74$ , Estimate = .02, SE = .002,  $t = 9.29$ ,  $p < .001$ . Overall, right-wing participants were more intolerant toward the immigrants compared to left-wing individuals. Moreover, the analysis yielded a significant interaction between the political orientation and the dummy variable of the binding frame manipulation,  $B = -.24$ , Estimate = -.01, SE = .003,  $t = -2.29$ ,  $p = .02$ . Simple slope analysis suggests that when in the binding moral frame condition, right-wing participants showed less negative attitudes towards the immigrants (Estimate = .01, SE = .003, 95% CI [.01, .02]), compared to other right-wing participants in the control group (Estimate = .02, SE = .002, 95% CI [.02, .03]). Figure 14 shows this interaction. No other significant result emerged, all  $ps > .11$ .



**Figure 14:** The moderating role of the manipulation on the relation between the political orientation and the NATIS.

Next, we performed the same analysis replacing the political orientation measure with RWA (Model 2 -  $F(11,218) = 17.71$ , Adjusted  $R^2 = .45$ ,  $p < .001$ ). Similarly to Model 1, the general effect of RWA emerged,  $B = .79$ , Estimate = .87, SE = .10,  $t = 8.85$ ,  $p < .001$ . Overall, high

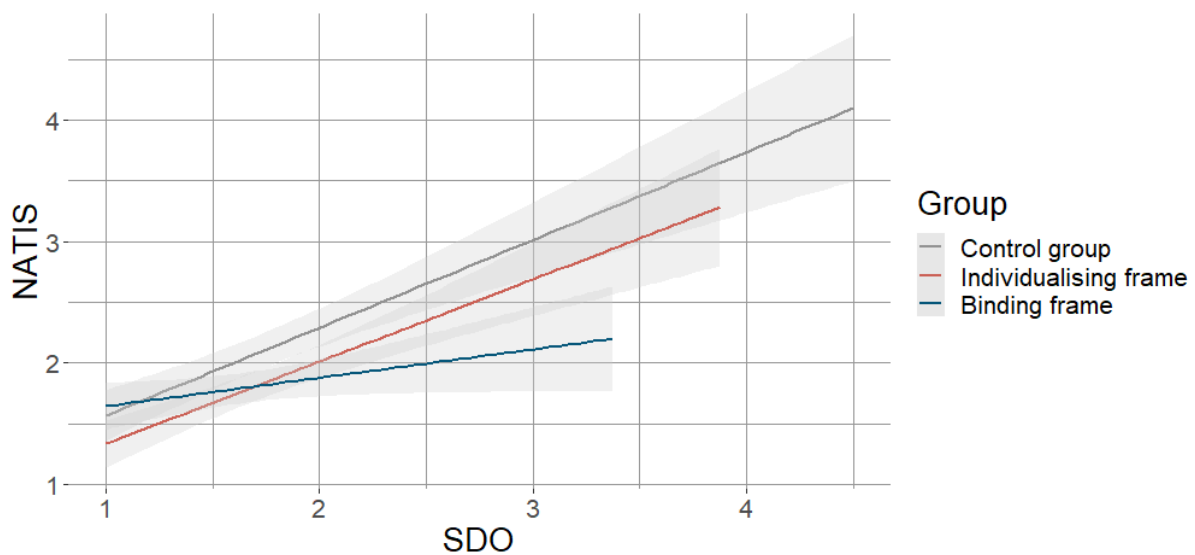
RWA participants showed greater levels of negative attitudes toward the immigrants compared to low RWA participants. In addition, the interaction between RWA and the dummy variable of the binding ( $B = -.59$ , Estimate =  $-.36$ ,  $SE = .13$ ,  $t = -2.77$ ,  $p = .01$ ) manipulations emerged. Simple slope analysis reveals that high RWA participants in the binding (Estimate =  $.53$ ,  $SE = .09$ , 95% CI [ $.34$ ,  $.71$ ]) frame conditions showed lower negative attitudes toward the immigrants compared to high RWA participants in the control group (Estimate =  $.89$ ,  $SE = .10$ , 95% CI [ $.69$ ,  $1.08$ ]). Figure 15 shows this interaction. No other significant results emerged from the analysis, all  $ps > .06$ .



**Figure 15:** The moderating role of the manipulation on the relation between RWA and the NATIS.

Finally, in Model 3, we considered SDO as predictor,  $F(11,218) = 11.55$ , Adjusted  $R^2 = .34$ ,  $p < .001$ . The general effect of SDO emerged,  $B = .57$ , Estimate =  $.66$ ,  $SE = .10$ ,  $t = 6.76$ ,  $p < .001$ . Overall, high SDO participants showed greater levels of negative attitudes toward the immigrants compared to low SDO participants. Also, the effect of the dummy variable of the binding manipulation emerged,  $B = .37$ , Estimate =  $.52$ ,  $SE = .26$ ,  $t = 1.99$ ,  $p = .048$ . Overall, participants in the binding condition ( $M = 1.79$ ,  $SD = .60$ ) showed lower levels of negative attitudes toward the immigrants compared to participants in the control group ( $M = 2.09$ ,  $SD$

= .80). Moreover, the interaction between SDO and the dummy variable of the binding manipulations emerged,  $B = -.55$ , Estimate =  $-.44$ ,  $SE = .15$ ,  $t = -2.99$ ,  $p = .003$ . As shown in Figure 16, simple slope analysis suggests that high SDO participants in the binding frame condition (Estimate =  $.22$ ,  $SE = .12$ , 95% CI  $[-.01, .45]$ ) showed lower negative attitudes toward the immigrants compared to the other high SDO participants in the control group (Estimate =  $.66$ ,  $SE = .10$ , 95% CI  $[.47, .85]$ ). No other significant results emerged from the analysis, all  $ps > .53$ .

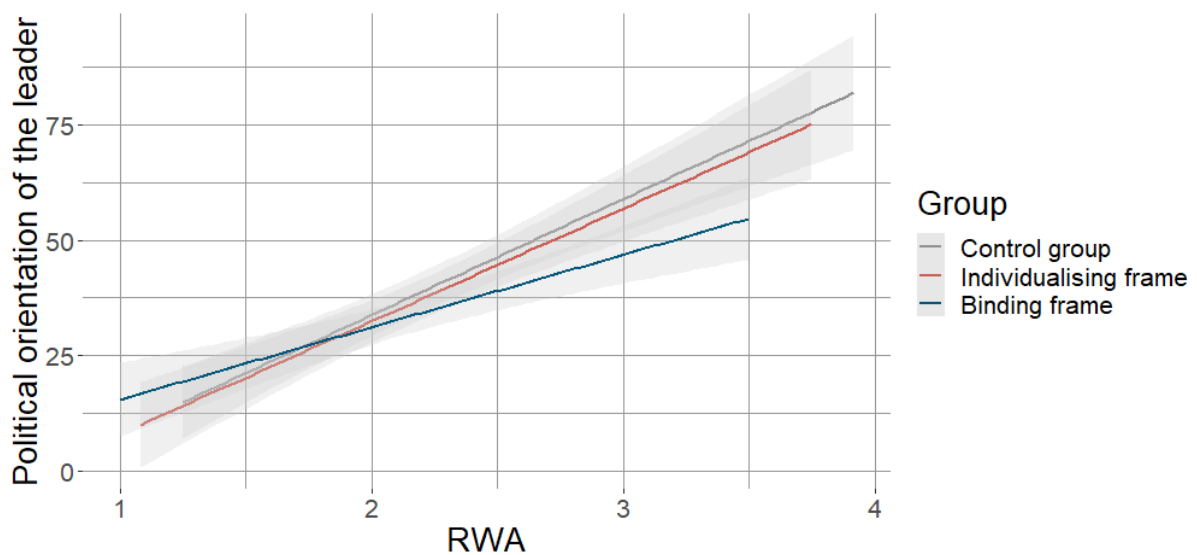


**Figure 16:** The moderating role of the manipulation on the relation between SDO and the NATIS.

#### 8.2.4 Political orientation of an ideal leader

We then analysed participants' preference for the political orientation of an ideal leader who might be able to deal with immigration. In all the models, the general effect of the political orientation (Model 1 -  $F(11,218) = 73.44$ , Adjusted  $R^2 = .78$ ,  $p < .001$ ;  $B = .92$ , Estimate =  $.89$ ,  $SE = .05$ ,  $t = 17.35$ ,  $p < .001$ ), RWA (Model 2 -  $F(11,218) = 12.35$ , Adjusted  $R^2 = .35$ ,  $p < .001$ ;  $B = .67$ , Estimate =  $24.28$ ,  $SE = 3.52$ ,  $t = 6.90$ ,  $p < .001$ ) and SDO (Model 3 -  $F(11,218) = 5.28$ , Adjusted  $R^2 = .17$ ,  $p < .001$ ;  $B = .41$ , Estimate =  $15.29$ ,  $SE = 3.54$ ,  $t = 4.31$ ,  $p < .001$ ) emerged. Moreover, when Model 2 was considered, the analysis yielded a significant two-

way interaction between RWA and the dummy variable of the binding moral frame,  $B = -.47$ , Estimate =  $-9.32$ ,  $SE = 4.56$ ,  $t = -2.04$ ,  $p = .04$ . As shown in Figure 17, high RWA participants showed lower preference for an extreme right-wing leader when they were in the binding moral frame group (Estimate =  $15.0$ ,  $SE = 3.25$ , 95% CI [ $8.56$ ,  $21.4$ ]) compared to the control group (Estimate =  $24.3$ ,  $SE = 3.52$ , 95% CI [ $17.35$ ,  $31.2$ ]). No other significant effects emerged from the analyses, Model 1, all  $ps > .12$ ; Model 2, all  $ps > .13$ ; Model 3, all  $ps > .24$ .

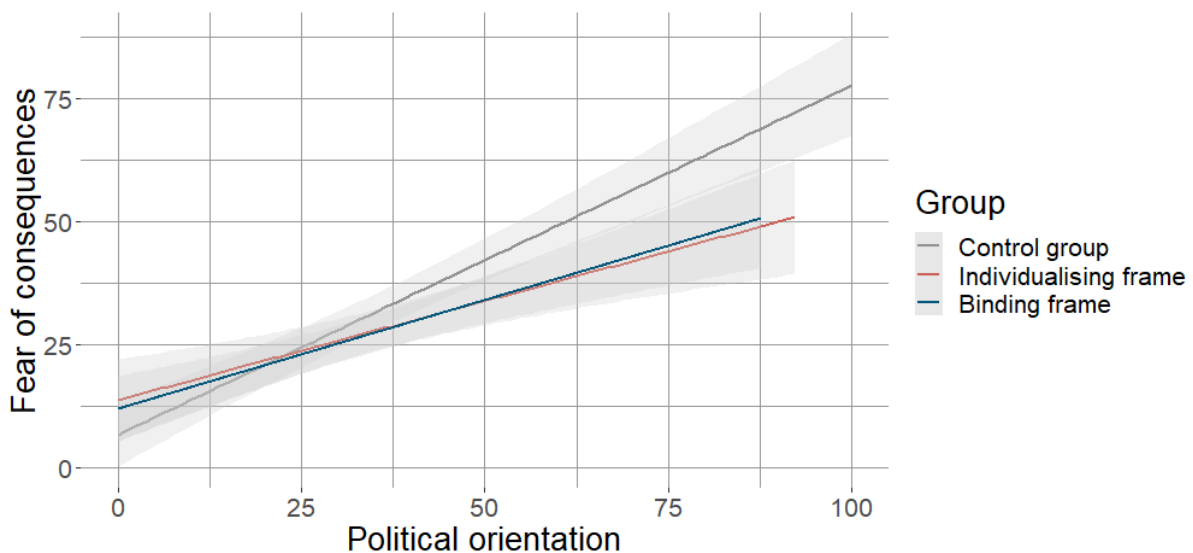


**Figure 17:** The moderating role of the manipulation on the relation between RWA and the measure of the political orientation of an ideal leader who would be able to deal with the immigration issue.

### 8.2.5 Fear of consequences

We analysed the effect of the manipulations on participants' fear of the consequences due to immigration phenomenon. In Model 1 ( $F(11,218) = 12.68$ , Adjusted  $R^2 = .36$ ,  $p < .001$ ), the general effect of the political orientation was significant ( $B = .71$ , Estimate =  $.66$ ,  $SE = .08$ ,  $t = 8.03$ ,  $p < .001$ ). Overall, right-wing participants feared more the consequences of immigration. More importantly, the two-way interaction between the political orientation and the dummy variables of the individualising frame condition emerged,  $B = -.25$ , Estimate = -

.26, SE = .13,  $t = -2.10$ ,  $p = .04$ . Also, a tendency for the two-way interaction between the political orientation and the dummy variable of the binding moral frame condition emerged,  $B = -.22$ , Estimate =  $-.23$ , SE = .12,  $t = -1.96$ ,  $p = .051$ . Simple slope analysis revealed that when right-wing participants were in the individualising (Estimate = .40, SE = .10, 95% CI [.21, .59]) and, partially, in the binding (Estimate = .43, SE = .09, 95% CI [.26, .60]) groups, they showed lower levels of fear of the consequences due to immigration compared to right-wing participants in the control group (Estimate = .66, SE = .08, 95% CI [.50, .82]). Figure 18 shows these effects. No other significant effects emerged from the analysis, all  $ps > .26$ .

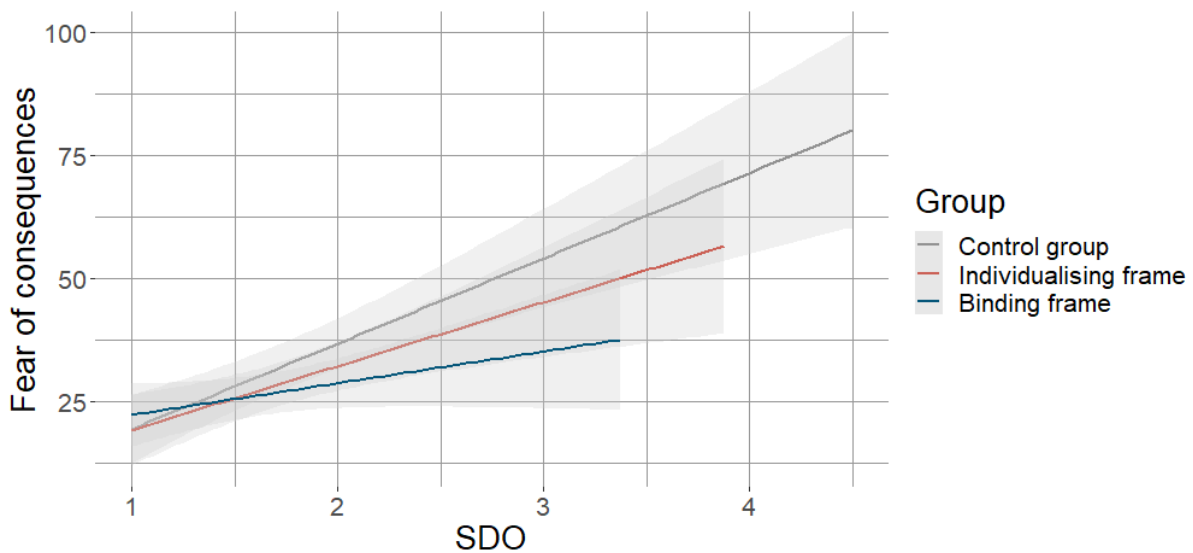


**Figure 18:** The moderating role of the manipulation on the relation between the political orientation and the measure of the fear of the consequences due to the immigration phenomenon.

Concerning Model 2 ( $F(11,218) = 7.67$ , Adjusted  $R^2 = .24$ ,  $p < .001$ ), only the effect of RWA emerged from the analysis,  $B = .58$ , Estimate = 19.80, SE = 3.58,  $t = 5.53$ ,  $p < .001$ . Overall, high RWA participants showed higher fear of the consequences of the immigration compared to low RWA participants. No other significant effects emerged from the analysis, all  $ps > .10$ . Finally, in Model 3 ( $F(11,218) = 5.99$ , Adjusted  $R^2 = .19$ ,  $p < .001$ ), the effect of SDO was significant,  $B = .47$ , Estimate = 16.47, SE = 3.29,  $t = 5.01$ ,  $p < .001$ . Generally, high SDO

participants reported higher fear for the immigration phenomenon compared to low SDO participants. In addition, a tendency for the interaction between SDO and the dummy variable of the binding group emerged,  $B = -.39$ , Estimate = -9.57, SE = 4.96,  $t = -1.93$ ,  $p = .055$ .

Figure 19 shows that high SDO participants when assigned to the binding moral frame of the immigration (Estimate = 6.91, SE = 3.89, 95% CI [-.76, 14.6]), reported lower level of fear compared to other high SDO participants in the control group (Estimate = 16.47, SE = 3.89, 95% CI [9.99, 23.0]). No other significant effects emerged from the analysis, all  $ps > .16$ .

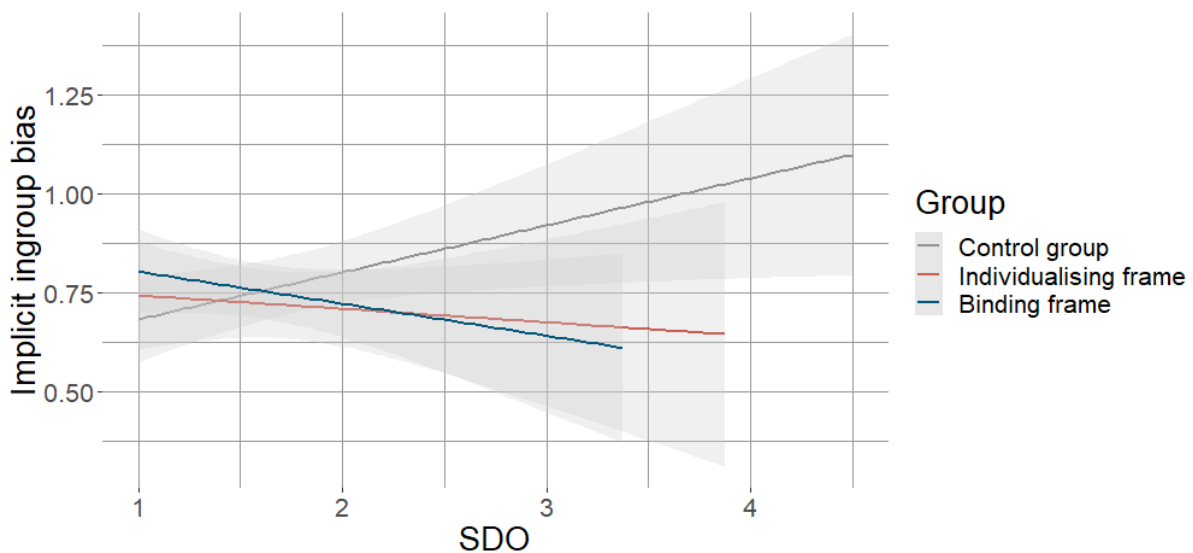


**Figure 19:** The moderating role of the manipulation on the relation between SDO and the measure of the fear of the consequences due to the immigration phenomenon.

### 8.2.6 Implicit Association Test (IAT)

Finally, we assessed participants' implicit attitude toward the immigrants. Generally participants showed an implicit positive bias towards Italian names ( $M = .75$ ,  $SD = .33$ , one-sample t-test with 0 as reference  $t(225) = 34.22$ ,  $p < .001$ ,  $d = 2.28$ ). When Model 1 ( $F(11,214) = .71$ , Adjusted  $R^2 = -.01$ ,  $p = .73$ ) and Model 2 ( $F(11,214) = .63$ , Adjusted  $R^2 = -.02$ ,  $p = .80$ ) are considered, no significant effects emerged, Model 1, all  $ps > .28$ ; Model 2, all  $ps > .41$ . However, in Model 3 ( $F(11,214) = .99$ , Adjusted  $R^2 = -.0004$ ,  $p = .45$ ) in-group the effect of the dummy variable of the binding frame emerged,  $B = .46$ , Estimate = .31, SE =

.15,  $t = 2.00$ ,  $p = .046$ . Participants when in the binding frame condition ( $M = .75$ ,  $SD = .33$ ) showed lower implicit in-group bias compared to when in the control condition ( $M = .77$ ,  $SD = .33$ ). More importantly, also the interaction between SDO and the dummy variable of the binding moral frame group emerged,  $B = -.51$ , Estimate =  $-.19$ ,  $SE = .09$ ,  $t = -2.23$ ,  $p = .03$ . Simple slope analysis revealed that when high SDO participants were in the binding frame condition they showed similar levels of in-group bias as low SDO participants (Estimate =  $-.10$ ,  $SE = .07$ , 95% CI  $[-.23, .04]$ ), whereas when high SDO participants in the control group are considered, they showed higher in-group bias compared to low SDO participants in the same manipulation condition (Estimate =  $.10$ ,  $SE = .06$ , 95% CI  $[-.02, .21]$ ). The interaction is shown in Figure 20. No other significant effects emerged from the analysis, all  $ps > .09$ .



**Figure 20:** The moderating role of the manipulation on the relation between SDO and implicit attitudes.

### 8.2.7 Comparison between the different measures of the political orientation

As for previous studies, we compared the effect of the interaction between the different measures of the political orientation and the dummy variable of the binding moral frame across the three Models (all the continuous variables were standardised). As shown in Table

15, the SDO measure best predicts the effect of the moral framing of the immigration phenomenon.

Variable	Political orientation	RWA	SDO
NATIS	-.15*	-.20*	-.21*
Political orientation of an ideal leader	-.11	-.16*	-.08
Fear of consequences	-.14	-.14	-.15*
IAT	-.10	-.04	-.20*

\* $p < .05$ .

**Table 15:** Beta coefficients of the effect of the interaction between the different measures of the political orientation and the dummy variable of the binding frame for each dependent variable measured in Study 5.

### 8.3 Discussion

In Study 5 we investigated the effect of the moral framing with a political issue that generally is considered a threat only by right-wing individuals. In this Study the main aim was to employ the moral framing technique to positively change the negative attitude of right-wing individuals towards immigrants. Results showed that overall, right-wing, high RWA and high SDO participants have a more negative opinion towards the immigrants and prefer a right-wing leader to deal with the issue. Notably, when these individuals are randomly assigned to the binding frame of the immigration, they show a more positive attitude toward the immigrants, less fear of the consequences of the immigration and, for high SDO participants, also a less strong implicit in-group bias compared to other high SDO participants in the control group.

Taken together, the results suggest that when the social issue of the immigration phenomenon is considered, the SDO measure best predicted the effect of the moral framing in attenuating participants' negative explicit and implicit attitudes toward the immigrants. In line with



Napier et al., 2018, we demonstrated that increasing a sense of security from a probable threat (i.e., immigration) may induce right-wing individuals to show more progressive attitudes.

# 9 General Discussion

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In the final section of the present dissertation, the main findings are summarised and commented on and the limitations, the future directions as well as the implications are highlighted.

First of all, the results emerged from the five studies are discussed in the first five following paragraphs: *9.1.1 The relation between political orientation and attitudes about different social issues*; *9.1.2 Moral framing effect*; *9.1.3 Predictability of the moral framing across different measures of political orientation*; *9.1.4 Moral framing effect at implicit level*; *9.1.5 The extension of the moral framing effect to non-US samples and to different measures of political orientation* and *9.1.6 The role of the source of the message*. Secondly, in paragraph *9.2 Limitations*, the theoretical and methodological limitations of the studies are considered and explained. Subsequently, paragraph *9.3 Future Directions* is dedicated to the descriptions of possible future projects that may be conceived considering the findings emerged from the current studies. Finally, in the last paragraph *9.4 Implications* the possible applied relevance of the obtained results is discussed in relation to real-life problems.

## **9.1 Main findings**

The present project was aimed at assessing (1) the association between the political orientation and the attitudes toward different social issues as well as (2) the effect of moral framing for changing participants' attitudes. Moreover, we tried to extend previous studies about the moral framing by testing whether the effect (3) extends also to other measures of political orientation, namely RWA and SDO and (4) induce attitude change also at implicit level. In addition, minor hypotheses were tested. We explored whether the moral framing

effect (5) replicated also to other samples that do not include US participants and, in Study 2, (6) we considered the additional role of the source of the message in shaping participants' attitudes. Consistent with the research questions, five paragraphs are presented in which each theme is discussed.

### *9.1.1 The relation between political orientation and attitudes about different social issues*

In five studies, four different social issues were considered (i.e., gender equality, socio-economic inequalities, environmental crisis, and immigration). Specifically, we tested the association between the attitudes related to these themes and the political orientation. Following the previous literature, we expected that right-wing (and high RWA and SDO) individuals would have shown a higher level of justification of the gender and economic inequalities, a lower concern toward the environmental crisis, and a higher intolerance toward immigrants compared to left-wing (and low RWA and SDO) individuals (H1). Indeed, in Study 1 we found that overall, rightists, high RWA and high SDO participants reported higher justification of the traditional gender roles, and lower concern toward this social issue compared to leftists, low RWA and low SDO participants. This result aligns with previous literature that suggests that conservatives are more resistant to changes in society (Jost et al., 2003) and that generally tend to support the system based on traditional gender roles (Bryant, 2003). However, when the implicit attitude was considered, right-wing (and high RWA and SDO) participants obtained similar results compared to other left-wing (and low RWA and SDO) participants.

Moreover, in Study 2 and Study 3, similar results emerged when the socio-economic inequality issue was considered. In Study 3, when the implicit task of the VAAST was considered, we also found that right-wing (and high RWA and SDO) participants showed lower approach preference toward equality compared to left-wing (and low RWA and SDO)

participants. Results revealed that also implicitly, right-wing participants tend to show scarce preference for equality. Similar findings resulted from Kugler et al. (2010). The authors found that political conservatism and RWA were positively associated with Group-Based Dominance and Opposition to Equality, which in turn negatively predicted implicit attitudes toward different economic issues, such as support for redistributive and liberal economic policies.

In Study 4, we obtained ambiguous and unstable results regarding the relation between the political orientation, RWA and SDO and the environmental crisis, that may reflect a limitation of the generalisation of the association between these variables in a different socio-political context, such as Singapore. Overall, high SDO participants were less concerned about climate change and its consequences, but the result was not replicated when RWA and the self-reported political orientation were considered. The work by Roets et al. (2015) may help explaining this result. According to the authors, in Singapore RWA is positively associated with liking the out-group showing a different trend compared to the well-established previous literature (e.g., MacInnis & Hodson, 2017; Nosek et al., 2009). As in Singapore the authority is respectful of immigration considering that it is a source of economic growth, higher scores on the RWA scale therefore predict a stronger support for the authority and, in turn, an increased liking for the out-groups. Considering this study, a similar reasoning may be applied to the environmental crisis. Indeed, the conservative centre-right Singapore government has always contributed in creating the vision of Singapore as a City in a Garden (NParks, 2014; Tan & Neo, 2009), investing in politics aimed at building an environmentally sustainable country. For this reason, in Singapore higher levels of RWA may not be associated with lower concern for the environmental crisis. Therefore, it is not surprising that overall, independently from the individual differences on the RWA scale and on the self-reported political orientation measure, every participant was sufficiently worried

about climate change ( $M = 4.08$ , range 1-5), its consequences ( $M = 69.90$ , range 1-100) and engaged in pro-environmental behaviour ( $M = 3.81$ , range 1-5). Obviously, the lack of discrepancies between high and low RWA individuals, as well as between right-wing and left-wing individuals in these measures may have influenced the effect of the moral framing. Further discussion about this topic is provided in paragraph 9.1.5.

Finally, in Study 5, differently from the previous studies, the aim of the moral frame of immigration was to reduce right-wing (and high RWA and SDO) participants' negative attitude toward the immigrants. Results showed that right-wing, high RWA and high SDO participants reported higher intolerance toward the immigrants and higher fear of the consequences of the immigration phenomenon compared to other left-wing, low RWA and low SDO participants. The results confirmed previous literature by showing that generally right-wing individuals hold a prejudice toward the immigrants (De Cristofaro et al., 2019; Yilmaz, 2012). Notably, when the implicit attitudes were considered, only high SDO participants showed higher in-group bias compared to low SDO participants, no difference emerged when the RWA and the political orientation were considered.

Taken together these results provide some evidence in support of H1. Indeed, with five studies we demonstrated that right-wing and left-wing individuals have different opinions concerning several important socio-political issues. More specifically, left-wing individuals reported to be more concerned about the socio-economic and gender inequalities and about the environmental crisis, whereas they were less worried about the immigration phenomenon compared to right-wing participants.

Importantly, the main findings mirror previous literature aimed at assessing the different attitudes between individuals as a function of their political orientation (e.g., Lippold et al., 2020; Ziegler, 2017). Right-wing and left-wing individuals seem to have diverging opinions concerning these themes. In order to find a common solution for these problems, it may seem

crucial to change individuals' attitudes toward positions that are more respectful of the environment and all people as a way to ensure more positive future prospects for everyone. For this reason, the moral framing technique was considered and promising results emerged from our studies.

### *9.1.2 Moral framing effect*

The main aim of the entire project was to test whether the moral framing effect is effective in changing people's attitudes when various social issues are considered. In Study 1 we found that right-wing participants when in the binding frame condition reported lower levels of justification of the traditional gender roles compared to right-wing participants in the control condition. The result did not replicate with the RWA and SDO measures and when other dependent variables were considered. In Study 2, similar effects emerged. Right-wing participants were less likely to justify the unfair economic system compared to other right-wing participants in the control group not only when in the binding frame condition, but also when in the individualising frame condition and the source of the message affiliated with a right-wing party. Similarly, when in the binding frame condition, right-wing participants reported higher levels of fear of the consequences due to economic inequalities compared to right-wing participants in the control condition. Notably, in Study 3, as well as in Study 1 and Study 5, we examined whether the effect of the moral framing extended also at an implicit level and results were promising. The extended discussion concerning these findings is proposed in the next paragraph *9.1.4*. Finally, in Study 5, we found that right-wing, high RWA and high SDO participants showed lower levels of intolerance toward the immigrants when assigned to the binding moral frame condition compared to other right-wing, high RWA and high SDO participants in the control condition. In Study 5, the results also indicated that when assigned to the binding moral frame condition, right-wing and high SDO

participants reported less fear of the consequences of the immigration phenomenon than other right-wing and high SDO participants in the control condition. More importantly, Study 5 diverges from the other four studies as we considered a social issue that is perceived as threatening only by right-wing participants, namely the immigration phenomenon. In this Study, we tried to persuade the rightists and change their opinions toward a more positive view about the immigrants. To do so, participants watched a video in which the immigration phenomenon was described not only with a moral frame, but also with a positive shade. As Napier et al. (2018) proposed, conservatives, when reassured about the positivity of the immigration phenomenon, may show more liberal attitudes. When a sense of security is induced, right-wing participants show lower social conservative attitudes, suggesting that, in line with Jost et al. (2003), the need for safety may induce more conservative attitudes and beliefs.

Overall, the studies suggest that the moral framing technique may be promising in bridging the divide between the two factions. Extending previous literature about the moral framing effect, we demonstrated that this technique influenced the attitudes of also Italian participants, when the themes of the gender inequalities, socioeconomic inequalities and immigration are considered. However, effects were small and the results were not replicated across different measures. Therefore, to conclude, we state that we found only partial evidence that supports H2. Further implications and the limitations of the studies are discussed in the following paragraphs.

### *9.1.3 Predictability of the moral framing across different measures of political orientation*

The project extends previous literature mainly by introducing different measures of the political orientation and predispositions and by comparing these measures in order to understand which variable best predicts the effect of the moral framing. Specifically, in line

with the existing literature, we asked participants to self-report their political orientation (a scale from left-wing to right-wing). Moreover, we also assessed participants' RWA and SDO. Therefore, we performed three different models for each dependent variable aimed at testing the effect of the moral framing across the three different measures of political orientation. Generally, the result did not suggest a clear pattern that replicates across the studies. For example, in Study 1, Study 2 and Study 4, the self-reported measure of political orientation revealed to be the best predictor of the effect of the moral framing for gender inequalities, socioeconomic inequalities and environmental crisis when explicit (self-reported) measures of attitude were assessed. On the contrary, in Study 3, Study 5, and partially in Study 2, the SDO and RWA measures best predicted the effect of the moral framing. Importantly SDO and RWA measures showed higher predictive power in relation to the moral framing effect when implicit (vs. explicit) measures were considered. Taken together these studies suggest that although the self-reported measure of the political orientation remains the best predictor of the moral framing effect when explicit measures of attitude change are considered, this primary role decreases when implicit measures are considered. Indeed, both with the IAT and the VAAST, the SDO and RWA measures showed higher predictive power of the implicit attitude change. Notably, these measures were also predictive of backlashes effect of the moral framing in Study 2 and in Study 3 when participants were assigned to the moral frame that was less coherent with the moral values embraced by people who shared their political alignment. A more detailed discussion of this aspect is presented in the next paragraph. Overall, the studies suggest that the effect of the moral framing is not particularly stable across different measures of political orientation and that the self-reported political orientation compared to RWA and SDO seems to remain the best predictor of the outcome of this persuasive communication technique when explicit measures of attitude change are considered, but RWA and SDO increase their predictability when implicit attitude changes



are assessed. Therefore, H3 (*RWA and SDO are weaker predictors of the moral framing effect*) is only marginally supported.

#### *9.1.4 Moral framing effect at implicit level*

In Study 1, Study 3 and Study 5 we also tested the effect of the moral framing on implicit attitudes. Specifically, in Study 1 and Study 5, we employed the IAT to measure participants' attitudes, whereas in Study 3 we administered the VAAST. In Study 1, no significant effects emerged. Instead, in Study 3 promising and also unexpected results emerged from the analysis. When the self-reported measure of the political orientation was considered, the baseline condition revealed that generally, right-wing participants reported lower approach preference for equality than left-wing participants. However, when in the binding moral frame condition, the pattern reversed. Indeed, right-wing participants showed higher approach preference for equality compared to left-wing participants in the same manipulation condition. Importantly, small effects were also present in the individualising frame condition, suggesting that in this condition no differences between right-wing and left-wing individuals emerged concerning their approach preference for equality. Notably, the same results emerged also when either RWA (except for the individualising condition in which no differences emerged compared to the control group) or the SDO measure was included as predictor in the analysis instead of the self-measure of political orientation. Finally, in Study 5, when the SDO measure was taken into consideration, the findings suggested that high SDO participants in the binding frame condition reported lower levels of implicit in-group bias compared to other high SDO participants in the control group.

Taken together, these results are promising and indicate that future research could be dedicated to the study of the influence of moral framing on implicit attitudes. Also in this case, we found partial support for H4. Indeed, although the findings are not stable across

different measures of implicit bias and across different measures of political orientation, methodological aspects may help explain these inconsistencies. Moreover, data from Study 3 also revealed that when implicit measures are administered, backlash effects may emerge for those participants who are assigned to a moral frame that is incongruent with their moral values. Indeed, left-wing participants showed a higher level of approach tendency toward equality when they were assigned to the control condition as compared to when they were assigned to the binding condition. Notably, this effect of the moral framing was detectable only in relation to the implicit attitude measures, and not on explicit attitudes measures, such as the ESJ. One possible explanation for this divergence is that when explicitly asked to reason and express their opinion about the inequalities, left-wing participants hang on to their schemes of attitudes and beliefs even when they were assigned to a binding moral framing of the issue. Indeed, explicit measures involve mental processes that require reasoning. For this reason, left-wing participants, when assigned to the binding moral frame, would be likely to still maintain an explicit attitude coherent with their initial position as they have time and resources to reflect about their attitude. Moreover, these participants may also feel the pressure of social desirability. As left-wing oriented individuals are generally expected to be more concerned about the inequalities, this target group may reply to explicit attitude scales by satisfying what the experimenter expects from people that self-identify with the political left. Conversely, when implicit attitudes are assessed, left-wing participants reported different patterns as compared to what emerged explicitly. The backlash effect may thus be explained by considering that when implicit attitudes are assessed, more automatic and non-deliberate processes are activated. On such occasions, left-wing individuals may report attitudes that are not affected by social desirability. In these circumstances, the automatic responses that led left-wing individuals to show a backlash effect may suggest that the binding moral frame may sometimes be detrimental if addressed to the “wrong” target group. The binding moral

framing may not have changed leftists' explicit beliefs toward the problem, however it might have influenced their implicit attitudes.

#### *9.1.5 The extension of the moral framing effect to non-US samples and to different measures of political orientation*

Across the five studies we tested other 2 minor hypotheses. First of all, as almost the totality of the studies concerning the moral framing effect were performed with US participants, we tested whether the effect also extended to non-US samples. Although we found partial support for the replication hypothesis with the Italian samples, we did not find any effect of the moral framing when Singaporean participants were considered (Study 4). Indeed, Singaporean participants did not show any difference in attitude as a function of the manipulation group (i.e., individualising vs. binding) and their political orientation. The Study suggests that the moral framing effect may not be always generalizable to different socio-political contexts. In line with Roets et al. (2015) and Beattie et al. (2022), Singapore and China show different associations between the political right and the political left and attitudes toward different socio-economic issues. The concern toward the environmental crisis may not be as strongly associated with the political left as in other Occidental countries. Therefore, this lack of association may yield to no effect of the moral framing. Notably, only SDO predicted participants' attitude toward the concern for the environment, whereas RWA and the self-reported political orientation were mostly unrelated with participants' attitude. To overcome the limits imposed by the measures of political ideology in Singapore, we also considered participants' endorsement of the different moral foundations as predictor of the attitudes toward the environmental crisis. Although we found ambiguous association between the moral foundations and the self-reported measure of the political orientation (i.e., no correlation between the political orientation and the individualising foundations), the pattern

for RWA and SDO was clearer and in line with previous literature (Federico et al., 2013). Correlations revealed that, overall, RWA was positively associated with the binding foundations and SDO was negatively associated with the individualising foundations. For this reason, we also performed the analysis considering the endorsement of the individualising and binding moral foundations as predictor of the effect of the moral framing instead of the measures of the political ideology. However, also when the individualising and the binding moral foundations were considered as predictors in interaction with the dummy variables of the moral frame no significant effects emerged (all  $ps > .13$ ). To conclude, the moral framing of the environmental crisis did not replicate in our Study conducted in Singapore. The reason behind this lack of generalisation may be due to the poor association between the environmental attitudes and the political ideology. However, another explanation should be considered in order to unfold the results. Indeed, our final sample size ( $N = 108$ ) was smaller than the desired one (at least 200 participants) and this reduction may have caused lack of the necessary power to find a statistically significant result.

Taken together, the studies suggest that the moral framing effect is not limited to the US political context, but it also extends to Italy. However, the scarce numerosity of the Singaporean sample does not allow us to conclude whether the lack of replication in this context is to be mainly attributed to the political context or to the under-powered study. Therefore, we found only partial support for H5.

#### *9.1.6 The role of the source of the message*

In Study 2 we examined the role of the source of the message in either amplifying or reducing the effect of the moral framing. Specifically, participants were presented with a morally framed message that was said to be provided by either a left-wing or right-wing political candidate. Results suggested that right-wing participants when in the binding

condition, both with a right-wing and left-wing source of the message, reported lower levels of justification of the unfair economic system. This result indicates that the moral framing had an effect on participants' explicit attitude toward the inequalities independently from the source of the message. Therefore, the source of the message did not play a crucial role. Indeed, also when the message was pronounced by a left-wing political source, the rightists were persuaded by the message when it was framed with binding foundations. In contrast with Hurst (2020), a message framed in terms of binding foundations affected rightists' attitudes and the additional manipulation of the source (i.e., in-group vs. out-group) did not modulate the effect of the frame of the message (H6 not supported). It is possible that participants perceived the source of the message to share their values independently of the declared political orientation of the source. Indeed, some studies (e.g., Wolsko, 2017) demonstrated that the effect of the moral framing is mediated by the perceived similarity of values shared with the source of the message. Therefore, even when it is not directly communicated the political affiliation of the source of the message, individuals seem to form an opinion on this aspect and when it is perceived a similarity in the endorsement of moral values, individuals are more prone to accept and change their opinion based on the message. Following the discussion of the main results, in the next paragraph the limitations of the five studies are presented.

## **9.2 Limitations**

In the previous sections, the main findings were described. However, the studies are not without limitations.

First of all, we calculated our sample size based on previous work on the effect of the moral framing in which the interaction with the political orientation was analysed (Wolsko, 2017; Wolsko et al., 2016). Therefore, we estimated the dimension of our sample size of about 200

participants. Unfortunately, in Study 4 we were able to recruit only 108 participants. Study 4 was conducted in Singapore and participants were university students recruited via the Research Participation programme in exchange for course credits. As a visiting PhD student at the National University of Singapore, I had a limited number (150) of credits to award in return for participating in the study. For this reason, the number of participants that took part in the Study was limited and no strong inferences from the results can be made. Indeed, studies suggest that small sample sizes undermine reliability of the results (Button et al., 2013; Rossi, 1990), and for this reason the interpretation of the final results may be misleading. Therefore, it could be premature to conclude that the moral framing is not generalizable to the Singaporean population, and therefore, future studies with larger samples are needed.

Second, although we found evidence for the effect of the moral framing, the results are not stable across different measures (e.g., explicit attitude of system justification and fear of the consequences). Overall, results suggested that the moral framing was more effective in changing participants' explicit attitudes when they were measured through a validated scale of attitude about the specific theme (e.g., GSJ - Jost & Kay, 2005), compared to when a general measure of fear of the consequences or preference for an ideal leader was considered. In line with Rosenfeld and Tomiyama (2021), some specific types of threats may change and influence individuals' political beliefs regarding specific social issues, instead of their self-identification with a political side. Therefore, the moral framing may not have an effect on the measure about the perceived ideal leader who might be able to address the problems at stake, but only on the responses to the scales that more directly tap the attitudes towards such issues.

Third, not only we did not find instability in our results across the various dependent measures, but we also found some inconsistencies when different predictors were considered.

In each study we performed three models for each dependent variable, the models were identical except for the measure employed as predictor (i.e., self-reported political orientation, RWA, and SDO). Across the studies we find only partial support for the replicability of the moral framing effect when RWA and SDO are considered instead of the self-reported political orientation. Indeed, although the self-reported political orientation predicted the effect of the moral framing at least in one measure of attitude presented in each study, except for Study 4, RWA and SDO significantly play a role in interaction with the moral framing only when the implicit attitudes were considered in Study 3 and in Study 5 and when the negative attitude toward the immigrants in Study 5 was measured. These results suggest that political orientation is the variable that best predicts the effects of moral framing. Taking into consideration the MFT and the association between the moral foundations and RWA and SDO, our results can be explained by the work of Federico et al. (2013). According to the authors, RWA and SDO are differently associated with the binding and the individualising moral foundations. RWA seems to positively predict the endorsement of the binding foundations, whereas SDO negatively predicts the endorsement of the individualising moral foundations. As also our correlational results indicated, RWA and SDO are uniquely associated with the binding or the individualising moral foundations, whereas the political orientation continuum is associated with all the moral foundations. Therefore, the unipolarity of the relation between RWA and SDO with the moral foundations may be too limited in predicting participants' reaction to a moral frame.

Fourth, even though our findings showed an effect of the moral frame when the social issues of inequalities and the immigration are considered, these effects are small. The small effect sizes indicate that we should expect even smaller consequences in real life context when other variables are free to interact with the moral frame of the messages (e.g., pre-existing attitude toward the source of the message, lack of attention and motivation).

Fifth, some criticism may be raised in relation to the messages to which the control groups were exposed. Apart from Study 4, all other participants assigned to the control groups did not watch a video in which the social issue was described but with no moral frame. Instead, they watched a video in which a completely different theme was presented (i.e., a tutorial video on how to build a garden table). As a consequence, the mere exposition to the social issue may have elicited some effects on the participants and the control condition does not allow to rule out this hypothesis. However, several studies that tested the effect of the moral frame did not create a control condition (e.g., Feinberg & Willer, 2015 - Study 3 and Study 4; Voelkel & Feinberg, 2018). Indeed, in order to simplify the final design of the studies and therefore to recruit less participants, authors often decided not to include a control condition. Moreover, another criticism should be highlighted in relation to the manipulation videos. The morally framed texts that were presented to the participants at the end of the individualising and binding videos in all the studies (except for Study 4) were considered extremely politicised during the pre-test. Indeed, each pair of texts (i.e., individualising vs. binding) not only differed for the perceived moral foundations mentioned (i.e., Care and Fairness for the individualising texts and Authority, Loyalty and Sanctity for the binding texts), but also for the perceived political alignment of the whole message. Participants that completed the pre-test considered the individualising texts more left-wing oriented and the binding texts more right-wing oriented. Therefore, the perceived difference in the political alignment of the messages may have resulted in a confounding variable that may explain the interaction effects between the frame of the messages and the political orientation of the participants, regardless of the moral foundations mentioned in the texts.

Sixth, due to COVID-19 pandemic the survey was created and administered online via Qualtrics (Qualtrics, Provo, UT). Even though Qualtrics is an efficient tool able to overcome the physical limits that during the pandemic the scientific research has faced, the experiments



conducted in laboratories are still the golden standard to pursue (Beramendi et al., 2016). More specifically, in our studies we employed two different measures of the implicit attitude (i.e., IAT and VAAST). The authors of both tools reported high validity of the online administered versions of the IAT (Carpenter et al. 2019) and the VAAST (Aubé et al., 2019) and similar performances to those obtained in the laboratory. As a consequence of their validations, we decided to employ the tools online, however we found a possible limitation of the administration of the implicit measures online. Each implicit task required at least 20 minutes to be completed and this might have impacted negatively on participants' motivation. Indeed, a great number of participants in each study in which the implicit measures were added left the study before the conclusion of the survey. For this reason, similar studies conducted in the laboratory setting may optimise the number of resources contacted for the study.

The limitations listed above may have influenced the final results. For this reason, we suggest that future studies about the effect of the moral framing should contact a sufficient number of participants (at least 200), provide a neutral control condition and employ laboratory settings in order to avoid high rates of drop-out and to maximise participants' attention while performing the implicit task. The following section is dedicated to the future research that can be implemented as a direct continuation of the present project.

### **9.3 Future directions**

Taken together the five studies widely explored the effects of moral framing across different social issues. Future studies may be addressed to further demonstrate the transversality of the moral framing on other socio-political issues. For instance, during the COVID-19 pandemic conservatives and liberals showed polarised opinions and behaviours toward the restrictions and the vaccination campaign (Calvillo et al., 2020). Although studies suggested that a

different frame based on personal or public consequences of the need to take preventative measures to avoid the spread of the virus did not differentially influence participants as a function of their political orientation (Jordan et al., 2021), other studies suggested that individuals had different opinions concerning the restrictions depending on their endorsement of different moral foundations (Chan, 2021; Schmidtke et al., 2022). Moreover, Kaplan et al. (2021) showed that a framed message that referred to the Loyalty moral foundations resized conservative participants' anti-mask beliefs. In line with the study, future research may test whether the moral framing is effective in also positively influencing conservatives' attitude toward the COVID-19 vaccines.

As ambiguous results were obtained from the implicit attitude measures, future studies should be implemented aimed at systematically investigating the effect of the moral framing at an implicit level. To our knowledge, this project was the first attempt to deeply investigate the influence of moral framing with implicit measures. According to the motivation and opportunity as determinants (MODE) model (Fazio & Towles-Schwen, 1999), when people lack motivation and/or there is no opportunity to deliberate, behaviours are primarily guided by less controlled processes that reflect implicit attitudes. For this reason, implicit measures should predict less deliberate behaviours (e.g., Asendorpf et al., 2002; Dovidio et al., 2002), that form most of daily actions. Investigating further whether the moral framing has an effect on the implicit attitude may consequently have a positive influence on more spontaneous behaviours and reduce the probability that the responses are affected by social desirability. Indeed, promising positive results emerged from the studies, especially when the VAAST measure was considered. Therefore, future studies need to deepen the test of this effect and employ more controlled settings, such as laboratories, to do so. As previously argued, the online administration of the IAT and the VAAST may have reduced participants' motivation and intention to conclude the survey. We believe that a controlled setting may optimise

participants' performance on the tasks. At least, the dropout rate should significantly diminish as participants are more motivated to conclude the study. In addition, the further investigation of the effect of the moral framing at implicit level may pave the way to studies that test the association between the implicit attitude change and automatic behaviours. Indeed, future studies should be conducted in order to demonstrate whether the implicit attitude-change has a significant predictive power of actual behaviour above and beyond explicit attitude change. More precisely, it is conceivable that the implicit attitude change may be linked more strongly to behaviour that in some circumstances may be automatic and spontaneous such as water waste, racist discrimination or actual support to hierarchies compared to the explicit attitude change. In line with this reasoning, few studies were aimed at assessing the effect of moral framing on behaviours. Indeed, as the majority of the studies were conducted online or in a controlled setting such as the laboratory, this limits the external validity of the experiments and reduces the possibility to measure real-life behaviours as a response to the moral framing effect. Therefore, future projects should be implemented to test the validity of the moral framing effect also on actual behaviour by creating field experiments. Indeed, as the effect sizes of the moral framing revealed to be generally small, studies should ascertain that the effect is still present in more ecologically valid settings and when real behavioural implications are considered.

Moreover, future studies should also address the problem of the longevity of the effect.

Previous literature that explored the effects of the moral framing in relation to different socio-political issues rarely tested whether the effect persisted even after a specific lapse of time.

Few exceptions tested the robustness of the effect across time (e.g., Kalla et al., 2022). For instance, Kalla et al. (2022) demonstrated that the effect of the moral framing of the right of abortion endured until one month after the intervention, but after three months the effects decayed. More studies are needed in order to explore the long-term effect of the moral

framing, also considering different socio-political issues in order to test whether the effect of the moral framing may also deteriorate when external unexpected circumstances interact with the intervention.

Importantly, as the political axis that divides conservatives (or rightists) and liberals (or leftists) may be reductive given the complexity of the contemporary democracies, future studies may also consider the effect of the moral framing addressing a different political group as target. For example, several studies started describing the main identifying traits of the populists, and between these research, some also questioned the moral endorsement of this political group (Barker & DeTamble, 2022; Turk, 2019). As the Barker and DeTamble (2022) suggest, different types of populism may be identified, however each group seems to embrace different moral values. For this reason, studies may also investigate whether the effect of the moral framing succeeds also when a different political categorization is applied to the target groups.

In addition, our studies were aimed at changing right-wing individuals' positions on certain themes, however, we have never tested the opposite hypothesis that left-wing individuals could be moved toward attitudes more aligned with the political right with a moral frame of controversial issues. For this reason, we believe that future approaches to the moral framing should also explore its effect with the aim of influencing the attitudes of left-wing individuals toward beliefs that are embraced by the political right.

Finally, more studies are needed that recruit participants outside of the US. As previously reported, in our Study 4, only 108 participants completed the survey and were considered for the final analysis, therefore we are not certain whether the lack of the effect may be due to the small sample size or to the lack of generalizability of the moral framing effect on a different socio-political context. Almost the totality of previous studies was conducted in the US (to name a few: Feinberg & Willer, 2013; Voelkel & Feinberg, 2018; Wolsko, 2017; Wolsko et

al., 2016) and no exploration was coordinated aimed at replicating the effect in a different sociopolitical context. For this reason, we believe that it is important to seek for an extension of the effect also when non-US participants are recruited and eventually, studies are needed in order to explain why differences exist between countries and which factors influence the efficacy of the moral framing in different socio-cultural contexts.

#### **9.4 Implications**

The present project was aimed at broadening previous literature concerning the moral framing effect. Indeed, as previously discussed, previous studies especially focused on the effect of the moral framing of the environmental crisis and recruited mostly US participants. In the present studies we aimed at overcoming these limitations by exploring whether the effect of the moral framing replicated when different socio-political issues were considered and, notably, we tested the effect on Italian and Singaporean samples. First of all, the studies suggest that there is a coherence across the themes suggesting that right-wing individuals may be positively influenced when the “correct” moral terms are employed to describe the issues. The results confirm once again the power of the communication and the frame of the messages in shaping individuals’ opinions. Adding to previous literature, the studies confirm that people tend to see the world as it is described, not as it is. This implies that those who have the power to shape communication must be well aware of the responsibility they have due to the influence that a specific message they created has on the audience. For instance, numerous studies were performed that demonstrated the effect of the media coverage on individuals’ attitude and emotions toward certain issues (e.g., Liu & Cui, 2008; McCluskey et al., 2016; Wanta & Yu-Wei Hu, 1993), and often these studies emphasise that the media have a negative influence on people’s perception of the world. On the other hand, the present project suggests that not only communication has a crucial role in influencing individuals, but

also that persuasive messages may be spread to positively change negative attitudes toward specific issues.

Moreover, we believe that having explored the effect of the moral framing at an implicit level paves the way for several future researches aimed at investigating whether this implicit attitude change predicts more spontaneous and non-deliberate behaviour. As our studies, especially Study 3 and Study 5, suggested, participants' implicit attitudes were altered as a function of the moral frame they were exposed to. If future studies will confirm the influence that this implicit attitude change has on non-controlled behaviours, this evidence will have strong consequences on the way we try to convince individuals to change their daily behaviour in order to protect the planet or be more caring about others. Indeed, numerous policies have been implemented by public and private organisations aimed at changing participants' attitudes and behaviours. For instance, nudges (i.e., push someone gently at doing something) are employed in different fields to induce participants at choosing healthy dietary options (Arno & Thomas, 2016), improving their hygiene (Caris et al., 2018) and carrying out civic behaviours (John et al., 2013), to name a few. Therefore, our project adds to previous attempts that successfully tried to change individuals' behaviour by showing that also the moral framing may be employed as a valid technique that may shape participants' attitude in favour of certain behaviours. Specifically, the moral frame showed to be effective in reducing the polarisation between right-wing and left-wing individuals on different themes. As the polarisation between the political right and the political left has increased in recent years both in the US and in European countries (Duffy et al., 2019; Hunter, 1991), the lack of an ideological meeting point caused impasses in facing socio-political issues. Indeed, the political leaders have a pre-established opinion about specific themes that only reflect positions *apriori* taken by their political parties. Based on the issue ownership theory (Budge & Farlie, 1983; Budge et al., 1983; Egan, 2013; Petrocik, 1989), socio-political issues are

perceived as “own” by a political alignment instead of another. More importantly, as a direct consequence of this allocation, the valence of the discourse around these themes changes as a function of whether the opposite political faction is perceived as the owner of the issues. For example, this is the case of the environmental crisis. When the political left started to seize the discourse about climate change, the political right began to deny such effect. Therefore, the lack of a common position led to no practical solution. For instance, policies aimed at preserving the environment and reversing climate change have been instituted and then raised after a few years when new governments of a different political alignment gained political power. This is what occurred with the Paris Agreement signed by President Barack Obama in 2016, and right away withdrawn by the Trump administration in 2019. These inconsistencies between political parties undermine the possibility of one country to proceed united toward a common objective. This example helps in illustrating that socio-political research may be supportive in finding a solution in order to avoid strong political polarisation that drifts apart from the possibility of finding a stability across different political governments. For this reason, our project perfectly fits this necessity. We demonstrated that the moral framing technique may be a starting point that induces people with different political ideologies to converge with similar opinions and attitudes. As a consequence, the ideological approach of these factions may result in collaboration to solve common problems that affect all humanity. Adding to this final point, in Study 3 we also found a backlash effect in left-wing participants assigned to the binding condition when implicit attitudes toward the inequalities were assessed. Although future research is necessary in order to understand whether this backlash effect was an isolated episode or it is systematic (other studies reported this tendency: Feinberg & Willer, 2015; Wolsko, 2017; Wolsko et al., 2016), some reflections are needed. The study that we presented shows that when a “wrong” message is addressed to the wrong target group, it may elicit undesired reactions from the group. Therefore, this result suggests

that caution is needed when the framed messages are spread, in order to avoid reaching individuals who do not share the same values described in the communication. Indeed, the lack of control on the recipients of the message may cause a counterproductive response to the intervention that was implemented.

## **10 Concluding remarks**

Political division between left and right has polarised in recent years, leading to difficulties in understanding and collaborating with the opposite faction. This divide is problematic as the lack of meeting points between the political groups may lead to static situations in which policies aimed at facing socio-political issues are impossible to be legislated. For this reason, research seems to be necessary to find solutions in order to overcome these impasses.

Responding to this call, the studies presented in the dissertation are promising in suggesting that the moral framing technique may be effective in changing individuals' attitude toward different socio-political issues and in aligning the beliefs of the two political alignments.

There is still a lot of ground to be covered in order to implement practical policies based on the moral framing technique, however we believe that results are encouraging, and future in-depth research is needed to explore further the effects. Our contemporary world is full of possible expositions to persuasive messages that come from the traditional media, such as the television or the radio and the new media, such as the social networks, that remind once again the crucial role that communication has on our daily lives. Regrettably or not, the world proceeds without research following it, and for this reason we actually do not know the real power that these persuasive messages have on our daily actions. Our project was an attempt to seize a small part of the process and try to manipulate it with supporting results. Creating tailored messages to be addressed to specific audiences may help in bridge the gap between the polarised political parties and finally facilitate the encounter of the two factions in order



to work together to solve common problems that are inevitably affecting all humanity, indiscriminately from the political orientation.



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## Appendix A Study 1

### A.1 Self-reported political orientation

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Vicino alla sinistra (0)	Vicino alla destra (100)
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Come consideri il tuo orientamento politico?

Per quanto riguarda le tematiche economiche (es. tasse, spesa pubblica, intervento dello Stato sul privato...) ti consideri una persona:

Per quanto riguarda le tematiche sociali (es. diritti civili, immigrazione, assistenza ai bisognosi...) ti consideri una persona:

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### A.2 Right-Wing Authoritarianism scale (RWA)

Ti chiediamo ora di leggere attentamente le affermazioni che seguono e di indicare per ciascuna il tuo grado di accordo su una scala che va da “completamente in disaccordo” a “completamente d’accordo”. Non esistono risposte giuste o sbagliate, rispondi spontaneamente.

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Completa mente in disaccordo (1)	Abbastanza in disaccordo (2)	Né d’accordo, né in disaccordo (3)	Abbastanza d’accordo (4)	Completa mente d’accordo (5)
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La gente dovrebbe crearsi un proprio sistema di valori su cosa è morale e immorale e dare meno ascolto a ciò che dicono la Chiesa e il Papa.

Invece che un ulteriore aumento dei diritti civili, al nostro Paese serve soprattutto una inflessibile cura a base di legge e ordine.

Il “posto di una donna” è dovunque essa voglia stare. L’epoca della sottomissione delle donne al marito e alle convenzioni sociali deve finire per sempre.

Un giorno o l’altro scopriremo che avere abbandonato le nostre tradizioni è stato un errore gravissimo.

Nessun crimine, nemmeno il più grave, dovrebbe essere punito con la pena di morte.

L’obbedienza e il rispetto per l’autorità sono i valori più importanti che i bambini dovrebbero imparare.

La legge dovrebbe trattare allo stesso modo il matrimonio e le relazioni stabili fra persone dello stesso sesso.

Il nostro Paese ha soprattutto bisogno di un leader forte e determinato che spazzi via il male e ci riporti sulla retta via.

È molto positivo che oggi i giovani abbiano la libertà di protestare contro ciò che non condividono, e che si costruiscano le proprie regole di comportamento.

È molto meglio essere virtuosi e obbedire alle leggi che mettere sempre in discussione le fondamenta della nostra società.

È importante difendere in ogni modo i diritti di tutti, anche di chi è molto diverso dalla maggioranza o ha idee politiche estremiste.

Per vivere bene servono soprattutto obbedienza e disciplina.

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### *A.3 Social Dominance Orientation scale (SDO)*

Seguono una serie di affermazioni. Ti chiediamo di leggerle attentamente e indicare il tuo grado di accordo con ciascuna affermazione, su una scala da "completamente in disaccordo" a "completamente d'accordo".

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Completa mente in disaccordo (1)	Abbastanza in disaccordo (2)	Né d'accordo, né in disaccordo (3)	Abbastanza d'accordo (4)	Completa mente d'accordo (5)
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Alcuni gruppi di persone sono semplicemente inferiori rispetto ad altri gruppi.

Per ottenere quello che si vuole, talvolta è necessario usare la forza contro altri gruppi.

Per farsi strada nella vita a volte è necessario passare sopra gli altri gruppi.

I gruppi inferiori dovrebbero restare al loro posto.

L'uguaglianza fra i gruppi dovrebbe essere il nostro ideale.

Dovremmo fare il possibile per rendere uguali le condizioni di tutti i gruppi.

Avremmo meno problemi se trattassimo la gente in modo più equo.

Dovremmo sforzarci affinché tutti guadagnino cifre simili.

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### *A.4 Care and Loyalty items of the Moral Foundations Questionnaire (MFQ)*

Relevance scale. Quando devi decidere se una cosa è giusta o sbagliata, quanto sono rilevanti per te le seguenti considerazioni? Ti preghiamo di valutare ciascuna affermazione utilizzando la seguente scala di risposta:

Per nulla rilevante (1)	Non molto rilevante (2)	Lieve mente rilevante (3)	Un po' rilevante (4)	Molto rilevante (5)	Estrema mente rilevante (6)
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Se qualcuno ha sofferto emotivamente oppure no.

Se qualcuno si è preso cura di una persona debole o vulnerabile oppure no.

Se qualcuno è stato crudele oppure no.

Se qualcuno ha dimostrato mancanza di lealtà oppure no.

Se qualcuno ha fatto qualcosa per tradire il proprio gruppo oppure no.

Se gli atti compiuti hanno mostrato amore per il proprio Paese oppure no.

Agreement scale. Per favore leggi le seguenti affermazioni ed indica il tuo grado di accordo o disaccordo:

Forte mente in disaccordo (1)	Moderata mente in disaccordo (2)	Lieve mente in disaccordo (3)	Lievemente in accordo (4)	Moderata mente in accordo (5)	Forte mente in accordo (6)
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Una delle peggiori cose che una persona potrebbe fare è far del male ad un animale indifeso.

Non può mai essere giusto uccidere un essere umano.

La compassione per coloro che soffrono è la virtù più importante.

È più importante fare gioco di squadra piuttosto che esprimere se stessi individualmente.

Sono orgoglioso della storia del mio Paese.

Le persone dovrebbero essere leali verso i membri della propria famiglia, anche se questi hanno fatto qualcosa di sbagliato.

#### *A.5 Manipulation texts*

##### Individualising moral frame condition

Le disuguaglianze di genere esistono e danneggiano il principio fondamentale della giustizia danneggiano l'uguaglianza in quanto principio fondamentale di giustizia, con gravi ripercussioni sull'equità dei diritti civili per uomini e donne.

Per combatterle, è necessario distruggere i pregiudizi e le discriminazioni che ne derivano, incentivando una maggiore equità dei ruoli all'interno della famiglia e della società e avendo cura di chi è vittima di questi comportamenti.

### Binding moral frame condition

Le disuguaglianze di genere sono un problema a causa della loro importante influenza sull'unità della famiglia, sulla sicurezza delle donne e sul mantenimento dei ruoli fondamentali. Per questo motivo, è importante trovare una soluzione che dia la giusta autorità ai valori della famiglia cristiana unita, garantendo maggiore ordine e permettendo anche alle donne di partecipare attivamente alla vita di comunità.

#### *A.6 Gender System Justification scale*

Seguono una serie di affermazioni. Ti chiediamo di leggerle attentamente e indicare il tuo grado di accordo con ciascuna affermazione, su una scala da "completamente in disaccordo" a "completamente d'accordo".

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Completamente in disaccordo (1)	Abbastanza in disaccordo (2)	Lievemente in disaccordo (3)	Lievemente in accordo (4)	Abbastanza d'accordo (5)	Completamente d'accordo (6)
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In generale, le relazioni fra uomini e donne sono giuste.

La divisione del lavoro nelle famiglie generalmente funziona come dovrebbe.

I ruoli di genere necessitano di essere radicalmente ristrutturati.

Per le donne, l'Italia è la migliore nazione al mondo in cui vivere.

La maggior parte delle politiche relative al genere e alla divisione sessuale del lavoro servono a un bene superiore.

Tutti (uomini o donne) hanno la stessa possibilità di ottenere ricchezza e felicità.

Il sessismo nella società peggiora di anno in anno.

La società è impostata in modo che gli uomini e le donne ottengano di solito ciò che meritano.

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#### *A.7 Political orientation of an ideal leader*

Ti chiediamo ora di pensare ad un leader politico per te ideale nell'affrontare la problematica delle disuguaglianze di genere.



Posiziona il cursore sul punto della barra sottostante che ritieni essere più rappresentativo della tua scelta

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Estrema sinistra (0)	Estrema destra (100)
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Scegliaresti un leader di quale orientamento politico?

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*A.8 Fear of consequences*

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Per niente (0)	Moltissimo (100)
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Quanto temi ripercussioni negative a livello personale a causa delle disuguaglianze di genere?

Quanto temi ripercussioni negative a livello nazionale a causa delle disuguaglianze di genere?

Quanto temi ripercussioni negative a livello mondiale a causa delle disuguaglianze di genere?

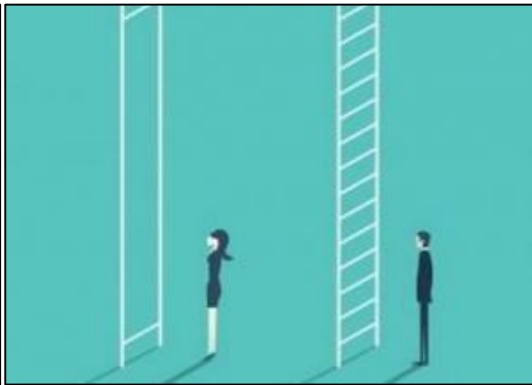
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*A.9 Implicit Association Test*

Gender equality Images



Gender inequality images



## IAT Block 1

<b>Disuguaglianza</b>	<b>Uguaglianza</b>
+	
<p>Posiziona i tuoi indici sui tasti E e I. Nello schermo, in alto, vi sono due categorie: "Disuguaglianza" e "Uguaglianza". Nel compito, compariranno una serie di parole al centro dello schermo.</p> <p>Quando la parola che appare nello schermo appartiene alla categoria di sinistra ("Disuguaglianza"), premi il tasto <b>E</b> il più velocemente possibile. Quando la parola appartiene alla categoria di destra ("Uguaglianza"), premi il tasto <b>I</b> il più velocemente possibile. Se commetti un errore, una <b>X</b> rossa apparirà al centro dello schermo. Scomparirà solo quando correggerai l'errore premendo il tasto della corretta categoria.</p> <p>Ricorda di premere i tasti <i>il più velocemente possibile</i> ed allo stesso tempo cerca di commettere meno errori possibili.</p> <p style="text-align: center;">Quando sei pronto/a, premi la barra spaziatrice per iniziare.</p>	

## IAT Block 2

<b>Spiacevole</b>	<b>Piacevole</b>
+	
<p>Ora, le categorie sono cambiate. In alto a sinistra trovi la categoria "Spiacevole", mentre in alto a destra trovi la categoria "Piacevole", ma le regole rimangono le stesse. Se commetti un errore, una <b>X</b> rossa apparirà al centro dello schermo. Scomparirà solo quando correggerai l'errore premendo il tasto della corretta categoria.</p> <p>Ricorda di premere i tasti <i>il più velocemente possibile</i> ed allo stesso tempo cerca di commettere meno errori possibili.</p> <p style="text-align: center;">Quando sei pronto/a, premi la barra spaziatrice per iniziare.</p>	

### IAT Block 3

<b>Disuguaglianza</b> ○ <b>Spiacevole</b>	<b>Uguaglianza</b> ○ <b>Piacevole</b>
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Ora le quattro categorie ("Disuguaglianza", "Uguaglianza", "Spiacevole", "Piacevole") che hai precedentemente visto separatamente compariranno insieme. Ricorda, ogni parola è adeguata per una sola delle quattro categorie. Le etichette ed il colore delle parole ti aiuteranno a comprendere qual è la corretta categoria.

Premi il tasto **E** per le due categorie in alto a sinistra ("Disuguaglianza" e "Spiacevole") e il tasto **I** per le due categorie in alto a destra ("Uguaglianza" e "Piacevole"). Se commetti un errore, una **X** rossa apparirà al centro dello schermo. Scomparirà solo quando correggerai l'errore premendo il tasto della corretta categoria. Prova ora ad esercitarti con questo breve blocco

Ricorda di premere i tasti *il più velocemente possibile* ed allo stesso tempo cerca di commettere meno errori possibili.

Quando sei pronto/a, premi la barra spaziatrice per iniziare.

### IAT Block 4

<b>Disuguaglianza</b> ○ <b>Spiacevole</b>	<b>Uguaglianza</b> ○ <b>Piacevole</b>
---	---

+

Continua il compito esattamente come lo stavi svolgendo ora. Ricorda, cerca di rispondere il più velocemente possibile ed allo stesso tempo commettere meno errori possibili. Se sbagli, correggi l'errore premendo il tasto della categoria corretta.

Quando sei pronto/a, premi la barra spaziatrice per iniziare.

## IAT Block 5

<b>Uguaglianza</b>	<b>Disuguaglianza</b>
+	
<p>Nota che le categorie di prima ("Disuguaglianza", "Uguaglianza"), sono ora presentate nella posizione opposta ("Uguaglianza", "Disuguaglianza"). Ora esercitati con questa nuova configurazione. Ricorda, cerca di rispondere <i>il più velocemente possibile</i> ed allo stesso tempo commettere meno errori possibili. Se sbagli, correggi l'errore premendo il tasto della categoria corretta.</p> <p>Quando sei pronto/a, premi la barra spaziatrice per iniziare.</p>	

## IAT Block 6

<b>Uguaglianza</b>	<b>Disuguaglianza</b>
○	○
<b>Spiacevole</b>	<b>Piacevole</b>
+	
<p>Nota che le quattro categorie sono state combinate di nuovo, ma con una nuova configurazione ("Uguaglianza", "Spiacevole" e "Disuguaglianza" e "Piacevole"). Ricorda, cerca di rispondere il più velocemente possibile ed allo stesso tempo commettere meno errori possibili. Se sbagli, correggi l'errore premendo il tasto della categoria corretta.</p> <p>Quando sei pronto/a, premi la barra spaziatrice per iniziare.</p>	

<b>Uguaglianza</b> ○ <b>Spiacevole</b>	<b>Disuguaglianza</b> ○ <b>Piacevole</b>
+	
<p>Continua il compito esattamente come lo stavi svolgendo ora. Ricorda, cerca di rispondere il più velocemente possibile ed allo stesso tempo commettere meno errori possibili. Se sbagli, correggi l'errore premendo il tasto della categoria corretta.</p> <p>Quando sei pronto/a, premi la barra spaziatrice per iniziare.</p>	

## Appendix B Study 2

### B.1 Right-Wing Authoritarianism scale (RWA)

Ti chiediamo ora di leggere attentamente le affermazioni che seguono e di indicare per ciascuna il tuo grado di accordo su una scala che va da “completamente in disaccordo” a “completamente d’accordo”. Non esistono risposte giuste o sbagliate, rispondi spontaneamente.

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Completamente in disaccordo (1)	Abbastanza in disaccordo (2)	Né d’accordo, né in disaccordo (3)	Abbastanza d’accordo (4)	Completamente d’accordo (5)
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La gente dovrebbe crearsi un proprio sistema di valori su cosa è morale e immorale e dare meno ascolto a ciò che dicono la Chiesa e il Papa.

Invece che un ulteriore aumento dei diritti civili, al nostro Paese serve soprattutto una inflessibile cura a base di legge e ordine.

Il “posto di una donna” è dovunque essa voglia stare. L’epoca della sottomissione delle donne al marito e alle convenzioni sociali deve finire per sempre.

Un giorno o l’altro scopriremo che avere abbandonato le nostre tradizioni è stato un errore gravissimo.

Nessun crimine, nemmeno il più grave, dovrebbe essere punito con la pena di morte.

L’obbedienza e il rispetto per l’autorità sono i valori più importanti che i bambini dovrebbero imparare.

La legge dovrebbe trattare allo stesso modo il matrimonio e le relazioni stabili fra persone dello stesso sesso.

Il nostro Paese ha soprattutto bisogno di un leader forte e determinato che spazzi via il male e ci riporti sulla retta via.

È molto positivo che oggi i giovani abbiano la libertà di protestare contro ciò che non condividono, e che si costruiscano le proprie regole di comportamento.

È molto meglio essere virtuosi e obbedire alle leggi che mettere sempre in discussione le fondamenta della nostra società.

È importante difendere in ogni modo i diritti di tutti, anche di chi è molto diverso dalla maggioranza o ha idee politiche estremiste.

Per vivere bene servono soprattutto obbedienza e disciplina.

---



### B.2 Social Dominance Orientation scale (SDO)

Seguono una serie di affermazioni. Ti chiediamo di leggerle attentamente e indicare il tuo grado di accordo con ciascuna affermazione, su una scala da "completamente in disaccordo" a "completamente d'accordo".

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Completamente in disaccordo (1)	Abbastanza in disaccordo (2)	Né d'accordo, né in disaccordo (3)	Abbastanza d'accordo (4)	Completamente d'accordo (5)
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Alcuni gruppi di persone sono semplicemente inferiori rispetto ad altri gruppi.

Per ottenere quello che si vuole, talvolta è necessario usare la forza contro altri gruppi.

Per farsi strada nella vita a volte è necessario passare sopra gli altri gruppi.

I gruppi inferiori dovrebbero restare al loro posto.

L'uguaglianza fra i gruppi dovrebbe essere il nostro ideale.

Dovremmo fare il possibile per rendere uguali le condizioni di tutti i gruppi.

Avremmo meno problemi se trattassimo la gente in modo più equo.

Dovremmo sforzarci affinché tutti guadagnino cifre simili.

---

### B.3 Care and Loyalty items of the Moral Foundations Questionnaire (MFQ)

Relevance scale. Quando devi decidere se una cosa è giusta o sbagliata, quanto sono rilevanti per te le seguenti considerazioni? Ti preghiamo di valutare ciascuna affermazione utilizzando la seguente scala di risposta:

---

Per nulla rilevante (1)	Non molto rilevante (2)	Lieve mente rilevante (3)	Un po' rilevante (4)	Molto rilevante (5)	Estremamente rilevante (6)
-------------------------	-------------------------	---------------------------	----------------------	---------------------	----------------------------

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Se qualcuno ha sofferto emotivamente oppure no.

Se qualcuno si è preso cura di una persona debole o vulnerabile oppure no.

Se qualcuno è stato crudele oppure no.

Se qualcuno ha dimostrato mancanza di lealtà oppure no.

Se qualcuno ha fatto qualcosa per tradire il proprio gruppo oppure no.

Se gli atti compiuti hanno mostrato amore per il proprio Paese oppure no.

---

Agreement scale. Per favore leggi le seguenti affermazioni ed indica il tuo grado di accordo o disaccordo:

---

Forte mente in disaccordo (1)	Moderata mente in disaccordo (2)	Lieve mente in disaccordo (3)	Lievemente in accordo (4)	Moderata mente in accordo (5)	Forte mente in accordo (6)
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Una delle peggiori cose che una persona potrebbe fare è far del male ad un animale indifeso.

Non può mai essere giusto uccidere un essere umano.

La compassione per coloro che soffrono è la virtù più importante.

È più importante fare gioco di squadra piuttosto che esprimere se stessi individualmente.

Sono orgoglioso della storia del mio Paese.

Le persone dovrebbero essere leali verso i membri della propria famiglia, anche se questi hanno fatto qualcosa di sbagliato.

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#### *B.4 Self-reported political orientation*

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Vicino alla sinistra (0)	Vicino alla destra (100)
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---

Come consideri il tuo orientamento politico?

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#### *B.5 Manipulation texts*

Vedrai ora l'estratto di un'intervista condotta da una politica locale ad una operatrice sociale che svolge la sua attività presso un'associazione sociale e culturale vicina ai partiti di (*sinistra vs. destra*) con la quale la politica collabora di frequente.

La politica che conduce l'intervista ha preparato questo video al fine di presentare il problema delle disuguaglianze socioeconomiche nella sua prossima campagna politica per le elezioni comunali. L'intervistata è infatti una rappresentante dell'associazione che collabora spesso con il partito della politica.

La politica intervistatrice si candiderà come sindaca in un partito di (*sinistra vs. destra*).

#### Individualising moral frame condition

È arrivato il momento di guardare i volti di questa sofferenza e di indignarci di fronte a ingiustizie e disuguaglianze. È diritto fondamentale di ogni essere umano avere una vita dignitosa. Bisogna dare sostegno e inclusione a chi è stato per troppo tempo dimenticato. Solo una società che si prende cura delle fasce più vulnerabili e che combatte per raggiungere una reale equità è una società che si può ritenere giusta.

Binding moral frame condition

Molti italiani, a causa della crisi, hanno perso il loro onesto lavoro, chiuso aziende di famiglia e, rimasti senza un tetto, rischiano di rimanere vittime dei focolai epidemici che nascono sulla strada. Lo spazio pubblico non deve diventare un pericolo! Mantenere una vita decorosa e la sicurezza delle nostre città deve diventare un impegno di lealtà per tutti noi! Ordine e sicurezza sono ciò che caratterizzano una grande nazione.

*B.6 Agreeableness of the political candidate*

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Per nulla	Moltissimo
(0)	(100)

---

---

Quanto ti è piaciuta l'intervista svolta dalla candidata politica che hai appena visto?

---

---

Assolutamente no	Forse sì	Forse no	Assolutamente sì
(1)	(2)	(3)	(4)

---

---

Ascolteresti altre interviste di questa candidata politica?

---

Per nulla	Moltissimo
(0)	(100)

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---

Quanto ritieni che la candidata politica condivide il tuo punto di vista?

---

Per nulla	Moltissimo
(0)	(100)

---

---

Quanto ti identifichi con la candidata politica?

### *B.7 Economic System Justification scale*

Ti verranno ora presentate delle affermazioni relative invece al nostro sistema economico. Ti chiediamo di indicare il Tuo grado di accordo o disaccordo con ciascuna di esse, ricordando che non esistono risposte giuste o sbagliate. Ti preghiamo di rispondere spontaneamente

---

Forte disaccordo (1)	Abbastanza in disaccordo (2)	Lievemente in disaccordo (3)	Né d'accordo, né in disaccordo (4)	Lievemente d'accordo (5)	Abbastanza d'accordo (6)	Forte accordo (7)
-------------------------	---------------------------------	---------------------------------	---------------------------------------	-----------------------------	-----------------------------	----------------------

---

Ci sono molte ragioni per pensare che il sistema economico attuale sia iniquo.

È virtualmente impossibile eliminare la povertà dalla nostra società.

Molte persone che non fanno carriera nella nostra società non dovrebbero incolpare il sistema sociale, ma soltanto se stesse.

Nella nostra società, una distribuzione equa delle risorse fra le persone è una cosa possibile

Le differenze fra classi sociali riflettono le differenze dell'ordine naturale delle cose.

Le differenze economiche presenti nella società riflettono una distribuzione delle risorse illegittima.

Ci saranno sempre persone povere perché non ci sarà mai abbastanza lavoro per tutti.

La posizione economica di una persona è il riflesso legittimo delle sue "conquiste".

Se le persone volessero cambiare il sistema economico per renderlo più equo, potrebbero farlo.

Una distribuzione equa delle risorse fra le persone non è una cosa naturale.

Non è giusto avere un sistema economico nel quale siano presenti contemporaneamente persone estremamente ricche e persone estremamente povere.

Non c'è motivo di rendere il reddito delle persone più equo

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### *B.8 Political orientation of an ideal leader*

Ti chiediamo ora di pensare ad un leader politico per te ideale nell'affrontare la problematica delle disuguaglianze socioeconomiche.

Posiziona il cursore sul punto della barra sottostante che ritieni essere più rappresentativo della tua scelta

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Estrema sinistra (0)	Estrema destra (100)
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*B.9 Fear of consequences*

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Per niente (0)	Moltissimo (100)
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Quanto temi ripercussioni negative a livello personale a causa delle disuguaglianze socioeconomiche?

Quanto temi ripercussioni negative a livello nazionale a causa delle disuguaglianze socioeconomiche?

Quanto temi ripercussioni negative a livello mondiale a causa delle disuguaglianze socioeconomiche?

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## Appendix C Study 3

### C.1 Self-reported political orientation

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Vicino alla sinistra (0)	Vicino alla destra (100)
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Come consideri il tuo orientamento politico?

Per quanto riguarda le tematiche economiche (es. tasse, spesa pubblica, intervento dello Stato sul privato...) ti consideri una persona:

Per quanto riguarda le tematiche sociali (es. diritti civili, immigrazione, assistenza ai bisognosi...) ti consideri una persona:

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### C.2 Right-Wing Authoritarianism scale (RWA)

Ti chiediamo ora di leggere attentamente le affermazioni che seguono e di indicare per ciascuna il tuo grado di accordo su una scala che va da “completamente in disaccordo” a “completamente d’accordo”. Non esistono risposte giuste o sbagliate, rispondi spontaneamente.

---

Completa mente in disaccordo (1)	Abbastanza in disaccordo (2)	Né d’accordo, né in disaccordo (3)	Abbastanza d’accordo (4)	Completa mente d’accordo (5)
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La gente dovrebbe crearsi un proprio sistema di valori su cosa è morale e immorale e dare meno ascolto a ciò che dicono la Chiesa e il Papa.

Invece che un ulteriore aumento dei diritti civili, al nostro Paese serve soprattutto una inflessibile cura a base di legge e ordine.

Il “posto di una donna” è dovunque essa voglia stare. L’epoca della sottomissione delle donne al marito e alle convenzioni sociali deve finire per sempre.

Un giorno o l’altro scopriremo che avere abbandonato le nostre tradizioni è stato un errore gravissimo.

Nessun crimine, nemmeno il più grave, dovrebbe essere punito con la pena di morte.

L’obbedienza e il rispetto per l’autorità sono i valori più importanti che i bambini dovrebbero imparare.

La legge dovrebbe trattare allo stesso modo il matrimonio e le relazioni stabili fra persone dello stesso sesso.

Il nostro Paese ha soprattutto bisogno di un leader forte e determinato che spazzi via il male e ci riporti sulla retta via.

È molto positivo che oggi i giovani abbiano la libertà di protestare contro ciò che non condividono, e che si costruiscano le proprie regole di comportamento.

È molto meglio essere virtuosi e obbedire alle leggi che mettere sempre in discussione le fondamenta della nostra società.

È importante difendere in ogni modo i diritti di tutti, anche di chi è molto diverso dalla maggioranza o ha idee politiche estremiste.

Per vivere bene servono soprattutto obbedienza e disciplina.

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### *C.3 Social Dominance Orientation scale (SDO)*

Seguono una serie di affermazioni. Ti chiediamo di leggerle attentamente e indicare il tuo grado di accordo con ciascuna affermazione, su una scala da "completamente in disaccordo" a "completamente d'accordo".

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Completa mente in disaccordo (1)	Abbastanza in disaccordo (2)	Né d'accordo, né in disaccordo (3)	Abbastanza d'accordo (4)	Completa mente d'accordo (5)
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Alcuni gruppi di persone sono semplicemente inferiori rispetto ad altri gruppi.

Per ottenere quello che si vuole, talvolta è necessario usare la forza contro altri gruppi.

Per farsi strada nella vita a volte è necessario passare sopra gli altri gruppi.

I gruppi inferiori dovrebbero restare al loro posto.

L'uguaglianza fra i gruppi dovrebbe essere il nostro ideale.

Dovremmo fare il possibile per rendere uguali le condizioni di tutti i gruppi.

Avremmo meno problemi se trattassimo la gente in modo più equo.

Dovremmo sforzarci affinché tutti guadagnino cifre simili.

---

### *C.4 Relevance subscale of the Moral Foundations Questionnaire (MFQ)*

Quando devi decidere se una cosa è giusta o sbagliata, quanto sono rilevanti per te le seguenti considerazioni? Ti preghiamo di valutare ciascuna affermazione utilizzando la seguente scala di risposta:

Per nulla rilevante (1)	Non molto rilevante (2)	Lieve mente rilevante (3)	Un po' rilevante (4)	Molto rilevante (5)	Estrema mente rilevante (6)
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Se qualcuno ha sofferto emotivamente oppure no.

Se qualcuno si è preso cura di una persona debole o vulnerabile oppure no.

Se qualcuno è stato crudele oppure no.

Se qualcuno ha dimostrato mancanza di lealtà oppure no.

Se qualcuno ha fatto qualcosa per tradire il proprio gruppo oppure no.

Se gli atti compiuti hanno mostrato amore per il proprio Paese oppure no.

Se alcune persone sono state trattate in modo differente da altre oppure no.

Se qualcuno ha agito in modo ingiusto oppure no.

Se a qualcuno sono stati negati i propri diritti oppure no.

Se qualcuno ha mostrato una mancanza di rispetto per l'autorità oppure no.

Se qualcuno si è adeguato alle tradizioni della società oppure no.

Se un'azione ha causato caos o disordine oppure no.

Se qualcuno ha violato le norme di purezza e decenza oppure no.

Se qualcuno ha fatto qualcosa di ripugnante oppure no.

Se qualcuno ha agito in un modo che Dio approverebbe oppure no.

### *C.5 Manipulation texts*

#### Individualising moral frame condition

È arrivato il momento di guardare i volti di questa sofferenza e di indignarci di fronte a ingiustizie e disuguaglianze. È diritto fondamentale di ogni essere umano avere una vita dignitosa. Bisogna dare sostegno e inclusione a chi è stato per troppo tempo dimenticato.

Solo una società che si prende cura delle fasce più vulnerabili e che combatte per raggiungere una reale equità è una società che si può ritenere giusta.

#### Binding moral frame condition

Molti italiani, a causa della crisi, hanno perso il loro onesto lavoro, chiuso aziende di famiglia e, rimasti senza un tetto, rischiano di rimanere vittime dei focolai epidemici che nascono sulla



strada. Lo spazio pubblico non deve diventare un pericolo! Mantenere una vita decorosa e la sicurezza delle nostre città deve diventare un impegno di lealtà per tutti noi! Ordine e sicurezza sono ciò che caratterizzano una grande nazione.

### *C.6 Economic System Justification scale*

Ti verranno ora presentate delle affermazioni relative invece al nostro sistema economico. Ti chiediamo di indicare il Tuo grado di accordo o disaccordo con ciascuna di esse, ricordando che non esistono risposte giuste o sbagliate. Ti preghiamo di rispondere spontaneamente

---

Forte disaccordo (1)	Abbastanza in disaccordo (2)	Lievemente in disaccordo (3)	Né d'accordo, né in disaccordo (4)	Lievemente d'accordo (5)	Abbastanza d'accordo (6)	Forte accordo (7)
-------------------------	---------------------------------	---------------------------------	---------------------------------------	-----------------------------	-----------------------------	----------------------

---

Ci sono molte ragioni per pensare che il sistema economico attuale sia iniquo.

È virtualmente impossibile eliminare la povertà dalla nostra società.

Molte persone che non fanno carriera nella nostra società non dovrebbero incolpare il sistema sociale, ma soltanto se stesse.

Nella nostra società, una distribuzione equa delle risorse fra le persone è una cosa possibile

Le differenze fra classi sociali riflettono le differenze dell'ordine naturale delle cose.

Le differenze economiche presenti nella società riflettono una distribuzione delle risorse illegittima.

Ci saranno sempre persone povere perché non ci sarà mai abbastanza lavoro per tutti.

La posizione economica di una persona è il riflesso legittimo delle sue "conquiste".

Se le persone volessero cambiare il sistema economico per renderlo più equo, potrebbero farlo.

Una distribuzione equa delle risorse fra le persone non è una cosa naturale.

Non è giusto avere un sistema economico nel quale siano presenti contemporaneamente persone estremamente ricche e persone estremamente povere.

Non c'è motivo di rendere il reddito delle persone più equo

---

*C.7 Political orientation of an ideal leader*

Ti chiediamo ora di pensare ad un leader politico per te ideale nell'affrontare la problematica delle disuguaglianze socioeconomiche.

Posiziona il cursore sul punto della barra sottostante che ritieni essere più rappresentativo della tua scelta

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Estrema sinistra (0)	Estrema destra (100)
----------------------------	----------------------------

---

*C.8 Fear of consequences*

---

Per niente (0)	Moltissimo (100)
-------------------	---------------------

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---

Quanto temi ripercussioni negative a livello personale a causa delle disuguaglianze socioeconomiche?

Quanto temi ripercussioni negative a livello nazionale a causa delle disuguaglianze socioeconomiche?

Quanto temi ripercussioni negative a livello mondiale a causa delle disuguaglianze socioeconomiche?

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*C.9 Visual Approach and Avoidance to the Self Task (VAAST)*

Socioeconomic equality images





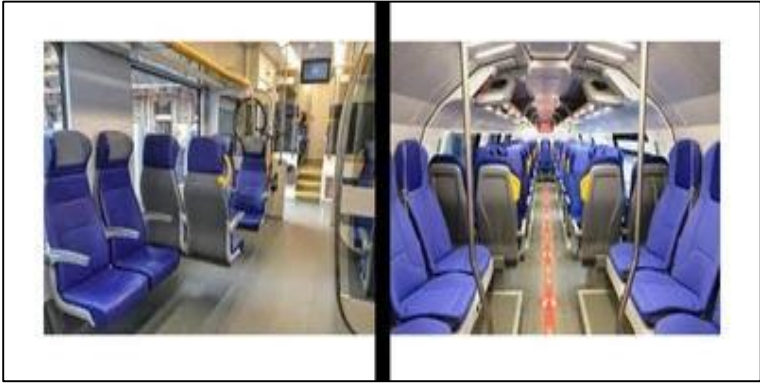






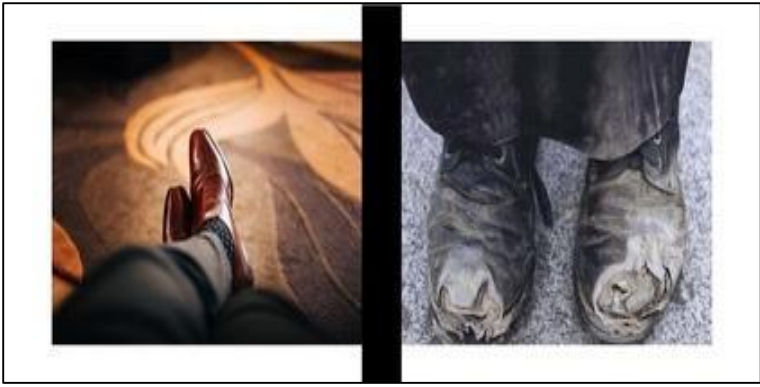






Socioeconomic inequality images















### Instructions

#### *First Block*

Durante questo compito, come in un videogioco, ti troverai in un ambiente in cui potrai andare avanti o indietro. Visualizzerai una serie di immagini in questo ambiente e il tuo compito sarà quello di spostarti avanti o indietro in funzione delle immagini (seguiranno istruzioni più specifiche). Sarai in grado di muoverti nell'ambiente utilizzando i seguenti tasti della tastiera: Y = per MUOVERTI IN AVANTI, H = tasto di INIZIO, N = per MUOVERTI INDIETRO. All'inizio di ogni prova, vedrai il simbolo O. Questo simbolo indica che devi premere il tasto di INIZIO (tasto H) per iniziare la prova. Successivamente, vedrai una croce di fissazione (+) al centro dello schermo, seguita da un'immagine. Il tuo compito è quello di muoverti in avanti o indietro premendo il tasto per MUOVERTI IN AVANTI (tasto Y) o il

tasto per MUOVERTI INDIETRO (tasto N) il più velocemente possibile. Per favore, usa solo l'indice della tua mano dominante per svolgere tutte queste azioni.

In questa sessione dovrai: Avvicinarti (muoverti in avanti) alle immagini di Società Egalitaria (vs. *Società Disuguale*) premendo il tasto Y e Allontanarti (muoverti indietro) dalle immagini di Società Disuguale (vs. *Società Egalitaria*) premendo il tasto N. Inizierai con una fase di allenamento. ATTENZIONE: segnaleremo i tuoi errori SOLO nella fase di allenamento; quindi, leggi e memorizza le istruzioni riportate qui sopra. È ESTREMAMENTE IMPORTANTE che cerchi di rispondere il più velocemente possibile.

*End of training for Block*

L'allenamento è completato. ATTENZIONE: Non riceverai più messaggi che segnalano i tuoi errori.

*Second Block*

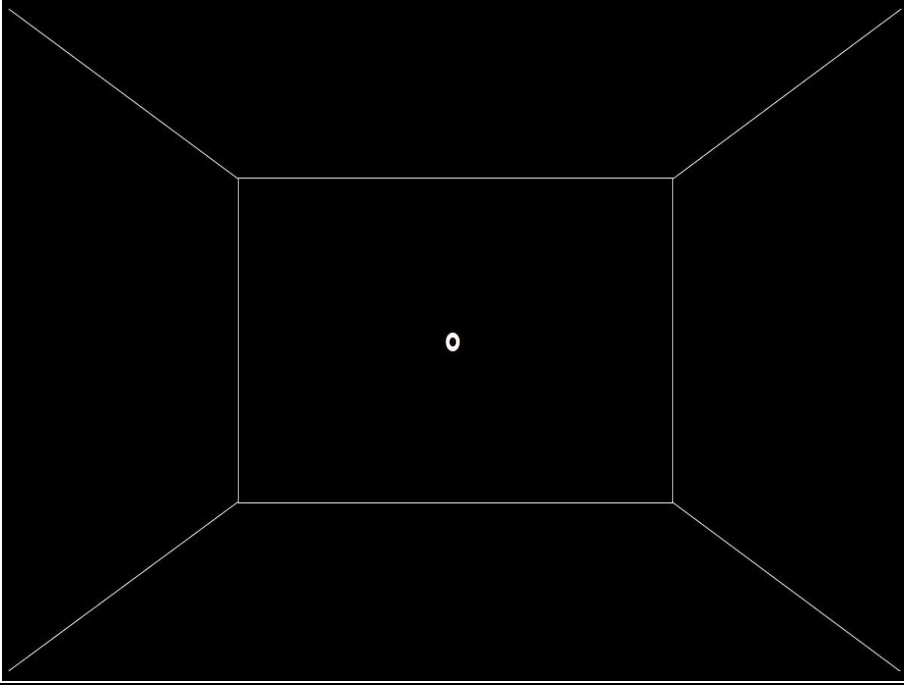
Questa sezione è completata, adesso inizierai una seconda sessione. Dovrai: Avvicinarti (muoverti in avanti) alle immagini di Società Disuguale (vs. *Società Egalitaria*) premendo il tasto Y e Allontanarti (muoverti indietro) dalle immagini di Società Egalitaria (vs. *Società Disuguale*) premendo il tasto N. Inizierai con una fase di allenamento. ATTENZIONE: segnaleremo i tuoi errori SOLO nella fase di allenamento; quindi, leggi e memorizza le istruzioni riportate qui sopra. È ESTREMAMENTE IMPORTANTE che cerchi di rispondere il più velocemente possibile.

*End of training second Block*

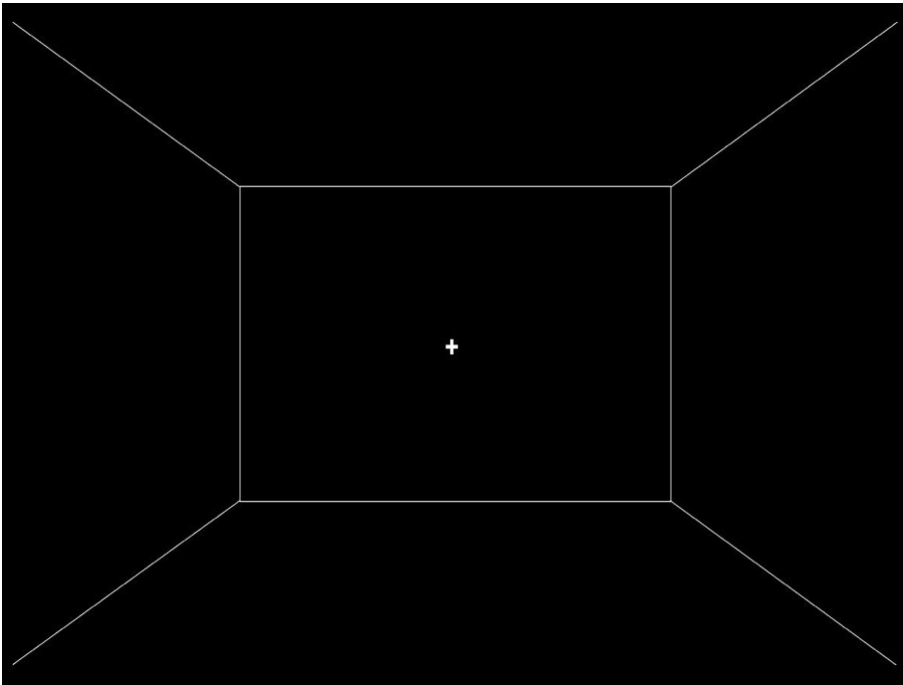
L'allenamento è completato. ATTENZIONE: Non riceverai più messaggi che segnalano i tuoi errori.

Starting trial





Point of fixation



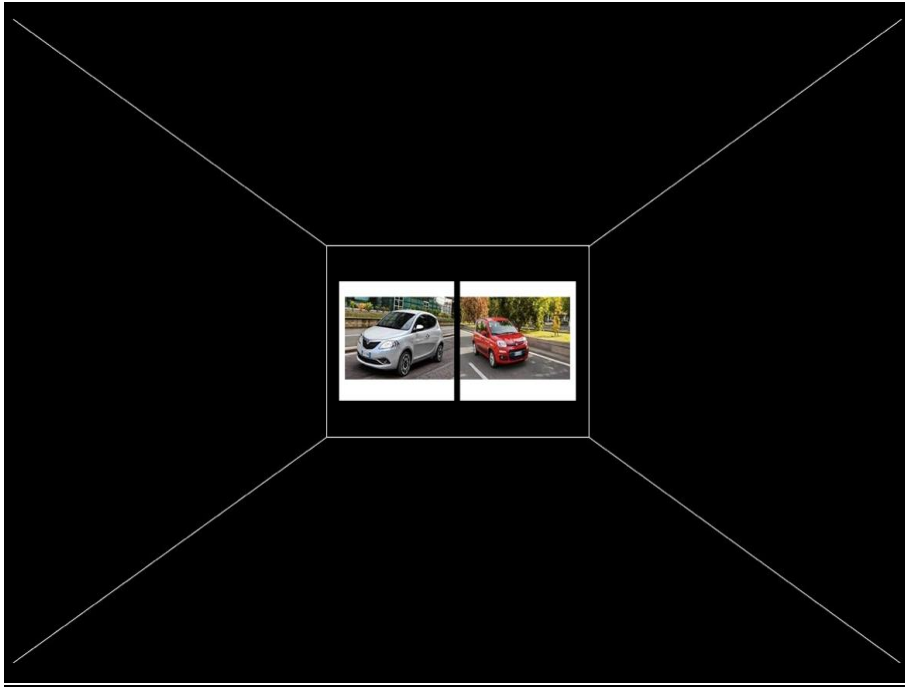
Starting image



Approach animation



Avoidance animation



## Appendix D Study 4

### *D.1 Attitudes towards the urgency of climate change subscale from Attitudes towards Climate Change and Science Instrument scale (ACSI)*

Please, read carefully the affirmations below. For each of them, indicate your degree of agreement from "strongly disagree" to "strongly agree".

Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
People should care more about climate change.				
Climate change should be given top priority.				
It is annoying to see people do nothing for the climate change problems.				
People worry too much about climate change.				
The seriousness of climate change has been exaggerated.				
Climate change is a threat to the world.				

### *D.2 Fear of the consequences of the environmental crisis*

At all (0)	A lot (100)
How much do you fear consequences at a personal level due to the environmental crisis?	
How much do you fear consequences at a national level due to the environmental crisis?	
How much do you fear consequences at a global level due to the environmental crisis?	

### *D.3 Pro-environmental behaviour scale*

Please, read carefully the affirmations below. For each of them, indicate your intention for the future:

Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Not applicable (-)
I will recycle paper, plastic, metal and glass.					
I will reduce the waste of water.					

I will wait until I have a full load before doing my laundry.

When possible in nearby areas, I will use public transportation or ride a bike.

I will use my own bag in supermarkets instead of plastic bags.

I will use my own water bottle instead of buying a plastic bottle of water.

I will buy loose products instead of packaged ones.

---

#### *D.4 Right-Wing Authoritarianism scale (RWA)*

Please, read carefully the affirmations below. For each of them, indicate your degree of agreement from "strongly disagree" to "strongly agree".

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Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
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---

Our country needs a powerful leader, in order to destroy the radical and immoral currents prevailing in society today.

Our country needs free thinkers, who will have the courage to stand up against traditional ways, even if this upsets many people.

The “old-fashioned ways” and “old-fashioned values” still show the best way to live.

Our society would be better off if we showed tolerance and understanding for untraditional values and opinions.

Religious laws about abortion, pornography and marriage must be strictly followed before it is too late, violations must be punished.

The society needs to show openness towards people thinking differently, rather than a strong leader, the world is not particularly evil or dangerous.

It would be best if newspapers were censored so that people would not be able to get hold of destructive and disgusting material.

Many good people challenge the state, criticize the principle of their religion and ignore “the normal way of living”.

Our forefathers ought to be honoured more for the way they have built our society, at the same time we ought to put an end to those forces destroying it.

People ought to put less attention to the religion, instead they ought to develop their own moral standards.

There are many radical, immoral people trying to ruin things; the society ought to stop them.

It is better to accept bad literature than to censor it.

Facts show that we have to be harder against crime and sexual immorality, in order to uphold law and order.

The situation in the society of today would be improved if troublemakers were treated with reason and humanity.

If the society so wants, it is the duty of every true citizen to help eliminate the evil that poisons our country from within.

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#### *D.5 Social Dominance Orientation scale (SDO)*

Show how much you favour or oppose each idea below from "strongly disagree" to "strongly agree"

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Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
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Some groups of people must be kept in their place.

It's probably a good thing that certain groups are at the top and other groups are at the bottom.

An ideal society requires some groups to be on top and others to be on the bottom.

Some groups of people are simply inferior to other groups.

Groups at the bottom are just as deserving as groups at the top.

No one group should dominate in society.

Groups at the bottom should not have to stay in their place.

Group dominance is a poor principle.

We should not push for group equality.

We shouldn't try to guarantee that every group has the same quality of life.

It is unjust to try to make groups equal.

Group equality should not be our primary goal.

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#### *D.6 Moral Foundations Questionnaire (MFQ)*

When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking?

Not at all relevant (1)	Irrelevant (2)	Neither relevant nor irrelevant (3)	Relevant (4)	Extremely relevant (5)
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- Whether or not someone suffered emotionally
- Whether or not some people were treated differently than others
- Whether or not someone's action showed love for his or her country
- Whether or not someone showed a lack of respect for authority
- Whether or not someone violated standards of purity and decency
- Whether or not someone cared for someone weak or vulnerable
- Whether or not someone acted unfairly
- Whether or not someone did something to betray his or her group
- Whether or not someone conformed to the traditions of society
- Whether or not someone did something disgusting
- Whether or not someone was cruel
- Whether or not someone was denied his or her rights
- Whether or not someone showed a lack of loyalty
- Whether or not an action caused chaos or disorder
- Whether or not someone acted in a way that God would approve of

Please read the following sentences and indicate your agreement or disagreement:

Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
-----------------------	--------------	--------------------------------	-----------	--------------------

- Compassion for those who are suffering is the most crucial virtue
- When the government makes laws, the number one principle should be ensuring that everyone is treated fairly.
- I am proud of my country's history.
- Respect for authority is something all children need to learn.
- People should not do things that are disgusting, even if no one is harmed.
- One of the worst things a person could do is hurt a defenceless animal.

Justice is the most important requirement for a society.

People should be loyal to their family members, even when they have done something wrong.

Men and women each have different roles to play in society.

I would call some acts wrong on the grounds that they are unnatural.

It can never be right to kill a human being.

I think it's morally wrong that rich children inherit a lot of money while poor children inherit nothing.

It is more important to be a team player than to express oneself.

If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty.

Chastity is an important and valuable virtue.

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*D.7 Self-reported political orientation.*

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Close to progressive/left- wing policies (0)	Close to conservative/right- wing policies (100)
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How do you consider your political orientation?

Concerning economic issues (e.g., taxes, public spending, state intervention in the economy) are you more...

Concerning social issues (e.g., civil rights, immigration, assistance to those in need) are you more...

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## Appendix E Study 5

### E.1 Self-reported political orientation

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Vicino alla sinistra (0)	Vicino alla destra (100)
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Come consideri il tuo orientamento politico?

Per quanto riguarda le tematiche economiche (es. tasse, spesa pubblica, intervento dello Stato sul privato...) ti consideri una persona:

Per quanto riguarda le tematiche sociali (es. diritti civili, immigrazione, assistenza ai bisognosi...) ti consideri una persona:

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### E.2 Right-Wing Authoritarianism scale (RWA)

Ti chiediamo ora di leggere attentamente le affermazioni che seguono e di indicare per ciascuna il tuo grado di accordo su una scala che va da “completamente in disaccordo” a “completamente d’accordo”. Non esistono risposte giuste o sbagliate, rispondi spontaneamente.

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Completamente in disaccordo (1)	Abbastanza in disaccordo (2)	Né d’accordo, né in disaccordo (3)	Abbastanza d’accordo (4)	Completamente d’accordo (5)
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La gente dovrebbe crearsi un proprio sistema di valori su cosa è morale e immorale e dare meno ascolto a ciò che dicono la Chiesa e il Papa.

Invece che un ulteriore aumento dei diritti civili, al nostro Paese serve soprattutto una inflessibile cura a base di legge e ordine.

Il “posto di una donna” è dovunque essa voglia stare. L’epoca della sottomissione delle donne al marito e alle convenzioni sociali deve finire per sempre.

Un giorno o l’altro scopriremo che avere abbandonato le nostre tradizioni è stato un errore gravissimo.

Nessun crimine, nemmeno il più grave, dovrebbe essere punito con la pena di morte.

L’obbedienza e il rispetto per l’autorità sono i valori più importanti che i bambini dovrebbero imparare.

La legge dovrebbe trattare allo stesso modo il matrimonio e le relazioni stabili fra persone dello stesso sesso.

Il nostro Paese ha soprattutto bisogno di un leader forte e determinato che spazzi via il male e ci riporti sulla retta via.

È molto positivo che oggi i giovani abbiano la libertà di protestare contro ciò che non condividono, e che si costruiscano le proprie regole di comportamento.

È molto meglio essere virtuosi e obbedire alle leggi che mettere sempre in discussione le fondamenta della nostra società.

È importante difendere in ogni modo i diritti di tutti, anche di chi è molto diverso dalla maggioranza o ha idee politiche estremiste.

Per vivere bene servono soprattutto obbedienza e disciplina.

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### *E.3 Social Dominance Orientation scale (SDO)*

Seguono una serie di affermazioni. Ti chiediamo di leggerle attentamente e indicare il tuo grado di accordo con ciascuna affermazione, su una scala da "completamente in disaccordo" a "completamente d'accordo".

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Completa mente in disaccordo (1)	Abbastanza in disaccordo (2)	Né d'accordo, né in disaccordo (3)	Abbastanza d'accordo (4)	Completa mente d'accordo (5)
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Alcuni gruppi di persone sono semplicemente inferiori rispetto ad altri gruppi.

Per ottenere quello che si vuole, talvolta è necessario usare la forza contro altri gruppi.

Per farsi strada nella vita a volte è necessario passare sopra gli altri gruppi.

I gruppi inferiori dovrebbero restare al loro posto.

L'uguaglianza fra i gruppi dovrebbe essere il nostro ideale.

Dovremmo fare il possibile per rendere uguali le condizioni di tutti i gruppi.

Avremmo meno problemi se trattassimo la gente in modo più equo.

Dovremmo sforzarci affinché tutti guadagnino cifre simili.

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### *E.4 Care and Loyalty items of the Moral Foundations Questionnaire (MFQ)*

Relevance scale. Quando devi decidere se una cosa è giusta o sbagliata, quanto sono rilevanti per te le seguenti considerazioni? Ti preghiamo di valutare ciascuna affermazione utilizzando la seguente scala di risposta:

Per nulla rilevante (1)	Non molto rilevante (2)	Lieve mente rilevante (3)	Un po' rilevante (4)	Molto rilevante (5)	Estrema mente rilevante (6)
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Se qualcuno ha sofferto emotivamente oppure no.

Se qualcuno si è preso cura di una persona debole o vulnerabile oppure no.

Se qualcuno è stato crudele oppure no.

Se qualcuno ha dimostrato mancanza di lealtà oppure no.

Se qualcuno ha fatto qualcosa per tradire il proprio gruppo oppure no.

Se gli atti compiuti hanno mostrato amore per il proprio Paese oppure no.

Agreement scale. Per favore leggi le seguenti affermazioni ed indica il tuo grado di accordo o disaccordo:

Forte mente in disaccordo (1)	Moderata mente in disaccordo (2)	Lieve mente in disaccordo (3)	Lievemente in accordo (4)	Moderata mente in accordo (5)	Forte mente in accordo (6)
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Una delle peggiori cose che una persona potrebbe fare è far del male ad un animale indifeso.

Non può mai essere giusto uccidere un essere umano.

La compassione per coloro che soffrono è la virtù più importante.

È più importante fare gioco di squadra piuttosto che esprimere se stessi individualmente.

Sono orgoglioso della storia del mio Paese.

Le persone dovrebbero essere leali verso i membri della propria famiglia, anche se questi hanno fatto qualcosa di sbagliato.

### *E.5 Manipulation texts*

#### Individualising moral frame condition

L'integrazione è fondamentale per il bene del prossimo e perché garantisce il rispetto dei diritti civili. Gli immigrati sono persone che hanno bisogno di sostegno per riuscire ad integrarsi, è fondamentale un impegno collettivo da parte di tutti i cittadini italiani e questa è

una sfida che in una società giusta non ci può lasciare indifferenti. Ci stanno chiedendo protezione e la possibilità di provare a costruirsi un futuro, non possiamo voltare le spalle all'umanità.

Binding moral frame condition

L'integrazione è fondamentale per la gloria e la sicurezza della collettività. Gestire e regolarizzare l'incontrollato flusso di immigrati attraverso un lavoro onesto a servizio dello stato, solo così l'integrazione è possibile. L'immigrazione legale e ben gestita può essere una risorsa importante per lo sviluppo economico e sociale del nostro paese e solo così si può restituire ordine all'Italia. Non possiamo ignorare il problema senza metterci mano, non possiamo lasciare lo stato in balia del caos.

*E.6 Negative Attitude Towards the Immigrants Scale (NATIS)*

Seguono una serie di affermazioni. Ti chiediamo di leggerle attentamente e indicare il tuo grado di accordo con ciascuna affermazione, su una scala da "completamente in disaccordo" a "completamente d'accordo".

Completamente in disaccordo (1)	In disaccordo (2)	Né in accordo, né in disaccordo (3)	D'accordo (4)	Completamente d'accordo (5)
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Gli immigrati dovrebbero avere gli stessi diritti dei cittadini nativi

Gli immigrati non hanno ragioni valide per abbandonare il loro paese natale

I grandi gruppi di immigrati sono pericolosi

Gli immigrati portano i problemi del loro paese natale in Italia

Gli immigrati sono un peso per i contribuenti italiani

Permettere alle persone di immigrare in Italia è una cattiva idea

Gli immigrati non vogliono mai tornare nel loro paese d'origine

Le culture di appartenenza degli immigrati diluiscono la cultura italiana

Gli immigrati sono una minaccia per la sicurezza nazionale

Gli immigrati non sono intelligenti quanto gli italiani

Gli immigrati ottengono un trattamento preferenziale rispetto ai cittadini

Ci sono troppi immigrati in Italia

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*E.7 Political orientation of an ideal leader*

Ti chiediamo ora di pensare ad un leader politico per te ideale nell'affrontare la problematica delle disuguaglianze di genere.

Posiziona il cursore sul punto della barra sottostante che ritieni essere più rappresentativo della tua scelta

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Estrema sinistra (0)	Estrema destra (100)
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*E.8 Fear of consequences*

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Per niente (0)	Moltissimo (100)
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Quanto temi ripercussioni negative a livello personale a causa dell'immigrazione?

Quanto temi ripercussioni negative a livello nazionale a causa dell'immigrazione?

Quanto temi ripercussioni negative a livello mondiale a causa dell'immigrazione?

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## E.9 Implicit Association Test (IAT)

### IAT Block 1

Nomi Stranieri	Nomi Italiani
<p>Posiziona i tuoi indici sui tasti E e I. Nello schermo <b>+</b>, in alto, vi sono due categorie: "Nomi Stranieri" e "Nomi Italiani". Nel compito, compariranno una serie di parole al centro dello schermo.</p>	
<p>Quando la parola che appare nello schermo appartiene alla categoria di sinistra ("Nomi Stranieri"), premi il tasto <b>E</b> il più velocemente possibile. Quando la parola appartiene alla categoria di destra ("Nomi Italiani"), premi il tasto <b>I</b> il più velocemente possibile. Se commetti un errore, una <b>X</b> rossa apparirà al centro dello schermo. Scomparirà solo quando correggerai l'errore premendo il tasto della corretta categoria.</p>	
<p>Ricorda di premere i tasti <i>il più velocemente possibile</i> ed allo stesso tempo cerca di commettere meno errori possibili.</p>	
<p>Quando sei pronto/a, premi la barra spaziatrice per iniziare.</p>	

### IAT Block 2

Spiacevole	Piacevole
<p><b>+</b></p>	
<p>Ora, le categorie sono cambiate. In alto a sinistra trovi la categoria "Spiacevole", mentre in alto a destra trovi la categoria "Piacevole", ma le regole rimangono le stesse. Se commetti un errore, una <b>X</b> rossa apparirà al centro dello schermo. Scomparirà solo quando correggerai l'errore premendo il tasto della corretta categoria.</p>	
<p>Ricorda di premere i tasti <i>il più velocemente possibile</i> ed allo stesso tempo cerca di commettere meno errori possibili.</p>	
<p>Quando sei pronto/a, premi la barra spaziatrice per iniziare.</p>	

### IAT Block 3

<b>Nomi Stranieri</b>	<b>Nomi Italiani</b>
○	○
<b>Spiacevole</b>	<b>Piacevole</b>
+	
<p>Ora le quattro categorie ("Nomi Stranieri", "Nomi Italiani", "Spiacevole", "Piacevole") che hai precedentemente visto separatamente compariranno insieme. Ricorda, ogni parola è adeguata per una sola delle quattro categorie. Le etichette ed il colore delle parole ti aiuteranno a comprendere qual è la corretta categoria.</p> <p>Premi il tasto <b>E</b> per le due categorie in alto a sinistra ("Nomi Stranieri " e "Spiacevole") e il tasto <b>I</b> per le due categorie in alto a destra ("Nomi Italiani" e "Piacevole"). Se commetti un errore, una <b>X</b> rossa apparirà al centro dello schermo. Scomparirà solo quando correggerai l'errore premendo il tasto della corretta categoria. Prova ora ad esercitarti con questo breve blocco</p> <p>Ricorda di premere i tasti <i>il più velocemente possibile</i> ed allo stesso tempo cerca di commettere meno errori possibili.</p> <p>Quando sei pronto/a, premi la barra spaziatrice per iniziare.</p>	

### IAT Block 4

<b>Nomi Stranieri</b>	<b>Nomi Italiani</b>
○	○
<b>Spiacevole</b>	<b>Piacevole</b>
+	
<p>Continua il compito esattamente come lo stavi svolgendo ora. Ricorda, cerca di rispondere il più velocemente possibile ed allo stesso tempo commettere meno errori possibili. Se sbagli, correggi l'errore premendo il tasto della categoria corretta.</p> <p>Quando sei pronto/a, premi la barra spaziatrice per iniziare.</p>	

## IAT Block 5

<b>Nomi Italiani</b>	<b>Nomi Stranieri</b>
+	
<p>Nota che le categorie di prima ("Nomi Stranieri", "Nomi Italiani"), sono ora presentate nella posizione opposta ("Nomi Italiani", "Nomi Stranieri"). Ora esercitati con questa nuova configurazione. Ricorda, cerca di rispondere <i>il più velocemente possibile</i> ed allo stesso tempo commettere meno errori possibili. Se sbagli, correggi l'errore premendo il tasto della categoria corretta.</p> <p>Quando sei pronto/a, premi la barra spaziatrice per iniziare.</p>	

## IAT Block 6

<b>Nomi Italiani</b> ○ <b>Spiacevole</b>	<b>Nomi Stranieri</b> ○ <b>Piacevole</b>
+	
<p>Nota che le quattro categorie sono state combinate di nuovo, ma con una nuova configurazione ("Nomi Italiani", "Spiacevole" e "Nomi Stranieri" e "Piacevole"). Ricorda, cerca di rispondere il più velocemente possibile ed allo stesso tempo commettere meno errori possibili. Se sbagli, correggi l'errore premendo il tasto della categoria corretta.</p> <p>Quando sei pronto/a, premi la barra spaziatrice per iniziare.</p>	



**Nomi Italiani**



**Spiacevole**

**Nomi Stranieri**



**Piacevole**



Continua il compito esattamente come lo stavi svolgendo ora. Ricorda, cerca di rispondere il più velocemente possibile ed allo stesso tempo commettere meno errori possibili. Se sbagli, correggi l'errore premendo il tasto della categoria corretta.

Quando sei pronto/a, premi la barra spaziatrice per iniziare.