

Moral foundations and political attitudes: The moderating role of political sophistication

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Political attitudes can be associated with moral concerns. This research investigated whether people's level of political sophistication moderates this association. Based on the Moral Foundations Theory, this article examined whether political sophistication moderates the extent to which reliance on moral foundations, as categories of moral concerns, predicts judgements about policy positions. With this aim, two studies examined four policy positions shown by previous research to be best predicted by the endorsement of Sanctity, that is, the category of moral concerns focused on the preservation of physical and spiritual purity. The results showed that reliance on Sanctity predicted political sophisticates' judgements, as opposed to those of unsophisticates, on policy positions dealing with equal rights for same-sex and unmarried couples and with euthanasia. Political sophistication also interacted with Fairness endorsement, which includes moral concerns for equal treatment of everybody and reciprocity, in predicting judgements about equal rights for unmarried couples, and interacted with reliance on Authority, which includes moral concerns for obedience and respect for traditional authorities, in predicting opposition to stem cell research. Those findings suggest that, at least for these particular issues, endorsement of moral foundations can be associated with political attitudes more strongly among sophisticates than unsophisticates.

Keywords: Moral foundations; Political sophistication; Political attitudes; Motivated reasoning.

Many political attitudes are about morally laden issues. Moral foundations, as categories of moral concerns, are associated with political attitudes (e.g. Haidt, Graham, & Joseph, 2009; Koleva, Graham, Iyer, Ditto, & Haidt, 2012). This study investigates whether people's level of interest in politics and their knowledge thereof (i.e. their political sophistication) moderate the extent to which their judgements regarding political issues are aligned with their moral foundation endorsement.

Moral foundations and political attitudes

Based on the social intuitionist approach to moral judgement (Haidt, 2001), the Moral Foundations Theory (MFT) describes moral foundations as “taste receptors of moral sense” (Haidt et al., 2009, p. 112) producing immediate and automatic reactions of moral liking and disliking in response to social and political stimuli. In this view, moral intuitions automatically produce moral judgements about political issues; moral reasoning follows *ex post*

facto, when needed, usually interpersonally, rather than privately. Typically, people engage in moral reasoning *post-hoc* in order to explain, defend and justify their moral reactions when questioned by others. Therefore, moral reasoning is strongly biased by relatedness and coherence motives, that is by the motivation to agree with friends and allies and by the motivation to defend already made moral judgements against others who challenge them. Consequently, people's moral reasoning is more likely to support their existing moral intuitions, rather than generate logically compelling arguments (Liu & Ditto, 2013; Mercier & Sperber, 2011).

According to the MFT, moral intuitions guiding judgements of right and wrong typically fall into five categories (e.g. Graham et al., 2013): (a) The Care/Harm foundation,¹ corresponding to moral concerns about caring and protecting vulnerable individuals from harm; (b) the Fairness/Cheating foundation, comprising moral concerns about reciprocity, cooperation and justice; (c) the Loyalty/Betrayal foundation, related

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¹Before 2012, labels of moral foundations differed slightly.

to moral concerns about loyalty and trust in in-group members and distrust of out-group members; (d) the Authority/Subversion foundation, which includes moral concerns about hierarchies and respect for authority and (e) the Sanctity/Degradation foundation, comprising moral concerns about physical and spiritual purity.

Moral foundations are related both to simple ratings of morality (e.g. the moral acceptability of same-sex marriage) and to deliberate judgements about contested policy positions (e.g. choosing which of three positions on same-sex marriage is closest to one's views), even after controlling for political orientation (Graham et al., 2011; Koleva et al., 2012). The best foundation predictor of a given position is not always the one that is most frequently evoked in public debates and interpersonal discussions about it. With this regard, Sanctity is emerging as a pervasive predictor of political attitudes, yet often unrecognised (moral dumbfounding; Haidt, 2001). Starting from high sensitivity to biological contaminants threatening survival, Sanctity moral intuitions evolved based on the emotion of disgust to include high sensitivity to spiritual and social contaminants. Sanctity moral intuitions currently comprise moral concerns about degradation of human life, which is considered sacred, and physical and spiritual purity (Graham et al., 2011). In two studies, Koleva and colleagues (2012) found that Sanctity endorsement is the best foundation predictor of judgements about policy positions that political elites discuss evoking instead Care, Fairness or Authority concerns (e.g. same-sex couples, stem cell research and euthanasia; see also Clifford & Jerit, 2013; Rottman, Kelemen, & Young, 2014).

In sum, attitudes towards political issues can be considered, albeit partially, an expression of moral concerns. Judgements about policy positions can be associated with moral intuitions of which one is unaware, while moral reasoning occurs after intuitive moral judgements are made, mainly to strengthen and justify them to others (Haidt, 2001).

Political sophistication

One could ask whether people's level of interest in politics and their knowledge thereof (i.e. their political sophistication) moderate the extent to which their judgements about political issues align with their intuitive moral concerns. Political sophistication refers to individual differences in the level of interest in politics, the amount and organisation of political information and the use thereof when making political judgements (Federico & Schneider, 2007; Zaller, 1992). Sophisticates are more interested in politics, discuss politics more frequently, hold more political information and show stronger links between socio-political concepts and affect than unsophisticates (Lodge & Taber, 2005).

Sophisticates organise information into broad categories, whereas unsophisticates treat pieces of

information as distinct (Krosnick, 1990). Accordingly, sophisticates are more able to distinguish between and integrate pieces of information (Funk, 1997). For example, sophisticates can link their attitudes towards racial policies with abstract concepts and ideological considerations better than unsophisticates (Federico & Sidanius, 2002). Thus, when interpreting political stimuli, they more efficiently draw from existing political information than unsophisticates. Moreover, because sophisticates have formed stronger links between (positive or negative) affect and socio-political concepts than unsophisticates, they find it almost impossible to "leave their feelings aside" when evaluating political issues (Lodge & Taber, 2005, p. 476).

Political sophistication also moderates the relationship between explicitly and implicitly measured political attitudes. Implicit measures of political attitudes enable the assessment of automatic responses to political stimuli and detection of positive or negative political attitudes held beyond an individual's awareness. Implicit attitudes correlate with explicit attitudes more strongly among sophisticates than unsophisticates (e.g. Choma & Hafer, 2009; Hofmann, Gschwendner, Nosek, & Schmitt, 2005).

Finally, sophisticates show stronger biases towards confirming their existing attitudes and arguing against challenging information than unsophisticates. Hence, sophisticates are more likely to engage in motivated reasoning, thus reaching and reinforcing ideological consistency more efficiently (e.g. Meffert, Chung, Joiner, Waks, & Garst, 2006; Taber, Cann, & Kucsova, 2009).

Aims and overview

Two studies investigated whether political sophistication moderates the association between judgements about policy positions and moral foundation endorsement. Sophisticates are more interested in politics, more likely to discuss political issues and to justify their accompanying judgements to others than unsophisticates (Meffert et al., 2006; Taber et al., 2009). Moreover, implicit political attitudes are associated with explicit ones more strongly among sophisticates than unsophisticates (e.g. Choma & Hafer, 2009; Hofmann et al., 2005). Therefore, sophisticates might be better able to engage in *post-hoc* moral reasoning, in order to justify their intuitive moral judgements about political issues (see Haidt, 2001). If so, intuitive moral judgements about policy positions might be associated with explicit judgements more strongly among sophisticates than unsophisticates. Hence, sophisticates might not judge policy positions independently of their intuitive moral judgements similarly as they almost appear neither able to reason "free of their prior sentiments" (Lodge & Taber, 2005, p. 456) nor able to make explicit political judgements independently of their automatic, affective reactions to political stimuli.

Consistently, a moderation hypothesis can be made positing that reliance on moral foundations, as categories of intuitive moral concerns, predicts policy judgements among sophisticates, but not unsophisticates.

Depending on the specific issue to which each policy position relates, particular configurations of moral foundation endorsement can be predictive. Here, we focused on four highly contested policy positions that have been found by previous research to be best predicted by Sanctity endorsement although in public debates they are often discussed evoking Care, Fairness and Authority concerns (Koleva et al., 2012). People find it difficult to explain their judgements about Sanctity violations (Haidt, 2001). Thus testing the moderation hypothesis by investigating Sanctity related issues has the potential to reveal that sophisticates' attitudes may be associated with moral intuitions that one would not expect. Two Italian studies examined judgements about policy positions that deal with "non-traditional" sexuality (same-sex and unmarried couples) and with the beginning and end of life (embryonic stem cell research and euthanasia). We expected Sanctity endorsement to be a negative predictor of the examined judgements (Hp1) and the association between Sanctity endorsement and the investigated judgements to be stronger among sophisticates than unsophisticates (Hp2).

STUDY 1

In Study 1, we examined judgement about granting same-sex couples the right to adopt a child. In Italy, the 2007 left-wing government proposed a bill aimed at legally recognising cohabiting partners, regardless of sexual orientation (see also Study 2). The proposal was never ratified, due to fierce opposition by right-wing parties and Catholic authorities. Hence, same-sex couples are not legally recognised and not allowed to adopt children. Sanctity endorsement (and the related emotion of disgust) is associated with negative attitudes towards same-sex couples (e.g. Graham et al., 2011; Inbar, Pizarro, Knobe, & Bloom, 2009; Koleva et al., 2012). We expected Sanctity endorsement to be a negative predictor of participants' judgement about adoption by same-sex couples, and this association to be stronger among sophisticates than unsophisticates.

Method

Participants

A total of 101 Italians (52 women; age range: 18–69 years; age $M = 36.11$ years, $SD = 14.26$) were approached in public spaces (e.g. train stations, bus stops and parks) and asked to complete a short questionnaire. Participants were not compensated for participating; 12% had compulsory education, 71% had secondary education and

17% had tertiary education. At the end of the questionnaire, participants were asked to self-identify using one of the following labels: "left," "centre-left," "centre-right," "right" and "I do not self-identify using any of these labels." Of which, 38 participants self-identified as "left" or "centre-left," 32 as "right" or "centre-right" and 21 said that they did not self-identify using any of the labels. Finally 10 participants did not answer this question and were excluded from the analyses.

Measures

Moral foundations

Participants completed the Italian version (Bobbio, Nencini, & Sarri, 2011) of the MFQ30 (the Moral Foundations Questionnaire, July 2008; full version by Graham, Haidt, & Nosek, which can be found at www.moralfoundations.org). The MFQ30 comprises two sections. In the first section including 15 items, participants rated the moral relevance of various considerations when deciding whether something is right or wrong (0 = *not at all relevant*, 5 = *extremely relevant*). For example, one of the items measuring Loyalty endorsement was: "Whether or not someone did something to betray his or her group." In the second section comprising 15 items, participants rated their agreement with statements referring to normative behaviours derived from the five moral foundations (0 = *strongly disagree*, 5 = *strongly agree*). For example, one of the items measuring Loyalty endorsement was: "People should be loyal to their family members, even if they have done something wrong." No item had an explicit or obvious link with politics. The MFQ30 included two attention-check items, passed by 82 of 91 participants.

Scores for each moral foundation were computed by averaging the corresponding items of the two sections (Care $\alpha = .56$, Fairness $\alpha = .63$, Loyalty $\alpha = .68$, Authority $\alpha = .71$ and Sanctity $\alpha = .75$). Although the reliability of some subscales was not high, the values were similar to those previously obtained (e.g. Federico, Weber, Ergun, & Hunt, 2013), which is partly due to the MFQ30's aim of capturing the widest amount of each foundation's scope (Graham et al., 2011).

Attitude towards same-sex couples' right to adopt

Participants rated their agreement (1 = *strongly disagree*, 7 = *strongly agree*) with the following item: "Homosexual couples should be allowed to adopt a child" ($M = 2.91$, $SD = 2.14$).

Political sophistication

Political sophistication was measured as a composite score of interest in politics and political knowledge.

Participants were asked to assess their interest in politics (1 = *not at all interested*, 7 = *very interested*; $M = 4.34$, $SD = 1.81$). Political knowledge was assessed through seven open-ended questions: four tested participants' knowledge of current politics (e.g. "Who currently serves as foreign minister?") and three tested their knowledge of the national political system (e.g. "How many members does Parliament have?"). A knowledge scale was constructed by summing up the correct responses to the seven items ($M = 5.60$, $SD = 1.60$). Interest and knowledge scores were standardised and summated.

Statistical analysis

In both studies, we followed Dawson's recommendations (2014, p. 15) for testing separate hypotheses about interactions between a moderator and different independent variables. According to Dawson, when there are separate hypotheses about the interactions between the moderator and different independent variables, individual coefficients of the relevant interactions are allowed to be tested in order to ensure optimal interpretation of the significant interactions; actually, this helps to reduce multicollinearity. Each significant interaction can then be interpreted separately. As our interaction hypothesis was separate for Sanctity, for each dependent variable we run five hierarchical multiple regressions: in each one, we entered the centred measures of moral foundations and political sophistication in Step 1 and Step 2, respectively, and in Step 3 one of the interactions between one of the moral foundations and political sophistication. By reducing the number of predictors entered in a single regression, such a strategy was also appropriate for our restricted sample size (Van Voorhis & Morgan, 2007).

Results and discussion

For all analyses, an α level of .05 was used for significance tests. Only participants who passed the attention-check items were retained in the analyses. Table 1 shows the correlations between the variables under study.

As explained above, to test the moderation hypothesis about Sanctity, we run five hierarchical multiple regressions, as summarised in Table 2. The variance inflation factor (VIF) values were all lower than 2.50; thus, multicollinearity was not a concern.

Results showed that the attitude towards adoption by same-sex couples was negatively predicted by Sanctity endorsement. Political sophistication was never a significant predictor (all $ps > .70$).

In Step 3, the Sanctity endorsement \times political sophistication interaction predicted the examined judgement. As expected, Sanctity endorsement predicted opposition to adoption by same-sex couples among sophisticates (1 SD above the mean; $b = -.96$, $SE = .37$, $p = .01$), but

TABLE 1
Correlations between the investigated variables

	1	2	3	4	5	6	7
1. Care	—						
2. Fairness	.50***	—					
3. Loyalty	.31**	.23*	—				
4. Authority	.19	.14	.73***	—			
5. Sanctity	.33**	.21*	.64***	.68***	—		
6. Same-sex couples	.06	.08	-.23*	-.26*	-.31**	—	
7. Political sophistication	.04	.08	-.02	-.16	.04	.00	—

Note: $N = 82$.

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

not unsophisticates (1 SD below the mean; $b = -.12$, $SE = .38$, $p = .76$).

The results confirmed that Sanctity endorsement predicted opposition to adoption by same-sex couples. In our sample, same-sex couples' right to adopt was seemingly perceived as a threat (or not) to the purity of the traditional family, rather than the equal granting (or not) of a right to same-sex and heterosexual couples. Furthermore, the results confirmed that sophisticates' judgements were predicted by their reliance on Sanctity more strongly than unsophisticates' judgements.

Study 1, however, considered only one policy position and a very specific one, which could partially explain the lack of association between the judgement about this policy position and Care and Fairness. One might ask whether similar results would emerge upon investigation of judgement about more generic rights of same-sex couples and whether political sophistication would interact with Sanctity endorsement in predicting other policy positions linked to sexuality and the sanctity of life.

STUDY 2

In Study 2, first, we investigated the judgement relating to a policy position granting generic equal rights to same-sex couples. Consistently with Study 1, we expected Sanctity endorsement to be a negative predictor of such a judgement, and more so among sophisticates than unsophisticates.

Second, we examined the judgement relating to a policy position granting equal rights to married and unmarried couples. In Italy, the number of unmarried couples has been increasing since 2000. However, child-bearing and cohabitation outside marriage are still less socially acceptable than the traditional family. Although, as stated above, a bill aimed at the legal recognition of cohabiting, unmarried partners was proposed in 2007, unmarried couples are still not legally recognised. Koleva and colleagues (2012) found that Sanctity endorsement was the strongest foundation predictor of moral disapproval for having a

TABLE 2

Summary of the hierarchical multiple regression analyses of judgement about adoption by same-sex couples on moral foundations, political sophistication and interactions

	<i>b</i>	<i>SE</i>
Step 1		
Care (Ca)	.34	.30
Fairness (Fa)	.20	.26
Loyalty (Lo)	-.15	.35
Authority (Au)	-.08	.36
Sanctity (San)	-.66*	.34
ΔR^2 , Sig F_{change}	.14, $p = .04$	
Step 2		
Sophistication (S)	-.03	.23
ΔR^2 , Sig F_{change}	.00, <i>ns</i>	
Step 3		
Ca \times S	.28	.27
ΔR^2 , Sig F_{change}	.01, <i>ns</i>	
Total R^2	.15	
Step 3		
Fa \times S	.20	.22
ΔR^2 , Sig F_{change}	.00, <i>ns</i>	
Total R^2	.14	
Step 3		
Lo \times S	-.26	.25
ΔR^2 , Sig F_{change}	.01, <i>ns</i>	
Total R^2	.15	
Step 3		
Au \times S	-.24	.20
ΔR^2 , Sig F_{change}	.01, <i>ns</i>	
Total R^2	.15	
Step 3		
San \times S	-.46*	.23
ΔR^2 , Sig F_{change}	.04, $p = .05$	
Total R^2	.18	

Note: $N = 82$.

* $p < .05$.

baby outside marriage. We expected judgement about equal rights for unmarried couples to be negatively associated with Sanctity endorsement, and this association to be stronger among sophisticates than unsophisticates.

Third, we extended the investigation to judgement about policy positions that may challenge the sanctity of life: embryonic stem cell research and euthanasia. In Italy, consistent with the Catholic perspective, the human embryo is legally defined as having the status of a human being, a public citizen subject protected by the law. This resulted in one of the most restrictive regulations on stem cell research. Reliance on Sanctity emphasises the sacredness of human life, over which God only has dominion. Koleva and colleagues (2012) found that Sanctity endorsement was the best foundation predictor of opposition to funding for embryonic stem cell research. Accordingly, we expected Sanctity endorsement to predict opposition to stem cell research, and this association to be stronger among sophisticates than unsophisticates.

Finally, euthanasia is not allowed in Italy. As said above, reliance on Sanctity is related to the religious belief that human life is sacred and belongs to God. Indeed, religious people or those in religious countries are especially likely to oppose euthanasia (Verbakel & Jaspers, 2010). Koleva and colleagues showed that Sanctity endorsement was the best foundation predictor of opposition to this practice. Consistently, we expected Sanctity endorsement to predict opposition to euthanasia, and this relationship to be stronger among sophisticates than unsophisticates.

Method

Participants

A total of 113 undergraduates (82 women; age: $M = 22.0$ years, $SD = 3.17$) were contacted during classes and asked to complete a short questionnaire without any compensation. Of which 33 participants self-identified as “left” or “centre-left,” 44 as “right” or “centre-right” and 27 said that they did not self-identify using any of these labels. Finally 9 participants did not answer the question about their ideological orientation and were excluded from the analyses.

Measures

Moral foundations

Participants completed the Italian version of the MFQ30 (Care $\alpha = .62$, Fairness $\alpha = .62$, Loyalty $\alpha = .50$, Authority $\alpha = .62$ and Sanctity $\alpha = .63$). The materials were presented during classes and participants were supervised while completing the questionnaire, to ensure diligence. Indeed, 100 of 104 participants passed the questionnaire’s attention checks, suggesting that the noise added by non-diligent participants was probably lower than in Study 1 (Oppenheimer, Meyvis, & Davidenko, 2009). The results below did not change significantly when participants who did not pass the attention checks (3.8%) were excluded from the analyses.

Political attitudes

Participants rated their agreement (1 = *strongly disagree*, 7 = *strongly agree*) with the following items: “Homosexual couples should be given equal rights as heterosexual couples” ($M = 5.15$, $SD = 2.11$), “Unmarried couples should be given equal rights as married couples” ($M = 5.08$, $SD = 2.01$), “Stem cell research should be promoted” ($M = 4.87$, $SD = 1.79$), and “Euthanasia should be allowed” ($M = 5.43$, $SD = 1.71$).

Political sophistication

Measures of political interest ($M = 3.88$, $SD = 1.50$) and political knowledge ($M = 2.78$, $SD = 2.02$) were used,

TABLE 3
Correlations between the investigated variables

	1	2	3	4	5	6	7	8	9	10
1. Care	—									
2. Fairness	.56***	—								
3. Loyalty	.29**	.24**	—							
4. Authority	.05	.14	.46***	—						
5. Sanctity	.25**	.00	.34***	.35***	—					
6. Same-sex couples	.24**	.34***	-.21*	-.21*	-.32***	—				
7. Unmarried couples	.12	.21**	.02	-.20*	-.30**	.70***	—			
8. Stem cell research	.11	.10	-.06	-.20*	-.26**	.22*	.19*	—		
9. Euthanasia	.05	.10	-.23**	-.24**	-.38***	.35***	.22*	.36***	—	
10. Political sophistication	-.06	.09	.11	.02	.05	-.08	.05	-.13	-.08	—

Note: $N = 104$.

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

as in Study 1. Further, the frequency of political discussions was assessed (1 = *never*, 6 = *everyday*; $M = 4.18$, $SD = 1.23$). Scores on political interest and political knowledge and frequency of political discussions were standardised and summated.

Results and discussion

Sanctity endorsement was associated with opposition to granting equal rights to same-sex and unmarried couples, to stem cell research and euthanasia (Table 3).

Similarly to Study 1, for each dependent variable, five hierarchical multiple regressions were run, as summarised in Table 4. Multicollinearity was not a concern because the VIF values were all lower than 1.7. Consistently with Hp1, in Step 1, Sanctity endorsement was a negative predictor of all the investigated attitudes. The attitude towards equal rights for same-sex couples was predicted negatively also by Loyalty endorsement and positively by Care and Fairness endorsement. Once again, political sophistication never reached significance (all $p > .20$).

In Step 3, the Sanctity endorsement \times political sophistication interaction significantly predicted attitudes towards equal rights for same-sex and unmarried couples, and towards euthanasia. The same interaction only approached significance in predicting judgement about stem cell research. Sanctity endorsement predicted opposition to equal rights for same-sex couples among sophisticates (1 SD above the mean; $b = -1.38$, $SE = .36$, $p < .001$), but not unsophisticates (1 SD below the mean; $b = -.07$, $SE = .36$, $p = .85$). Similarly, the judgement about equal rights for unmarried couples was negatively predicted by Sanctity

endorsement among sophisticates ($b = -1.58$, $SE = .36$, $p < .001$), but not unsophisticates ($b = .05$, $SE = .36$, $p = .87$). Sanctity endorsement predicted opposition to euthanasia among sophisticates ($b = -1.17$, $SE = .32$, $p < .001$), but not unsophisticates ($b = -.26$, $SE = .32$, $p = .40$).

Furthermore, in predicting the attitude towards equal rights for unmarried couples, the interaction between Fairness endorsement and political sophistication reached significance. Fairness endorsement positively predicted the attitude towards equal rights for unmarried couples among sophisticates ($b = 1.07$, $SE = .49$, $p = .03$), but not unsophisticates ($b = -.14$, $SE = .50$, $p = .77$).

Finally, the Authority endorsement \times political sophistication interaction predicted the attitude towards stem cell research. Authority endorsement negatively predicted this attitude among sophisticates ($b = -1.15$, $SE = .38$, $p = .003$), but not unsophisticates ($b = .22$, $SE = .35$, $p = .53$).²

Study 2 addressed the limitations of Study 1 by examining a more generic policy position about same-sex couples and extending the investigation to other policy positions.

Judgement about generic equality of rights for same-sex couples was associated with reliance on a wider range of moral foundations than in Study 1. As expected, Sanctity endorsement predicted opposition to such a policy, and more strongly so among sophisticates than unsophisticates. Moreover, opposition to equal rights for unmarried couples was predicted by Sanctity endorsement, and more so among sophisticates than unsophisticates. Among sophisticates but not unsophisticates, a positive attitude towards equal rights for unmarried couples was instead predicted by the

²As all the policy positions investigated were opposed by the official teachings of the Catholic Church, analyses were re-run controlling for church attendance in Step 1. All the interactions described above emerged (Sanctity \times sophistication effect on attitude towards same-sex couples, $b = -.57$, $SE = .22$, $p = .01$, $\Delta R^2 = .05$; unmarried couples, $b = -.67$, $SE = .22$, $p = .003$, $\Delta R^2 = .07$; euthanasia, $b = -.51$, $SE = .18$, $p = .006$, $\Delta R^2 = .06$; Fairness \times sophistication effect on attitude towards unmarried couples, $b = .36$, $SE = .19$, $p = .06$, $\Delta R^2 = .03$; Authority \times sophistication effect on attitude towards stem cell research, $b = -.49$, $SE = .19$, $p = .01$, $\Delta R^2 = .06$). Sanctity \times sophistication interaction reached full significance in predicting the judgement about stem cell research ($b = -.43$, $SE = .22$, $p = .05$, $\Delta R^2 = .04$).

TABLE 4

Summary of the hierarchical multiple regression analyses of attitudes towards equal rights for same-sex and unmarried couples, stem cell research and euthanasia on moral foundations, political sophistication and interactions

	<i>Same-sex couples</i>		<i>Unmarried couples</i>		<i>Stem cell research</i>		<i>Euthanasia</i>	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Step 1								
Care (Ca)	.46*	.24	.16	.24	.25	.24	.26	.21
Fairness (Fa)	.59**	.23	.31	.23	.06	.22	.11	.20
Loyalty (Lo)	-.47*	.22	.30	.23	.08	.22	-.25	.19
Authority (Au)	-.13	.21	-.38	.22	-.27	.21	-.14	.19
Sanctity (San)	-.59**	.21	-.60**	.21	-.46*	.20	-.58**	.18
ΔR^2 , Sig F_{change}	.29, $p < .001$.17, $p = .002$.12, $p = .04$.20, $p = .001$	
Step 2								
Sophistication (S)	-.13	.20	.11	.20	-.22	.19	.09	.17
ΔR^2 , Sig F_{change}	.00, <i>ns</i>		.00, <i>ns</i>		.00, <i>ns</i>		.00, <i>ns</i>	
Step 3								
Ca \times S	.22	.19	.05	.20	-.19	.19	-.14	.17
ΔR^2 , Sig F_{change}	.01, <i>ns</i>		.00, <i>ns</i>		.00, <i>ns</i>		.00, <i>ns</i>	
Total R^2	.30		.17		.12		.20	
Step 3								
Fa \times S	-.06	.19	.37*	.19	.11	.18	-.05	.17
ΔR^2 , Sig F_{change}	.00, <i>ns</i>		.03, $p = .05$.00, <i>ns</i>		.00, <i>ns</i>	
Total R^2	.29		.20		.12		.20	
Step 3								
Lo \times S	-.26	.19	-.17	.20	-.24	.19	-.05	.17
ΔR^2 , Sig F_{change}	.02, <i>ns</i>		.01, <i>ns</i>		.02, <i>ns</i>		.00, <i>ns</i>	
Total R^2	.31		.18		.14		.20	
Step 3								
Au \times S	.04	.20	.17	.21	-.53**	.19	.06	.18
ΔR^2 , Sig F_{change}	.00, <i>ns</i>		.01, <i>ns</i>		.07, $p = .007$.00, <i>ns</i>	
Total R^2	.29		.18		.19		.20	
Step 3								
San \times S	-.55**	.21	-.68**	.21	-.35	.21	-.38*	.18
ΔR^2 , Sig F_{change}	.05, $p = .01$.08, $p = .002$.02, $p = .10$.03, $p = .04$	
Total R^2	.34		.25		.14		.23	

Note: $N = 104$.

* $p < .05$. ** $p < .01$.

endorsement of moral concerns for fair and trustworthy relationships and equal treatment of everybody. Reliance on Sanctity predicted opposition to euthanasia, more strongly so among sophisticates than unsophisticates. Opposition to stem cell research was predicted by Sanctity endorsement. In predicting this latter judgement, however, political sophistication interacted significantly with Authority endorsement while its interaction with Sanctity endorsement only approached significance. Thus while endorsement of moral concerns for sacredness of life was associated with opposition to stem cell research among all participants (with only a light tendency of sophisticates' judgement to be associated with Sanctity endorsement more strongly than unsophisticates'), endorsement of the moral concern for respect of authority was associated with this judgement much more strongly among sophisticates than unsophisticates.

GENERAL DISCUSSION

This article investigated whether political sophistication moderates the extent to which people's reliance

on Sanctity is associated with their judgements about policy positions regarding same-sex and unmarried couples, stem cell research and euthanasia. The results showed that Sanctity endorsement interacted with political sophistication in predicting judgements about policy positions regarding same-sex couples, unmarried couples and euthanasia. These results are consistent with previous findings indicating that judgements about policy positions related to sexuality, marriage and the sanctity of life are best predicted by reliance on Sanctity (Koleva et al., 2012) and further suggest that this category of moral intuitions may predict these judgements more strongly among sophisticates than unsophisticates.

Interestingly, political sophistication also interacted with reliance on two other moral foundations, namely, reliance on Fairness in predicting judgement about equal rights for unmarried couples and endorsement of Authority in predicting judgement about the promotion of stem cell research. Compared with the other policy positions examined, promotion of stem cell research is featured peculiarly by raising technical matters of a rapidly changing scientific field. Generally speaking,

sophisticates are more likely to be better informed about policy views and more able to distinguish and integrate relevant pieces of information than unsophisticates. Our results suggest that sophisticates might have been particularly sensitive to complexity and uncertainty inherent in a judgement about stem cell research. This might have elicited their intuitive moral concerns to respect established authorities who may ensure order, security and regulation in an ill-defined and rapidly changing context, thus aligning their judgement about this policy view with this category of moral concerns. Indeed this issue needs further examination by extending the investigation to judgements about other policy views that involve biomedical research.

Overall, these results suggest that, at a higher, rather than lower, level of political sophistication, judgements about policy positions may be more likely to be associated with elicited moral concerns, at least for the issues investigated in this article.

These results add to previous studies about moral foundations underlying political attitudes, suggesting that moral foundations can be associated with political attitudes more strongly among political sophisticates than unsophisticates. As sophisticates are more interested in and better informed about politics, show a stronger association between implicit and explicit political attitudes, and are more likely to discuss political issues with others, they may be also better able to engage in *post-hoc* moral reasoning than unsophisticates, resulting in stronger links between categories of intuitive moral concerns and explicit judgements about political issues. Indeed, the hypothesis that sophisticates are better able to engage in *post-hoc* moral reasoning about political issues than unsophisticates is a possibility that needs to be tested. Future studies could examine whether the interaction effect observed in this article would emerge differently based on participants' exposure to challenging arguments or the issues under investigation being more or less debated by the public opinion.

Unlike most research on the MFT, this article involved participants in a non-English-speaking country. Among the Italian samples examined, Sanctity endorsement correlated positively with Care endorsement in both studies. This correlation pattern is unusual, but similar to that of the study that validated the first Italian adaptation of the MFQ30 (Bobbio et al., 2011). This suggests that there may be some cultural differences within Western countries regarding correlation patterns between moral foundations. Indeed, further studies should investigate whether such a correlation pattern emerges also in other South European cultures or Catholic countries.

As limitations, this article used small and convenience samples. Moreover, each interaction was tested in a separate regression. Although this strategy is recommended for testing separate interaction hypotheses like ours and it was appropriate for our restricted sample sizes, we acknowledge that it can be seen as a limitation. Future studies should involve larger and representative samples and test the moderating role played by political sophistication also by entering its interactions with moral foundations jointly in single regressions.³ Finally, this research investigated a restricted set of political issues. Indeed, other issues relating to Sanctity (e.g. environmental issues) and other ones relating to other moral foundations should be studied. Future studies could examine whether the predictive effect of other moral foundations on other political attitudes would be moderated by political sophistication. The interaction effects involving Fairness and Authority suggest this possibility.

This research suggests that the roots of political sophistication can be found also in moral reactions elicited by political stimuli. Further investigation of the interactions between moral foundations and political sophistication could contribute to a more fine-grained understanding of the role that morality plays in political judgement by illuminating the categories of moral concerns that are differentially predictive of political judgements about political issues among people with different levels of interest in and knowledge of politics. The results could be useful for political actors, encouraging use of messages appealing to different moral foundations, based on the issues at hand and the audience's level of political sophistication.

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³Coefficients of the significant moderating effects when entering the five interactions jointly in Step 3: Study 1, Sanctity × sophistication effect on same-sex couples: $b = -.70$, $SE = .35$, $p = .04$; Study 2, Sanctity × sophistication effect on same-sex couples, $b = -.48$, $SE = .24$, $p = .05$; unmarried couples, $b = -.72$, $SE = .24$, $p = .003$; euthanasia, $b = -.45$, $SE = .22$, $p = .05$; Authority × sophistication effect on stem cell research, $b = -.51$, $SE = .22$, $p = .02$.

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