

**MORAL AND POLITICAL COGNITION: IMPLICATIONS FOR  
IMPROVING INTERGROUP RELATIONS, CIVIC ENGAGEMENT  
AND REDUCING PREJUDICE**

BY

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## **ABSTRACT**

This thesis argues that the intergroup level remains largely unexplored within current models of moral and political cognition such as Moral Foundations Theory (MFT; Haidt & Joseph, 2004). In Study 1 (N = 153) we framed the Moral Foundations Questionnaire (MFQ) using ingroup and outgroup targets. Here, liberals and conservatives demonstrated important distinctions by group with the general pattern being liberals showing investment in Harm and Fairness foundations when framed about outgroups and conservatives showing investment in Loyalty, Authority, and Purity foundations when framed about ingroups. In two further studies, we replicated this pattern using specified ingroups and outgroups and further showed these differences mediated bias, negative bias, threat, and implicit bias (Study 2, N = 307; Study 3, N = 288). A further study demonstrated a similar pattern using standard versus outgroup moral foundations (Study 4, N = 253). The second line of research examined how moral foundations relate more generally to intergroup variables (Study 5, N = 90), strong social ideologies and negative attitudes towards immigrant groups (Study 6, N = 157). This project concludes that understanding the group level leads to new avenues for understanding moral and political cognition, reducing prejudice and enhancing social cohesion.


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## STATEMENT OF AUTHORSHIP

Two of the chapters presented in this thesis form standalone co-authored chapters in the format for submission to U.S. academic journals in Psychology. These two chapters were co-authored by David. S. M. Morris (D.S.M) and Dr. Brandon, D. Stewart (B.D.S);

### Chapter 2

Stewart, B. D., & Morris, D. S. M. (In preparation) Moving morality beyond the ingroup:

Liberals and conservatives show differences on group- framed moral foundations and these differences mediate threat and intergroup bias.

### Chapter 3

Morris, D. S. M., & Stewart, B. D. (In preparation) Moral Values, political ideology and threat based cognition: Implications for intergroup relations.

The material in these chapters is co-authored and presented in the format to submit to U.S. academic journals.

For the material in Chapter 2, B.D.S conceived of the original study idea with D. S.M. providing significant input in its development. D.S.M developed the study materials. Study Design and Analysis of Data was conducted by D.S.M with assistance by B.D.S and writing up of the studies was done by D.S.M and B.D.S.

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For Chapter 3 the study idea and study design was developed by D.S.M. The material in Chapter 3 was designed by D.S.M and B.D.S, Design of Materials was prepared by D.S.M with assistance from B.D.S, Analysis of Data was conducted by D.S.M and B.D.S and writing up of studies was done by D.S.M with assistance from B.D.S.

Additional thanks go to master's student Rob Houghton for suggesting potential inclusion of Collective Narcissism in Study 5 of Chapter 3.

**Authors Note:** Throughout all chapters of the thesis (including the introduction and discussion) I use language of 'we' 'our' etc., rather than personal pronouns to reflect the collaborative nature of the research conducted within the thesis.

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# Table of Contents

<b>FUNDING ACKNOWLEDGEMENT .....</b>	<b>i</b>
<b>ACKNOWLEDGEMENTS.....</b>	<b>ii</b>
<b>STATEMENT OF AUTHORSHIP .....</b>	<b>iv</b>
<b>TABLE OF CONTENTS .....</b>	<b>vi</b>
<b>LIST OF FIGURES.....</b>	<b>x</b>
<b>LIST OF TABLES.....</b>	<b>xii</b>
<b>CHAPTER 1: MORAL AND POLITICAL COGNITION: UNEXPLORED IMPLICATIONS FOR IMPROVING INTERGROUP RELATIONS AND REDUCING PREJUDICE .....</b>	<b>1</b>
1.0. Intergroup Relations and Ideology .....	1
1.1. Political Psychology and Social Cognition.....	3
1.2. Authoritarianism and Social Dominance Orientation .....	9
1.3. The Moral Undercurrents of Political Cognition .....	11
1.4. Moral Foundations Theory .....	12
1.4.1. Measuring Moral Foundations .....	14
1.4.2. Moral Foundations and Political Ideology .....	16
1.5. Theoretical Critiques of Moral Foundations Theory .....	19
1.5.1. Model of Moral Motives (MMM) .....	19
1.5.2. Evolutionary Coalitional Theory (ECT) .....	22
1.6. Intergroup Relations and Moral Foundations .....	26
1.7. Threat, Morality, and the Social Political World .....	31
1.8. Unresolved Questions: Moral Foundations, Political Ideology, Threat Perceptions, and Intergroup Relations .....	35
1.9. Summary of the Current Research Thesis .....	36
<b>CHAPTER 2: MOVING MORALITY BEYOND THE INGROUP: LIBERALS AND CONSERVATIVES SHOW DIFFERENCES ON GROUP-FRAMED MORAL FOUNDATIONS AND THESE DIFFERENCES MEDIATE THREAT AND INTERGROUP BIAS.....</b>	<b>39</b>
2.0. Abstract .....	39
2.1. Introduction .....	40

2.1.1. Individual versus Group-Based Thinking .....	40
2.1.2. Ideology and Intergroup Thinking .....	42
2.1.3. Ingroups, Outgroups, and Moral Foundations .....	42
2.1.4. Intergroup Bias and Threat.....	45
2.2. Study 1 .....	47
2.2.1. Predictions .....	47
2.3. Method .....	48
2.3.1. Participants and Design .....	48
2.3.2. Materials and Procedure .....	48
2.4. Results .....	51
2.5. Discussion .....	54
2.6. Study 2 .....	55
2.6.1. Introduction.....	55
2.6.2. Predictions .....	58
2.7. Method .....	59
2.7.1. Participants and Design .....	59
2.7.2. Materials and Procedure .....	60
2.8. Results .....	62
2.9. Discussion .....	68
2.10. Study 3 .....	69
2.10.1. Introduction and Predictions .....	69
2.11. Method .....	70
2.11.1. Participants and Design .....	70
2.11.2. Materials and Procedure .....	71
2.12. Results .....	74
2.13. Discussion .....	80
2.14. Study 4 .....	82
2.14.1. Introduction and Predictions .....	82
2.15. Method.....	83
2.15.1. Participants and Design .....	83
2.15.2. Materials and Procedure .....	83

2.16. Results .....	86
2.17. Discussion .....	91
2.18. General Discussion .....	93
 <b>CHAPTER 3: MORAL VALUES, POLITICAL IDEOLOGY AND THREAT-BASED COGNITION: IMPLICATIONS FOR INTERGROUP RELATIONS .....</b>	 <b>104</b>
3.0. Abstract .....	104
3.1. Introduction .....	105
3.1.1. Moral Foundations and Intergroup Attitudes .....	107
3.1.2. Threat Processing In Intergroup Relations and Political Ideology .....	108
3.1.3. Moral Foundations and Intergroup Relations: The Present Research .....	109
3.2. Study 5 .....	111
3.2.1. Hypotheses .....	111
3.3. Method .....	112
3.3.1. Design .....	112
3.3.2. Participants .....	112
3.3.3. Materials .....	113
3.4. Results .....	115
3.4.1. Intergroup Variables .....	115
3.4.2. Moral Foundations and Intergroup Variables .....	116
3.5. Discussion .....	117
3.6. Study 6 .....	119
3.6.1. Introduction and Hypotheses .....	119
3.7. Method .....	120
3.7.1. Design and Procedure .....	120
3.7.2. Participants .....	122
3.7.3. Materials .....	122
3.8. Results .....	125
3.8.1. Moral Foundations and Political Ideology .....	125
3.8.2. Exploratory Analyses Considering the Role of Threat .....	129
3.9. Discussion .....	131

3.10. General Discussion .....	132
<b>CHAPTER 4: GENERAL DISCUSSION .....</b>	<b>139</b>
4.0. Moral and Political Cognition is Related to Group-Focused Cognition. ....	142
4.1. Moral Foundations, Strong Ideologies, and their Relationship to Intergroup Relations. .....	148
4.2. General Implications and Further Considerations .....	152
4.2.1. Binding Foundations, Bias and, Threat Perceptions .....	152
4.2.2. Study Design and Cultural and Demographic Factors .....	157
4.2.3. Measurement of Political Ideology .....	160
4.2.4. Implicit Cognition and Moral Foundations Theory .....	162
4.3. Limitations and Future Considerations .....	164
4.4. Future Research and Policy Implications .....	169
4.4.1. Future Research in Moral Foundations and Group-Based Framing .....	170
4.4.2. Threat Focused Framing Interventions and Political Ideology .....	171
4.5. Overview: Going Beyond Moral and Political Ideology. ....	173
<b>REFERENCES .....</b>	<b>176</b>
<b>APPENDICES .....</b>	<b>191</b>
Appendix A-K: Study Materials .....	191
Appendix L: Supplemental Analyses Chapter 2 .....	217
Appendix M: Supplemental Analyses Chapter 3 .....	219

## List of Figures

<b>FIGURE 2.1.</b> Multiple mediation of the Political Orientation to Explicit Bias relationship by the Outgroup Individualizing index and by the Ingroup Binding index, Study 2 .....	66
<b>FIGURE 2.2.</b> Multiple mediation of the Political Orientation to the Negative Bias relationship by the Outgroup Individualizing index and by the Ingroup Binding index, Study 2 .....	67
<b>FIGURE 2.3.</b> Multiple mediation of the Political Orientation to Perceived Threat relationship by the Outgroup Individualizing index and by the Ingroup Binding index, Study 2 .....	67
<b>FIGURE 2.4.</b> Multiple mediation of the Political Orientation to Explicit Bias relationship by the Outgroup Individualizing index and by the Ingroup Binding index, Study 3 .....	78
<b>FIGURE 2.5.</b> Multiple mediation of the Political Orientation to Negative Bias relationship by the Outgroup Individualizing index and by the Ingroup Binding index, Study 3 .....	79
<b>FIGURE 2.6.</b> Multiple mediation of the Political Orientation to Perceived Threat relationship by the Outgroup Individualizing index and by the Ingroup Binding index, Study 3 .....	79
<b>FIGURE 2.7.</b> Multiple mediation of the Political Orientation to Implicit Bias relationship by the Outgroup Individualizing index and by the Ingroup Binding index, Study 3 .....	80
<b>FIGURE 2.8.</b> Multiple mediation of the Political Ideology to Explicit Bias relationship by the Outgroup Individualizing index and by the Standard Binding index, Study 4 .....	90
<b>FIGURE 2.9.</b> Multiple mediation of the Political Ideology to Perceived Threat relationship by the Outgroup Individualizing index and by the Standard Binding index, Study 4 .....	90
<b>FIGURE 2.10.</b> Multiple mediation of the Political Ideology to Implicit Bias relationship by the Outgroup Individualizing index and by the Standard Binding index, Study 4 .....	91
<b>FIGURE 3.1.</b> Mediation model of the relationship between Individualizing Foundations to Intergroup Bias by Social Dominance Orientation, Study 6. ....	126
<b>FIGURE 3.2.</b> Mediation model of the relationship between Binding Foundations to Intergroup Bias by Right Wing Authoritarianism (RWA), Study 6. ....	127
<b>FIGURE 3.3.</b> Mediation model of the relationship between Individualizing Foundations to Intergroup Bias by Social Dominance Orientation and Threat, Study 6 .....	130
<b>FIGURE 3.4.</b> Mediation model of the relationship between Binding Foundations to Intergroup Bias by Right Wing Authoritarianism (RWA) and Threat, Study 6. ....	131
<b>FIGURE S.1.</b> Controlling for the influence of race Individualizing to Explicit Bias mediated by SDO, Study 6 .....	223

**FIGURE S.2.** Controlling for the influence of race Binding to Explicit Bias mediated by RWA, Study 6 .....223

**FIGURE S.3.** Controlling for the influence of race Individualizing to Explicit Bias mediated by Threat with SDO in the model Study 6 .....224

**FIGURE S.4.** Controlling for the influence of race Binding to Explicit Bias mediated by Threat with RWA in the model, Study 6 .....225

**FIGURE S.5.** Alternative Model: Binding to Explicit Bias mediated by SDO, Study 6 .....225

## List of Tables

<b>TABLE 2.1.</b> Framed moral foundation ingroup-preference scores predicted by Political Ideology, Study 1 .....	52
<b>TABLE 2.2.</b> Linear regressions with Political Ideology entered as predictor and Ingroup and Outgroup moral foundations acting as the outcome variables, Study 1 .....	53
<b>TABLE 2.3.</b> Framed moral foundation ingroup-preference scores predicted by Political Ideology, Study 2 .....	63
<b>TABLE 2.4.</b> Linear regressions with Political Ideology entered as predictor and Ingroup and Outgroup moral foundations acting as the outcome variables, Study 2 .....	64
<b>TABLE 2.5.</b> Framed moral foundation ingroup-preference scores predicted by Political Ideology, Study 3 .....	75
<b>TABLE 2.6.</b> Linear regressions with Political Ideology entered as predictor and Ingroup and Outgroup moral foundations acting as the outcome variables, Study 3 .....	76
<b>TABLE 2.7.</b> Regression equations with Framed moral foundation Preference scores predicted by Political Ideology, Study 4.....	87
<b>TABLE 2.8.</b> Linear regression analyses using Political Ideology as the predictor and the Standard- and Outgroup-framed moral foundations as the outcome Variables, Study 4.....	88
<b>TABLE 3.1.</b> Correlation Matrix for the main Intergroup Variables, Study 5.....	116
<b>TABLE 3.2.</b> Correlations of Individualizing and Binding Foundation Scores with the Intergroup Variables, Study 5 .....	117
<b>TABLE 3.3.</b> Information criteria comparing the Moral Foundations Predictor Models to the SDO and RWA Alternative Models, Study 6 .....	129
<b>TABLE S.1.</b> Correlation matrix for the main Intergroup Variables Based on Participants Identifying as Caucasian Ethnicity and who passed the MFQ attention checks, Study 5 .....	219
<b>TABLE S.2.</b> Correlations of Individualizing and Binding Foundation Scores with the Intergroup Variables Based on Participants Identifying as Caucasian Ethnicity and who passed the MFQ attention checks, Study 5 .....	219
<b>TABLE S.3.</b> Correlation matrix for the main Intergroup Variables Based on Participants who had Lived in the U.S. for more than 10 years and who passed the MFQ attention checks, Study 5 .....	220

**TABLE S.4.** Correlations of Individualizing and Binding Foundation Scores with the Intergroup Variables Based on Participants who had Lived in the U.S. for more than 10 years and who passed the MFQ attention checks, Study 5 .....220

**TABLE S.5.** Correlations between Individualising and Binding Foundations, RWA and SDO, Study 6 .....220



# **CHAPTER 1: MORAL AND POLITICAL COGNITION: UNEXPLORED IMPLICATIONS FOR IMPROVING INTERGROUP RELATIONS AND REDUCING PREJUDICE.**

## **1.0. Intergroup Relations and Ideology**

The role of moral and political ideology in intergroup relations reflects an important and rapidly developing area of psychology with widespread global implications. Political polarisation has recently been highlighted within the U.K. in the context of E.U membership (Pew Research Center, 2016) and ideological polarisation has been growing in recent years in the U.S. (Pew Research Center, 2014); other aspects of societal and political divides can be seen in policy perceptions concerning immigration and immigrant groups globally (Duffy, & Frere-Smith, 2014; Goodwin, Raines, & Cutts, 2017). Politically, in Europe, Far Right sentiment has also increased in several countries including France, Austria, Denmark, and the Netherlands (Adler, 2016). Research in psychology on perceptions of diversity has found that those with strong ideological beliefs such as Authoritarian ideologies show an increase in negative attitudes as perceptions of diversity increase (Kauff, Asbrock, Thörner, & Wagner, 2013). Recently work on moral cognition has changed the psychological understanding of the nature of political ideology (Haidt, 2012) and the current thesis integrates research on morality, political ideology, and threat perceptions to explore the implications of these variables for intergroup relations.

This thesis employs two novel lines of research to study the relationship between moral and political cognition and intergroup relations. The first line of research considered in Chapter 2 examines how existing work in moral and political psychology has often omitted and obscured the intergroup level. In order to study the group level in moral and political cognition more effectively, the first line of research explicitly frames items assessing moral

judgements in terms of ingroups and outgroups to examine how group-based framing relates to political orientation. The first line of research, then goes on to further examine the associated impact of political ideology and ingroup- and outgroup-focused moral investment upon intergroup attitudes and threat perceptions. The second line of research in Chapter 3 looks at how different sets of moral values relate to intergroup relations and more extreme social ideologies. This second line of research also considers how investment in different sets of moral beliefs relates to perceptions of immigrant groups and to strong socio-political ideologies and in turn, how these strong ideologies mediate this relationship. In both lines of research, threat perceptions are further considered as an important variable as predicted by moral and political attitudes. Overall this thesis brings together work on moral and political cognition with the study of intergroup relations to argue that moral cognition is important in determining the kinds of groups that liberals, conservatives and other strong forms of socio-political ideologies care about.

The potential role of social, moral, and political psychology for understanding intergroup relations is in rapid development. In order to understand the growing global trends surrounding political polarisation and immigration perceptions, it is first necessary to consider the current psychological literature on socio-political ideology and intergroup relations (Jost, 2006; Hibbing, Smith, & Alford, 2014; Altemeyer, 1996; 1998; Pratto, Sidanius, Stallworth, & Malle, 1994). We will then consider the importance of the moral values which underpin these ideologies (Haidt & Joseph, 2004; Haidt, 2012). Finally, we will investigate the role of threat perceptions (Sherif, 1961; Stephan & Stephan, 2000) and group categorization (Tajfel, Billig, Bundy, & Flament, 1971; Brewer, 1999) which we propose act as potential mechanisms for better understanding moral and political cognition. Threat

perceptions are considered especially important within the project in terms of understanding the implications for negative immigration attitudes as well as the role of such perceptions as underlying different components of ideology (Craig & Richeson, 2014a; Kauff et al., 2013; Jost et al., 2007; Thórisdóttir & Jost, 2011; Van de Vyver, Houston, Abrams, & Vasiljevic, 2016). These areas of research will be explored in relation to the two lines of research considered in Chapter 2 and Chapter 3 of the thesis. In order to achieve this, we will first turn to the definition and study of political ideology from a psychological perspective.

### **1.1. Political Psychology and Social Cognition**

Ideology has been defined as “any comprehensive and mutually consistent set of ideas by which a social group makes sense of the world...” (McLean & McMillan, 2009, p.255). Psychologist, John Jost (2006) defined political ideology more specifically based on earlier work by Tedin (1987) “as an interrelated set of moral and political attitudes that possesses cognitive, affective and motivational components” (Jost, 2006, p.653). Jost, Glaser, Kruglanski, and Sulloway (2003) have generally distinguished political liberalism (also referred to as the political left) from political conservatism (also referred to as the political right) in two ways. 1) They have argued that in liberalism there is more of a focus on inequality as a central concern in society and 2) that conservatives express more support for maintaining the current societal state of affairs or “status quo” as compared to liberals (see also Jost, 2006; Jost, Nosek, & Gosling, 2008, p.127). There has been growing evidence that different sets of political ideologies have distinctive cognitive antecedents. For example, Jost et al. (2003) have suggested that ideological belief systems are a product of “motivated social cognition” (Jost, 2003, p.339) in which political beliefs are seen as partial

consequences of knowledge and uncertainty reduction strategies, and cognition involved in the mitigation of personal and contextual threat perceptions (Jost et al., 2003).

In Jost et al.'s (2003) meta-analysis of the existing literature on political ideology and cognition, they found that "death anxiety (weighted mean  $r = .50$ ); system instability (.47); dogmatism-intolerance of ambiguity (.34); openness to experience (-.32); uncertainty tolerance (-.27); needs for order, structure, and closure (.26); integrative complexity (-.20); fear of threat and loss (.18); and self-esteem (-.09)." (Jost et al., 2003, p.339) were correlated with stronger conservative orientations. It is important to note that there may be both benefits and costs to these differences for both liberals and conservatives in different ways; for example, heightened threat perceptions may also make people more vigilant to real dangers (Hibbing et al., 2014).

In studying political cognition, Jost et al. (2003) have further found that whilst left right measures of political ideology are broad in scope they have been effective in distinguishing important psychological differences across a large host of psychological and neuroscientific research (Hibbing et al., 2014; Jost et al., 2003; Jost, 2006; Jost et al., 2008; Jost & Amodio, 2012; Graham, Haidt, & Nosek, 2009). This research often measures political ideology by asking participants to rate themselves on a scale from "*extremely liberal*" to "*extremely conservative*" (See ANES in, Jost 2006, p.659). Examining the American National Election Studies (ANES), Jost (2006) has found that "responses to this single ideological self-placement item explain 85% of the statistical variance in self-reported voting behaviour over the last 32 years" (Jost, 2006, pps. 658-659), which demonstrates the pragmatism and utility of liberal-conservative item measures of political ideology in explaining attitudes and behaviour.

More recently, in a review of the psychological and psychophysiological literature on political ideology, Hibbing and colleagues (2014) have argued that the main factor delineating those on the left and right of the political spectrum was “negativity bias” (Hibbing et al., 2014, p.303). This negativity bias “reflects the fact that humans generally tend to respond more strongly, to be more attentive, and to give more weight to negative elements of their environment” (Hibbing et al., 2014, p.303). Hibbing et al. (2014) suggested that we evolved this important tendency so as to be vigilant to potential harm within the environment; they found that liberals are less sensitive (and conservatives more sensitive) to negatively charged stimuli across a large host of research, to the extent that Hibbing et al. (2014) were unable to find any research contrary to this trend. One study by Dodd et al. (2012) found that those with higher levels of conservatism also had “...faster orienting towards, and greater total time spent attending to, aversive relative to appetitive images” (Dodd et al., 2012, Study 2, p.646), whereas more liberal individuals demonstrated a contrary pattern. Together these findings suggest that political ideologies may meaningfully and differentially relate to biases and vigilance towards negatively charged stimuli.

The findings on negativity bias theory (Hibbing et al., 2014) can be seen to offer further evidence of the cognitive underpinnings of ideology and complement other work on socio-political ideologies and political communications. For example, Lavine et al. (1999) found that those high in Authoritarianism, which is a more extreme form of conservatism, have been found to be more responsive to negatively (as compared to positively) framed messages about voting (Lavine et al., 1999); this research points to the idea that negativity biases can be influenced by the framing of messages much like other forms of cognitive biases (Kahneman & Tversky, 1984; Sunstein & Thaler, 2008). However, whilst the negativity

bias hypothesis is interesting (Hibbing et al., 2014), whether negativity bias may be more effectively explained as a result of heightened vigilance to threat based stimuli remains open to debate. For example, “studies from neuroscience and genetics suggest that right- (vs. left-) wing orientation is associated with greater neural sensitivity to threat and larger amygdala volume, as well as less sensitivity to response conflict and smaller anterior cingulate volume” (Jost & Amodio, 2012, p.55). Others have also highlighted how differences detected in disgust responses as a function of ideology could also have implications not covered within a simple negativity bias model (Inbar & Pizarro, 2014; Inbar, Pizarro, Iyer, & Haidt, 2012).

In contrast to the general focus on conservatism and its relation to social contextual variables, research evidence has also suggested that liberals may be more approach (or risk) orientated than conservatives, as can be seen in the work of Shook & Fazio (2009). They employed a learning paradigm in which participants had to view a series of different shaped and patterned beans in a computer based task and were asked to learn which beans were favourable and which were unfavourable receiving increments in points for correct identifications and deductions for incorrect decisions. In the task participants could approve or refuse beans however the values of the beans (in terms of the points received or deducted) were only revealed in the case of approval of a bean, therefore rejection did not give information in regards to points gained or lost. They observed that both liberals and conservatives learned on the task, but did so in different ways. More conservative participants were more likely to generally reject beans (overclassify negative) than liberal participants who used a more approach focused orientation, though liberal participants were also exposing themselves to more potential risks. Further supporting this notion Rock and Janoff-Bulman (2010) asked participants to categorise objects into different sets of

groups as a measure of “cognitive rigidity” after participants had received framing of either an “approach” or “avoidance” focused message. Here across two studies the interaction between ideology and framing was significant where higher conservatism led to increased categorical thinking but not if these participants had received the approach-based frame (see Rock & Janoff Bulman, 2010, p.31).

The work of Shook and Fazio (2009) and Rock and Janoff Bulman (2010) can be seen to complement other research considering personality factors in ideology which suggests that liberals will show higher levels of ‘openness to experience’ as measured via personality scales, but are also less ‘conscientious’ than conservatives (Carney, Jost, Gosling, & Potter, 2008, pps. 815-16). Recently work has also correlated higher ratings of interdependence with groups other than one’s own with political liberalism (Van der Toorn, Napier, & Dovidio, 2014) and has indicated that conservatives feel an increased sense of social consensus to politically similar others whilst liberals feel more individually differentiated to politically similar others, though in both cases these feelings are exaggerated relative to actual levels of both consensus and differentiation (Stern, West, & Schmitt, 2014). Research has also suggested a relationship with Schwartz’s (1992) value of universalism and political liberalism (Jost, Basevich, Dickson, & Noorbaloochi, 2015) with universalism generally being defined in Schwartz’s work as the “understanding, appreciation, tolerance, and protection for the welfare of *all* people and for nature” (Schwartz, 1994, p.22) supporting the general notion that liberals may have lower threat perceptions and more willingness to expose themselves to different novel scenarios and groups.

Given the literature showing that political ideology relates to approach-avoidance motives (Rock & Janoff-Bulman, 2010; Shook & Fazio, 2009), negativity biases (Hibbing et al.,

2014), motivated social cognition around uncertainty and threat reduction (Jost, 2003; Jost et al., 2007), and to personality characteristics (Carney et al., 2008), there is good evidence to suggest the study of ideology may have relationships to broader social cognition (Hibbing, Smith, & Alford, 2014b; Shook & Fazio, 2009). In addition, when considering this literature it is also important to note that a balance between higher and lower sensitivity to threat perceptions may have wider implications for society. For instance, it could be argued that too little threat perception would also be a risk and that balances of both liberal and conservative ideologies may have some benefits for society (See Hibbing et al., 2014a; 2014b for discussion). For example, some evidence has suggested societies with more balanced rather than over or under-restrained moral-ideological climates have stronger economies (see Janoff-Bulman & Carnes, 2016, Study 3).

Hibbing et al. (2014) have argued that responses to threats may also have served a number of important evolutionary functions as vigilance to different threats may have aided survival. However, whilst this may be the case, threat perceptions that lead to intergroup tensions and conflict could be seen as potentially detrimental. Jost et al. (2003) have noted that “one of the most consistent and enduring targets of right-wing criticism has been immigration, which is often experienced as frightening, confusing and potentially threatening to the status quo” (Jost et al., 2003, p.351). Political ideology thus may be informative regarding intergroup relations in general, as well as related topics such as immigration perceptions. In the context of intergroup relations, we now turn to examples of more polarised and extreme socio-political ideologies that are related to strong intergroup attitudes.



## **1.2. Authoritarianism and Social Dominance Orientation.**

In considering how social ideology relates to intergroup relations, there has been a particular focus on the strong ideological beliefs with implications for intergroup perceptions; these can be seen in: (1) Authoritarianism (Altemeyer, 1988; 1996; 1998) and (2) Social Dominance Orientation ideologies (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994), which are distinct in content and are both related to prejudicial and negative attitudes towards different groups across a large host of research (Pratto et al., 1994; Altemeyer, 1988; 1996; 1998; Duckitt & Sibley, 2007; 2009; 2010).

Altemeyer's (1988; 1996; 1998) concept of Authoritarianism assesses the psychological components of authoritarian ideology using a measure termed the 'Right Wing Authoritarianism' scale (RWA) where the term 'right' refers to a sense of strong conviction about one's views rather than just politically (Altemeyer, 1996). Altemeyer (1996; 1998) defines Authoritarianism tendencies as consisting of three aspects (1) Submitting to the authority of those seen as valid authority figures, (2) highly normative or 'conventional' behaviour to fit perceived social norms and (3) the acceptance of committing aggression against individuals deviating from perceived norms and authorities. These three facets are measured using different items within the RWA scale which is often collapsed to form an overall measure of Authoritarian investment. This measure has consistently demonstrated strong reliability and validity (Altemeyer, 1996) and has been related to negative perceptions of a number of societal groups.

People scoring high on Authoritarianism would show strong agreement with items such as "If the society so wants, it is the duty of every true citizen to help eliminate the evil that poisons our country from within" (Zakrisson's 2005, p.870, short form RWA scale).

Authoritarianism is also related to the view that the world is dangerous (Altemeyer, 1998) as measured using the 'belief in a dangerous world scale' (BDW: Altemeyer 1988; Duckitt & Sibley, 2009; 2010). Authoritarian ideologies aim to emphasize tradition and are also anti-democratic in content (Altemeyer, 1988; 1996). It has further been argued that RWA represents reactions to perceived societal threats (Stenner, 2005), whilst Duckitt and Sibley (2009; 2010) have viewed RWA as a result of BDW perceptions.

In contrast to RWA, Social Dominance Orientation (SDO; Pratto et al., 1994) represents a distinct ideology, which also has important implications for the study of ethnocentrism and derogation as expressed towards different groups in society (Pratto et al., 1994). As compared to RWA those high in SDO are more likely attracted to hierarchy and leadership rather than following norms or rules of others (Altemeyer, 1998). Individuals high in SDO also have strong beliefs surrounding the dominance and superiority of themselves and their group and support actions against other people or groups who they view as being of lower status. This strong belief system revolves around a strong favourability towards hierarchy (Pratto et al., 1994). Work by Duckitt and Sibley (2009; 2010) have found that the SDO belief system is predicted by beliefs that the world is highly competitive and in turn that SDO predicts a host of negative attitudes surrounding particular societal groups. Social Dominance Orientation is often measured using the SDO scale, a further 16-item version of the scale was also specifically developed in order to assess group based social dominance (see Pratto et al., 1994, Appendix C). Those high in group based social dominance agree with statements such as "to get ahead in life, it is sometimes necessary to step on other groups" (Pratto et al., 1994, p.763) demonstrating the social implications associated with this ideology.

More recently work around SDO and RWA has argued that RWA and SDO represent strong socio-political ideologies influenced by context rather than as solely based on individual personality (Duckitt & Sibley, 2009; 2010). Feldman and Huddy (2014) and others have also argued that a focus on SDO and RWA relate to distinctions between social forms (in the case of RWA) and economic forms (by SDO) of ideological beliefs (Duckitt & Sibley, 2009; Feldman & Huddy, 2014) even though these ideologies are more polarised than more general measures of ideology concerned with liberalism and conservatism (Jost, 2006) they are also arguably more developed in terms of their relationship to intergroup relations. Whilst SDO and RWA represent strong ideological belief systems, both also arguably contain important relationships to moral beliefs around societal and social values, Altemeyer (1998) has argued SDO's do not endorse normal moral distinctions; this is supported by the correlation of SDO with the "Exploitative Manipulative Amoral Dishonesty (E-MAD) scale" (Altemeyer, 1998, p.78). In contrast those high in RWA, have strong unbreakable codes which they follow, believing themselves to be morally superior to others (Altemeyer 1998). The view that ideological belief systems are being supported by sets of moral beliefs about the world has become increasingly prevalent and well researched which has led to a more complex appreciation of how more general (as well as more polarised) political beliefs function (See Haidt, 2012; Federico, Weber, Ergun, & Hunt, 2013; Kugler, Jost, & Noorbaloochi, 2014), to which we now turn.

### **1.3. The Moral Undercurrents of Political Cognition:**

Research considering political ideology has helped to shed light on how people think about political issues and the social world; however, increasingly psychologists have considered political ideology as it relates to moral beliefs (Skitka, 2010; Lackoff, 2010; Haidt

& Joseph, 2004). Work by Skitka and Wisneski (2011) has highlighted the role of strong conviction in one's own set of moral values and how this can lead to political activism through paths of both positive and negative emotions. Lackoff (2010) has also focused on moral cognition and its relationship to political orientation distinguishing between liberals and conservatives in regards to their strictness of moral values, with liberals being more permissive. More recently, examining internet communications in cyberspace in relation to political policy and ideology, researchers have found that "using a large sample of tweets concerning three polarizing issues (n = 563,212), the presence of moral-emotional words in messages increased their transmission by approximately 20% per word" (Brady, Wills, Jost, Tucker, & Van Bavel, 2017). This result suggests moral-emotional language in the context of political messages increases their spread on social media. From the perspective of some researchers, political beliefs are seen fundamentally as beliefs about what is *morally right* (Haidt, 2012). *Moral Foundations Theory* (MFT; Haidt & Joseph, 2004; Haidt, 2007; 2012) has arguably developed one of the most substantive and widely studied psychological frameworks for understanding morality as it relates to both social and political ideology within and between cultures, this research has also identified important distinctions between the way different political ideologies use moral foundations to formulate their ideological views of the social world (Haidt, 2007; Graham et al., 2009).

#### **1.4. Moral Foundations Theory**

MFT was first developed by Haidt and Joseph (2004) and aimed to integrate the study of moral values from anthropology with the field of psychology (Haidt, 2012).

Psychology had hitherto been centrally focused on Kohlberg's (1969) fairness based research and Gilligan's (1982) work on care focused moral values (See Graham et al., 2009; Graham et

al., 2011; Haidt, 2012). For Haidt and Joseph (2004), this represented an overly constrained appreciation of the sets of moral values people hold. Such a view neglected exploring a broader conception of the moral values outside of the harm and fairness domains which were more readily expressed across different cultures and within different subsections of societies across the globe (see also Haidt, 2012). Graham and colleagues (2009) noted that “nearly all research in moral psychology, whether carried out using interviews, fMRI, or dilemmas about stolen medicine and runaway trolleys, has been limited to issues of justice, rights, and welfare” (Graham et al., 2009, p. 1030). For Haidt (2012), this has meant that psychology has underplayed important moral values present in all cultures surrounding Loyalty, Authority, and Purity focused moral beliefs. Moral Foundations Theory is partially derived from Haidt’s (2001) *Social Intuitionist Model (SIM)*, which argues that moral cognition is first intuitive and is then rationalised after the fact into coherent narratives and explanations (though Cf. Wright & Baril, 2011). MFT has further provided a framework for the study of moral values within and across cultures, though it is also important to note that MFT is a descriptive theory of morality, meaning that it does not make judgments about what is morally right and instead aims to *describe* how people reason about morality and their sense of right and wrong in their everyday lives (Graham et al., 2011).

Within MFT Haidt (2012) outlines five main moral values which he proposes have evolved to assist our survival (Haidt, 2012: using a group level evolutionary selection account) these moral values are conceived of as innate and as culturally influenced. Haidt (2012) argues that the moral foundations were first based on evolutionary pressures (such as the harm and care instincts in parents enhancing child survival; Haidt, 2012) and have subsequently been shaped by broader cultural values over time and place. These moral

foundations are as follows: (1) the '*Harm*' foundation which is concerned with avoidance of harm or suffering of others, (2) the '*Fairness*' foundation includes making sure that ourselves and others are treated fairly and that we are not cheated. (3) The '*Loyalty*' foundation includes supporting our group and being vigilant to those who go against the group's values. (4) The '*Authority*' foundation encompasses viewing those who are elders and leaders with respect and also reflects social hierarchy. (5) The '*Purity*' foundation evolved in relation to concerns around disease avoidance and was later co-opted into values surrounding morally sanctified symbols of the group and religion. Haidt's (2012) work has highlighted how Harm and Fairness values have been strongly represented up until now in psychology. The Loyalty, Authority, and Purity values, however, have not been considered previously (Shweder, Much, Mahapatra, & Park, 1997; Haidt, 2012). Supporting this idea Moral Foundations Theory has found consistent differences in the expression of these five sets of moral values within and across different cultures (see Graham et al., 2011). In addition, MFT has also been applied within cultures to the understanding of differences in political cognition (Graham et al. 2009; Graham et al., 2011) and social policy perceptions (Koleva, Graham, Iyer, Ditto, & Haidt, 2012).

#### **1.4.1. Measuring Moral Foundations**

In order to measure people's investment in the five moral foundations Graham et al. (2011) formulated the Moral Foundations Questionnaire (MFQ) that measures investment in the five foundations of: Harm, Fairness, Loyalty, Authority and Purity. The factor structure of the MFQ has been demonstrated to be most effective with a five-factor solution (confirmatory factor analysis: Graham et al., 2011) and the scale has been found to have good test retest reliability, cross cultural validation, external validity and predictive validity

(Graham et al., 2011). The MFQ is divided into two subscales one looking at more abstract conceptions of the five different moral foundations and the other looking at the more concrete applications, these two subscales are termed the “relevance” and “judgement” subscales respectively (Graham et al., 2011, p.369); these subscales are collapsed in order to gain a more comprehensive account of the use of each moral foundation. Research has demonstrated that moral relevance investment for each of the five foundations matches judgements subscale foundation investment (See Graham et al., 2009, Study 1 & 2). Collapsing the subscales also increases the overall reliability of the moral foundations measured by the MFQ (Graham et al., 2011). The development of the MFQ was partially a response to value based theories such as Schwartz’s (1992) which are well validated models but were more constrained in their cultural conception to Western societies (Graham et al., 2011). Comparing the MFQ to the Schwartz’ values scale (SVS; Schwartz, 1992) has found that “the MFQ was actually a more powerful predictor than the SVS for most of the scales and political issue positions, and all of the social group attitudes” (Graham et al., 2011, p.376). These findings further suggest the validity of the MFQ as a useful measure for assessing ideological and social attitudes.

The most recent version of the MFQ contains 30 items. Six items assessing each moral foundation (Harm, Fairness, Loyalty, Authority, Purity). The MFQ also contains two items designed to detect participants who are completing the measure in an acquiescent way. An example includes an item that asks if it is an important moral concern to them “whether or not someone was good at math” (Graham, Haidt, & Nosek, 2008) in which participants scoring “*somewhat relevant*” or above on the response scale are removed. Items measuring each of the five foundations assess both abstract and concrete (Graham et

al., 2011) moral investment; an example harm item asks people how important a moral concern it is “whether or not someone was cruel” (Graham et al., 2008). In contrast, an example of Authority investment would be agreement that “Respect for authority is something all children need to learn” and Purity being asked to rate an item stating: “people should not do things that are disgusting, even if no one is harmed” (Graham et al., 2008). Within the MFQ, 6 items measure each of the moral foundations and these are then averaged to form an overall score reflecting investment in that particular moral foundation (See Graham et al., 2011). The MFQ is a quantitative measure that was complemented and informed by earlier more qualitative explorations of moral values and other quantitative surveys (McAdams et al., 2008) and these different sets of foundations can also be seen in research examining the way speech is used across different political and religious orientations using word frequency analyses (See Graham et al., 2009, Study 4). The MFQ represents an assessment of investment of each of the five identified moral foundations using a standardised and validated measurement tool for use within and across cultures (Graham et al., 2011; Graham et al., 2009). Research using MFT often employs the MFQ as the main method for measurement of people’s investment in the five moral foundations.

#### **1.4.2. Moral Foundations and Political Ideology**

One of the main uses of the MFQ has been to measure differences in moral foundations as a function of political ideology. Graham and colleagues (2009) conducted research considering how liberals and conservatives would differ in their investment in the five different moral foundations (Harm, Fairness, Authority, Loyalty and Purity). Here it was found that in the U.S. and U.K, the same patterns emerged. Those who were more politically liberal invested in the Harm and Fairness foundations more than the Loyalty, Authority, and



Purity foundations on the MFQ, whilst those higher on political conservatism invested in all five moral foundations (Harm, Fairness, Loyalty, Authority and Purity), which suggests that differences in moral foundations are related to political ideology; See Graham et al. (2009; Graham et al., 2011; See also Haidt, 2007).

This distinction between liberals, and conservatives is important as Graham et al. (2009; Haidt, 2012) propose that this reflects a fundamental difference in moral emphasis between liberals and conservatives and can explain ideological divides across the political spectrum. For Graham and colleagues (2009; also Haidt, 2012) the Harm and Fairness values are argued to be based on moral concerns to do with *individual* members of society, in this respect liberals are primarily concerned that individuals are not hurt, harmed or treated unfairly rather than the broader societal group. Therefore, the Harm and Fairness foundations have been called “*Individualizing*” moral foundations as the “the *individualizing* approach focuses on individuals as the locus of moral value” (Graham et al. 2009, p.1030). In contrast, conservatives cared more strongly about the three other moral foundations of: Loyalty, Authority, and Purity (as well as Harm and Fairness). The Loyalty, Authority, and Purity foundations have been termed as “*Binding*” foundations by Graham et al. (2009) because all three are considered to be evolved moral values with the function of assisting group cohesion. “This *binding* approach focuses on the group as the locus of moral value” (Graham et al., 2009, p.1030). For example, the Authority foundation reflects hierarchy and respect for the group leadership. The Loyalty foundation reflects support for the ingroup and vigilance to those who may betray it. Finally, the Purity foundation reflects reverence and respect for symbols of importance to the group (through moral sanctification) which aids group cohesion (Haidt, 2012). The finding that conservatives invest more in the binding

foundations was also constant geographically, as Graham et al. (2011) measured sets of Eastern and Western global regions finding that: “in every country and world region we examined, people on the political right placed greater emphasis on concerns about ingroup loyalty, respect for authorities and traditions, and physical/spiritual purity than did people on the political left” (Graham et al., 2011, p.380); this analysis included several regions within Asia and Europe as well as the broader Middle East and Africa.

Overall the findings of Graham and colleagues (2009; 2011) mean that according to MFT, conservatives have more of a concern with their group and keeping their group together as “the building block of society is thought to be the family, and a much greater emphasis is placed on virtues and institutions that bind people into roles, duties and mutual obligations” (Graham et al., 2011, p.368) whereas liberals are concerned mainly with moral values regarding the rights of individuals (Graham et al., 2009). This difference in emphasis is argued to explain a large number of differences that liberals and conservatives encounter when they discuss or debate policy issues (See Koleva et al., 2012). However, this difference leads to important consequences for political and ideological divides as Haidt (2012) argues that “morality binds and blinds” (Haidt, 2012, p.222). Here Haidt (2012) proposes that liberals and conservatives disagree because they use different moral frames of emphasis in discussing and evaluating policies and positions; thus, they are often unable to take each other’s moral perspective due to differences in their fundamental moral values (Haidt, 2012).

Moral Foundations theory has many advantages as an alternative measure of the underlying structure and function of political ideology. Whilst this is the case, there have been a number of critiques of moral foundations theory in relation to individualizing and

binding distinctions, and whether the binding foundations may ever be problematic when applied to intergroup relations more generally or to the influence of groups on political ideology (Janoff-Bulman & Carnes, 2013; Kugler et al., 2014). This is a point that the MFT theorists themselves have alluded to when Haidt and Joseph (2004) note that “for liberals, the conservative virtues of hierarchy and order seem too closely related to oppression, and the conservative virtues of purity seem to have too often been used to exclude or morally taint whole groups (e.g., blacks, homosexuals, sexually active women)” (Haidt & Joseph, 2004, p.64). These examples suggest serious issues with the moral foundations framework at the intergroup level. We now turn to the unresolved issues with the group level in MFT and then go on to explore in further depth, what the moral foundations mean for a better understanding of political ideology and intergroup relations once the group level is examined in greater detail.

## **1.5. Theoretical Critiques of Moral Foundations Theory**

### **1.5.1. Model of Moral Motives (MMM)**

The group-level in MFT has recently become a point of criticism by some psychological theorists. Janoff-Bulman and Carnes (2013; 2016) have proposed that MFT does not accurately capture group-level moral values amongst liberals. They have instead proposed a model of morality that relates to approach/avoidance tendencies as seen in models of Behavioural Activation and Inhibition cognition (see Carver & Scheier, 2000; Rock & Janoff-Bulman, 2010). In Janoff-Bulman and Carnes’ (2013; 2016) Model of Moral Motives (MMM) these distinctions are reflected in “prescriptive” moral values revolving around pursuing active behaviours and values and “proscriptive” moral values revolving around restrictive behaviours and values. They argue that these processes operate at three different

levels “from self (personal) to other(s) (interpersonal), to the group (collective)” (Janoff-Bulman & Carnes, 2013, p221). Supporting this idea, MMM research has demonstrated that questionnaire items assessing the six different moral motives in the MMM model loaded on distinct factors from each other (Janoff-Bulman & Carnes, 2016, Study 1) and such inhibition and activation based moral motives also predicted liberal and conservative social and economic policy attitudes differentially (Janoff-Bulman, Sheikh, & Baldacci, 2008, Study 2).

The final level of the MMM has particularly important implications for MFT and is concerned with group-focused morality. Here they propose two moral motives operate; one is concerned with “social order” (proscriptive) which is based around controlling and ordering the wider societal group and the second “social justice” (prescriptive) is concerned with assisting and aiding the wider societal group (Janoff Bulman & Carnes, 2013, p.222). Most crucially for MFT there are differences in these ‘group-focused’ moral motives as a function of political ideology. They have found that a liberal political ideology was positively and significantly related to higher social justice concerns, whereas having a more conservative ideology was significantly related to higher levels of social order endorsement across research studies (Janoff-Bulman & Carnes, 2016; Janoff-Bulman et al., 2008). In the MMM Janoff-Bulman and Carnes (2013; 2016) propose that Social Order (higher in endorsement amongst conservatives) had much similarity with the standard MFT binding foundations of Loyalty, Authority, and Purity. However, in further considering the findings at the group level, Janoff-Bulman and Carnes (2013; 2016) argued that social justice represented what they viewed as a liberal equivalent to the group focused moral foundations aimed at active support for the group which had not been detected or considered within the moral foundations framework.

In response to Janoff-Bulman and Carnes (2013), Graham (2013), a MFT proponent, suggested that a more effective way to consider the group level within the MMM would be in the intergroup context considering the influence of both ingroups and outgroups in moral values. Whilst the MMM provides an important critique of MFT it has also used a different set of measures and methods to assess the group level in political ideology with its own associated empirical and theoretical issues (See Graham, 2013 for critique). This means it may be more difficult to conclusively resolve the ongoing debate (Janoff-Bulman & Carnes, 2013a; Graham, 2013; Janoff-Bulman & Carnes, 2013b) about the nature of group-focused moral cognition and political ideology between MMM and MFT theorists, due to their reliance on different measures and conceptualisations of morality when considering the group level.

To more rigorously test the group-level in political ideology, the framing of the moral foundations themselves in terms of ingroups and outgroups would compellingly demonstrate that liberals think about their moral foundations differently within MFT when framed based on outgroups as compared to ingroups and would contribute to resolving the current debates in the field. By framing the MFQ in this way, the current thesis research would also begin to shed more light on the influence of intergroup relations within moral values, which has only partially been considered in prior research. No existing research has framed the moral foundations questions in terms of Ingroups and Outgroups, which remains an important omission within the research literature on moral values, ideology and the broader relationship of these areas to intergroup relations. We now consider how other work has highlighted the lack of integration of MFT with intergroup perspectives.

### **1.5.2. Evolutionary Coalitional Theory (ECT)**

One new perspective on the lack of the group level within the MFT has very recently been proposed by Sinn & Hayes (2016) in their Evolutionary Coalitional Theory (ECT), which is based on evolutionary theory surrounding social cohesion and disharmony. The Evolutionary Coalitional Theory (ECT) argues that moral foundations theory is another way of exploring constructs already considered within the political and evolutionary psychology literature, namely the ECT. This theory argues that the Binding Foundations of Loyalty, Authority, and Purity are another way of measuring the already established construct of Right Wing Authoritarianism (RWA: Altemeyer; 1988; 1996; 1998) as they argue binding foundations equate to the strong traditional values found within RWA. ECT calls this the “Authoritarian motive” (Sinn & Hayes, 2016, p.2). They also accuse MFT of ignoring the implications of low investment in of Harm and Fairness foundation, which they suggest reflects high levels of Social Dominance Orientation (SDO: Pratto et al., 1994), ECT terms this the “Dominating Motive” (p.2). Finally, ECT further argues that one final component of liberal political ideology which is not adequately captured by the high investment in harm and fairness for liberals within MFT is the “Universalizing Motive” (Sinn & Hayes, 2016, p.2) which reflects a broader form of identification than the focus solely on individual rights found within in MFT (Haidt, 2012; Graham, 2013); this general motive has been explored by others in traditional models of values (Schwartz, 1992) that Sinn and Hayes (2016) integrate within their model.

In one study, Sinn and Hayes (2016) measured moral foundations to test whether they related to strong persecutory attitudes against immigrants, using the immigration posse scale (see Thomsen, Green, & Sidanius, 2008; also Altemeyer, 1996) and threat perceptions

(using their own measure of threat focused on “direct” and “values” based threats, Sinn & Hayes, 2016, p.7). They observed that in both cases binding foundations (as a composite) positively related to immigration posse scale scores and threat perceptions (Sinn & Hayes, 2016, Study 1). While the study was provocative, one issue was that the threat measure employed was created by the authors for the study, rather than using more established measures of threat within social psychology, such as Stephan, Ybarra, and Bachman’s (1999) measure of realistic and symbolic threat. Another issue with this study was that the immigration posse scale (Altemeyer, 1996) was the main measure of outgroup attitudes. While the immigration posse scale is an important measure, it is also a measure of extremely strong persecutory attitudes including willingness to commit violence toward immigrants (see Thomsen et al., 2008) which are arguably markedly different from more general attitudes on immigration. The scale is also predicated on asking participants to think of a context “assuming immigrant organizations have become illegal” (Sinn & Hayes, 2016, p.7) meaning more general attitudes towards immigrants were not measured. Finally, a crucial issue for this study was that Sinn & Hayes (2016) did not use the full 30-item measure of the Moral Foundations Questionnaire (MFQ) and instead used the moral judgements 15-item subscale; this means that it is more difficult to conclusively determine if the relationship would hold using the full 30 item measure of moral foundations that includes aspects surrounding both the ‘relevance’ of moral concerns to individuals as well as application as ‘judgements’ (Graham et al., 2011, p.369).

In a third study, Sinn & Hayes (2016) observed that moral foundations loaded differentially onto two factors. One factor was labelled “Universalizing vs. Dominating” (p.14) and consisted of the Harm and Fairness foundations, a Universalism scale, the

“identification with all humanity” scale (Sinn & Hayes, 2016, p.14; see McFarland, Brown & Webb, 2013), all of which loaded positively, along with the Social Dominance Orientation scale that loaded negatively on the factor. In contrast, a separate factor was labelled “Authoritarianism” (p.14), and included the three binding foundations of Loyalty, Authority, and Purity foundations along with RWA, all positively loaded. They argued that Moral Foundations did not improve models over and above other variables (Study 3) when they were added to the regression equations.

Whilst ECT represents a promising new model, it could be argued that this relationship overlooks the value of moral foundations as being useful in understanding the potential antecedents of ideologies such as RWA and SDO, as well as the large amount of evidence and utility of moral foundations as a tool for measuring morality and its relationship to ideology across cultures and nations (Haidt, 2007; 2012; Graham et al. 2009; Graham et al., 2011). Moreover, a single paper indicating that moral foundations does not explain variance above other variables is not enough evidence to dismiss the dozens of studies showing its value. More research needs to investigate these ideas. Somewhat in line with the ideas expressed within ECT about the relationships of the moral foundations to polarised ideologies, versions of the SDO and RWA scales were used to originally validate the fairness and authority subscales of the MFQ respectively though these measures also related to broader foundations (See Graham et al., 2011, Table 7); this points to how, even in the MFQ’s inception, there was potentially a relationship to strong intergroup variables. However, replacing the moral foundations with these classical measures could be argued to obscure sets of underlying moral values which may help us to better understand the development of Authoritarian and SDO social ideologies. This would further obscure an



understanding of how moral foundations relate to intergroup processes and strong social ideologies which may be important for developing interventions and methods to improve social harmony.

In order to more fully understand the group level in Moral Foundations Theory, the first line of research considered in Chapter 2 of this thesis will investigate the influence of group-based framing (ingroup versus outgroup) on the Moral Foundations Questionnaire and its relationship to political ideology and intergroup variables. By focusing the MFQ items on ingroups and outgroups, the current research will address the ongoing debates about the nature of the group level in MFT (Janoff-Bulman & Carnes, 2013; Graham, 2013). After establishing how the ingroup and outgroup based framing of the moral foundations relates to political ideology, Chapter 2 will then examine the influence on intergroup attitudes and will also specify ingroups and outgroups when framing the MFQ. Detecting differences in moral emphasis as a function of the group level would have important implications for moral and political psychology. Finally, Chapter 2 of this thesis will consider the implications of ingroup and outgroup framed moral foundations for broader intergroup relations and social attitudes.

In light of this focus, we now turn to other work of particular importance to the second line of research considered in Chapter 3 of the thesis which considers how moral foundations relate to intergroup relations more generally as well as to more extreme social ideologies. In doing so, we will highlight how this work causes further issues for MFT when applied at the intergroup level.

## 1.6. Intergroup Relations and Moral Foundations

There has been only limited research considering the implications of MFT for the study of intergroup relations. Federico et al. (2013) and Kugler et al. (2014) separately conducted studies that aimed to assess the relationship between the five moral foundations and their relationship to levels of SDO and RWA ideologies. The general pattern from these studies was that the Loyalty, Authority, and Purity foundations were positively predicted by RWA, whilst the Harm and Fairness foundations were negatively predicted by SDO. Kugler et al. (2014) went on to examine and extend the intergroup implications of these findings to also consider the relationship of the five moral foundations to a measure of outgroup hostility. They found that the Authority, and Purity foundations positively predicted hostility whereas the Fairness foundation negatively predicted hostility. As a result of these findings, Kugler and colleagues (2014) argued that the descriptions of the 'binding' moral foundations as 'moral' was a misnomer considering their relationship to hostility aimed at those not within the ingroup; however, one issue with this conclusion was that within Kugler et al.'s (2014) measure they made strongly salient intergroup comparisons between different groups such as Muslims and Christians as well as also considering *illegal* immigration in two of the six items assessing hostility; such salient examples of more non-normative or extreme groups may have partially driven their effects and therefore work assessing more general attitudes towards immigration and immigrant groups as well as outgroups more generally is lacking.

Other work in MFT considering its implications at the intergroup level has suggested that when MFT is applied to the intergroup context there could be important implications for the treatment of other groups. Smith, Aquino, Koleva, and Graham (2014) considered

how moral foundations may affect attitudes towards outgroups whilst also accounting for how strong or weakly people rated themselves on a measure of moral identity; they used MFQ in one study (Graham et al., 2008) and Sacredness scale in another (Graham et al., 2009, Study 3) to measure moral investment in the individualizing and binding foundations (Smith et al., 2014, Studies 1a, 1b). It was found that those with lower moral identity and who were invested in the binding foundations were more likely to support torture (Smith et al., 2014). In a follow-up study they also found a similar effect when participants were asked to rate a hypothetical survival scenario involving two groups. In this study, those primed in a moral condition and who scored high on binding foundations and low on moral identity were less likely to share water resources with a foreign group as compared to their own group (Smith et al., 2014, Study 2). This research has pointed to the possibility that under certain conditions Binding moral foundations may relate to negative attitudes towards outgroups and outgroup members.

Whilst Moral Foundations Theory and associated theories have aimed to understand moral values as they relate to society and policy, the relationship between these variables and the study of more general intergroup relations is lacking. Some research has aimed to examine differences in perceptions of moral values from the self and other groups but has often asked participants to fill out the standard MFQ from *their own* perspective and then to fill the MFQ out again *as if they* were a member of another group completing the items (Obeid, Argo, & Ginges, 2017; Graham, Nosek, & Haidt, 2012). This approach however means that there is no clarity in how moral values affect perceptions of other groups as *targets* for judgements on the MFQ as compared to one's own group. Other early work in moral foundations theory has correlated moral foundations with support for different types of

groups (Graham et al., 2011) but again did not investigate intergroup relations or how such group affinities related to more general intergroup processes.

The group level remains only partially explored within moral foundations theory (Janoff Bulman & Carnes, 2013; Graham, 2013). Within social psychology, however, there is a large history of demonstrating the power of group-level thinking (see Social Identity Theory, SIT; Tajfel & Turner, 2004; Spears, 2011) and group-level categorisation in intergroup relations. For example the Minimal Groups Paradigm experiments (Tajfel et al., 1971) found that placing individuals into arbitrary groups had immediate effects on their resource allocation decisions, whereby they would favour members of their own group. Social Identity Theory (SIT; Tajfel & Turner, 2004; Spears, 2011) began in reference to understanding the minimal groups paradigm (Tajfel et al., 1971) and explained these findings of “maximum difference” between groups by demonstrating that individuals emphasised distinctiveness between groups most in their resource allocation rather than simply thinking about gain to themselves (Tajfel & Turner, 2004, p.282). SIT further highlighted the role of ingroups and outgroups in providing individuals with a sense of “self-esteem” and “group distinctiveness” (see Spears, 2011, p.204), which also related to processes of social categorization to explain how individuals defined group boundaries and the features of groups, affecting their social behaviour and self-concept (Tajfel & Turner, 2004). Social Identity was also developed further by work within Self-Categorization Theory (SCT; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) which expanded the SIT framework to understand how individuals define themselves within groups as well as between groups, for “If social identity theory is primarily a theory of intergroup relations, self-categorization theory can be seen as a more general theory of the self, of *intragroup* as well as *intergroup* processes...” (Spears, 2011, p.208) this

had an important influence particularly in the context of group salience and identity debates and research. SIT is a long established and effective framework for the study of intergroup relations and processes and highlights the importance of ingroups and outgroups in our social attitudes.

Other social psychologists such as Brewer (1999) have also considered the implications of ingroup and outgroup categorisation in which the effects of ingroup preference can have an important impact on other groups. In doing so Brewer (1999) has suggested that some forms of “discrimination can be motivated solely by ingroup preference, in the absence of any negative affect or hostile intent towards outgroups” (Brewer, 1999, p.431). This group categorisation has been argued to relate to evolutionary processes; humans have increasingly focused on group-based reciprocity and learning throughout evolution. One implication of this idea is that people may show favouritism towards their own groups as a way of minimising chances of not being repaid. Group categorisation has been demonstrated in experimentally controlled behavioural economic scenarios (Fitzgerald & Wickwire, 2012) and has also been found to play an important role in real life conflicts as well as atrocities (Zimbardo, 2007). While group categorisation often leads to prejudice and discrimination, there are many conditions in which it does not (Lepore & Brown, 2002; Park & Judd, 2005; Kurzban, Tooby, & Cosmides, 2001).

Despite the moral foundations addressing the group level in the Binding foundations, there is yet to be a full account of what this can mean for understanding intergroup perceptions in the context of polarised ideologies. Research demonstrates that the individualising foundations are negatively related to SDO whilst the binding foundations are

positively related to RWA (Kugler et al., 2014; Federico et al., 2013; Sinn & Hayes, 2016) but less research has considered the intergroup implications of these processes and how the moral foundations relate to intergroup variables more generally. The second line of research considered within Chapter 3 of this research thesis examines MFT and more extreme ideologies in the context of intergroup relations and attitudes. This chapter first sets out to examine how *Individualizing* and *Binding* moral foundations relate to a number of different intergroup variables with importance for societal cohesion. Chapter 3 then goes on to examine the role that more polarised social ideologies play in the relationship between moral foundations and intergroup processes. Investigating the relationships between moral foundations, polarised ideologies, and intergroup relations may lead to a better understanding of how moral and ideological attitudes contribute to social attitudes and the values which underpin more polarised ideologies and may therefore suggest potential interventions to reduce prejudice and discrimination. This research will also examine the extent to which individualising foundations may promote positive intergroup relations.

The research literature considered up to this point examines how group-categorisation and -cognition can play an important role in intergroup tensions; however, another strand of literature suggests that threat and threat perceptions also play an important explanatory role in intergroup conflict and cooperation (Sherif, 1961), and prejudice and discrimination (Stephan & Stephan, 2000). Threat is also currently only partially explored within moral foundations theory (Van Leeuwen & Park, 2009). Threat-related perceptions (i.e., belief in a dangerous world) have also been found to underlie political ideologies more generally as well as more extreme social ideologies such as Authoritarianism (Jost et al., 2007; Duckitt & Sibley, 2009; 2010; Stenner, 2005) and

therefore there is good reason to consider how moral foundations relate to threat perceptions within the existing research literature (Van Leeuwen & Park, 2009); such an investigation is especially important in regards to the broader literature concerned with the relationship between threat and intergroup relations (Stephan & Stephan, 2000); we now consider this literature.

### **1.7. Threat, Morality, and the Social Political World**

The implications of threat perceptions for intergroup relations will be explored within the two strands of research and can also be seen in classical social psychological models of intergroup conflict. Initially, Realistic Conflict Theory (RCT) argued that conflict between groups was a function of perceptions of a lack of societal resources which lead to heightened threat perceptions and conflict between groups (Levine & Campbell, 1972; Sherif, 1961). More recently the study of threat perceptions has been expanded upon by Stephan & Stephan (2000) who proposed an 'Integrated threat theory of prejudice' (Stephan & Stephan, 2000, p.23) which outlines stereotyping, anxiety, and two main forms of threat perceptions as antecedents to prejudice. The first threat perception is 'realistic threat' which is orientated around perceived threats to resources in society, jobs and the economy etc., (Stephan et al., 1999, see p.2228; Stephan & Stephan, 2000). The second is 'symbolic threat' which is orientated around threats to a group's moral and social values or beliefs (Stephan et al., 1999, see p.2228; Stephan & Stephan 2000). Importantly within the model threats do not have to be actual and can simply be perceived to exist and have been found to lead to prejudicial attitudes (Stephan & Stephan 2000).

The use of measures from Integrated Threat Theory (ITT; Stephan & Stephan, 2000) are of further importance to understanding the intergroup context of threat perceptions as

the development of ITT had a focus on the group level processes involved in threat processes. For example we have noted that realistic threat perceptions within the ITT were based upon earlier work in realistic group conflict theory (Levine & Campbell, 1972) where the Sherif (1961) Summer Camp Studies found that the division of participants into groups in a competitive context allowed for the creation of group based identities, focus on resources and tribalistic behavior (see Stephan & Stephan, 2000). In contrast work regarding symbolic threat was influenced by earlier measures of “symbolic racism” (Kinder & Sears, 1981; see Stephan & Stephan, 2000, p.26) which were then developed into items measuring perceived threat perceptions in relation to symbolic values. Together these areas of threat perception highlight the intergroup aspects of threat based cognition. More broadly ITT often measures “negative stereotypes” and “intergroup anxiety” alongside threat highlighting the intergroup focus around the development of the perceived threat measures (see Stephan & Stephan, 2000, p.27).

In measuring threat perceptions, Stephan et al. (1999) designed a measure to assess levels of both realistic and symbolic forms of threat. For example, an item assessing realistic threat perceptions towards Asian American immigrants measured agreement and disagreement with statements such as: “Asian [American] immigration has increased the tax burden on Americans” (Stephan et al., 1999, p.2237). Whilst, an example of an item assessing symbolic threat is: “immigration from Asia is undermining American culture” (Stephan et al., 1999, p.2237). Riek, Mania, and Gaertner (2006) considered the relationship between realistic and symbolic threat and outgroup perceptions by conducting a meta-analyses of the literature, and they found that these two types of threat alongside, group-based anxiety and stereotyping “accounted for 36% of the variance in outgroup attitudes”



(Riek, Mania, & Gaertner, 2006, p.343) this demonstrated the important influence that different kinds of threat perceptions have on intergroup attitudes.

Threat-related processing does not just have implications for intergroup relations because threat-based variables have also been consistently related to left-right ideological differences (Lilienfeld & Latzman, 2014; Jost et al., 2007; Thórisdóttir & Jost, 2011). Experimental evidence suggests that those with higher skin conductance and eyeblink startle responses, which indicate vigilance to threat, demonstrated increased support for ingroup-favouring political policies such as “opposition to pacifism, immigration, gun control, foreign aid, compromise....” etc. (Oxley et al., 2008, p.1668). Importantly threat as a variable has also been found to be an important factor in understanding general ideological changes in response to diversity (Craig & Richeson, 2014a), as well as more extreme social ideologies such as Authoritarianism (Stenner, 2005; Duckitt & Sibley, 2009; 2010) and threat perceptions also help to explain how individuals, who are invested in authoritarianism, display more prejudice in the context of racial diversity (Kauff et al., 2013). Finally, Kugler et al. (2014) and Federico et al. (2013) have independently further demonstrated that the binding moral foundations of Loyalty, Authority, and Purity were related to Authoritarianism suggesting an underlying conception of group-based morality may be important for the understanding more extreme social ideologies and further may be applied to intergroup relations in the context of threat perceptions.

Given the prior literature surrounding threat, in the current project we additionally hypothesize that realistic and symbolic Threat processes may be positively related to endorsement of binding moral foundations and negatively related to individualising moral foundations. We further propose that this relationship would have important implications

for intergroup processes. This hypothesis follows from a number of observations given that threat relates to more conservative ideologies (Jost et al., 2003; 2007) and more conservative ideologies show stronger investment in the binding foundations (Graham et al., 2009). The binding foundations have also been related to negative outgroup attitudes under certain conditions (Kugler et al., 2014; Smith et al., 2014) and have also been related to increased sense of a dangerous world (Van Leeuwen & Park, 2009) and to RWA ideologies which evidence suggests may be product of threat-related perceptions such as BDW (Duckitt & Sibley, 2010; Stenner, 2005). Finally, the content of the binding foundations reflects ingroup concerns which may also reflect sensitivity to threats (Sinn & Hayes, 2016, Study 1). Liberal ideologies may also be associated with more approach orientation and therefore a lower sense of threat perception (Rock & Janoff-Bulman, 2010; Janoff-Bulman & Carnes, 2013; 2016; Shook & Fazio, 2009) and higher sense of feeling more connected to other groups (Sinn & Hayes, 2016; Jost et al., 2015; Van der torn et al., 2014). We investigate these hypotheses surrounding threat perceptions within the two lines of research explored within this thesis.

The current research aims to integrate areas of social psychological theory with the current debates surrounding the intergroup level within MFT (Janoff-Bulman & Carnes, 2013; Graham, 2013) and political ideology more generally. By using social identity principles concerning the importance of ingroups and outgroups for individuals (Tajfel & Turner, 2004) in the current research we will extend the social identity perspective to provide a new framework for ingroup and outgroup processing in moral and political cognition. The aim of this integration is to provide new avenues for the understanding and measurement of ingroup and outgroup cognition in moral and political psychology. Furthermore the study of

threat perceptions as measured within the studies reported here will further expand the scope of existing theories surrounding threat perceptions (Stephan & Stephan, 2000) and the broader relationship of threat based cognition to intergroup relations.

### **1.8. Unresolved Questions: Moral Foundations, Political Ideology, Threat Perceptions, and Intergroup Relations**

Overall MFT has provided greater insights into understanding the fundamental differences in the way different political ideologies view the social world. Whilst this framework has been effective in understanding differences within cultures (Graham et al., 2009), across cultures (Graham et al., 2011) and in social policy perceptions (Koleva et al., 2012), the theory has unresolved issues in regards to the intergroup level. Haidt (2012) proposes that conservatives use moral foundations orientated around cohesiveness of their group termed the 'Binding' foundations of Loyalty, Authority, and Purity. In contrast, he proposes liberals mainly consider individuals in their moral reasoning; he has therefore termed the Harm and Fairness foundations as 'Individualizing' foundations. Several theorists have taken issue with this conceptualisation arguing liberals can conceive of the group level within their moral values (Janoff-Bulman & Carnes, 2013; Sinn & Hayes, 2016). Whilst these approaches have highlighted issues with the group level of MFT, both ECT and the MMM propose replacing moral foundations with their own frameworks even though moral foundations have been found to be highly effective in explaining moral values across the cultural and political spectrum (Graham et al., 2009; Graham et al., 2011). Graham (2013) has called for more work considering the intergroup implications of MFT.

This growing literature sheds light on the importance of the intergroup level in a more comprehensive framework for MFT. Work in social psychology has demonstrated the

power of group categorisation in intergroup conflict and discrimination (Tajfel et al., 1971) and the importance of social identities for all individuals (Tajfel & Turner, 2004; Spears, 2011). Understanding how the group level operates within moral foundations theory may also highlight new ways to improve intergroup relations whilst also taking into account more general political ideologies (Jost, 2006), as well as more polarised ideological social cognition (Altemeyer, 1988; 1996; 1998; Pratto et al., 1994). Finally, the relationship of the moral foundations to other more general explorations of threat perceptions and ideology remains an important research area as higher ingroup emphasis may make threats more salient (Stephan & Stephan, 2000); therefore, the current research sets out to answer a number of unresolved empirical questions regarding how moral and political ideology inform perceptions of immigrant groups and intergroup relations more generally.

### **1.9. Summary of the Current Research Thesis**

The current thesis consists of two lines of research. The first, considered in Chapter 2 investigates the role of ingroups and outgroups within the moral foundations framework (Graham, 2013). This will be achieved through framing the questions within the moral foundations questionnaire (MFQ) in terms of ingroups and outgroups to ask whether liberals do have a group level conception within their application of Harm and Fairness moral foundations. After investigating the effects of framing the MFQ in terms of ingroups and outgroups, Chapter 2 will consider the effects of specifying target ingroups and outgroups framed within the MFQ on political orientation and further aim to understand how differential investment in ingroup and outgroup focused moral foundations affects explicit bias, negative bias and threat perceptions towards immigrant groups. Finally, Chapter 2 will

go on to measure how ingroup and outgroup focused moral and political cognition affects implicit as well as explicit biases.

The second line of research considered in Chapter 3 of this thesis concerns the more general implications of moral foundations for intergroup relations and then considers how moral foundations relate to more extreme social ideologies. Chapter 3 first involves testing the application of moral foundations at the intergroup level by considering how Individualising and Binding foundations in the MFQ relate to intergroup variables such as bias (Saguy, Tausch, Dovidio, & Pratto, 2009) and threat (Stephan et al., 1999) towards immigrants as well as more general intergroup variables such as collective action (Saguy et al., 2009), perspective taking (Davis, 1983), and collective narcissism (Golec de Zavala, 2011). Chapter 3 then expands prior models of MFT and its relationship to strong RWA and SDO ideologies (Federico et al., 2013; Kugler et al., 2014) to also consider the role of perceived threat as well as extending the current models to explicit bias towards immigrant groups. Finally, this chapter will explore the importance of threat processes in understanding the relationship between moral foundations and intergroup variables.

The research outlined here will collect data from both online and laboratory samples. The work in Chapter 2 will be conducted in the laboratory and online using U.K samples and will use both abstract and specified ingroup and outgroup based framing of the MFQ to answer important existing theoretical debates in MFT (Janoff-Bulman & Carnes, 2013; Graham, 2013). The work in Chapter 3 will be conducted online and will further expand the scope of our ideological measures in understanding, morality, threat perceptions and intergroup relations. Together the lines of research considered here will include the use of framing different kinds of ingroups and outgroups (abstract and specified), use of different

sampling methods (online and laboratory) and the design of several studies to assess replication. Overall this research will aim to advance our understanding of the relationship between moral and political ideology and intergroup processes.

The implications of the findings from the two lines of will be discussed in Chapter 4. It will also consider what the findings here mean for future research in moral and political ideology, the study of threat based cognition, social policy attitudes and approaches to interventions aimed at improving intergroup relations. This thesis argues that moral and political cognition are related to each other and to broader intergroup cognition in a number of important ways. It ultimately argues that studying the intergroup level in the moral and political cognition yields important new insights towards improving intergroup relations, understanding moral and political ideology and reducing prejudice.

**CHAPTER 2: MOVING MORALITY BEYOND THE INGROUP: LIBERALS AND  
CONSERVATIVES SHOW DIFFERENCES ON GROUP-FRAMED MORAL  
FOUNDATIONS AND THESE DIFFERENCES MEDIATE THREAT AND INTERGROUP  
BIAS**

**2.0. Abstract**

Moral foundations research suggests that liberals care about moral values related to individual rights such as harm and fairness, while conservatives care about those foundations in addition to caring more about group rights such as loyalty, authority, and purity. However, the question remains whether liberals are indifferent to group-level moral principles. We used two versions of the moral foundations questionnaire with the target group being either ingroups or outgroups. Across three studies, we observed that liberals showed more investment in Harm and Fairness with an outgroup target, while conservatives showed more investment in -Loyalty, -Authority, and -Purity with an ingroup target. This general pattern was found when the target group framed was abstract i.e. 'ingroups' and 'outgroups' (Study 1) and when target groups framed were specified (Studies 2 & 3). In Studies 2 and 3, we demonstrated that increasing liberalism was associated with less explicit bias, less negative bias, implicit bias (Study 3), and less perceived threat from immigrants. Outgroup-individualizing foundations and Ingroup-Binding foundations showed different patterns of mediation. A final additional study (Study 4) found similar patterns when comparing the Standard MFQ to the Outgroup MFQ as those found when using the Ingroup MFQ.

*Keywords:* moral foundations, ingroups, outgroups, political ideology, intergroup bias

## **2.1. Introduction**

To understand how people make sense of right and wrong in their social environment, Moral Foundations Theory proposed that five core moral values evolved to help direct social decisions and judgments (Haidt, 2012; Koleva, Graham, Iyer, Ditto, & Haidt, 2012; see also Shweder, Much, Mahapatra & Park, 1997). These moral foundations are Harm (e.g., decisions that hurt others), Fairness (e.g., giving everyone an equal chance), Authority (e.g., respect for leaders, group roles, etc.), Loyalty (e.g., loyalty to a country or social group), and Purity (e.g. cleanliness, religious sanctification; Haidt, 2007; 2012). Recent evidence has supported the idea that political liberals care about the moral foundations of Harm and Fairness most strongly, while conservatives care about the foundations of Authority, Loyalty, and Purity in addition to Harm and Fairness (Graham, Haidt, & Nosek., 2009; Graham et al., 2011; Graham, Nosek, & Haidt, 2012; Haidt, 2012; Koleva et al., 2012; Van Leeuwen & Park, 2009). However, the question arises of whether this differentiation is fully accurate and under what conditions it may be accurate or inaccurate. Other important questions regarding this distinction involve how moral foundations relate to interpersonal and intergroup processes. A deeper understanding of these relationships can help improve the dialogue and communication between people with different political orientations when they discuss issues related to intergroup processes (e.g., immigrants, intergroup bias, and policies related to those issues).

### **2.1.1. Individual versus Group-Based Thinking**

In considering differences in moral values between liberals and conservatives, researchers have suggested that ostensibly liberal foundations (Harm and Fairness) concern thinking about the effect on individuals within the group rather than on the broader group



itself, and supporting these policies is still about supporting individuals; therefore, it has been said that liberals tend to use ostensibly *Individualizing* moral foundations (Graham et al., 2009; Graham et al., 2011; Haidt, 2012). In contrast, conservatives may react more strongly to hearing about somebody who went against group principles, leaders, or beliefs (Authority, Loyalty, and Purity foundations), which are considered to be broader group-based, *Binding* foundations in which the group is the locus of moral value and is used in moral judgments (Haidt, 2012; Kidwell, Farmer, & Hardesty, 2013; Van Leeuwen & Park, 2009). This finding that conservatives use binding foundations more than liberals raises more questions in regard to morality and groups. Do liberals and conservatives show differences relating to group-based moral foundations? Or are they influenced by different types of groups instead of liberals being less morally influenced by groups as the locus of moral values? Finally, how do these distinctions impact upon social perception and the intergroup context?

There also is an issue related to individualizing and binding foundations and an ingroup-outgroup distinction that may be obscured by the current framing of the moral foundations questions (Graham, Haidt, & Nosek, 2008; Graham et al., 2012; Kidwell et al., 2013). In its current form, it is possible that some people will answer the questions on the widely used Moral Foundations Questionnaire (MFQ: Graham et al., 2008; Graham et al., 2011) by thinking about “society” or a generic “someone” in terms of their default or most important groups (e.g., their ingroups) while other people may think of other types of groups. Because the target group is somewhat vague and an intergroup comparison is implied within the moral foundations questionnaire<sup>1</sup>, the groups that come to mind may be quite varied; this lack of clarity can make it difficult to interpret group effects on the MFQ.

### **2.1.2. Ideology and Intergroup Thinking**

Work in other areas has also highlighted the importance of processing distinctions in political ideology that should impact on social perception and intergroup processes; Hibbing, Smith & Alford (2014) suggest that conservatives are more vigilant to negativity, while others emphasize them as being more vigilant to threat cues (Lilienfeld & Latzman, 2014). Thus, in an intergroup context, they may show ingroup over outgroup emphasis because of a wish to minimize risk to their ingroups. Other researchers have also noted the need for more appreciation of the impact of the group-level influence in moral foundations theory (Janoff-Bulman & Carnes, 2013; Graham, 2013). However, while researchers have expressed a need for investigating group-level influence, there has been little empirical evidence in moral foundations research, with just one foundation focusing on ingroup loyalty and conservatives endorsing it more (Graham et al., 2011; Janoff-Bulman & Carnes, 2013; Smith, Aquino, Koleva, & Graham, 2014). We therefore argue that making the group distinction explicit within the moral foundations questionnaire items in terms of ingroups and outgroups will reduce this ambiguity and provide a clearer picture of the impact of group-level processing on moral reasoning and political ideology.

### **2.1.3. Ingroups, Outgroups, and Moral Foundations**

While the group level may have remained difficult to detect in previous research, there are reasons to suspect that the intergroup distinction is important to both political cognition and moral foundations theory. Existing evidence suggests that liberals will be less invested and conservatives will be more invested in moral foundations when framed about the ingroup because of conservatives wanting to avoid risks and threat, and to protect group boundaries and liberals being more accepting of risk, more open to experience, and

promotion oriented (Jost, Stern, Rule & Sterling, 2017). For example, distinguishing between groups may be influenced by approach versus avoidance tendencies, which may differ by ideology; research that primed approach motivations (i.e. promotion focus) led people to identify themselves as more liberal, while priming avoidance motives led people to identify as more conservative (Cornwell & Higgins, 2013), and avoidance motivation interacted with ideology so that conservatives showed greater cognitive rigidity when participants were primed (Rock & Janoff-Bulman, 2010). More evidence of this promotion difference is observed in research showing that conservatives use more caution-based, avoidance techniques when investigating novel stimuli (Shook & Fazio, 2009); in doing so, they were less prone to risk. Research also shows that liberals, while showing less conscientiousness, also show higher levels of openness to experience than conservatives (Carney, Jost, Gosling, & Potter, 2008; Thórisdóttir, Jost, Liviatan, & Shrout, 2007; Sibley, Osborne, & Duckitt, 2012); Finally, liberal's resistance to inequality and their acceptance of change are key differences that could also contribute to them being more willing to account for outgroups in their moral judgments, especially ones that revolve around harm and fairness judgments because they may be less willing to accept inequality (Duckitt, 2001; Duckitt & Sibley, 2009; Federico, Hunt, & Ergun, 2009; Jost, 2006; 2009; Jost, Glaser, Kruglanski, & Sulloway, 2003). Overall, tendencies to be approach-motivated, to be open to experience, and to be less accepting of inequality may lead liberals to be less invested in moral foundations than conservatives when framed about ingroups compared to outgroups. This will be observed in a lower Ingroup Preference Score (e.g., Ingroup Authority Score = Ingroup Authority – Outgroup Authority rating) in which higher scores indicate more investment in the foundation when framed about the ingroup. We would predict this to be the case for all five foundations.

Our research will be the first to test the influence of ingroups and outgroups on moral foundations by framing the moral foundations questionnaire (MFQ) in terms of both ingroups and outgroups to examine the relationship between political ideology and moral foundations. We believe the research associating liberalism with more openness, more approach orientation, and more acceptance of change and more resistance to inequality suggests that liberals would be comfortable with including outgroups in their moral values which has not yet been detected in empirical work within moral foundation theory. This distinction has implications for MFT, in which liberals are argued to not include groups as the locus of moral judgments and are proposed to be mainly concerned with the rights of individuals. We predicted that liberals and conservatives would be equally invested in harm reduction and fairness when framed about the ingroup, but that liberals would more invested and conservatives less invested when framed about the outgroup because conservatives are more protective and risk avoidant, and liberals are more open to experience, promotion oriented, and risk accepting. We would also predict that liberals would be less invested, and conservatives more invested, in ingroup binding foundations of loyalty, authority, and purity when framed about the ingroup because conservatives are more invested in avoiding risk and threats to the ingroup, which are more closely linked to loyalty, authority, and purity. We did not predict a difference between liberals and conservatives on outgroup binding foundations because we did not expect either group to care if people from other groups showed loyalty, and respect for authority and purity for their, other group.

#### **2.1.4. Intergroup Bias and Threat**

In terms of the binding foundations of loyalty, authority, and purity, the role of risk and threat processes should be highly relevant to understanding the relationship of intergroup concerns and political ideology (Van Leeuwen & Park, 2009). For example, threat-related motivation and goals of maintaining group and societal order have been demonstrated among those with more politically conservative ideologies (Duckitt, 2001; Duckitt & Sibley, 2009; Federico et al., 2009; Hibbing et al., 2014; Jost, 2006; 2009; Jost et al., 2003); these prevention-oriented motivations often appear to focus on social order, which may help with social coordination and protecting one's groups from harm (Janoff-Bulman & Carnes, 2013). Researchers have demonstrated that a variety of threats, from threats to one's self or one's group, and threats to their country's systems cause participants to show more self-reported conservatism and issue-based conservatism (Thórisdóttir & Jost, 2011) and that threat management needs (e.g., death anxiety, system threat, and perceptions of a dangerous world) are correlated with more conservatism, but not more political extremism (Jost et al., 2007). Those who endorsed more conservative positions on a variety of social issues also have shown more sensitivity to threatening visual images (Oxley et al., 2008). Finally, those with more conservative ideologies often endorse attitudes that minimize contamination threats (Terrizzi, Shook, & McDaniel, 2013) and show negative views toward unfamiliar groups or outgroups because there might be a threat of contamination (Inbar, Pizarro & Bloom, 2009; Jost & Amodio, 2012; Navarrete & Fessler, 2006).

Minimization of threats may explain the high level of investment in binding foundations for conservatives because it could reflect protection of group boundaries, customs, and traditions, and thus, vigilance to threats from outgroups in relation to loyalty,

authority, purity of ingroups (Jost et al., 2003). Following from this, if liberals are less vigilant to threat, they may be more vulnerable to risk, but also less invested in moral foundations framed about the ingroup. The role of threat and its relation to moral foundations and intergroup processes will be explored further in Studies 2 and 3.

In study 1, we will examine the framing of each foundation from the Moral Foundations Questionnaire (Graham et al., 2011; Graham et al., 2008) in relation to the influence on an ingroup or on an outgroup and the extent to which it relates to the way liberals and conservatives think about their moral values (Studies 1, 2, & 3), and Studies 2 and 3 will examine the relationship to threat and intergroup bias and whether different emphasis on including ingroups and outgroups in moral judgments mediate the relationships between political ideology and threat or bias; we use “bias” to mean response tendency instead of error. Finally in Study 4 we compare the standard version of the MFQ to the Outgroup version of the MFQ to examine whether people are conceiving of the standard MFQ in terms of their ingroups. Investigating the use of ingroups and outgroups when making moral judgments can be helpful in understanding differences in reactions to immigrants and other outgroups, and how to frame discussions that will likely continue given the need for immigration to offset low birth rates in UK, the US and the world; these debates currently show a deep partisan divide in many countries and are important to a variety of topics related to intergroup contexts.

## **2.2. Study 1**

### **2.2.1. Predictions**

Study 1 is the first to measure moral foundations in terms of the group level, and here we make two predictions. First, we hypothesize that liberals would be less invested and conservatives would be more invested in all five Ingroup Preference Scores (i.e., Ingroup Preference Score = Ingroup Foundation – Outgroup Foundation). This prediction follows from the idea that the binding foundations reflect concerns related to maintaining group and social order, and avoiding threats, which is emphasized more strongly for conservatives (Haidt, 2012; van Leeuwen & Park, 2009); the loyalty, authority, and purity concerns relating to the ingroup should be particularly appealing. Based upon the reviewed evidence demonstrating that liberals have more approach motivation, openness to experience, more acceptance of change, and less acceptance of inequality, we predict liberals would be less invested in moral foundations when framed about ingroups compared to outgroups. We further predict that when considering the linear relationships between political ideology and group framed moral foundations a more specific pattern will be detected. We first predict that there will be no difference in investment for the Ingroup individualizing foundations (Ingroup Harm and Ingroup Fairness) as a function of political ideology. For the Outgroup-focused Individualizing foundations, we predict that liberals will show significantly higher moral investment than conservatives in Outgroup Individualizing foundations (Outgroup Harm and Outgroup Fairness). For the Binding foundations, we predict that political conservatism will be related to increased investment in Ingroup Focused Binding foundations (Ingroup Loyalty, Ingroup Authority and Ingroup Purity). For the Outgroup Binding foundations, we predict no differences will be detected.

## 2.3. Method

### 2.3.1. Participants and Design

One hundred and sixty-two participants were recruited from the University of Birmingham in exchange for course credits or equivalent payment; this sample size was determined by an a priori power analysis to investigate a small to medium effect ( $f^2 = .055$ ) with two predictors and 155 participants in the final sample anticipating some loss of data from response acquiescence. Any participant demonstrating acquiescence on the moral foundations questionnaires (MFQ) was excluded from analyses as recommended by Graham and colleagues (Graham et al., 2009; Graham, Nosek, & Haidt, 2012; Haidt, 2007). These items check for inattention and an example of this is answering that it is more than slightly relevant that someone is good at math “when you decide something is right or wrong.” Our final sample therefore consisted of 153 participants with an age range of 18 to 35 years ( $M = 20.07$ ,  $SD = 2.67$ , 78.4% Caucasian<sup>2</sup>). The study used a correlation design in which participants completed both the ingroup and the outgroup versions of the MFQ, and political orientation was a measured, continuous predictor. To control for the effects of order, we counterbalanced the presentation of the ingroup MFQ and outgroup MFQ measures.

### 2.3.2. Materials and Procedure

**Group Framed Moral Foundations Questionnaire (MFQ).** Participants were informed that they would be answering questions about attitudes and beliefs about themselves, morality, and society. They were then randomly assigned to receive either the ingroup MFQ first or the outgroup MFQ first order. Participants read a brief description explaining the meaning of either ingroups or outgroups. Within the ingroup version, they were told that: *“In this section of the study we will ask you to think about “INGROUPS.” For the purposes of*



*this study, an INGROUP is any group or groups of which you DO class yourself as being a member, or belonging to, and that you identify with.*" They then completed a moral foundations questionnaire in which the referent or target group was the ingroup; See Appendix A. In the outgroup version, participants read an identical description with the only difference being that they were asked to think about the "OUTGROUP," with outgroups defined as *"any group or groups of which you DO NOT class yourself as being a member, or belonging to, and that you do not identify with."* These definitions were based upon research on ingroup and outgroup differentiation (Brewer & Brown, 1998). For data analysis in all studies, the computer program coded the relevance subscales of the MFQ as 1 = Not at all relevant, and 6 = Extremely relevant, and the judgment subscales were coded 1 = Strongly disagree, and 6 = Strongly agree. A reliability analysis was performed on all subscales for both the ingroup- and outgroup-MFQ versions. For the outgroup version, the reliability for each foundation was  $\alpha = .68$  for Harm,  $\alpha = .72$  for Fairness,  $\alpha = .67$  for Loyalty,  $\alpha = .65$  for Authority, and  $\alpha = .73$  for Purity. For the ingroup-framed MFQ, reliability for each foundation was  $\alpha = .60$  for Harm,  $\alpha = .52$  for Fairness,  $\alpha = .72$  for Loyalty,  $\alpha = .67$  for Authority, and  $\alpha = .80$  for Purity. Further details regarding subscale reliability of the ingroup and outgroup MFQ as compared to previous research can be found in Appendix L

**Filler Task.** After completing the first MFQ, participants were asked to complete a short task of cognitive processing; this task was a filler task that separated the two MFQ versions participants received. The filler task lasted for 40 trials with each trial asking participants to select a target number as fast as possible among 9 competing distractor numbers (10 items per set; See Appendix B). After completing the filler task, participants

completed the version of the MFQ that they had not yet completed (e.g., those who had first received the ingroup version now received the outgroup MFQ).

**Demographic Items and Political Ideology.** Once both versions of the MFQ had been completed, a series of measures, unrelated to the current study, were completed<sup>3</sup>, and were followed by questions about general demographics. Self-rated, political ideology (Jost, 2006) was included among the demographic questions on age, gender, race, national identity, intergroup ideology, left-right political ideology, English as a second language, and years lived in the UK. The political ideology item (see Appendix C) was adapted from Jost and colleagues (2006; 2007) and consisted of a single item, single response, nine point, vertical scale format where participants were asked to: “Please rate your, personal political orientation” ranging from, at the top, 1 “*Extremely Conservative*” to 9 “*Extremely Liberal*”, with a midpoint of 5 “*Centre/Moderate*” here participants selected the single response option that described their ideology best. This item has been used in previous moral foundations research in the US and UK (Graham et al., 2009; Haidt, Graham, & Joseph, 2009) and is often included at the end of the study (Carney et al., 2008; Krosch, Berntsen, Amodio, Jost, & Van Bavel, 2013). This method of measuring political ideology was also used so as to be standardized and consistent with the general MFT literature, as well as the more general political ideology literature within psychology which has assessed political ideology using the single item, single response format (Jost, 2006). This method of measurement therefore has good prior evidence in relation to the ideological relationship to the different moral foundations (Graham et al., 2009; Haidt, Graham, & Joseph. 2009) as well as behaviors of political importance such as voting for political parties (Jost, 2006). All participants

completed informed consent prior to the study and were fully debriefed upon study completion.

## **2.4. Results**

For each moral foundation, a linear regression was conducted with Political Ideology as a continuous predictor and Ingroup Preference Score as the outcome (e.g., Ingroup Harm Preference = ingroup harm – outgroup harm). Higher Ingroup Preference Scores indicated more investment in the moral foundation when it was framed about the ingroup. A negative regression coefficient between Political Ideology and the Preference Score would indicate that conservatives showed more endorsement and liberals less endorsement of the moral foundation when it was framed about the ingroup as opposed to an outgroup. In these analyses, Political Ideology was significantly and negatively correlated with each Preference Score (see Table 2.1)<sup>4</sup>. Bias corrected and accelerated (BCa) bootstrapping of these regression analyses (5000 samples with 95% CI) supported these results. Moreover, both the Individualizing and Binding Ingroup Preference Scores were also significant; individualizing and binding scores were the average of the respective items (e.g., average of harm and fairness for individualizing).

TABLE 2.1

Standardized regression coefficients ( $\beta$ ) for regression equations with Framed moral foundation ingroup-preference scores predicted by Political Ideology.

	Political Ideology				
	Linear Regressions			Bootstrapping (BCa)	
	$\beta$	<i>p-value</i>	$R^2$	<i>b</i>	95% CI for <i>b</i>
<b>Harm Preference Score</b>	-.18	= .029	.03	-.06	[-.126, .002]
<b>Fairness Preference Score</b>	-.36	< .001	.13	-.14	[-.201, -.075]
<b>Loyalty Preference Score</b>	-.36	< .001	.13	-.15	[-.215, -.086]
<b>Authority Preference Score</b>	-.37	< .001	.14	-.14	[-.204, -.087]
<b>Purity Preference Score</b>	-.33	< .001	.11	-.15	[-.229, -.077]
<b>Individualizing Preference Score</b>	-.31	< .001	.10	-.10	[-.155, -.042]
<b>Binding Preference Score</b>	-.41	< .001	.17	-.15	[-.210, -.091]

*Note.* Higher scores on ideology reflected increased liberalism (vs. conservatism). Higher Ingroup Preference Scores indicated more investment in the moral foundation when it was framed about the ingroup. A negative regression coefficient between Political Ideology and the Preference Score indicated that conservatives showed more endorsement of the moral foundation when it was framed about the ingroup as opposed to the outgroup.

An alternative method of analyzing the data entails conducting a series of linear regressions for the five ingroup-framed foundations and the five outgroup-framed foundations and the Ingroup and Outgroup Individualizing and Binding Indexes to examine the relationship to Political Ideology (see Table 2.2). Using this analysis, it was found that political ideology did not relate to Ingroup Individualizing Foundations, but did significantly relate to Ingroup Binding foundations suggesting that conservatives were significantly more invested in the Ingroup Binding foundations than liberals. For the Outgroup Individualizing

Foundations, Political ideology positively predicted investment in these foundations suggesting liberals were more invested in Outgroup Individualizing foundations than conservatives, whereas Outgroup Binding Foundations were negatively related to Political Liberalism. Overall this suggests that liberals are more likely to be invested in Outgroup Individualizing Foundations than conservatives and vice versa for the Ingroup Binding Foundations supporting our Study hypotheses.

TABLE 2.2

Fourteen linear regressions with Political Ideology entered as predictor and Ingroup and Outgroup moral foundations acting as the outcome variables. Variables were rescored so that they matched the 0 to 5 coding for the Moral Foundations Questionnaire.

<b>Political Ideology</b>					
	Linear Regressions			Bootstrapping (BCa)	
	$\beta$	<i>p-value</i>	$R^2$	<i>b</i>	95% CI for <i>b</i>
<b>i-Harm</b>	-.04	= .609	.00	-.02	[-.094, .049]
<b>i-Fairness</b>	.07	= .406	.01	.03	[-.034, .086]
<b>i-Loyalty</b>	-.47	< .001	.22	-.25	[-.324, -.185]
<b>i-Authority</b>	-.41	< .001	.17	-.22	[-.293, -.143]
<b>i-Purity</b>	-.49	< .001	.24	-.32	[-.416, -.224]
<b>i-Individualizing</b>	.01	= .870	.00	.01	[-.056, .060]
<b>i-Binding</b>	-.52	< .001	.27	-.26	[-.331, -.196]
<b>o-Harm</b>	.09	= .263	.01	.04	[-.040, .118]
<b>o-Fairness</b>	.34	< .001	.11	.17	[.088, .243]
<b>o-Loyalty</b>	-.20	= .014	.04	-.10	[-.179, -.030]
<b>o-Authority</b>	-.14	= .077	.02	-.07	[-.156, .011]
<b>o-Purity</b>	-.31	< .001	.10	-.17	[-.249, -.087]
<b>o-Individualizing</b>	.24	= .003	.06	.10	[.031, .174]
<b>o-Binding</b>	-.25	= .002	.06	-.12	[-.188, -.043]

## 2.5. Discussion

This study demonstrated that framing moral foundations to be about either an ingroup or an outgroup altered the investment in the foundations by liberals and conservatives (Haidt, 2012; Graham et al., 2009; Graham et al., 2011). The findings are the first to show that investment changes based upon the type of group considered in the moral foundations questionnaire, and that when Ingroup Preference Scores were considered, liberals showed less ingroup preference than conservatives for all five foundations of Harm, Fairness, Loyalty, Authority, and Purity.

Overall, these results indicate liberals and conservatives are both influenced by groups and both use groups as the basis of moral judgments, rather than conservatives being more likely to use groups as the locus of moral judgment. As predicted, there was no difference between liberals and conservatives for Ingroup Individualizing foundations, but conservatives were more invested and liberals less invested in Ingroup Binding foundations. Also as predicted, liberals were more invested, and conservatives less invested, in Outgroup Individualizing foundations, but unexpectedly liberals were less invested and conservatives more invested in Outgroup Binding foundations. In Study 2, we sought to replicate these effects using a more representative, online sample, and also sought to rule out whether liberals and conservatives thought about more or less positive groups when they considered ingroups and outgroups. To accomplish this goal, we listed specific groups within the ingroup and outgroup versions so that all participants were thinking about the same groups.

## **2.6. Study 2**

### **2.6.1. Introduction**

Study 1 demonstrated the advantages of considering the group level to gain a better understanding of the relationship between political ideology and morality. The observed differences of liberals and conservatives in the use of ingroups and outgroups in moral judgments could also relate to and could alter social cognition and perception within an intergroup context. For example, these differences can be used to help explain political differences in perceived threat from outgroups and intergroup bias. It will also be important to test whether these findings were due to liberals and conservatives thinking of very different groups when answering the moral questions. Therefore, in Study 2, we will use a version of the framed MFQ that specifies British people as the ingroup and Pakistani immigrants as the outgroup within the MFQ items. Using this framing will bolster the confidence that the results of Study 1 using abstract ingroups and outgroups also relate to specific and real ingroups and outgroups. In addition, Study 2 will use a sample of participants from the general community to broaden the representativeness of the results.

In the current research we selected a Pakistani immigrant group as the outgroup in the MFQ as we were interested in attitudes towards immigration and Pakistani immigrants represent one of the immigrant groups that has seen a recent rise in the UK population from the 1991 to the 2011 measurement period of the UK Census (see Jivraj, 2012; Office of National Statistics, 2011). Pakistani immigrants are also estimated to be one of the highest populations of foreign born immigrants to the UK (representing the third highest; see Rienzo & Vargas-Silva, 2017). We could have selected a number of other immigrant groups based on different cultural backgrounds or even religious background, however this group also

seemed understudied within the current psychological literature on immigration attitudes. It is important to study social attitudes towards understudied immigrant groups and to improve the psychological understanding of attitudes towards immigration therefore in the current study a Pakistani immigrant group was selected as the outgroup within the measures.

Based upon the Study 1 findings, more investment in fairness and in reducing harm when outgroups are considered may be associated with reduced bias against different groups, and may explain liberal's propensity to have more positive views of outgroups in general, and especially in regard to ethnicity, religion, and immigration, though there are a number of exceptions (Brandt, Reyna, Chambers, Crawford, & Wetherell, 2014). In general, research has shown that liberals show less acceptance of inequality (Duckitt, 2001; Duckitt & Sibley, 2009; Federico et al., 2009; Jost, 2009; Jost et al., 2003; Jost et al., 2017), have more positive attitudes towards gays and lesbians (Cunningham, Nezlek, & Banaji, 2004; Whitley & Lee, 2000; Webster, Burns, Pickering, & Saucier, 2014), Muslim Americans (Nisbet & Shanahan, 2004) or Arabs (Webster et al., 2014), demonstrate less outgroup hostility (Kugler, Jost, & Noorbaloochi, 2014), and more positive feelings toward non-normative groups (Luguri, Napier, & Dovidio, 2012; van Prooijen, Krouwel, Boiten, & Eendebak, 2015). Thus, an aim of Study 2 was to test the relationship between political orientation and attitudes toward immigrants and to test whether investment in outgroup individualizing foundations of Harm and Fairness mediated this effect. Whether the ingroup binding foundations would also be related to intergroup bias and mediate the effect is much less clear because there is sparse evidence on the relationships of moral foundations and intergroup bias. The previous work that has considered the role of binding foundations on



outgroup attitudes has found that investment in Loyalty, Authority, and Purity was associated with stronger outgroup hostility (Kugler et al., 2014). However, one issue with this conclusion was that the outcome measure used was heterogeneous and included some extreme outgroups and comparisons (e.g., illegal immigrants as opposed to immigrants; Muslims compared to Christian); thus, the measure may reflect hostility toward extreme outgroups as opposed to immigrants or outgroups in general. We sought to test whether investment in ingroup binding foundations when framed about the British ingroup would mediate the effect of political orientation to attitudes toward immigrants.

A second extension of our findings from Study 1 relates to explaining the differences in intergroup threat responses to ethnic groups and immigrants. Previous research has shown that conservatives generally demonstrate more vigilance for threatening stimuli (Dodd et al., 2012; Hibbing et al., 2014; Jost & Amodio, 2012; Oxley et al., 2008), more threat from unfamiliar groups (Inbar et al., 2009; Navarrete & Fessler, 2006), and that needs for threat management were associated with conservatism, but not with political extremism in general in terms of locating oneself at the extreme ends of the political ideology scale (Jost et al., 2003; Jost & Napier, 2011; Jost et al., 2007). Given these findings, we were interested in examining whether ingroup binding foundations would predict perceptions of threat from immigrants, and whether investment in ingroup binding foundations would mediate the relationship with political ideology, potentially as a function of group boundary maintenance concerns. Finally, it is worth considering whether the patterns for abstract ingroups and outgroups that were demonstrated in Study 1 would replicate when the moral foundations questionnaire items were specified as being about British people for the ingroup version and

about Pakistani immigrants for the outgroup version; testing this effect will help to demonstrate the generality and robustness of the findings.

### **2.6.2. Predictions**

In Study 2, we hypothesized a replication of the main pattern of associations for the Ingroup Preference scores for all five foundations and political ideology that we had observed in Study 1. Thus, political ideology would negatively predict higher Ingroup Preference Scores (e.g., Ingroup Authority Preference Score = Ingroup Authority – Outgroup Authority); conservatives would show more investment and liberals less investment in all five foundations when they are framed about the British ingroup as opposed to the outgroup. We anticipated also replicating the patterns for the separate ingroup and outgroup moral foundations.

Regarding bias, we predicted that a more liberal ideology would be associated with lower levels of bias toward immigrants, and that this relationship would be significantly mediated by more investment in Outgroup-Individualizing foundations; given the scant research on the binding foundations and intergroup bias, we did not expect the binding foundations to significantly mediate the relationship to bias. The explicit awareness of preferring loyalty to the ingroup and respect for the ingroup's authority may lead people to be less likely to demonstrate bias on an explicit measure. However, given the dearth of research in this area, this was an empirical question that needed to be tested. In regard to threat, we predicted that a liberal orientation would be associated with less perceived threat from immigrants, and that this would be mediated by relatively lower investment in British Ingroup-Binding foundations and by more investment in Pakistani-Immigrant Outgroup-Individualizing foundations. Finally, past research has not found a significant link between

political ideology and cognitive perspective taking ability, as opposed to motivation, so we did not expect a significant relationship here (Evans, 2000; Falk, Spunt, & Liberman, 2012; Jost et al., 2003).

## **2.7. Method**

### **2.7.1. Participants and Design**

Participants were recruited from the United Kingdom using the Prolific Academic online recruitment platform in exchange for monetary compensation; based upon screening criteria for the moral foundations questionnaire and upon other online studies we have conducted using the questionnaire, we recruited three hundred and fifty-one participants in order to obtain a final sample close to 300 participants and to observe .8 to .85 power for a small to medium effect,  $f^2 = .03$  (Woods, Velasco, Levitan, Wan, & Spencer, 2015). Prolific Academic is a tool used to recruit participants in online settings and it is meant to provide a larger and more varied sample of participants than MTurk, which has been demonstrated to be an effective means of collecting data of comparable quality to laboratory data, if it is not sampled too frequently (Buhrmester, Kwang, & Gosling, 2011; Casler, Bickel, & Hackett, 2013; Paolacci & Chandler, 2014). In total, 351 participants completed the dependent variables for the study with 37 participants being excluded due to acquiescence on the MFQ, using the same criteria as in Study 1. Next, 4 participants of Pakistani ethnicity were removed as well as 3 participants who had not been born in the UK. The study therefore used a final sample of 307 participants, all of whom currently lived in the U.K., and who had an age range of 18 to 80 years ( $M = 35.94$ ,  $SD = 12.10$ ); 51.8% were Liberal and 24.4% were Conservative while 88.9% were Caucasian and 58.0% were Female.

### 2.7.2. Materials and Procedure

**Group Framed Moral Foundations Questionnaire (MFQ).** The first part of the study used the same design and procedure as Study 1 in which participants completed both the ingroup and outgroup versions of the moral foundations questionnaire with order counterbalanced. However, in Study 2, the two versions of the MFQ were now framed so that the ingroups and outgroups that were referenced were specific groups in the U.K. For the ingroup-framed version of the MFQ, participants read about moral foundations questions framed about British people. For the outgroup-framed version, the questions were framed about Pakistani Immigrants as the target group (See Appendix D). Reliability for subscales of the MFQ were found to be acceptable and comparable across versions for Harm (Ingroup Harm  $\alpha = .71$ , Outgroup Harm  $\alpha = .72$ ), Fairness (Ingroup Fairness  $\alpha = .73$ , Outgroup Fairness  $\alpha = .71$ ), Loyalty (Ingroup Loyalty  $\alpha = .78$ , Outgroup Loyalty  $\alpha = .65$ ), Authority (Ingroup Authority  $\alpha = .74$ , Outgroup Authority  $\alpha = .62$ ), and Purity (Ingroup Purity  $\alpha = .83$ , Outgroup Purity  $\alpha = .80$ ).

**Filler Task.** The two versions of the MFQ (ingroup and outgroup) were again separated with the same filler task from Study 1 to act as a delay. After participants had completed this filler task they next received measures of attitude bias, negative attitude bias, and then perspective taking and perception of threat from immigrants with the latter two measures being counterbalanced; bias was not counterbalanced to reduce socially desirable responding.

**Explicit Bias.** The measure of attitude bias toward immigrants was adapted from Saguy, Tausch, Dovidio, & Pratto, 2009; See Appendix E. Participants rated their feelings toward immigrants on five evaluative dimensions (i.e., Negativity, Friendliness, Warmth,

Trusting, and Disgust) with a nine-point scale with endpoints from one dimension to the opposite dimension (e.g., “*extremely cold*” to “*extremely warm*”). After reverse scoring two items, the scale was averaged across items to create an overall index of bias with higher scores indicating higher levels of explicit bias towards immigrants ( $\alpha = .94$ ).

**Negative Bias.** A second measure of negative bias was used to determine negative attitudes towards Pakistani immigrants and was adapted from Stephan et al., 2002; See Appendix F. The scale included 5 items assessing levels of disapproval, resentment, dislike, disdain, and hatred; these items were completed on a ten-point scale with endpoints changing to reflect the construct being measured and scored from 0 “*no \_\_\_\_\_ at all*” (e.g., *no dislike at all*) to 9 “*Extreme*” (e.g., *Extreme dislike*). These items were coded by the computer from 1 to 10 and had high reliability ( $\alpha = .96$ ). Next participants were randomly assigned to complete either the Perspective Taking scale first and then the Threat scale, or the Threat scale first and then the Perspective Taking scale.

**Perspective Taking.** The seven item Perspective Taking subscale of the Interpersonal Reactivity Index assessed participants’ ability to perceive the world from the perspectives of others (Davis, 1983). Items were presented in a random order and all items were rated on a five-point scale with endpoints of “*A*” *Does not describe me well* to “*E*” *Describes me very well* (coded from 1 to 5). The scale was averaged to form an overall Perspective Taking score ( $\alpha = .83$ ).

**Threat Perceptions.** Finally, participants completed a measure of threat perceptions toward Pakistani immigrants in the U.K., which was adapted from Stephan, Ybarra, & Bachman, 1999; See Appendix G. This scale contained 15 items measuring attitudes towards both realistic threats (i.e., resource-based; 8 items) as well as symbolic threats (i.e., cultural

beliefs and values; 7 items) from immigrant groups. All items were completed on a seven-point scale ranging from 1 “*Disagree Strongly*” to 7 “*Agree Strongly*” with “*Neither Agree nor Disagree*” as the neutral midpoint and were presented in random order. After reverse scoring several items, the average represented an index of threat perceptions toward immigrants. Reliability for the scale was high ( $\alpha = .94$ ). Because the subscales share a common theme of threats to the ingroup (Stephen et al., 1999), we used the overall index of threat as has been done in previous research (Tip et al., 2012; Verkuyten, 2009); the correlation between symbolic and realistic threat was high ( $r = .78, p < .001$ ).

**Demographics and Political Ideology.** Finally, participants completed demographic measures that included age and gender. This section also included the same measure of political ideology used in Study 1.

## **2.8. Results**

Following the analytical approach from Study 1, linear regressions were performed on Political Ideology as a continuous predictor and the Ingroup Preference Score as the outcome for each foundation (e.g., Ingroup Preference Score = British Ingroup Harm – Pakistani Outgroup Harm). A negative regression coefficient between Political Ideology and the Preference score would indicate that conservatives showed more endorsement and liberals less endorsement of the moral foundation when it was framed about the ingroup as opposed to the outgroup. Political Ideology was significantly and negatively correlated with each Ingroup Preference Score, with the exception of the ( $p = .057$ ) Fairness effect (see Table 2.3). Again, bias corrected and accelerated (BCa) bootstrapping analyses (5000 samples with 95% CI) supported these regression results. Both the combined Individualizing and combined Binding Preference Scores were significant.

TABLE 2.3

Standardized regression coefficients ( $\beta$ ) for regression equations with Framed moral foundation ingroup-preference scores predicted by Political Ideology.

	Political Ideology				
	Linear Regressions			Bootstrapping (BCa)	
	$\beta$	<i>p-value</i>	$R^2$	<i>b</i>	95% CI for <i>b</i>
<b>Harm Preference Score</b>	-.23	< .001	.05	-.10	[-.152, -.048]
<b>Fairness Preference Score</b>	-.11	= .057	.01	-.06	[-.121, .004]
<b>Loyalty Preference Score</b>	-.41	< .001	.17	-.20	[-.250, -.141]
<b>Authority Preference Score</b>	-.37	< .001	.14	-.17	[-.228, -.116]
<b>Purity Preference Score</b>	-.22	< .001	.05	-.11	[-.164, -.049]
<b>Individualizing Preference Score</b>	-.24	< .001	.06	-.10	[-.156, -.051]
<b>Binding Preference Score</b>	-.39	< .001	.15	-.16	[-.208, -.107]

*Note.* Higher scores on ideology reflected increased liberalism (vs. conservatism). Higher Ingroup Preference Scores indicated more investment in the moral foundation when it was framed about the ingroup. A negative regression coefficient between Political Ideology and the Preference Score indicated that conservatives showed more endorsement of the moral foundation when it was framed about the ingroup as opposed to the outgroup.

Examination of the regression slopes (see Table 2.4) showed that Ingroup-Individualizing foundation index (Harm reduction and Fairness) was, as expected, not significantly correlated with Political Ideology. As predicted, the Ingroup-Binding foundation index was significantly and negatively correlated with Political Ideology, suggesting that conservatives were more invested and liberals less invested with binding foundations when framed about the ingroup. Also as predicted, the Outgroup-Individualizing foundations were significantly correlated with Political Ideology such that liberals were more invested and

conservatives less invested in Harm and Fairness when framed toward the Pakistani-immigrant outgroup. In a replication of the expected relationship from Study 1, we observed that the Outgroup Binding index was significantly and negatively correlated with Political Ideology, though this was a very small effect.

TABLE. 2.4

Fourteen linear regressions with Political Ideology entered as predictor and Ingroup and Outgroup moral foundations acting as the outcome variables. Variables were rescored so that they matched the 0 to 5 coding for the Moral Foundations Questionnaire.

	Political Ideology				
	Linear Regressions			Bootstrapping (BCa)	
	$\beta$	<i>p-value</i>	$R^2$	<i>b</i>	95% CI for <i>b</i>
i-Harm	.03	= .607	.00	.02	[-.042, .073]
i-Fairness	.12	= .042	.01	.06	[.002, .112]
i-Loyalty	-.41	< .001	.17	-.22	[-.274, -.159]
i-Authority	-.42	< .001	.17	-.22	[-.279, -.163]
i-Purity	-.35	< .001	.12	-.20	[-.260, -.138]
i-Individualizing	.08	= .175	.01	.04	[-.019, .090]
i-Binding	-.44	< .001	.19	-.21	[-.265, -.160]
o-Harm	.22	< .001	.05	.12	[.053, .177]
o-Fairness	.31	< .001	.10	.17	[.107, .225]
o-Loyalty	-.05	= .395	.00	-.02	[-.068, .025]
o-Authority	-.10	= .070	.01	-.05	[-.103, .003]
o-Purity	-.17	= .003	.03	-.09	[-.159, -.027]
o-Individualizing	.29	< .001	.08	.14	[.085, .195]
o-Binding	-.13	= .029	.02	-.05	[-.103, -.006]



We next conducted three linear regressions with bootstrapping to 5000 samples to test the hypotheses that increased liberalism would be related to less Bias, less Negative Bias, less Perceived Threat from immigrants, and that Political Ideology would not be related to differences in Cognitive Perspective Taking; we again use bias to mean response tendency instead of error. Once again higher scores on Political Ideology indicated a more liberal ideology. As predicted, we observed that increasing liberalism was significantly related to less Explicit Bias,  $R^2 = .15$ ,  $\beta = -.39$ ,  $t = -7.36$ ,  $p < .001$ , with bootstrapped  $b = .31$ , 95% CI [-.40, -.22],  $p < .001$ , as well as significantly less Negative Bias,  $R^2 = .14$ ,  $\beta = -.37$ ,  $t = -6.95$ ,  $p < .001$ , with bootstrapped  $b = -.39$ , 95% CI [-.51, -.28],  $p < .001$ , and significantly less Perceived Threat,  $R^2 = .28$ ,  $\beta = -.53$ ,  $t = -10.91$ ,  $p < .001$ , with bootstrapped  $b = -.36$ , 95% CI [-.43, -.29],  $p < .001$ . Unexpectedly, Political Ideology was significantly related to Cognitive Perspective Taking ability.  $R^2 = .06$ ,  $\beta = .25$ ,  $t = 4.44$ ,  $p < .001$ , with bootstrapped  $b = .10$ , 95% CI [.05, .14],  $p < .001$ .

We next used an Outgroup-Individualizing Index of Harm and Fairness, and an Ingroup-Binding Index of Ingroup-Loyalty, -Authority, and -Purity, and then tested the mediational hypotheses using PROCESS mediation for SPSS using Bias Corrected Bootstrap analyses with 5,000 samples as suggested by Hayes, 2013. We observed a significant indirect effect of Ingroup Binding in which more investment was related to more Explicit Bias *Completely Standardized Indirect Effect (CSIE)* = -.11, and as expected, a significant indirect effect of Outgroup Individualizing foundations in which more investment was related to less Explicit Bias, *CSIE* = -.06 (see Figure 2.1). We observed a similar pattern of indirect effects for the measure of Negative Bias, *CSIE* = -.19 and -.10 respectively for binding and individualizing (see Figure 2.2). For the Political to Threat relationship, we observed the expected significant

indirect effect of Ingroup Binding in which more investment in the Binding foundations was related to more Threat,  $CSIE = -.16$ . We also observed the expected significant indirect effect of Outgroup Individualizing in which more investment was related to less Threat,  $CSIE = -.10$  (see Figure 2.3).

All significant mediational effects become larger when an Individualizing-Binding Difference Score was used in the mediations (computed by subtracting Ingroup Binding scores from Outgroup Individualizing so that higher scores indicate a stronger preference for investment in Outgroup Individualizing foundations). The Individualizing-Binding Difference indirect effect was significant for Explicit Bias,  $b = -.18$ ,  $CI [-.25, -.12]$ ,  $CSIE = -.23$ , Negative Bias,  $b = .29$ ,  $CI [-.41, -.21]$ ,  $CSIE = -.28$ , and for Threat,  $b = -.17$ ,  $CI [-.23, -.12]$ ,  $CSIE = -.26$ . Finally, we conducted a series of models with Ingroup Individualizing and Ingroup Binding foundations in the models and observed non-significant effects for the Ingroup Individualizing index (see Appendix L).

FIGURE 2.1

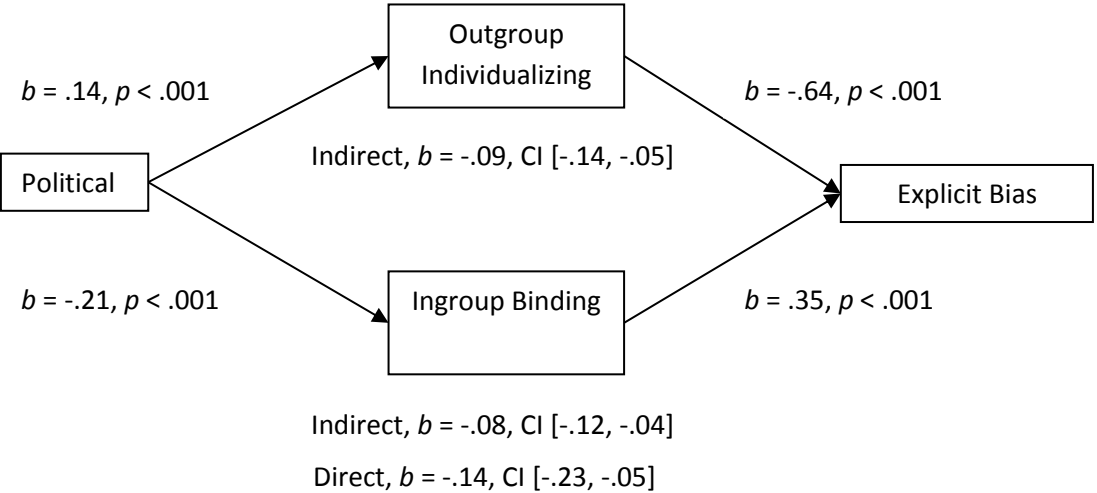


Figure 2.1. Multiple mediation of the Political Orientation to Explicit Bias relationship by the Outgroup Individualizing index and by the Ingroup Binding index.

FIGURE 2.2

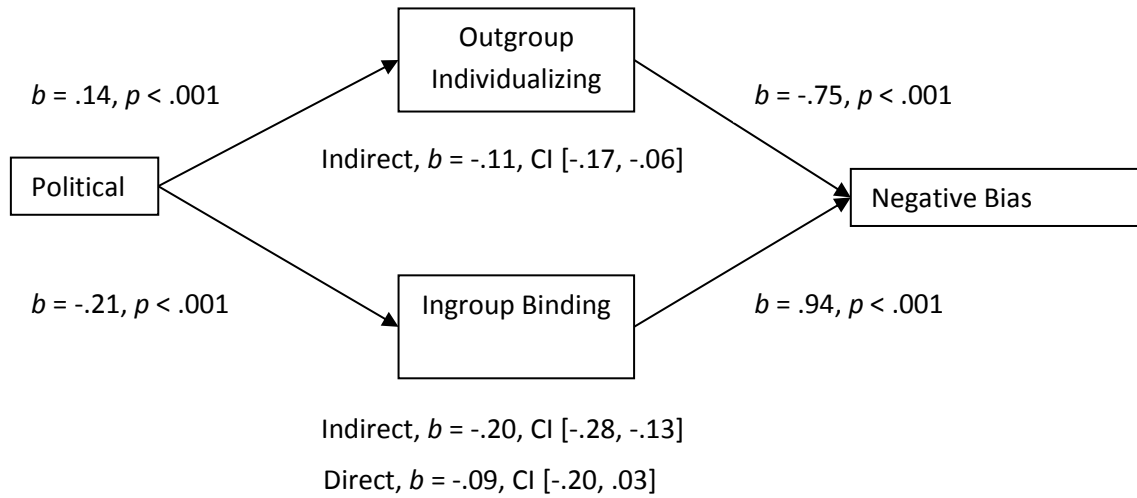


Figure 2.2. Multiple mediation of the Political Orientation to the Negative Bias relationship by the Outgroup Individualizing index and by the Ingroup Binding index.

FIGURE 2.3

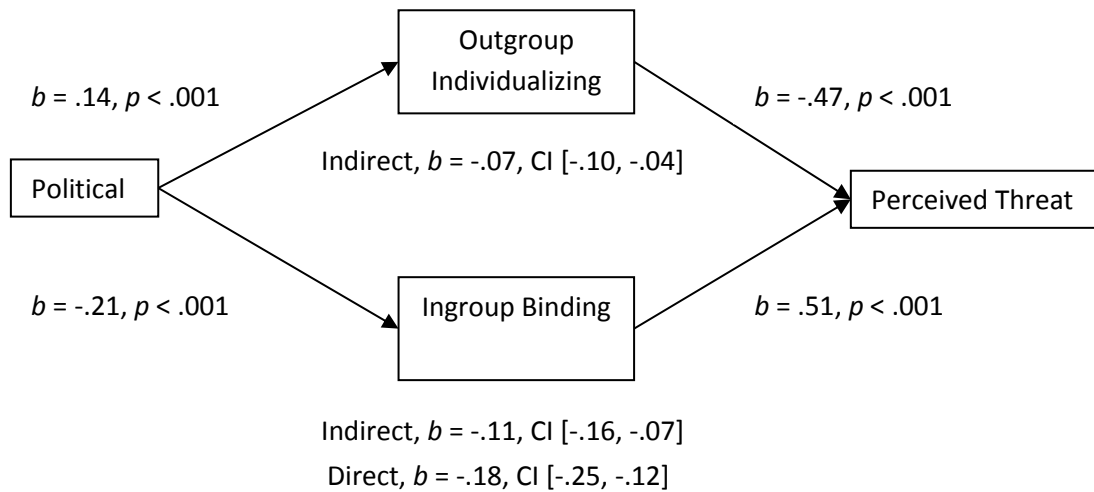


Figure 2.3. Multiple mediation of the Political Orientation to Perceived Threat relationship by the Outgroup Individualizing index and by the Ingroup Binding index.

## 2.9. Discussion

The current study supports the main findings of Study 1 in which ingroup and outgroup status influenced investment in the foundations; liberals were less invested and conservatives more invested in Ingroup Preference when making moral judgments, with the exception of the Ingroup Preference for Fairness score. In addition, more conservatism and less liberalism predicted investment in Ingroup Binding foundations, but not in Ingroup Individualizing foundations. We also observed that less conservatism and more liberalism predicted investment in Outgroup Individualizing foundations, and replicated the small effect of more conservatism and less liberalism predicting investment in Outgroup Binding foundations. With the exception of the Ingroup Fairness Preference score we observed a similar general pattern on the Ingroup Preference Scores for Studies 1 and 2, even though Study 1 used abstract ingroups and outgroups, and Study 2 used specified ingroups and outgroups; this comparison increases our confidence in the importance of the group-level in moral foundations. This study also extended the findings to important aspects of social perception such as Bias against immigrants and Perceived Threat from immigrants.

The observed group effects had important implications for understanding the relationship between Threat and Bias, and Political Ideology. For Explicit Bias, Outgroup Individualizing foundations mediated the relationship between a more liberal ideology and less Explicit Bias and for Negative Bias; this supports past research that had shown that more investment in Individualizing foundations was related to less hostility to extreme outgroups (Kugler et al., 2014); Ingroup-framed Individualizing foundations, however, did not mediate these relationships, which we expected because we thought the difference on individualizing would mostly occur when including outgroups. Ingroup Binding foundations also significantly

mediated the relationships between ideology and Explicit Bias and Negative Bias, suggesting that the Ingroup Binding foundations may also be important to consider in future research surrounding intergroup perceptions. For Perceived Threat, investment in Outgroup-focused Individualizing foundations was related to less Threat and it mediated the positive relationship between Threat and Political Ideology. Investment in Ingroup Binding foundations also mediated this relationship and was related to more Threat; the Ingroup Binding effect supports past research that showed that the Standard-framed Binding foundations were related to right wing authoritarianism (Federico, Weber, Ergun, & Hunt, 2013) and to belief in a dangerous world (van Leeuwen & Park, 2009), both of which have threat-based motivations underlying them. Overall, the first two studies provide good evidence that liberals and conservatives are influenced differently by ingroups and outgroups, and that these differences have important implications for intergroup relations.

## **2.10. Study 3**

### **2.10.1. Introduction and Predictions**

In Study 3, we wanted to replicate the relationships between group framed-moral foundations and political ideology, as well as the linear regressions, and the mediational effects of group-focused Ingroup Binding foundations and Pakistani-immigrant Outgroup Individualizing foundations on the ideology to bias and threat relationships that were observed in Study 2. In particular, we were interested in replicating the significant Outgroup Individualizing and Ingroup Binding mediation of Political to Explicit Bias, Negative Bias, and Perceived Threat. These effects are particularly interesting in light of Kugler and colleagues' (2014) findings of a negative relationship between Individualizing foundations and outgroup hostility, and a positive relationship between Binding foundations and outgroup hostility. To

further extend the research, we added a measure of implicit bias to test whether we would observe a similar relationship with political orientation.

## **2.11. Method**

### **2.11.1. Participants and Design**

Participants were recruited from the Prolific Academic online platform from the U.K in exchange for monetary compensation. We recruited participants to obtain a final sample close to 300 participants and to observe .8 to .85 power for a small to medium effect,  $f^2 = .03$  (Woods et al., 2015). Study 3 was comprised of two sections where participants were compensated monetarily on completion of each section. The first part included all study measures apart from the implicit measure. The second section of the study included the online, implicit-measure, which had to be developed specifically for an online context, and some filler questions; part 2 was completed after participants had waited between three and nine weeks upon completing the first section. After filtering out participants who were of Pakistani ethnicity (due to attitudes towards this group being measured within the outcome variables in the study), keeping those who were born in the UK, and after filtering out those who had satisficed on the British-ingroup MFQ and the Pakistani-immigrant outgroup MFQ as was done in Study 2 (see Graham et al. 2009), 449 participants were eligible to complete section two. Of the 338 participants who began completing section two, a total of 300 participants completed most of the experimental materials in this section; a response rate of 88.76%. Due to an error with the website on which the implicit measure was hosted, the implicit data did not record for 12 of these participants, which left a final sample of 288 for Study 3. For the Implicit Bias findings, 2 participants, who responded with the same key response on more than 99% of trials of the implicit measure, were also removed leaving a

sample of 286 for the Implicit Bias analyses. The final sample for Study 3 was 288 participants with the average age being 38.88 years ( $SD = 12.63$ ), 66.3% Female, and 90.3% being Caucasian, all participants were recruited from the U.K.

### **2.11.2. Materials and Procedure**

**Group Framed Moral Foundations Questionnaire (MFQ).** In part one of Study 3, participants were randomly assigned to one of two orders in which they first received either the Pakistani-immigrant outgroup version of the MFQ or the British-ingroup version of the MFQ (see Study 2). Reliability analyses for each subscale of the Ingroup MFQ and Outgroup MFQ were as follows: Harm (Ingroup Harm  $\alpha = .71$ , Outgroup Harm  $\alpha = .73$ ), Fairness (Ingroup Fairness  $\alpha = .70$ , Outgroup Fairness  $\alpha = .77$ ), Loyalty (Ingroup Loyalty  $\alpha = .78$ , Outgroup Loyalty  $\alpha = .71$ ), Authority (Ingroup Authority  $\alpha = .73$ , Outgroup Authority  $\alpha = .64$ ) and Purity (Ingroup Purity  $\alpha = .83$ , Outgroup Purity  $\alpha = .84$ ).

**Filler Task.** In order to ensure a sufficient delay between the completion of the two MFQ versions participants again completed a filler task which was the same number selection task used in Studies 1 and 2. Participants next completed measures of Threat and Bias, with the order participants completed these measures being counterbalanced with participants being assigned to complete either the measure of Threat first followed by Bias and Negative Bias, or to the measure of Bias and Negative Bias first followed by the Threat measure.

**Explicit Bias.** The same measure of Explicit Bias toward immigrants used in Study 2 was again used in Study 3; this scale again demonstrated a good reliability ( $\alpha = .95$ ).

**Negative Bias.** The measure of explicit bias was followed by the same measure of Negative Bias as was used in Study 2, this measure also demonstrated good reliability ( $\alpha = .96$ ).

**Threat Perceptions.** The measure of Threat Perceptions towards immigrant groups used in the current study was the same as in Study 2 and again demonstrated good reliability (Stephan et al., 1999;  $\alpha = .95$ ).

**Demographics Items and Political Ideology.** After the outcome measures were completed, participants then answered the demographics items including, gender, ethnicity, years lived in the U.K and political orientation using the same item from Studies 1 and 2.

**Affective Misattribution Procedure (AMP).** Part 2 of the study asked participants to complete an online version of the Affective Misattribution Procedure (AMP) as a measure of indirect bias toward immigrants (Imhoff & Banse, 2009; Payne, Burkley, & Stokes, 2008; Payne, Cheng, Govorun, & Stewart, 2005; Payne et al., 2010; Payne & Lundberg, 2014). In the AMP, participants saw a photograph of an Immigrant face (Pakistani/Indian face), a non-Immigrant face (White), or a neutral grey square, and the photo was quickly replaced by a Korean pictographs of non-word letter strings; the prime faces were matched for attractiveness. Similar to previous research with the AMP online (Payne et al., 2010), on each of the 72 trials, participants saw a grey dot for 500 ms to denote the beginning of a trial, followed by the prime (face or grey square) for 75 ms, then the pictograph for 225 ms. A black-and-white pattern mask then appeared until participants responded with either pleasant or unpleasant as a response. Participants were instructed to ignore the faces of immigrants or non-immigrants and to only judge whether or not they believed the pictograph to be more or less pleasant than average by pressing either the pleasant or



unpleasant key. The 72 pictographs were presented once and the 12 immigrant faces, 12 white faces, and 12 grey squares were presented twice each and randomly paired with pictographs throughout the 72 trials.

**Need for Cognition Filler Task.** Following the AMP measure 8 filler items from the Need for Cognition scale were administered that had been selected because they were not significantly related to political ideology, and thus were neutral questions (Cacioppo & Petty, 1982). After completion of this section of the study, participants were again monetarily compensated and debriefed.

## 2.12. Results

In order to test our hypotheses, we first conducted a series of linear regressions using political ideology as the predictor and Ingroup Preference Score (i.e., Ingroup Harm – Outgroup Harm) as the outcome in which higher scores reflected higher investment in the foundation when framed about the ingroup (See Table 2.5)<sup>5</sup>. It was found that Political Ideology negatively correlated with Ingroup Preference Score for Harm, Fairness, Loyalty, Authority, and Purity foundations, suggesting that those higher in liberalism had less of an ingroup focus when investing in these moral values as compared to conservatives. Once again, we observed that both Ingroup-Binding Preference Scores and Ingroup-Individualizing Preference Score significantly and negatively predicted Political Orientation. The robustness of all analyses was confirmed using bootstrapping (BCa 95 % CI, 5000 samples).

TABLE 2.5

Standardized regression coefficients ( $\beta$ ) for regression equations with Framed moral foundation ingroup-preference scores predicted by Political Ideology.

	Political Ideology				
	Linear Regressions			Bootstrapping (BCa)	
	$\beta$	<i>p-value</i>	$R^2$	<i>b</i>	95% CI for <i>b</i>
<b>Harm Preference Score</b>	-.17	= .003	.03	-.07	[-.126, -.019]
<b>Fairness Preference Score</b>	-.22	< .001	.05	-.11	[-.168, -.046]
<b>Loyalty Preference Score</b>	-.41	< .001	.17	-.22	[-.280, -.153]
<b>Authority Preference Score</b>	-.33	< .001	.11	-.15	[-.203, -.092]
<b>Purity Preference Score</b>	-.33	< .001	.11	-.17	[-.231, -.102]
<b>Individualizing Preference Score</b>	-.21	< .001	.05	-.09	[-.145, -.035]
<b>Binding Preference Score</b>	-.41	< .001	.17	-.18	[-.233, -.124]

*Note.* Higher scores on ideology reflected increased liberalism (vs. conservatism). Higher Ingroup Preference Scores indicated more investment in the moral foundation when it was framed about the ingroup. A negative regression coefficient between Political Ideology and the Preference Score indicated that conservatives showed more endorsement of the moral foundation when it was framed about the ingroup as opposed to the outgroup.

To examine the relationships between Political Ideology and Ingroup and Outgroup moral values in more detail, we once again performed fourteen linear regression analyses entering Political ideology as a predictor and each of the British-ingroup foundations and each of the Pakistani-immigrant outgroup moral foundations as the outcome variables with bootstrapping (BCa to 5000 samples). We again replicated the negative and significant relationship between Political Ideology and Ingroup Binding in which less liberalism or more conservatism was related to more investment in Ingroup Binding foundations (see Table

2.6). For the Outgroup framing, we also replicated the positive and significant relationship between the Outgroup Individualizing index and Political Ideology in which more liberalism or less conservatism was related to more Outgroup Individualizing investment.

TABLE 2.6

Fourteen linear regressions with Political Ideology entered as predictor and Ingroup and Outgroup moral foundations acting as the outcome variables. Variables were rescored so that they matched the 0 to 5 coding for the Moral Foundations Questionnaire.

	Political Ideology				
	Linear Regressions			Bootstrapping (BCa)	
	$\beta$	<i>p-value</i>	$R^2$	<i>b</i>	95% CI for <i>b</i>
i-Harm	.14	= .017	.02	.07	[.016, .122]
i-Fairness	.20	= .001	.04	.09	[.036, .136]
i-Loyalty	-.34	< .001	.12	-.19	[-.251, -.123]
i-Authority	-.39	< .001	.16	-.20	[-.260, -.140]
i-Purity	-.34	< .001	.12	-.20	[-.263, -.134]
i-Individualizing	.18	= .002	.03	.08	[.032, .124]
i-Binding	-.40	< .001	.16	-.20	[-.251, -.137]
o-Harm	.28	< .001	.08	.14	[.083, .200]
o-Fairness	.35	< .001	.12	.19	[.131, .252]
o-Loyalty	.06	= .299	.00	.03	[-.030, .084]
o-Authority	-.11	= .073	.01	-.05	[-.107, .001]
o-Purity	-.05	= .385	.00	-.03	[-.110, .044]
o-Individualizing	.33	<.001	.11	.17	[.112, .221]
o-Binding	-.04	= .533	.00	-.02	[-.074, .036]

We next conducted linear regressions with bootstrapping (BCa to 5000 samples) to test the hypotheses relating to Bias, Negative Bias, Threat, and Implicit Bias. As predicted, we observed that increasing liberalism was significantly related to less Explicit Bias,  $R^2 = .17$ ,

$\beta = -.42$ ,  $t = -7.72$ ,  $p < .001$ , with bootstrapped,  $b = -.34$ , 95% CI  $[-.43, -.24]$ ,  $p < .001$ , and less Negative Bias  $R^2 = .19$ ,  $\beta = -.44$ ,  $t = -8.22$ ,  $p < .001$ , with bootstrapped  $b = -.50$ , 95% CI  $[-.62, -.38]$ ,  $p < .001$ , and was significantly related to less Perceived Threat,  $R^2 = .29$ ,  $\beta = -.54$ ,  $t = -10.89$ ,  $p < .001$ , with bootstrapped  $b = -.38$ , 95% CI  $[-.45, -.31]$ ,  $p < .001$ . For the AMP implicit measure, we removed an additional 2 acquiescent participants who, contrary to instructions, had 99% or greater of their responses using the same response key. There were 286 participants remaining for these analyses. Here we observed that Political Ideology was significantly related to Implicit Bias,  $R^2 = .03$ ,  $\beta = -.17$ ,  $t = -2.92$ ,  $p = .004$ , with bootstrapped  $b = -.02$ , 95% CI  $[-.03, -.01]$ ,  $p = .005$ .

We next tested the mediational hypotheses. As expected for Explicit Bias, we observed a significant indirect effect of the Outgroup Individualizing foundations, in which more investment was related to less Explicit Bias, *Completely Standardized Indirect Effect (CSIE)* =  $-.13$  (see Figure 2.4). The Ingroup Binding indirect effect on Explicit Bias that was found in Study 2 was also replicated in Study 3, in which more investment was related to more Explicit Bias, *CSIE* =  $-.07$  (see Figure 2.4). Conducting a further mediation analysis to examine Negative Bias, also yielded significant indirect effects of both Outgroup Individualizing, and Ingroup Binding foundations, in which more investment in Outgroup Individualizing foundations was related to less Negative Bias, *CSIE* =  $-.11$ , and more investment in Ingroup Binding foundations was related to more Negative Bias, *CSIE* =  $-.13$  (see Figure 2.5). For the Political to Threat relationship, we observed the expected significant indirect effect of Ingroup Binding, in which more investment in the Binding foundations was related to more Threat, *CSIE* =  $-.15$ , and we further replicated the significant indirect effect of Outgroup Individualizing, in which more investment was related to less Threat, *CSIE* =  $-.10$

(see Figure 2.6). We also conducted a mediation analysis to consider the relationship between Political Ideology to Implicit Bias (N = 286); here we observed an indirect effect of both Outgroup Individualizing foundations,  $CSIE = -.04$ , and Ingroup Binding Foundations on levels of Implicit Bias,  $CSIE = -.08$  (see Figure 2.7).

As in Study 2, the Individualizing-Binding Difference Score indirect effect was significant and larger for Explicit Bias,  $b = -.18$ , CI  $[-.25, -.12]$ ,  $CSIE = -.22$ , Negative Bias,  $b = .26$ , CI  $[-.36, -.18]$ ,  $CSIE = -.23$ , Implicit Bias,  $b = -.01$ , CI  $[-.02, -.01]$ ,  $CSIE = -.12$ , and for Threat,  $b = -.18$ , CI  $[-.23, -.13]$ ,  $CSIE = -.25$ . Also, as in Study 2, we conducted a series of models with Ingroup Individualizing and Ingroup Binding foundations in the models and observed non-significant effects for the Ingroup Individualizing index (see Appendix L).

FIGURE 2.4

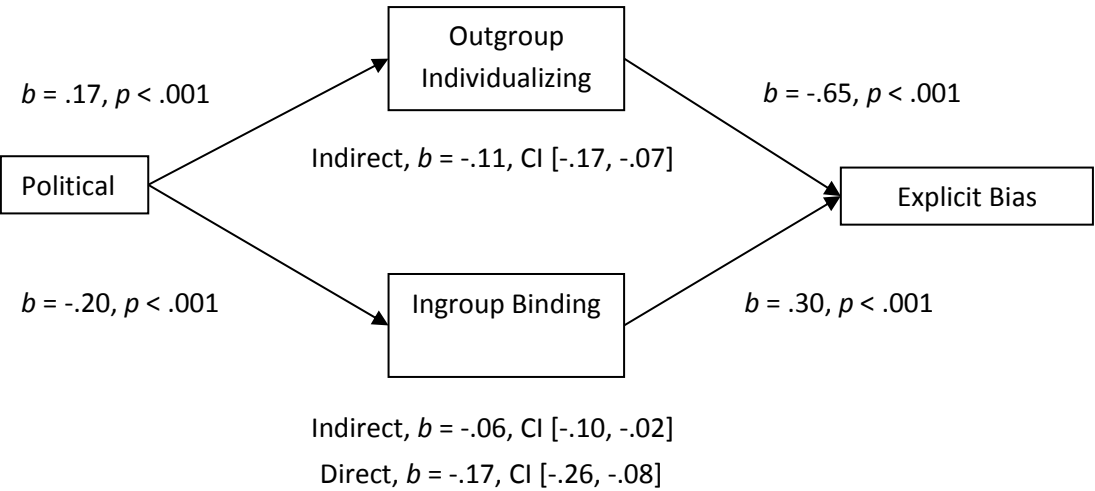


Figure 2.4. Multiple mediation of the Political Orientation to Explicit Bias relationship by the Outgroup Individualizing index and by the Ingroup Binding index.

FIGURE 2.5

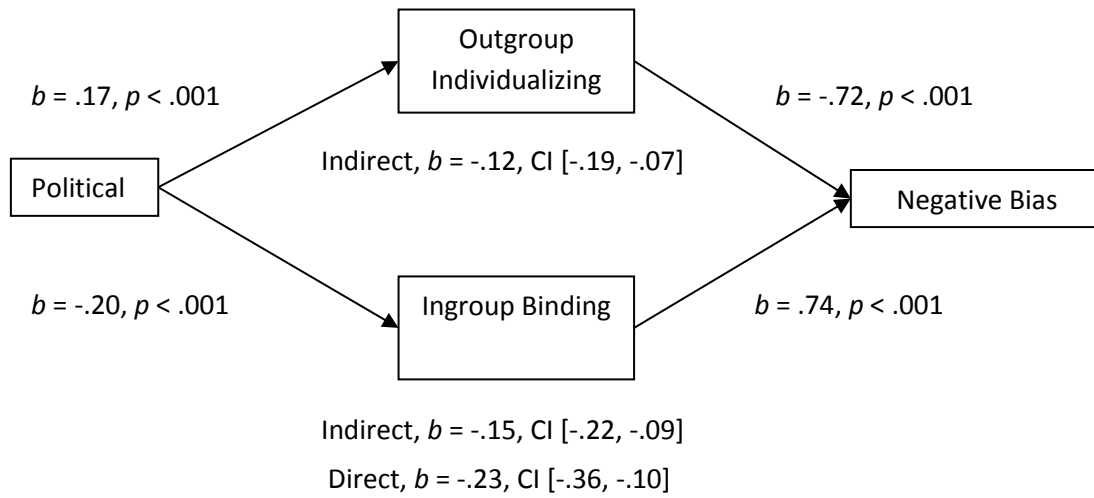


Figure 2.5. Multiple mediation of the Political Orientation to Negative Bias relationship by the Outgroup Individualizing index and by the Ingroup Binding index.

FIGURE 2.6

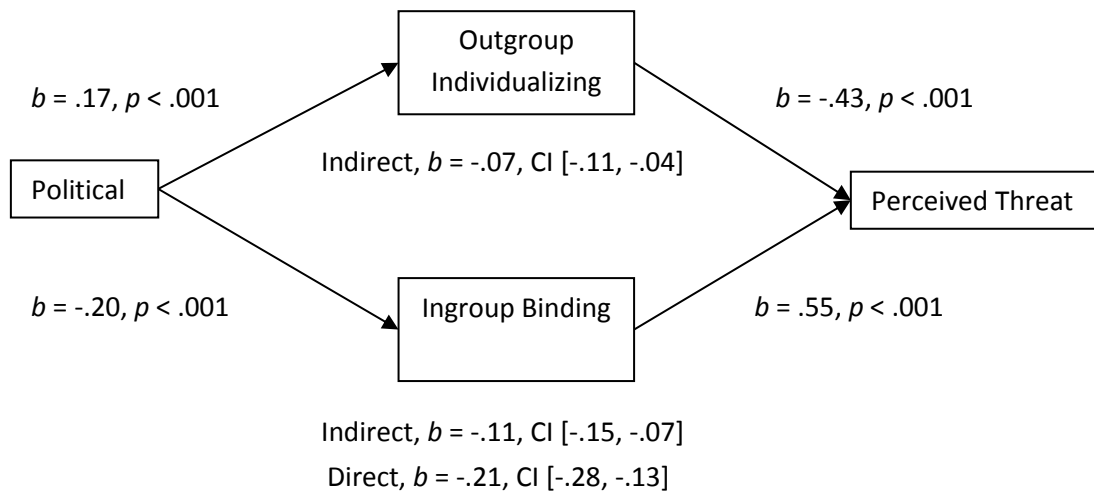


Figure 2.6. Multiple mediation of the Political Orientation to Perceived Threat relationship by the Outgroup Individualizing index and by the Ingroup Binding index.

FIGURE 2.7

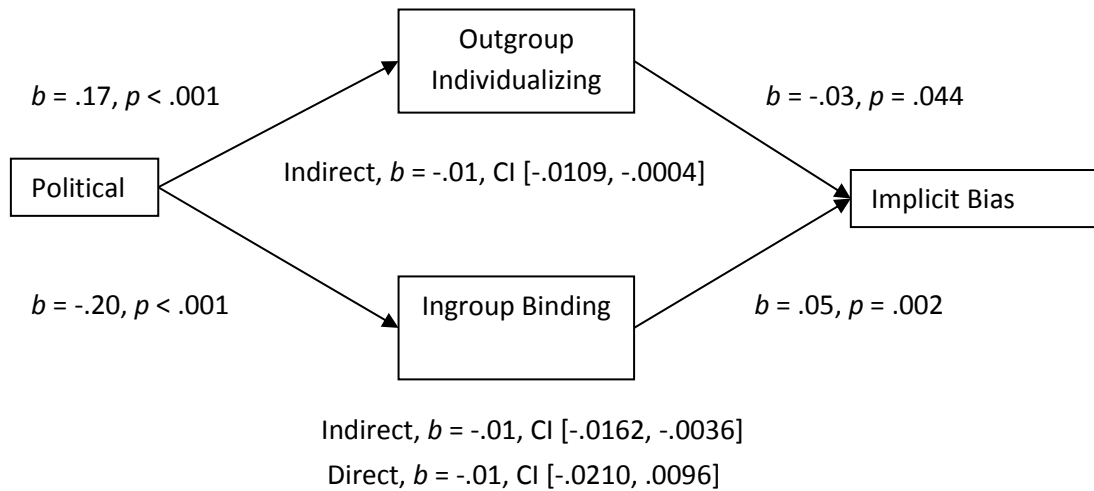


Figure 2.7. Multiple mediation of the Political Orientation to Implicit Bias relationship by the Outgroup Individualizing index and by the Ingroup Binding index.

### 2.13. Discussion

Study 3 replicated the overall general pattern of results observed in Study 2 for both the Individualizing and Binding Ingroup Preference Scores, except that in Study 3 the preference score for Fairness was now also significant. For the Ingroup-MFQ and Outgroup-MFQ linear regressions, Outgroup Harm and Fairness were more strongly predicted by a liberal political ideology and Ingroup-Loyalty, Ingroup-Authority, and Ingroup-Purity were more strongly predicted by a conservative ideology replicating the key findings of Study 2. In Study 3 we also did find that the Ingroup-Harm slope was significant and the Outgroup-Purity slope was non-significant unlike Study 2, though the effect sizes were much smaller for these relationships as compared to the other variables in Study 2. In Study 3 we also found that the focal relationships between Political Ideology and the Outgroup-Individualizing slope and Ingroup-Binding foundation slope were again significant,



supporting our main hypotheses. We, however, observed that the Ingroup-Individualizing slope was now significant and the Outgroup-Binding slope was non-significant; given that these effects were small in both studies, it is difficult to make conclusions about them. While this was the case for the ingroup-MFQ and outgroup-MFQs separately, the Ingroup Preference Scores discussed previously were significant suggesting that there are important differences in group focus of moral foundations as a function of political ideology. Together, these results support the notion that both liberals and conservatives take into account groups when making moral judgments, but that the type of groups used vary by foundations.

Our findings suggest that there is a difference between liberals and conservatives when they consider outgroups. Liberals show more investment than conservatives in Individualizing Foundations when they are framed about outgroups in general. In contrast conservatives show more investment than liberals in Binding Foundations when they are framed about the Ingroup. Study 3 also replicated the finding that these differing influences of ingroups and outgroups for liberals and conservatives have a meaningful effect on intergroup relations. We replicated the relationship of Political Ideology to Explicit Bias and Negative Bias towards immigrants, and to Perceived Threat from immigrants; we also replicated the mediational analyses in which the Outgroup Individualizing index significantly mediated the effects on Explicit Bias, Negative Bias, and Perceived Threat, and the Ingroup Binding index also significantly mediated Political Ideology to Explicit Bias, Negative Bias and Perceived Threat. Finally Study 3 found a significant relationship between Political Ideology and levels of Implicit Bias which were mediated by both the Ingroup Binding and Outgroup Individualizing foundations; these relationships were not as strong as may be seen in the relationships to Explicit, Negative Bias, and Threat, but this may have been due to the

implicit measure being administered three to nine weeks later and due to a substantial drop-out rate (i.e., 338 participants started the study, but only 300 finished the AMP).

## **2.14. Study 4**

### **2.14.1. Introduction and Predictions**

In Studies 2 and 3, the pattern of findings suggested that the Ingroup Binding and Outgroup Individualizing foundations mediated the relationship between Political Ideology and Explicit Bias, Negative Bias, and Threat as separate outcome variables, but they did so in opposite directions in which more investment in Ingroup Binding foundations was associated with more Bias, Negative Bias and Threat, but Outgroup Individualizing was associated with less Bias, Negative Bias, and Threat. In Study 4, we examined how the standard version of the MFQ (Graham et al., 2008) would compare to the outgroup-framed version of the MFQ in predicting intergroup variables. This study was conducted prior to Studies 2 and 3, but since it answers a different question than the first 3 studies, we have decided to include it here as Study 4. Using the abstract outgroup-framing as a comparison to the standard (non-framed) version of the MFQ served to create a test as to whether people are conceiving of the MFQ in terms of their ingroup and whether the effects demonstrated in earlier studies would hold when using the standard version of the MFQ as compared to an outgroup-framed version. Detecting differences under these conditions could further suggest that people are conceiving of the standard MFQ in terms of their ingroups which would have important implications for MFT. In Study 4 we also included a measure of implicit bias to further examine the relationship to ideology.

## **2.15. Method**

### **2.15.1. Participants and Design**

A total of two hundred and sixty-eight participants were recruited from the University of Birmingham research participation scheme with participants receiving either credits or payment for study participation. The sample size was determined based on the observation of a small to medium effect effect ( $f^2 = .03$  to  $.05$ ) at  $.7$  to  $.8$  power. After following the acquiescence removal procedure (Graham et al., 2009) for the two versions of the MFQ (standard and outgroup framed MFQ) the remaining sample consisted of 253 participants with an average age of 18.92 years ( $SD = 1.32$ ), 92.5% Female, and 67.6% being Caucasian.

### **2.15.2. Materials and Procedure**

**Outgroup Framed and Standard Moral Foundations Questionnaire (MFQ).** Following the procedure of the earlier studies (See studies 1, 2, & 3), Study 4 used two orders of experimental materials in which participants were randomly assigned to receive the outgroup-framed version of the MFQ first or were randomly assigned to see the standard, non-framed, version of the MFQ first (Graham et al., 2008). Reliability analyses for each subscale of the MFQ and Outgroup MFQ were as follows: Harm (MFQ Harm,  $\alpha = .57$ , Outgroup Harm,  $\alpha = .55$ ), Fairness (MFQ Fairness,  $\alpha = .58$ , Outgroup Fairness,  $\alpha = .64$ ), Loyalty (MFQ Loyalty,  $\alpha = .65$ , Outgroup Loyalty,  $\alpha = .57$ ), Authority (MFQ Authority,  $\alpha = .58$ , Outgroup Authority,  $\alpha = .46$ ), and Purity (MFQ Purity,  $\alpha = .72$ , Outgroup Purity,  $\alpha = .69$ ). Two filler tasks were also included between the versions of the MFQ in order to create a sufficient delay between the two MFQ questionnaires.

**Growing Stone and Numerical Filler Task.** The first filler task was the Growing stone delay task, which has been used in previous research as a means of creating a delay between study measures (Greenberg, Pyszczynski, Solomon, Simon & Breus, 1994). In the task, participants read and provided ratings of a literary passage; in our version, all references to the character's race were removed to avoid making salient any group-based categories. After reading the paragraph, participants rated the passage from 1 "*not at all descriptive*" to 9 "*very descriptive*" with a labelled midpoint 5 "*somewhat descriptive*", and rated "*how engaging did you find the story*" and "*how imaginative did you find the story*"; This task was followed by the same number selection filler task, used in earlier studies (See Studies, 1, 2, & 3).

**Explicit Bias.** Next, participants completed the measure of explicit bias towards immigrants also used in Studies 2 and 3 (Saguy et al., 2009;  $\alpha = .86$ ). The measure of bias was followed by the three following measures that were randomized within participants in presentation order.

**Threat Perceptions.** We used the same immigrant Threat perceptions measure as was used in Studies 2 and 3 (Stephan et al., 1999;  $\alpha = .89$ ).

**Perspective Taking.** We used the same Perspective Taking measure as was used in Study 2 (Davis, 1983,  $\alpha = .72$ ).

**Affective Misattribution Procedure (AMP).** The version of the immigrant AMP used in Study 4 was similar to the one used in Study 3 except for the following differences: 1) The Study 4 AMP employed the use of Chinese rather than Korean pictographs, and 2) did not include the 500 ms attention dot used in the online studies, 3) and was administered in a laboratory. These differences were in line with the original AMP studies that were also

conducted within a laboratory rather than online (Payne et al., 2005) and were consistent with current recommendations for conducting the AMP (Payne & Lundberg, 2014)

**Demographics and Political Ideology.** After administration of the outcome measures, participants completed the demographics section of the study where political orientation and the demographic items from Studies 1, 2, and 3 were completed. After completing all of these main analyses, participants completed some exploratory questions that were not analyzed. They completed an exploratory measure of self-construal (Singelis, 1994, *not reported here*) and were debriefed after completion.

## 2.16. Results

We first conducted a series of linear regressions entering political ideology as the predictor and framed Preference score as the outcome variable. In the current study, the Preference score was calculated by subtracting the Outgroup-framed foundation from the standard foundation; for example, the Harm Preference Score equaled the Standard-Harm foundation minus the Outgroup-Harm Score with a higher score indicating higher investment in the standard framed foundation. Again, higher scores on the ideology item indicated higher political liberalism meaning that a negative correlation between ideology and the Preference score suggested that as political liberalism increased there was less investment in the standard as compared to the outgroup-framed moral foundation, and also that conservatives were invested more in the standard foundation as compared to the outgroup foundation. The results of these linear regression analyses suggested that there was a small, but significant relationship between Political and the Individualizing Preference Score (see Table 2.7); in particular, there was a non-significant relationship for the Harm Preference Score. Fairness, however, was significant, though it was a very small effect size. There was also a significant relationship between Political Ideology and the Binding Preference Score; in particular, both Loyalty and Authority were significant, though they were small to medium effects. Purity, on the other hand, was non-significant.

TABLE 2.7

Standardized regression coefficients ( $\beta$ ) for regression equations with Framed moral foundation Preference scores (Standard foundation minus the Outgroup-Framed foundation) predicted by Political Ideology.

	Political Ideology				
	Linear Regressions			Bootstrapping (BCa)	
	$\beta$	<i>p-value</i>	$R^2$	<i>b</i>	95% CI for <i>b</i>
<b>Harm Preference Score</b>	-.05	= .436	.00	-.01	[-.05, .02]
<b>Fairness Preference Score</b>	-.15	= .016	.02	-.04	[-.08, -.01]
<b>Loyalty Preference Score</b>	-.13	= .037	.02	-.04	[-.09, .002]
<b>Authority Preference Score</b>	-.23	< .001	.05	-.07	[-.11, -.03]
<b>Purity Preference Score</b>	-.10	= .097	.01	-.04	[-.08, .007]
<b>Individualizing Preference Score</b>	-.13	= .047	.02	-.03	[-.06, .000]
<b>Binding Preference Score</b>	-.20	= .001	.04	-.05	[-.08, -.02]

We also conducted a series of linear regression analyses entering political ideology as the predictor and each individual framed moral foundation as the outcome variable. In the first set of linear regressions, it was found that the Standard Individualizing Scores significantly predicted Political Ideology (see Table 2.8); more investment in individualizing with no specific target group (i.e., Standard Framing) was related to more conservatism and less liberalism. Standard Fairness was significant, but Standard Harm was not. In contrast, for the Standard Binding Score was significant, but negative as was Standard-Loyalty, -Authority, and -Purity as expected from MFT predictions. In contrast, the Outgroup-Individualizing Score was positively and significantly related to Political Ideology such that more investment in Outgroup-Individualizing was related to less conservatism or more liberalism; both

Outgroup-Harm and Outgroup-Fairness were significant. The Outgroup Binding Score was also significant, but it had a negative relationship such that more investment in Binding foundations was related to more conservatism; Outgroup-Loyalty, -Authority, and -Purity were all significant.

TABLE 2.8

A series of fourteen linear regression analyses using Political Ideology as the predictor and the Standard- and Outgroup-framed moral foundations as the outcome Variables. Variables were rescored so that they matched the 0 to 5 coding for the Moral Foundations Questionnaire

	Political Ideology				
	Linear Regressions			Bootstrapping (BCa)	
	$\beta$	<i>p-value</i>	$R^2$	<i>b</i>	95% CI for <i>b</i>
<b>Standard-Harm</b>	.09	= .145	.01	.03	[-.011, .075]
<b>Standard-Fairness</b>	.18	= .005	.03	.06	[.019, .095]
<b>Standard-Loyalty</b>	-.34	< .001	.11	-.14	[-.188, -.089]
<b>Standard-Authority</b>	-.46.	< .001	.21	-.17	[-.217, -.131]
<b>Standard-Purity</b>	-.32	< .001	.11	-.16	[-.213, -.102]
<b>Standard-Individualizing</b>	.15	= .016	.02	.05	[.008, .082]
<b>Standard-Binding</b>	-.44	< .001	.19	-.16	[-.196, -.117]
<b>o-Harm</b>	.13	= .036	.02	.05	[.002, .087]
<b>o-Fairness</b>	.27	< .001	.07	.10	[.051, .145]
<b>o-Loyalty</b>	-.23	< .001	.06	-.09	[-.142, -.043]
<b>o-Authority</b>	-.28	< .001	.08	-.10	[-.148, -.059]
<b>o-Purity</b>	-.26	< .001	.07	-.12	[-.177, -.065]
<b>o-Individualizing</b>	.23	< .001	.05	.07	[.032, .111]
<b>o-Binding</b>	-.31	< .001	.09	-.11	[-.150, -.063]

Following the methods used in the previous studies a series of bootstrapped linear regressions were then conducted using Political Ideology as a predictor. In accordance with



our predictions, we observed that those with a more politically liberal orientation demonstrated less Explicit Bias,  $R^2 = .10$ ,  $\beta = -.32$ ,  $t = -5.30$ ,  $p < .001$ , with bootstrapped  $b = -.21$ , 95% CI  $[-.30, -.13]$ ,  $p < .001$ , and also demonstrated significantly less perceived Threat Perceptions,  $R^2 = .26$ ,  $\beta = -.51$ ,  $t = -9.38$ ,  $p < .001$ , with bootstrapped  $b = -.27$ , 95% CI  $[-.34, -.21]$ ,  $p < .001$ . In regard to Implicit Bias, participants who demonstrated acquiescence as indicated via use of the same key response on more than 99% of trials were removed; after this removal, the final sample for this analysis consisted of 247 participants for the implicit measure analysis. In accordance with our predictions, it was found that less conservatism or higher levels of liberalism was related to lower Implicit Bias scores,  $R^2 = .05$ ,  $\beta = -.23$ ,  $t = -3.71$ ,  $p < .001$ , with bootstrapped  $b = -.04$ , 95% CI  $[-.05, -.02]$ ,  $p < .001$ . In accordance with our initial predictions, but in contrast to Study 2, Political Ideology was not significantly related to Cognitive Perspective Taking ability,  $R^2 < .01$ ,  $\beta = .09$ ,  $t = 1.35$ ,  $p = .18$ , with bootstrapped  $b = .03$ , 95% CI  $[-.01, .07]$ ,  $p = .157$ .

After considering the relationship between political orientation and the outcomes of interest we next considered mediational hypotheses. When examining the influence of Political Ideology on Explicit Bias, we found that the Outgroup Individualizing Foundations significantly mediated this relationship,  $CSIE = -.05$ , while the Standard Binding Foundations did not act as a significant mediator,  $CSIE = -.02$  (See Figure 2.8). For the Political Ideology to Threat analysis, both Outgroup Individualizing,  $CSIE = -.06$ , and Standard Binding Foundations,  $CSIE = -.08$ , significantly mediated the relationship to Threat as was the case in Studies 2 and 3 (See Figure 2.9). Finally, we observed that the relationship between Political Ideology and Implicit Bias was significantly mediated by the different sets of foundations; both the Outgroup Individualizing Foundations,  $CSIE = -.02$ , and the Standard MFQ Binding

Foundations mediated the relationship to Implicit Bias,  $CSIE = -.04$  (See Figure 2.10). Further analysis confirmed that the indirect effect for Outgroup-Individualizing minus Binding Score was significant and larger for Explicit Bias,  $b = -.07$ , CI  $[-.13, -.03]$ ,  $CSIE = -.11$ , for Implicit Bias,  $b = -.02$ , CI  $[-.03, -.01]$ ,  $CSIE = -.13$ , and for Threat,  $b = -.08$ , CI  $[-.13, -.05]$ ,  $CSIE = -.16$ .

FIGURE 2.8

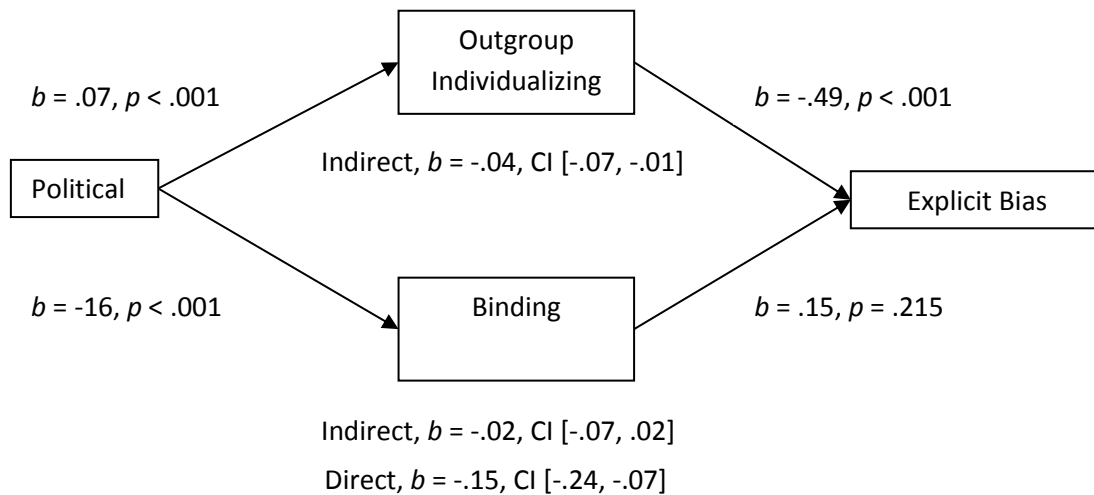


Figure 2.8. Multiple mediation of the Political Ideology to Explicit Bias relationship by the Outgroup Individualizing index and by the Standard Binding index.

FIGURE 2.9

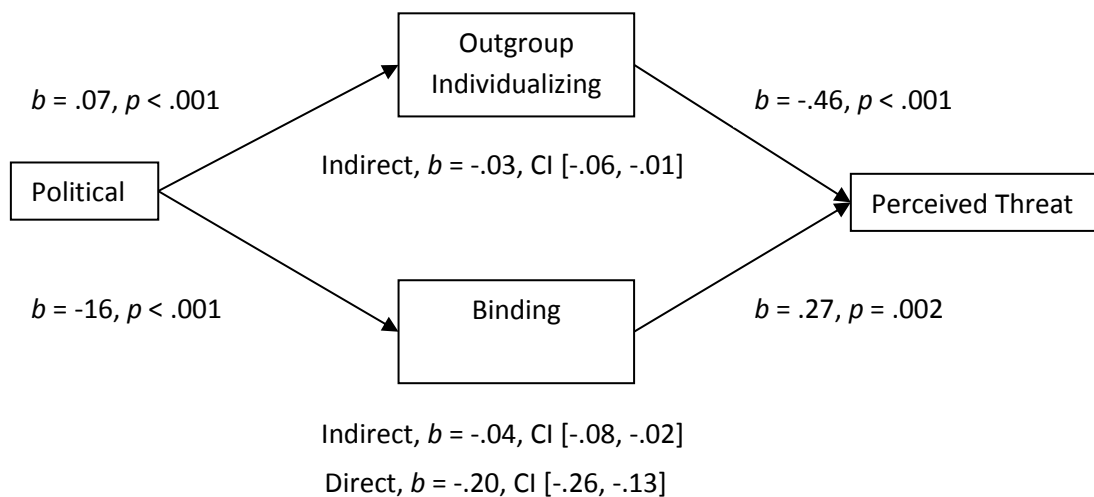


Figure 2.9. Multiple mediation of the Political Ideology to Perceived Threat relationship by the Outgroup Individualizing index and by the Standard Binding index.

FIGURE 2.10

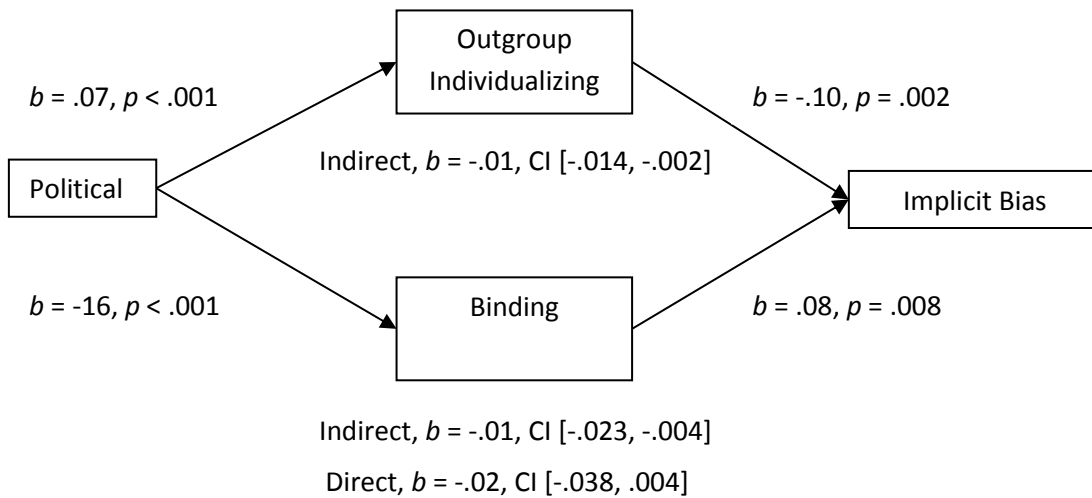


Figure 2.10. Multiple mediation of the Political Ideology to Implicit Bias relationship by the Outgroup Individualizing index and by the Standard Binding index.

## 2.17. Discussion

Study 4 demonstrated a similar overall pattern to the first three studies, but there were a few differences; this was not entirely unexpected given the unclear nature of the standard moral foundations questionnaire with respect to groups. Using the Standard-Foundations minus the Outgroup-Foundations for the Preference score analysis, we once again observed a significant, negative relationship between Political Ideology and the Individualizing and the Binding Preferences Score; the relationships were, however, much weaker, potentially due to the lack of clarity on the standard MFQ (i.e., Standard minus Outgroup). We again observed significant differences on Fairness as observed in Studies 1 and 3, and for Loyalty and Authority foundations as observed in Studies 1, 2, and 3; we did not find significant relationships for the Purity or the Harm Preference scores; this result does not match the previous three studies, so it could also be due to the use of the standard MFQ.

In Study 4, differences by ideology were also detected when considering the Outgroup- to the Standard-, rather than the Ingroup-MFQ highlighting the importance of considering the group level in MFQ research. In accordance with Studies 1, 2, and 3, Standard Binding foundations significantly negatively correlated with Political Ideology, while the Outgroup Individualizing foundations significantly positively correlated with Political ideology. Interestingly, Standard Loyalty, Authority, and Purity all were significantly related to ideology, which was most similar to Study 1 in which the ingroup and outgroup framing were to abstract groups and which was similar to Study 4 for the framing to abstract outgroups and to a mostly undefined MFQ. Finally, less conservatism or more liberalism significantly predicted less explicit and less implicit bias, and less threat.

Considering the mediation analyses, it was found that Outgroup Individualizing and Standard Binding foundations mediated Threat perceptions as in Study 2 and 3 which examined Ingroup Binding foundations. Yet, only Outgroup Individualizing foundations mediated Bias in Study 4 in contrast to Studies 2 and 3 in which Ingroup Framed Binding foundations did mediate Bias. For Implicit Bias, it was found that both the Outgroup Individualizing foundations and the Standard Binding foundations mediated this relationship in Study 4, similar to Study 3, which used the Ingroup Binding foundations instead of mostly undefined labels; these results suggest the potential role of moral foundations in understanding implicit forms of biases. Overall, Study 4 used the Standard MFQ and found generally similar patterns as would be found using the ingroup framed foundations in Studies 1, 2, and 3. This suggests that people may be more likely to perceive the moral foundations questionnaire in terms of their ingroups, and this has especially important implications once the ideology of the participant is considered.

## 2.18. General Discussion

Our research was the first to demonstrate that liberals were significantly more and conservatives significantly less invested in harm and fairness when it was framed towards outgroups. The pattern held when moral foundations were framed about abstract outgroups (Studies 1 and 4, with the exception of outgroup harm in Study 1) and when moral foundations were framed about specific groups (a British-ingroup and Pakistani-immigrant outgroup) within the U.K. (Studies 2 and 3). Even when the target group was specified in Studies 2 and 3, linear regressions for outgroup harm and outgroup fairness were still significant as a function of ideology; this was further supported by the preference scores (i.e., ingroup minus outgroup scores); The harm preference score was significant in Studies 1, 2, and 3 and fairness preference score was significant in Studies 1, 3, and 4 while the individualizing preference score (i.e., average of harm and fairness) was significant across all studies (Studies 1, 2, 3 and 4). Together these findings suggest that liberals are generally more invested in harm and fairness values when framed about outgroups than are conservatives, and this helps to explain differences in intergroup attitudes as a function of moral and political ideology. A further Study (Study 4) found that the Standard MFQ (Graham et al., 2008) behaved much like the Ingroup MFQ and found similar patterns using the outgroup MFQ to those detected in Studies 1, 2, and 3. The Ingroup-framed Individualizing foundation to Ideology relationships were, however, much smaller and much less consistent; they were non-significant in Studies 1 and 2 ( $R^2 = .00$  and  $.01$ ), and significant, but small ( $R^2 = .03$  and  $.04$ ) in Studies 3 and 4; Thus, across these four studies, there is little evidence of a reliable difference on the Ingroup Individualizing foundations.

Our research was also the first to demonstrate that conservatives were significantly more and liberals significantly less invested in loyalty, authority, and purity when they were framed about the ingroup on the MFQ; this conclusion is supported by the consistently significant linear regressions for Ingroup-Authority, Ingroup-Loyalty and Ingroup-Purity (Studies 1, 2 & 3) and Standard-Loyalty, -Authority, and -Purity in Study 4. In addition, we observed consistently significant Ingroup preference relationships across Loyalty, Authority, and Purity foundations scores in Studies 1, 2, and 3 and for the Preference Score in Study 4, with the exception of a non-significant Purity preference score finding in Study 4. Moreover, the averaged binding preference score was significant across all studies (Studies 1, 2 3 and 4). Thus, even if liberals often think about individuals when making harm and fairness judgments, we demonstrated that group status (i.e., ingroup-outgroup) will be taken into account as a locus of moral judgment, and that liberals and conservatives differ on using ingroups and outgroups depending upon the foundations considered and that these differences have important consequences for intergroup contexts and cultural divides.

There was also an interesting pattern of data for the Outgroup-Binding foundations in which more investment in Outgroup-Binding was related to less liberalism and more conservatism in Studies 1, 2, and 4. The largest relationships were observed in Studies 1 and 4 ( $R^2 = .06$  and  $.09$ ) using Abstract groups and smaller ones in Studies 2 and 3 ( $R^2 = .02$  and  $.00$ ) using Specific groups. So, we can tentatively hypothesize that there may be a weaker investment for liberals and a stronger investment for conservatives in Binding foundations when framed about outgroups. It is possible that this effect may reflect liberals wanting outgroups to show less and conservatives wanting outgroups to show more loyalty and

respect for authority of their (own) group. Future research will need to confirm this pattern of results.

Given that we were testing multiple linear regression relationships throughout the research studies reported here this may increase the risk of familywise error. As an additional control for familywise error we also calculated a Bonferroni correction for the linear regression results in each study. In order to do this we divided the desired  $p$  value threshold by number of analyses for the 7 preference score regression slopes, the 7 ingroup framed regression analyses and the 7 outgroup framed regression analyses for each study. Using the  $p < .05$  significance threshold and dividing by the 7 analyses in each case left a new Bonferroni significance threshold of  $p < .007$ . Using this new threshold which conservatively controls for familywise error from multiple analyses and applying this significance threshold to the findings of each study produces a recalculated estimate of significance.

Applying the Bonferroni correction ( $p < .007$ ) to the Study 1 results demonstrated that the Ingroup-Harm Preference score was no longer significant ( $p = .029$ ) and the Outgroup-Loyalty regression slope was no longer significant ( $p = .014$ ) all other significant findings from the sets of linear regressions (preference score analyses, ingroup framed foundation regressions and outgroup framed foundation regressions) remained significant in Study 1 including those regarding the focal hypotheses of the ingroup binding and outgroup individualizing foundations. Using the Bonferroni threshold ( $p < .007$ ) on the Study 2 findings did not change the significance of any of the existing significant results in the preference score results. For the ingroup framed linear regressions, Ingroup-Fairness becomes non-significant ( $p = .042$ ) using the Bonferroni threshold. For the outgroup linear regressions the Outgroup-Binding slope becomes non-significant ( $p = .029$ ) using the new threshold, neither

of these findings relate to the focal hypotheses of the study regarding outgroup individualizing and ingroup binding foundations though more caution may be needed when interpreting these Ingroup-Fairness and Outgroup-Binding slopes for this study. Using the Bonferroni threshold in Study 3 ( $p < .007$ ) for the preference scores all significant results remained significant. For the ingroup linear regressions, Ingroup-Harm becomes non-significant ( $p = .017$ ) and for the outgroup linear regressions all significant results remained significant.

Finally using the Bonferroni threshold ( $p < .007$ ) on Study 4 only the Authority and Binding Preference scores remained significant as the Fairness ( $p = .016$ ), Loyalty ( $p = .037$ ) and Individualizing ( $p = .047$ ) Preference scores became non-significant. While this study shows less differentiation than our preference scores in our earlier studies detecting any differences on the standard (rather than ingroup MFQ) as compared to outgroup MFQ is noteworthy given there was no ingroup framing in this study. In addition the Bonferroni correction represents a highly conservative statistical correction. For the standard MFQ in Study 4 applying the Bonferroni correction meant that the standard MFQ Individualising regression slope became non-significant ( $p = .016$ ) with all other significant findings remaining significant. For the outgroup foundations only Outgroup-Harm became non-significant ( $p = .036$ ). Crucially the Standard Loyalty, -Authority and -Purity as well as Standard-Binding foundations slope all remained significant with the Bonferroni correction as well as the Outgroup-Fairness and Outgroup-Individualizing slopes.

In the current studies, a more liberal political ideology was related to less bias (Study 2, 3 and 4), negative bias (Study 2, 3), implicit bias toward immigrants (Study 3 and 4) and less perceived threat from immigrants (Study 2, 3, and 4). We were the first to demonstrate



that negative bias (Study 2 and 3), explicit bias (Study 2, 3, and 4) and implicit bias (Study 3 and 4) as well as perceived threat (Study 2, 3, and 4) were mediated by more investment in outgroup individualizing foundations. In contrast, ingroup binding foundations mediated bias (Study 2 and 3), perceived threat (Study 2 and 3), negative bias (Study 2 and 3) and implicit bias (Study 3); however, the Standard Binding foundations did not mediate explicit bias in Study 4, but they did mediate threat and implicit bias in this study. Overall, these findings have important implications for interventions designed to reduce intergroup tensions and enhance social cohesion by identifying which foundations are important and the type of framing of those foundations that may reduce bias.

In our research, we demonstrated that the types of groups that come to mind matter when making moral judgments; liberals appeared to be more influenced by outgroups as a focus of their moral judgment within harm reduction and fairness domains, while conservatives were more influenced by ingroups within loyalty, authority, and purity domains. The observed differences for harm and fairness are in line with other research showing that liberals show more promotion focus when searching novel stimuli (Shook & Fazio, 2009), show higher levels of openness to experience (Carney et al., 2008; Thórisdóttir et al., 2007; Sibley et al., 2012), and that they show less acceptance of inequality and more acceptance of change (Duckitt, 2001; Duckitt & Sibley, 2009; Federico et al., 2009; Jost, 2009; Jost, 2017; Jost et al., 2003). The observed differences for loyalty, authority, and purity are also in accordance with other research showing that conservatives may attend to and may be more vigilant for threat or danger cues that may impact on loyalty, authority, or purity concerns relating to ingroup boundaries (Duckitt & Sibley, 2009; Jost et al., 2003; Jost & Napier, 2011; Hibbing, et al., 2014; van Leeuwen & Park, 2009). In Studies 2, 3 and 4, we

observed that more perceived threat from immigrants (i.e., combination of perceived symbolic threat and realistic threat) was associated with a more conservative ideology. This perception of threat may reflect wanting to protect group boundaries, customs, and traditions, and wanting to minimize exposing one's group to risk. In democratic and open societies, risk minimization will need to be balanced with acceptance of risk. This is especially true in societies with birth rates below population replacement that will continue to rely upon immigration to maintain population growth, which is often intimately tied to economic growth. Thus, examining the influence of threat on these processes will continue to be an important line of research.

In considering the consequences of these tendencies, we demonstrated that liberals showed less bias, less negative bias, and less implicit bias toward immigrants in general. Moreover, liberals' increased investment in harm reduction and in fairness, when related to outgroups, should be associated with more willingness to include others in their harm and fairness judgments and should be associated with less bias toward outgroups, in general. While there may be some exceptions that show that both groups can show bias on general cognitive processing, such as biased assimilation of information (Conway et al., 2016; Brandt et al., 2014), it remains that liberals tend to show less bias to a larger range of outgroups as demonstrated by the current studies and the overall research evidence in the field (review Jost, 2017; Jost et al., 2003; Chambers & Schlenker, 2013; for meta-analysis, see Jost, Sterling, & Stern, 2017). Importantly, in Studies 2 and 3, we were the first to demonstrate that the relationship to explicit bias was mediated by investment in outgroup individualizing foundations of harm and fairness; Moreover, outgroup individualizing foundations mediated the relationship between political orientation and negative bias in Studies 2 and 3, and it

mediated the relationship to implicit bias in Studies 3 and 4. Thus, willingness to include outgroups in moral judgments of harm and fairness is important for reducing implicit bias as well as negatively charged bias and explicit biases.

The binding foundations, however, did not mediate explicit bias in Study 4, which used the Standard Binding foundations while the Ingroup-framed Binding foundations did mediate explicit bias in Studies 2 and 3. In Study 4, we may not have replicated Kugler et al.'s (2014) findings of a positive relationship between the Standard MFQ binding foundations and outgroup hostility because we used a measure of explicit bias towards immigrants as opposed to the more extreme outgroups used in their measure of outgroup hostility (i.e., illegal immigrants, and Muslims versus Christians). Yet, we have found that the Ingroup Binding foundations did mediate explicit bias in Studies 2 and 3 suggesting that, overall, there is evidence that binding-focused foundations relate to bias, at least when people are focused on thinking about an ingroup in relation to the binding foundations. Given the lack of clarity in regard to the target groups of moral judgments on the Standard MFQ, it may take more extreme outgroups to observe the relationship between binding foundations and bias. More research will need to examine further the relationship between the binding moral foundations and measures of explicit bias and whether it is easier to detect stronger biases such as negative attitudes than more general attitudes when using the binding foundations. This is an interesting area for future research related to the binding foundations that will need to be considered.

The differences in relying on ingroups and outgroups when thinking about morality can be helpful in understanding differences in reactions to immigrants and other outgroups, such as ethnic or religious outgroups, which we suspect may show similar patterns to those

for immigrants; this may be particularly true for people who view prototypical members of their society as very homogenous. Our research can help inform how to frame discussions on this topic, and other topics related to ethnicity and intergroup relations, and a number of other issues dividing liberals and conservatives. For explicit bias, negative bias, and implicit bias, highlighting the UK's history of the inclusion of others within society could help to reduce these biases. However, this may work well with only roughly half the population (moderates to liberal) who respond more positively to thinking about outgroups (i.e., outgroup-individualizing); so other ways of discussing these issues will also need to be sought to improve public dialogue. Given that investment in ingroup-binding was associated with more conservatism and less liberalism and that it was associated with higher levels of explicit bias and implicit bias, it would be a good candidate for framing research. Moreover, given that perceived threat was strongly linked to political ideology and to the binding foundations within our studies and that binding mediated the political to threat relationship, reducing threat related to binding foundations may be one of the most important focuses for future research and future dialogues.

When discussing these intergroup topics, we should be cognizant to strike a balance between threat acceptance and threat minimization to begin to bridge some of the partisan divides. Our research highlights the notion that differences in threat perceptions may relate to different levels of comfort in risk acceptance and risk minimization between liberals and conservatives, and that neither one of these preferences is necessarily better than the other, though there are important consequences in a world that is becoming more socially and culturally diverse; Such a focus could provide a common avenue for discussing partisan differences in a constructive manner, and in such a way that balances risk acceptance and

risk minimization. One such approach is reducing threats to binding motivations and reducing symbolic and realistic threats. To offset perceived realistic threats, the positive economic impacts of immigrants and immigration could be discussed at the outset, while also acknowledging that undue risks could be minimized. To offset symbolic threat, discussions can be focused upon the ideas that efforts would be taken to ensure law and order, and to help immigrants learn the country-specific systems in order to contribute to the country's prosperity. For liberals, either the inclusion of others framing or the threat reduction framing should help to reduce bias because liberals can also show increased bias when threats are explicitly highlighted (Van de Vyver, Houston, Abrams, & Vasiljevic, 2016). Of course, within open and democratic societies, we would need to balance the risk of including others with the minimization of too much risk. This will continue to be a challenge as immigration will likely continue and ethnic, cultural, and linguistic diversity will likely increase. In these contexts, finding ways to have constructive dialogue, and not ones driven by threat and fear, will be important to moving the debates forward, and should provide avenues for tackling other intergroup issues as well as other general topics that divide liberals and conservatives and lead to political polarization.

## **Conclusions**

Our research adds to recent research showing differences between liberals and conservatives as being influenced by social context (Morgan, Skitka, & Wisneski, 2014; Janoff-Bulman & Carnes, 2013), and importantly, our research highlights the importance of using ingroups and outgroups differently when making moral judgments and the impact that it may have on intergroup bias and intergroup situations. Such threat and bias towards immigrants can spill over to anyone with a foreign accent or a foreign style of dressing, no

matter if they have lived in the country for 4 years or 40 years; this can become a problem in a world that is becoming increasingly diverse. Based upon group and moral judgments, we have identified avenues to pursue that may improve intergroup dialogues on these issues. Future work will need to investigate this idea more thoroughly to ask how and when our moral decisions tend to be tied to our group loyalties, and what influence that has for intergroup relations and social perceptions in general.

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<sup>1</sup> Only four of the six Loyalty items in the MFQ refer to the group, which allows for significant interpretation of the target group in each question (Graham, Haidt, & Nosek, 2008; retrieved after July 2008).

<sup>2</sup> The pattern of results for the regression analyses was similar for the 153-participant sample and the full 162 participant sample, and all significant results remained significant.

<sup>3</sup> As part of a separate exploratory study, participants completed the Behavioral Activation Scale (BAS), Model of Moral Motives (MMM), Affect Misattribution Procedure (AMP), Belief in a Dangerous World scale (BDW), and some questions about contact with a minority group.

<sup>4</sup> As an exploratory variable, we included a second question about political orientation. This item was exploratory because it has not been used in moral foundations research and it was asked immediately after the main political question, but its scale anchor points (1 = Left, and 9 = Right) were opposite to those of the main question. Thus, the results using this variable are tentative. For the difference score analyses, all results remained the same. For the individual regressions, the pattern of results remained the same for the ingroup-framed foundations. For the outgroup-framed foundations, the pattern of results remained the same with the exception of the Loyalty foundation becoming non-significant.

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<sup>5</sup> The alternative left right measure of political ideology used in Study 1 as a validation check (see endnote 4) was employed again in Study 3 and replicated the general patterns found when using the liberal conservative ideology measure. Using the alternative left-right measure of ideology, the linear regression analysis for the Political to Ingroup-Harm relationship was non-significant and the Political to Outgroup-Authority slope was significant. The other relationships and Preference score analyses replicated the general patterns found in Study 3 using the liberal-conservative item.

## **CHAPTER 3: MORAL VALUES, POLITICAL IDEOLOGY AND THREAT-BASED COGNITION: IMPLICATIONS FOR INTERGROUP RELATIONS.**

### **3.0. Abstract**

Moral Foundations Theory (MFT) has provided an account of the moral values which underscore different cultural and political ideologies, these moral values of Harm, Fairness, Loyalty, Authority, and Purity can help to explain differences in political and cultural ideologies; however, the extent to which moral foundations relate to intergroup based processes is still being developed. To explore this relationship, we present two studies. In Study 5 (N = 90) we show the moral foundations are important in understanding a number of intergroup relations focused variables including threat, bias, collective action, perspective taking and collective narcissism. In Study 6 we extend these findings to the understanding of strong group-focused political ideologies such as Right Wing Authoritarianism (RWA) and Social Dominance Orientation (SDO). Study 6 (N = 157) demonstrated a negative relationship between the individualizing moral foundations (average of harm and fairness) and bias as mediated by SDO and a positive relationship between the binding moral foundations (average of loyalty, authority, and purity) and bias as mediated by RWA. Further analyses also suggested the importance of threat as an underlying explanatory variable. These studies have a number of important implications for using MFT to understand intergroup relations and political ideologies.

**Keywords:** Moral Foundations Theory, Political Ideology, Threat, Intergroup Relations, Authoritarianism, Social Dominance Orientation.



## Moral Values, Political Ideology, and Threat-Based Cognition: Implications for Intergroup Relations.

### 3.1. Introduction

Moral Foundations theory (MFT) has presented a compelling way to understand differences in political opinions and cultural attitudes by demonstrating that political ideologies may be underscored by differences in moral values where each side believes that they are right and employs different moral values to justify their attitudes, opinions, and beliefs (Haidt, 2012; Haidt & Joseph, 2004; Graham, Haidt & Nosek, 2009). Moral Foundations Theory (MFT) suggests that humans have evolved five core moral values that underlie our beliefs and attitudes and are expressed differentially both within and between cultures. These five moral values have further been used to explain differences observed between different political ideologies (Haidt, 2007; Graham et al., 2009; Haidt 2012). In exploring moral cognition, MFT has identified moral values concerned with *Harm* (as reflected as reduced harm toward humans and animals) and *Fairness* (as reflected in equality toward others), which were collectively termed the “*individualizing*” moral foundations because they are said to relate to concerns based on the moral rights of individual members of society (Haidt, 2012). Three additional moral values have been identified as *Authority*, *Loyalty*, and *Purity* and are associated with deference to authority figures (such as elders), loyalty to one’s ingroups (such as family and country), and an increased tendency to endorse concepts of purity and sanctity (Haidt, 2012). These moral values have collectively been termed “*binding*” foundations because they are argued to be orientated around binding communities and groups together (Haidt, 2012). The individualizing and binding foundations are argued to have evolutionary origins and have

important implications for a number of diverse political and cultural ideologies (Haidt 2012). Crucially, the role of moral values for understanding intergroup relations is unclear and the relationship to strong socio-political ideologies is still under development. This paper aims to show how individualizing and binding moral foundations have different relationships to intergroup variables of threat and intergroup biases and further aims to develop our understanding of the relationship to strong socio-political ideological belief systems.

A number of studies have suggested that moral foundations may help to explain forms of political ideology associated with strong ideological views concerning intergroup relations. These extreme or strong ideologies include Altemeyer's (1988; 1996) Right Wing Authoritarianism (RWA) and Pratto, Sidanius, Stallworth, & Malle's (1994) Social Dominance Orientation (SDO); these ideologies are theoretically and empirically distinct and have a number of important implications for intergroup relations (Duckitt & Sibley, 2009; 2010). RWA comprises three main components based upon preference for heightened conformity to norms, submission to authority figures, and endorsement of aggression against outgroups that deviate from subscribed norms (Altemeyer, 1996). In contrast, Social Dominance Orientation (SDO) reflects preference for hierarchy and status-based societal relations, even if this has a negative impact on other groups or individuals with "lower" status. Individuals high in SDO also endorse beliefs that people act in a competitive ways (Duckitt and Sibley, 2009; 2010). Overall, research has demonstrated that RWA and SDO represent distinct constructs (Duckitt and Sibley, 2009; 2010). Both of these ideologies also have important implications for intergroup relations because RWA and SDO predict distinct types of prejudice and have been related to negative outgroup attitudes across a large body of research (Altemeyer, 1996; Duckitt & Sibley, 2007; Pratto et al., 1994).

### **3.1.1. Moral Foundations and Intergroup Attitudes**

The relationship between moral foundations, intergroup relations and beliefs is not understood well, and the influence of strong ideologies like RWA and SDO is only partially known. Early work has suggested that the individualizing foundations of harm and fairness negatively relate to SDO (Federico, Weber, Ergun, & Hunt, 2013; Kugler, Jost, & Noorbaloochi, 2014), which may reflect an anti-egalitarian stance of those high in SDO (Federico et al., 2013; Pratto et al. 1994). In contrast, RWA has been found to positively relate to the binding foundations of loyalty, authority, and purity, which may reflect the high emphasis on conformity to societal norms and traditions within authoritarian ideologies (see Federico et al., 2013; Koleva, Graham, Iyer, Ditto, & Haidt, 2012; Kugler et al., 2014). This research has deepened our understanding of moral values in the formation of these strong ideological beliefs, but, with the exception of a single study, the relationship between moral foundations and general intergroup relations is unknown (Kugler et al., 2014), and the influence of RWA and SDO on this relationship is untested even though it may have important implications for social and political psychology and social interventions.

Given that Individualizing and Binding foundations relate to SDO and RWA respectively, and that SDO and RWA often relate to negative attitudes toward outgroups, moral foundations may be related to negative intergroup attitudes in some situations. Kugler et al. (2014) observed that the binding foundations of Loyalty, Authority, and Purity positively correlated with hostility toward outgroups. While increased hostility was observed, the generality of this effect is still uncertain because the measure included a number of outgroup comparisons that could be considered extreme for Americans (e.g., illegal immigrants; Muslims compared to Christians); thus, more research is needed to

confirm this relationship. In other research, Smith, Aquino, Koleva, and Graham (2014) found that strong support for the binding foundations related to more support for strongly negative treatment toward outgroups (e.g., torture, willingness to share water resources), but only if participant's moral identity was low. As Kugler and colleagues (2014) have noted, moral foundations may not always have positive social effects even though they are purported to be about binding groups together. Given these issues and the dearth of evidence linking binding foundations with negative intergroup attitudes, it is necessary to conduct further research to elucidate the relationship between moral foundations and outgroup attitudes more generally.

### **3.1.2. Threat Processing In Intergroup Relations and Political Ideology**

In considering the implications of moral foundations for intergroup relations, there is a further rationale to also consider threat perceptions as an explanatory variable. In early models of intergroup relations and social conflict, objective and subjective threats to resources, to the ingroup's existence and to economic and material well-being, have all played a crucial role in creating intergroup conflict (Levine & Campbell, 1972; Sherif, 1966). In addition, symbolic threats to morals, values, beliefs, and attitudes of one's ingroup have been added to these models and have been linked to intergroup attitudes and prejudice (Esses, Haddock, & Zanna, 1993; Kinder & Sears, 1981; Stephan & Stephan, 1996). More recent research has demonstrated a strong association between perceived symbolic and perceived realistic threat and prejudice (Riek, Mania, & Gaertner, 2006; Stephan, Ybarra & Bachman, 1999). While threat has been examined for intergroup relations, it also has important implications for the study of moral foundations and more extreme ideologies, such as RWA and SDO (Cohrs & Ibler, 2009; Costello & Hodson, 2011; Stenner, 2005).

Moreover, research has also further highlighted how psychophysiological indices of threat-based processes more generally can predict ingroup-focused social policy support (Oxley et al, 2008).

Threat may play an important role in developing the psychological understanding of differences in social ideologies. For example Belief in a dangerous world (Altemeyer, 1988) has been found to underlie strong social ideologies such as RWA (Duckitt 2006; Duckitt & Sibley, 2009; 2010), and RWA has been found to predict viewing outgroups as threatening (Duckitt, 2006); thus binding foundations may be viewed as being related to threats, given that binding foundations are related to RWA (Federico et al., 2013; Kugler et al., 2014) and the relative preference of individualizing over binding foundations is negatively related to belief in a dangerous world (Van Leeuwen & Park, 2009). As a result of these findings, we propose that binding foundations will be related to increased perceived threat toward outgroups. We therefore suggest that this heightened threat processing could translate to increased vigilance toward outgroup targets among those high in the binding foundations, while those more invested in individualizing foundations may show lower levels of outgroup vigilance and thus less perceived threat toward outgroups.

### **3.1.3. Moral Foundations and Intergroup Relations: The Present Research**

In the current research, we aim to consider the impact of moral foundations on psychological variables that may impede positive intergroup relations. Bias against immigrants and perceived threat toward immigrants have not been considered in the previous moral foundations literature, and in Study 5, we investigated how the moral foundations related to intergroup bias and perceived threat toward immigrants, and a few other exploratory variables. Given the findings of Federico et al. (2013) and Kugler et al.

(2014) regarding outgroup hostility, we hypothesized that Harm and Fairness foundations would negatively predict both intergroup bias and perceived threat and that the binding foundations of Loyalty, Authority, and Purity would be positively related to perceived threat (Van Leeuwen & Park, 2009). In regard to bias, it is much less clear if investment in binding foundations would also translate into bias toward immigrants, given the lack of research examining this phenomena and moral foundations.

One variable of further interest was collective action, which is often examined in intergroup relations (Saguy, Tausch, Dovidio, & Pratto, 2009), but which has not yet been considered in the context of the moral foundations. We believe that willingness to support collective action would be more readily predicted by individualizing foundations because of previous research showing a connection between individualizing foundations and less prejudice (Kugler et al., 2014) and that researchers have identified a strong social justice emphasis within this set of moral values (Haidt, 2012; Janoff-Bulman & Carnes, 2013).

In the current research, we have also included a few exploratory variables to begin to identify the relationships moral foundations have to other intergroup concepts. One such concept is the attitude of collective narcissism (Golec de Zavala, 2011). This variable has been found to correlate with strong ideologies including SDO and RWA, but its relationship to moral foundations had not been investigated. Given the previous findings regarding collective narcissism and its relationship to RWA and SDO, which have been linked to the binding foundations (Federico et al., 2013; Kugler et al., 2014), it was hypothesized that the binding foundations would correlate with collective narcissism, and may have implications for understanding factors associated with barriers to positive intergroup relations, social harmony and strong ideological positions.

Finally, we examined the perspective taking subscale of the interpersonal reactivity index (IRI, Davis, 1983) and a measure of generalized trust (Yamagishi & Yamagishi, 1994). Previous research has not found a consistent difference in perspective taking by political ideology (Falk, Spunt, & Lieberman, 2012; Jost, Glaser, Kruglanski, & Sulloway, 2003). Some work in moral foundations has suggested that harm and fairness positively relates to perspective taking (Glenn, Iyer, Graham, Koleva, & Haidt, 2009), but overall, research considering moral foundations and perspective taking is sparse. As a result of the lack of clear and consistent prior evidence, we make no predictions regarding how individualizing and binding moral foundations would relate to perspective taking, though individualizing may positively correlate if cognitive perspective taking acts in the same manner as empathy. More general intergroup relations research has also considered trust and its relationship to intergroup processes (Schmid, Al Ramiah, & Hewstone, 2014). Here we consider generalized trust (Yamagishi & Yamagishi, 1994), which has implications for the study of social and political psychology and has not yet been examined in relation to moral foundations. Again, given the lack of prior evidence in this area, we make no predictions as to how trust processes will relate to the moral foundations.

### **3.2. Study 5**

#### **3.2.1. Hypotheses**

In Study 5, we hypothesize that (H1) individualizing foundations will positively relate to support for collective action and negatively relate to bias and threat perceptions, and that (H2) binding foundations will negatively relate to support for collective action and positively relate to threat, bias, and collective narcissism. We make no predictions regarding the relationship between moral values, trust, and perspective taking.

### **3.3. Method**

#### **3.3.1. Design**

The study employed a correlational design examining relationships between individualizing and binding moral foundations, intergroup bias, collective action, collective narcissism, perspective taking, generalized trust, and threat. Measures of collective action, collective narcissism, perspective taking and generalized trust were presented to participants in a random order. We followed previous research in using the Individualizing Foundations (average of Harm and Fairness) and Binding Foundations (average of Loyalty, Authority, and Purity) as general indexes of moral orientations (Smith et al., 2014; Van Leeuwen & Park, 2009; Kidwell, Farmer, & Hardesty, 2013).

#### **3.3.2. Participants**

Ninety-eight participants from the United States participated using Amazon's Mechanical Turk online recruitment. We used a U.S. sample because it was the only sample to which we had access via an online format in MTurk (Buhrmester, Kwang, & Gosling, 2011). As is standard in moral foundation research, eight participants were removed for demonstrating acquiescence on items that check for inattention (Graham et al., 2009). An example inattention item is answering that it is more than slightly relevant that someone is good at math "when you decide something is right or wrong." The final sample consisted of 90 participants with an age range of 20 to 61 years ( $M = 33.99$ ,  $SD = 9.71$ ), and 81.1% were Caucasian and 46.7% were female. Participants completed the study in exchange for monetary compensation.



### 3.3.3. Materials

**Moral Foundations Questionnaire (MFQ).** The Moral Foundations Questionnaire (MFQ) consists of 32 items (see Appendix H) with two items used to ensure participants are paying attention while completing the scale (Graham, Haidt, & Nosek, 2008). The remaining 30 items assessed investment in the five moral foundations of Harm, Fairness, Authority, Loyalty, and Purity. Each moral foundation (e.g. Harm) consisted of six items which are averaged to form an overall score for each foundation. The reliability for each subscale was: Harm ( $M = 4.66$ ,  $SD = .83$ ,  $\alpha = .71$ ) Fairness ( $M = 4.63$ ,  $SD = .82$ ,  $\alpha = .77$ ), Loyalty ( $M = 3.24$ ,  $SD = .83$ ,  $\alpha = .72$ ), Authority ( $M = 3.49$ ,  $SD = .90$ ,  $\alpha = .74$ ) and Purity ( $M = 2.95$ ,  $SD = 1.34$ ,  $\alpha = .89$ ). Items within the relevance and judgment MFQ subscales were presented to participants in a random order. The computer program coded the relevance subscales of the MFQ as 1 = *Not at all relevant*, and 6 = *Extremely relevant*, and the judgment subscales were coded 1 = *Strongly disagree*, and 6 = *Strongly agree*.

**Intergroup Bias.** To assess participant's bias, we used 5 items adapted from Saguy et al. (2009). Participants were asked to rate their feelings toward immigrants on 5 evaluative dimensions (i.e., Warmth, Negativity, Friendliness, Suspicion, and Admiration) on 9-point scales with a neutral midpoint (i.e. 1 = *Extremely Cold* to 9 = *Extremely Warm*). Two items were reverse scored and the 5 items were averaged to form a measure of bias with higher scores reflecting higher bias toward immigrants ( $M = 3.86$ ,  $SD = 1.72$ ,  $\alpha = .95$ ).

**Collective Action.** Support for collective action was measured using three items adapted from Saguy et al. (2009). Items were completed on a 5-point scale from (1) *Support not at all* to (5) *Support completely*. An example item is "I see a need to support a change

*that will improve the position of Immigrants within the US."* Items were then averaged to form an overall measure of support for collective action ( $M = 3.01$ ,  $SD = 1.31$ ,  $\alpha = .93$ ).

**Collective Narcissism.** The collective narcissism scale was comprised of 9 items such as *"I insist upon my group getting the respect that is due to it"* and responses were from (1) *Strongly disagree* to (7) *Strongly agree* (Golec de Zavala, 2011). One item was reverse scored and the scale was averaged to create an overall collective narcissism index with higher scores indicating higher collective narcissism ( $M = 2.75$ ,  $SD = 1.16$ ,  $\alpha = .85$ ).

**Perspective Taking.** The interpersonal reactivity index (IRI: Davis, 1983) includes 28 items assessing four subscales with 7 items assessing cognitive perspective taking (PT), including items such as *"I try to look at everybody's side of a disagreement before I make a decision."* Responses were scored on a 5-point scale from (1) *Does not describe me well* to (5) *Describes me very well*. Two items were reverse scored and the scale was averaged to form an overall index of perspective taking ( $M = 3.50$ ,  $SD = .76$ ,  $\alpha = .85$ ).

**Generalized Trust.** Trust was measured using the 6-item generalized trust scale including items such as: *"Most people will respond in kind when they are trusted by others"* (Yamagishi & Yamagishi, 1994). The response format ranged from (1) *Strongly Disagree* to (5) *Strongly Agree* with a neutral midpoint; items were averaged to form a generalized trust score ( $M = 3.64$ ,  $SD = .67$ ,  $\alpha = .88$ ).

**Perceived Threat.** Perceived threat from immigrants was measured using a scale by Stephan et al. (1999). The measure comprises two subscales regarding realistic threat, *"Immigration has increased the tax burden on Americans,"* and symbolic threat, *"The values and beliefs of immigrants regarding social relations are NOT compatible with the beliefs and values of most Americans."* Items were completed on a 7-point scale (1) *Disagree Strongly* to

(7) *Agree Strongly* with neutral midpoint. Eight items were reverse scored and the 15 items were then averaged. Given the high correlation between symbolic and realistic threat ( $r = .789, p < .001$ ) and the use of a collapsed scale to assess threat in prior research (Tip, Zagefka, González, Brown, Cinnirella, & Na, 2012), we collapsed symbolic and realistic subscales and computed a measure of overall perceived threat toward immigrants ( $M = 3.26, SD = 1.31, \alpha = .95$ ).

**Math Items.** Four math items acted as an additional attention check with the aim of excluding participants who scored all of these incorrectly. No participants met these exclusion criteria.

**Demographics.** Finally, participants supplied demographic information including age, gender, education, ethnicity, and political ideology. The item measuring political ideology asked participants to rate their “personal political orientation” on a vertical scale from (1) *Extremely Conservative* at the top to (9) *Extremely Liberal* at the bottom, and with *Moderate/Centre* at the midpoint (Graham et al., 2009; Haidt, Graham, & Joseph, 2009).

### 3.4. Results

#### 3.4.1. Intergroup Variables

To analyze the influence of moral values on the intergroup variables, an Individualizing Foundations score was first created by averaging the Harm and Fairness foundations ( $M = 4.65, SD = .73, \alpha = .82$ ), and a Binding Foundations score was created by averaging Loyalty, Authority, Purity foundations scores across participants ( $M = 3.23, SD = .88, \alpha = .90$ ). Both scores demonstrated good levels of reliability with higher scores on each index reflecting higher investment in the set of moral values. We next conducted a correlational analysis on the intergroup focused variables to test whether the variables

related to each other as expected. Overall this correlational analysis showed that Perceived Threat positive correlated with Bias, and negatively correlated with Collective Action and Perspective Taking as expected (Table 3.1); interestingly, it also correlated positively with Collective Narcissism and negatively with Trust.

TABLE 3.1.

Correlation matrix for the main Intergroup Variables.

	1. Trust	2. CA	3. PT	4. Bias	5. Threat	6. CN
1. Trust	1					
2. Collective Action	.281**	1				
3. Perspective Taking	.177	.189	1			
4. Bias	-.389***	-.750***	-.320**	1		
5. Threat	-.329**	-.716***	-.330**	.777***	1	
6. Collective Narcissism	.070	-.100	-.051	.092	.237*	1

Note:  $p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

### 3.4.2. Moral Foundations and Intergroup Variables

We next conducted analyses to test the main hypotheses of Study 5. First, we tested the proposed positive correlation between the Individualizing Foundation score and Collective Action support and the proposed negative correlation with Bias and Perceived Threat (H1). We also tested the proposed negative correlation between the Binding foundation score and Collective Action support and the proposed positive correlations with Perceived Threat and Collective Narcissism (H2). The analysis found support for Hypothesis 1 in which Individualizing moral values positively and significantly related to support for

Collective Action to aid immigrant groups and negatively and significantly related to perceptions of Bias against and Threat from immigrant groups (Table 3.2). Our analysis of Hypothesis 2 yielded partial support for our predictions; while Binding Foundations were positively related to Bias and negatively related to Collective Action, neither reached significance. However, Binding Foundations were significantly related to more Perceived Threat and Collective Narcissism. Finally, we observed an unanticipated significant correlation between the Individualizing Foundation score and Cognitive Perspective Taking. Generalized Trust was not significantly correlated with either Individualizing or Binding Foundations.

TABLE 3.2.

Bivariate Pearson's correlations of Individualizing and Binding Foundation Scores with the Intergroup Variables.

	Binding	Trust	Collective Action	Perspective Taking	Bias	Threat	Collective Narcissism
Individualizing	-.139	.134	.337**	.309**	-.436***	-.333**	-.108
Binding	1	.109	-.143	-.043	.193	.264*	.402***

Note:  $p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

### 3.5. Discussion

Study 5 demonstrated that moral foundations have a number of important implications for understanding and improving intergroup relations. We observed a relationship in which more investment in the Individualizing Foundations (average of Harm and Fairness values) was related to both less Bias against immigrants and less Perceived

Threat perceptions toward immigrants. This suggests that those with strong harm and fairness values may perceive immigrant groups more positively and may feel less threatened by outgroups in general. We further observed that more investment in Individualizing values was related to more willingness to support Collective Action, which is in line with perceiving less threat and reporting less bias toward immigrants. We also observed a relationship between the Individualizing moral values and Perspective Taking in which higher scores on perspective taking were related to higher individualizing scores. Because individualizing values of harm and fairness are highly endorsed across the political spectrum (Haidt, 2007), this research suggests the potential for enhancing positive intergroup relations through reminders of one's investment in fairness and harm reduction.

In terms of the Binding moral values, we observed that more investment in Loyalty, Authority, and Purity was correlated with more Collective Narcissism and more Perceived Threat from immigrants. The current study was the first to show that Individualizing and Binding foundations were related to perceived symbolic and realistic threat. These results also match other research indicating that investment in Binding foundations is related to stronger Authoritarianism and Belief in a Dangerous World, both of which are proposed to be positively related to threats (Kugler et al., 2014; Federico et al., 2013; Van Leeuwen & Park, 2009). We, however, did not find a significant correlation between more investment in Binding Foundations and either less support for Collective Action or more Bias against immigrants, which previous research by Kugler and colleagues (2014) suggested was likely. One point of difference between the current study and the Kugler study was the more extreme outgroup comparisons included in their measure of outgroup hostility as compared to the evaluation of the more general groups of immigrants in the current study. Given that

the bias and threat relationships appeared to be the most consistent, we aimed to test the robustness of these findings by using a larger sample in Study 6. We also aimed to consider the influence of strong socio-political ideologies such as RWA and SDO which may partially explain the relationships between moral foundations and intergroup attitudes.

### **3.6. Study 6**

#### **3.6.1. Introduction and Hypotheses**

Given that threat may be an underlying process in the evaluation of outgroups and immigrant groups, it is worth considering the role that strong group-focused ideologies such as authoritarianism and social dominance orientation may have in explaining the relationship between moral foundations and bias. Building on our findings from Study 5, we set out in Study 6 to replicate patterns of relationships between Individualizing and Binding Foundations and Bias, and also to examine how Social Dominance Orientation and Authoritarianism mediate these relationships.

Previous work using the moral foundations has demonstrated that different moral foundations can predict RWA, which is characterized by strong group normative traditional values, and SDO, which is characterized by strong hierarchical values (Altemeyer, 1996; Pratto et al., 1994). For example, Federico et al. (2013) demonstrated that RWA was more consistently and strongly correlated with Binding foundations than with the Individualizing foundations, while SDO was more strongly correlated with Individualizing foundations than with the Binding foundations. Kugler et al. (2014) demonstrated similar relationships between RWA and Binding foundations, and SDO and Individualizing foundations, though they also found SDO to be related to Loyalty and Authority. They further demonstrated a link between the Binding foundations and outgroup hostility. Thus, in the current study, we aim

to test whether outgroup hostility relationship demonstrated by Kugler et al. (2014) translates to the evaluation of general immigrant groups, and to replicate the Perceived Threat findings. In addition, we again consider whether Individualizing foundations predict Perspective Taking. Finally, we explore the role of RWA, SDO, and Threat in relationships between moral foundations and intergroup variables.

We predict that Individualizing foundations will negatively correlate with Perceived Threat and Bias, and that Binding foundations will positively correlate with Perceived Threat, and with Bias given the larger sample size. In addition, we predict a replication of Study 5 in which Individualizing will be positively and significantly correlated with Perspective Taking, while Binding foundations would not. Based upon the findings of Federico et al. (2013) and Kugler et al. (2014), we predict that Individualizing moral values will negatively relate to SDO and that SDO will mediate the relationship between the individualizing foundations and Intergroup Bias. Finally, we predict that the Binding foundations will positively relate to RWA, and that RWA will significantly mediate the Binding to Bias relationship; such a mediator can be observed even in the absence of a significant effect between Binding and Bias (Hayes, 2013).

### **3.7. Method**

#### **3.7.1. Design and Procedure**

The study employed a measurement of mediation regression design with the MFQ Individualizing Foundations and MFQ Binding Foundations as predictors, and Bias and Perceived Threat as outcome variables. Social Dominance Orientation (SDO) was the mediator for the Individualizing to Intergroup Bias analysis, and Right Wing Authoritarianism (RWA) was the mediator for the Binding to Intergroup Bias analysis. We used SDO and RWA



as mediators instead of Individualizing and Binding as mediators because moral foundations are meant to be basic values, and we were interested in further examining the Individualizing to Bias and the Binding to Bias relationships. To statistically control for order effects of the mediators, we created a number of counterbalanced orders of the mediators and of the outcome variables. The study included four orders to which participants were randomly assigned (Order 1: MFQ-filler task-SDO-RWA-filler-Bias-Threat-Perspective Taking; Order 2: MFQ-filler task-SDO-RWA-filler-Bias-P.Taking-Threat; Order 3: MFQ-filler task-RWA-SDO-filler-Bias-Threat-P.Taking; Order 4: MFQ-filler task-RWA-SDO-filler-Bias-P.Taking-Threat). A numerical filler task and a reading filler task were included before and after the mediators in order to reduce participant suspicion. The MFQ predictor variables were administered first, followed by mediators, and then outcome variables as recommended for mediation analyses when the mediators are measured (Cohen, Cohen, West, & Aiken, 2003). All participants received the MFQ first followed by the first filler task. After completion of the first filler, task participants in Orders 1 and 3 received RWA followed by SDO while those in Orders 2 and 4 received SDO followed by RWA; all participants then received a second, reading filler task followed by the Bias outcome measure. Bias was measured first because it was a short, five-item measure which may be more influenced by socially desirable responding than the longer, fifteen-item threat measure that asked about a larger variety of opinions. The Threat and Perspective Taking measures were counterbalanced where participants in Orders 1 and 2 received Threat followed by Perspective Taking and participants in Orders 3 and 4 received the Perspective Taking subscale followed by Threat. After these measures were completed, all participants completed demographic measures including age, gender, and political orientation.

### 3.7.2. Participants

A total of 172 participants completed the study using Amazon's Mechanical Turk online platform in exchange for monetary compensation. All participants who completed the study were located in the United States. Following the procedure from Study 5 and from research using the MFQ, participants whose responses indicated they were not paying attention on the two MFQ attention items were excluded from the sample. This left a final sample of 157 participants with an age range from 21 to 61 ( $M = 32.92$ ,  $SD = 9.12$ ), and with 78.3% Caucasian and 39.5% female.

### 3.7.3. Materials

**Moral Foundations Questionnaire (MFQ).** To measure participants' investment in moral issues, we used the same MFQ that was used in Study 5 (Graham et al., 2008), with items within the MFQ relevance and judgement subscales presented in a random order to participants. The Binding Foundation ( $\alpha = .92$ ) score was created by averaging Loyalty, Authority, and Purity scores and the Individualizing Foundation Score ( $\alpha = .79$ ) was calculated by averaging Harm and Fairness scores (Van Leeuwen & Park, 2009).

**Filler Task 1 (Numerical filler task).** To act as a buffer between the MFQ measure and the mediators (i.e., RWA and SDO), we used a filler task termed a "short task of cognitive processing." Participants were told that they would select the number indicated from a list of numbers. They were asked to be as fast and accurate as possible and that in each trial they would be asked to click on a target number among 9 other distractor numbers which varied throughout the task. They then completed 40 trials with the target number changing on each trial and the order of the distractor numbers (i.e., 1 through 10 or 10 through 1)

changing on each trial. The task was designed to be simple and engaging so as to act as a delay between sections of the study.

**Right Wing Authoritarianism (RWA) Short-Form Scale.** To measure investment in Authoritarian ideology, we employed the 15-item short form version of the RWA scale (Zakrisson, 2005). Participants responded to statements such as *“If the society so wants, it is the duty of every true citizen to help eliminate the evil that poisons our country from within.”* Responses were completed on a 7-point Likert scale labelled from (1) *Very Negative* to (7) *Very Positive*. Items within the RWA scale were presented to participants in a random order. After reverse scoring seven items, the scale was averaged with higher scores reflecting higher authoritarian ideology ( $M = 2.78$ ,  $SD = 1.17$ ,  $\alpha = .92$ ; See Appendix I).

**Group-Based Social Dominance Orientation (SDO).** To measure participant level of Social Dominance Orientation toward groups, we used the group-based, 16-item version of Pratto et al.’s (1994) SDO scale. It includes such items as: *“To get ahead in life, it is sometimes necessary to step on other groups.”* All items were completed on a 7-point Likert scale ranging from (1) *Very Negative* to (7) *Very Positive*. Items within the SDO scale were presented to participants in a random order. After reverse scoring eight items, the scale was averaged with higher scores reflecting higher social dominance ideology ( $M = 2.13$ ,  $SD = 1.18$ ,  $\alpha = .96$ ; See Appendix J).

**Filler Task 2 (The Growing Stone Task).** We used the growing stone task that has been included in other research as a delay task (Greenberg, Pyszczynski, Solomon, Simon & Breus, 1994); it acted as a second filler task between the mediators and the main outcome variable of the study. In this filler task, participants read a literary passage and then rated the prose in terms of a number of features; in our version, we removed any reference of

race. Participants were first asked to rate the passage in terms of “*How do you feel about the overall descriptive qualities of the story?*” providing a rating on a 9-point scale ranging from (1) *not at all descriptive* to (9) *very descriptive*. Participants also rated how engaging and imaginative they found the story using a 9-point scale.

**Intergroup Bias.** We used the same measure of bias that was used in Study 5 (adapted from Saguy et al., 2009). Higher scores on this measure indicated higher bias against immigrants ( $M = 3.95$ ,  $SD = 1.66$ ,  $\alpha = .96$ ).

**Threat Perceptions.** We used the same measure of perceived threat toward immigrants that was used in Study 5 (Stephan et al., 1999). As in Study 5 the realistic and symbolic threat subscales were highly correlated ( $r = .814$ ,  $p < .001$ ) and all items were again averaged to form a measure of threat following previous research (see Tip et al., 2012;  $M = 3.18$ ,  $SD = 1.39$ ,  $\alpha = .96$ ; See Appendix K).

**Perspective Taking Subscale.** We used the same measure of cognitive perspective taking that was used in Study 5 (Davis, 1983). The items were averaged to create an index of participant perspective taking ( $M = 4.06$ ,  $SD = .72$ ,  $\alpha = .87$ ).

**Mathematics Items.** Following Study 5, we again included math items as a test of participant attention with participants who provided incorrect responses for all items being excluded. Only one participant answered all items incorrectly however this participant had already been excluded based on the attention check item within the MFQ.

**Demographics.** After completion of all of the main items in the study, participants then completed demographic items including age, gender, ethnicity, number of years speaking English and number of years living in the US, political ideology, and level of education. All participants had lived in the US for 9 or more years.

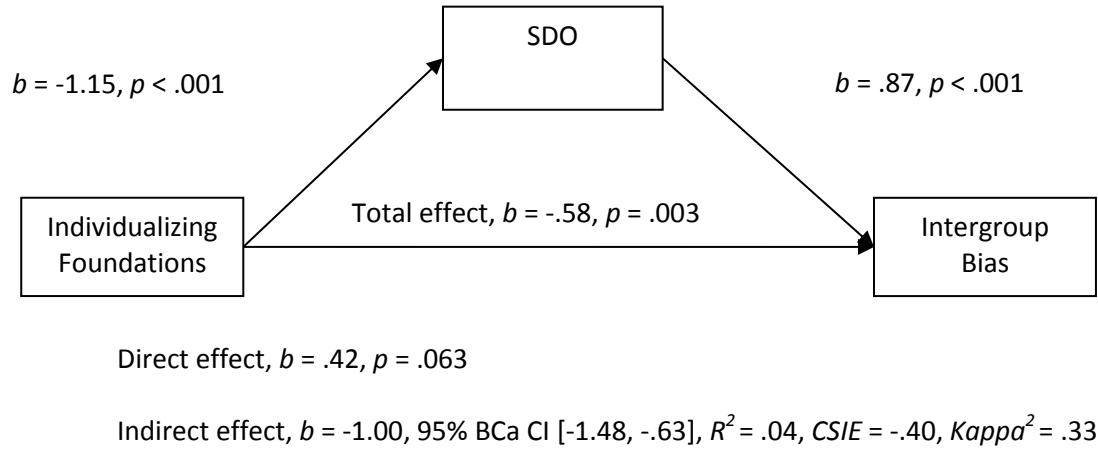
### 3.8. Results

#### 3.8.1. Moral Foundations and Political Ideology

In Study 6, we replicated the associations between the Individualizing Foundations and Perspective Taking,  $R^2 = .07$ ,  $\beta = .26$ ,  $t = 3.37$ ,  $p < .001$ , with bootstrapped  $b = .28$ , 95% CI [.11, .47],  $p = .002$ , and Intergroup Bias,  $R^2 = .05$ ,  $\beta = -.23$ ,  $t = -2.99$ ,  $p = .003$ , with bootstrapped  $b = -.58$ , 95% CI [-.97, -.15],  $p = .006$ , and Threat,  $R^2 = .06$ ,  $\beta = -.24$ ,  $t = -3.10$ ,  $p = .002$ , with bootstrapped  $b = -.50$ , 95% CI [-.81, -.14],  $p = .004$ . We also replicated the non-significant association between the Binding Foundations and Perspective Taking,  $R^2 < .01$ ,  $\beta = -.02$ ,  $t = -.22$ ,  $p = .83$ , with bootstrapped  $b = -.01$ , 95% CI [-.13, .11],  $p = .81$ , and the significant association with Threat,  $R^2 = .25$ ,  $\beta = .50$ ,  $t = 7.17$ ,  $p < .001$ , with bootstrapped  $b = .75$ , 95% CI [.53, .96],  $p < .001$ . However, the Binding Foundations to Bias relationship, while still positive like Study 5, was now significant,  $R^2 = .14$ ,  $\beta = .37$ ,  $t = 4.94$ ,  $p < .001$ , with bootstrapped  $b = .67$ , 95% CI [.39, .95],  $p < .001$ .

Mediational analyses were conducted using PROCESS for SPSS as suggested by Hayes, 2013. Both the Individualizing Foundations ( $M = 4.60$ ,  $SD = .67$ ,  $\alpha = .79$ ) and the Binding Foundations had good reliability ( $M = 3.28$ ,  $SD = .92$ ,  $\alpha = .92$ ). In Model 1, we entered the Individualizing Foundation score as a predictor variable and Bias against immigrants as the outcome variable, and entering SDO as the mediator. As expected, we observed a significant indirect effect of SDO on the relationship between Individualizing Foundations and Bias in which higher SDO scores were related to less investment in Individualizing Foundations and to more Bias (see Figure 3.1). When SDO was included in the model as the mediator variable, the relationship between Individualizing values and Bias became non-significant.

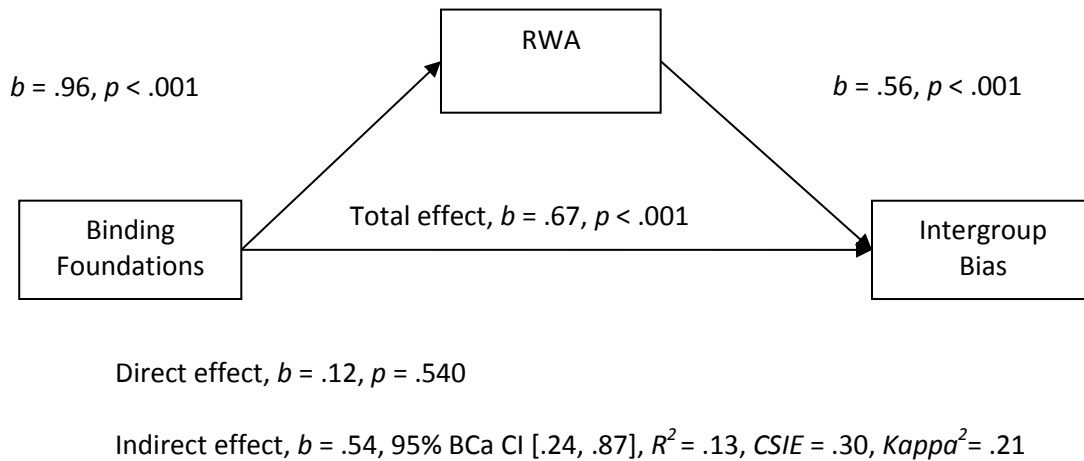
FIGURE 3.1.



*Figure 3.1.* Mediation model of the relationship between Individualizing Foundations to Intergroup Bias by Social Dominance Orientation. All betas represent unstandardized values from Bias Corrected Bootstrap Analysis with 5,000 samples. CSIE represents the Completely Standardized Indirect Effect.

In Model 2, we explored the relationship between Binding Foundations and the prediction of Bias against immigrants. The Binding Foundations score was entered as the predictor variable, and Bias as the outcome variable, RWA was entered as the mediator. As expected, we observed a significant indirect effect of RWA on the relationship between Binding Foundations and Bias in which higher RWA scores were related to more investment in Binding Foundations and to more Bias (see Figure 3.2). Once RWA was included as a mediator in this model, the relationship between the Binding foundations and Bias became non-significant.

FIGURE 3.2.



*Figure 3.2.* Mediation model of the relationship between Binding Foundations to Intergroup Bias by Right Wing Authoritarianism (RWA). All betas represent unstandardized values from Bias Corrected Bootstrap Analysis with 5,000 samples. CSIE represents the Completely Standardized Indirect Effect.

Some researchers have suggested that the social-political attitudes of RWA and SDO may be exogenous and predict moral foundations instead of moral foundations predicting the mediators of RWA or SDO (Federico et al., 2013). Given that we have used cross-sectional data, this explanation is possible, but it is also an empirical question. We can use structural equation modeling to check whether the moral foundations as predictors model demonstrates better fit than the RWA and SDO as predictors model. There, however, is one important problem with using structural equation modeling with mediation models with just one mediator (i.e., tri-variate mediation model). Research has recently shown that we cannot test for differences in fit between models by reversing the directed arrows within the mediation model so that Individualizing mediates the SDO to Bias relationship instead of SDO mediating the Individualizing to Bias relationship as in Figure 3.1; we cannot make these comparisons because they are of the same equivalence class and thus these reversed

models produce identical fit statistics to each other (MacCallum, Wegener, Uchino, & Fabrigar, 1993; Thoemmes, 2015). We, however, can use models in which both RWA and SDO are included in order to compare the MFQ as predictor models to the RWA and SDO as predictors models.

Thus, we compared a model in which the Individualizing to Bias relationship was mediated by SDO and RWA (similar to Figure 3.1) to an Alternative model in which SDO and RWA predicted Bias and was mediated by Individualizing. We also compared models in which Individualizing was replaced with Binding foundations, and we used the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC) to compare fit. These fit indices are necessary when comparing the non-nested models that we are comparing, and lower AIC and BIC values indicate better fit (Kline, 1998). If social-political attitudes are exogenous to moral foundations, then those models would have lower AIC and BIC values. Table 3.3 demonstrates that contrary to the socio-political as exogenous hypothesis, both Moral Foundations as Predictor Models fit better than the Alternative Models. These results support our use of moral foundations as predictors within this chapter.



TABLE 3.3.

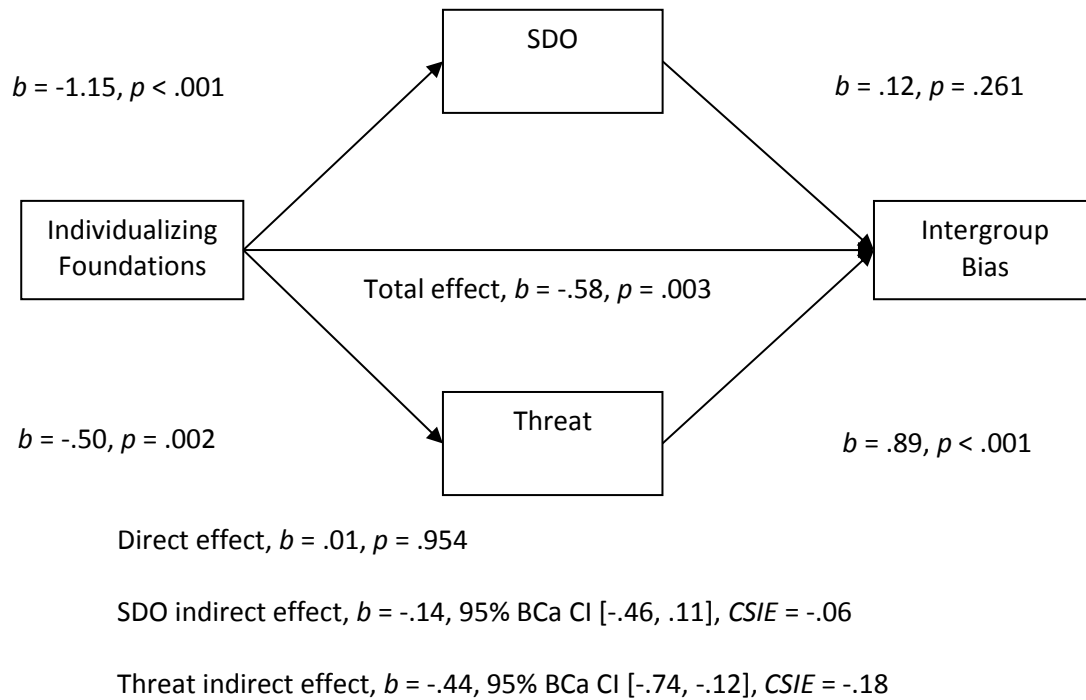
Information criteria comparing the Moral Foundations Predictor Models to the SDO and RWA Alternative Models.

Fit Indices	Model	
	Individualizing as Predictor	Alternative
AIC	2655.13	2664.19
BIC	2963.81	2972.87
	Binding as Predictor	Alternative
AIC	3276.93	3294.63
BIC	3622.28	3639.99

### 3.8.2. Exploratory Analyses Considering the Role of Threat

Given that previous research has indicated that perceptions of symbolic and realistic threat are an important antecedent to prejudice, we tested whether Perceived Threat would be a significant mediator in addition to SDO for the Individualizing to Intergroup Bias relationship, and in addition to RWA for the Binding to Bias relationship (Duckitt & Sibley, 2009; Riek et al., 2006). With both SDO and Threat in the model, we found a significant indirect effect for Threat on the relationship between Individualizing Foundations and Bias in which more Perceived Threat was related to lower investment in Individualizing Foundations and more Bias (see Figure 3.3). However, there was a non-significant indirect effect of SDO with both Threat and SDO in the model.

FIGURE 3.3.



*Figure 3.3.* Mediation model of the relationship between Individualizing Foundations to Intergroup Bias by Social Dominance Orientation and Threat. All betas represent unstandardized values from Bias Corrected Bootstrap Analysis with 5,000 samples. CSIE represents the Completely Standardized Indirect Effect.

With both RWA and Threat in the model, we observed a significant indirect effect for Threat on the relationship between Binding Foundations and Bias in which more Perceived Threat was related to more investment in Binding Foundations and more Bias (see Figure 3.4). There was a non-significant indirect effect of RWA with both Perceived Threat and RWA in the model.

FIGURE 3.4.

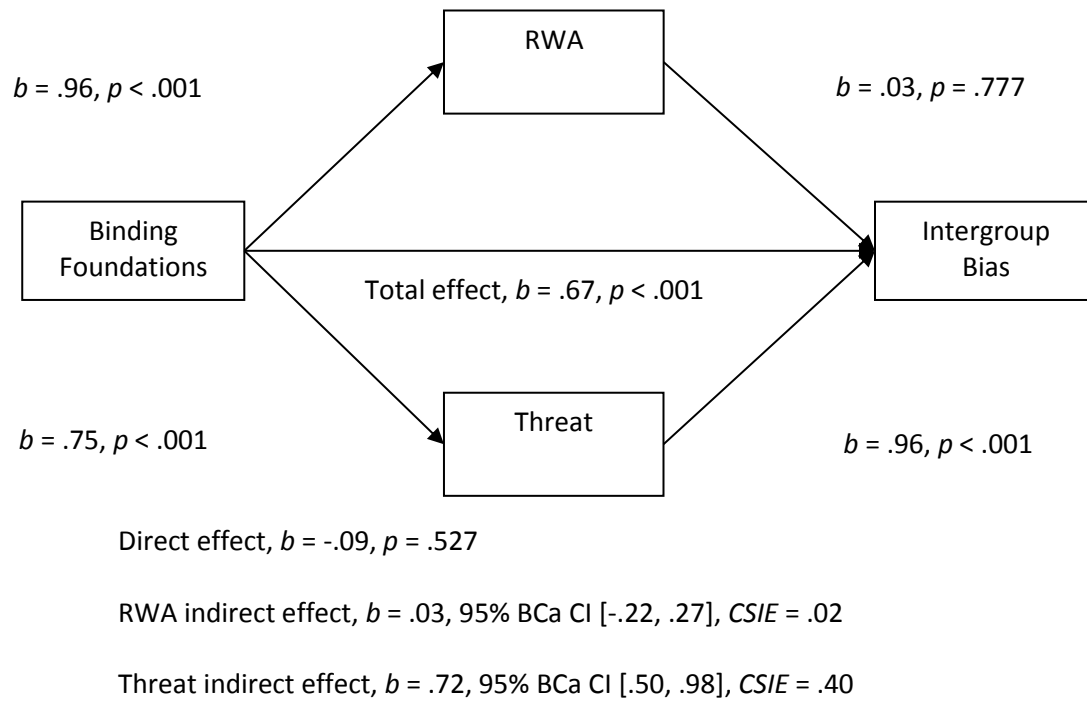


Figure 3.4. Mediation model of the relationship between Binding Foundations to Intergroup Bias by Right Wing Authoritarianism (RWA) and Threat. All betas represent unstandardized values from Bias Corrected Bootstrap Analysis with 5,000 samples. CSIE represents the Completely Standardized Indirect Effect.

### 3.9. Discussion

The mediation models demonstrated that strong group-focused ideologies such as SDO and RWA are related to Individualizing and Binding foundations, respectively, as predicted by past research. The current study was the first to extend this research by showing that these rigid ideologies also provide one explanation for the connection between moral foundations and bias. The link between Individualizing and lower Social Dominance was associated with less Bias against immigrants and the link between Binding and more Authoritarianism was associated with more Bias. Threat processes also appear to play an important role in understanding strong sociopolitical ideologies. These findings extend

previous work showing that moral foundations and strong ideologies can be used to understand both bias toward outgroups and threat perceptions toward outgroups. Crucially, the role of threat in such phenomena should play a focal role in future studies of moral and political ideology and intergroup attitudes.

### **3.10. General Discussion**

Overall these studies provide evidence that moral foundations play an important role in understanding perceptions of intergroup relations and also have a strong association to intergroup focused social-political ideologies (e.g., Authoritarianism and Social Dominance Orientation). In Study 5, investment in the Individualizing foundations (i.e., Harm and Fairness) was associated with significantly more cognitive Perspective Taking, and with less Intergroup Bias toward immigrants and less Perceived Threat toward immigrants, while investment in the Binding foundations (i.e., Loyalty, Authority, and Purity) was associated with more Collective Narcissism and more Perceived Threat toward immigrants, while the relationship to Bias, was small and not significant. With a larger sample, Study 6 replicated the Individualizing associations with less Bias and Perceived Threat and found that investment in Binding foundations was significantly related to more Perceived Threat and now to more Bias. This was the first time that Perceived Symbolic and Realistic Threat had been linked with Individualizing and Binding foundations. Moreover, this was the first time that Social Dominance Orientation (SDO) had been shown to mediate the Individualizing to Bias association and Right Wing Authoritarianism (RWA) had been shown to mediate the Binding to Bias association; both of these mediations became non-significant once Perceived Threat was included in the bootstrapped, multiple mediation models.

The observed pattern of results shed light on how underlying moral values may help account for intergroup beliefs and attitudes and further suggests that the moral foundations could be used to contribute to potential ways of understanding more rigid or strong ideologies such as RWA and SDO. This research also highlights potential avenues for improving negative intergroup attitudes more generally by addressing groupings of moral values as work on moral framing has begun to hint that framing policies with moral foundations may persuade people who invest in the relevant foundations (Kidwell et al., 2013; Feinberg & Willer, 2013). Unfortunately, to date, this research is in its early stages and has often produced small and weak effects and can also cause entrenchment of existing beliefs (Day, Fiske, Downing, & Trail, 2014; Kidwell et al., 2013; Feinberg & Willer, 2015). So, much more research needs to be conducted to understand these moral framing processes.

Across two studies, a consistent pattern regarding moral foundations and perceptions of intergroup threat was demonstrated. In both studies, investment in Individualizing moral foundations was consistently associated with less Perceived Threat, and investment in Binding moral foundations was significantly related to more Perceived Threat. This research was the first to show this consistent pattern between Binding and Individualizing foundations and Perceived Realistic and Symbolic Threat. The link with Binding foundations is in accordance with other research showing that more investment in Binding foundations is related to more endorsement of Belief in a Dangerous World or Right Wing Authoritarianism, both of which are constructs that are proposed to be related to threat and threat perceptions (Van Leeuwen & Park, 2009; Federico et al., 2013; Duckitt & Sibley, 2009). Our findings are also consistent with new research linking more investment in Binding foundations with more outgroup threat from outgroups perceived as very non-

normative (i.e., radicals and socialists, illegal immigrants, atheists, transvestites, etc.; Sinn & Hayes, 2016). Thus, it appears that perceptions of symbolic and realistic threat may be key factors in the relationship between moral values and intergroup bias. Moreover, the threat perceptions may relate to a difference in risk acceptance, which may provide an avenue for discussions of how to balance risks.

The pattern of relationships between moral foundations and Intergroup Bias was somewhat less consistent than prior research had suggested that it might be (Kugler et al., 2014). We observed, across both studies, that Individualizing moral foundations were significantly related to less Bias toward immigrants. The Binding moral foundations, however, were related to more Bias ( $r = .193$ ,  $R^2 = .037$ ), but this effect was fairly small and not significant within Study 5, while they were significantly related to more Bias and with a larger effect size ( $R^2 = .136$ ) in Study 6 in which we used a larger sample based upon the strength of associations observed in Study 5. Importantly, Study 6 also found that RWA mediated this Binding to Bias relationship. While there was some inconsistency to the Bias findings, previous research with Binding foundations and intergroup bias is quite limited. Kugler and colleagues (2014) showed that the Binding foundations were significantly related to more outgroup hostility. However, the measure of outgroup hostility included a number of extreme comparisons for the American sample (i.e., Muslims compared to Christians, and illegal immigrants); so, a less extreme outgroup comparison may or may not have been related to the Binding foundations. We've found some preliminary support that this relationship may hold with the general outgroup of immigrants given that, across both studies, it appears that there may be a small to medium association between Binding foundations and Bias. The consistent relationship with threat also supports the argument

that binding foundations would often be related to bias to outgroups. It is also noteworthy that Study 6 was the first to show that SDO mediated the Individualizing to Bias relationship and that RWA mediated the Binding to Bias relationship. Moreover, Structural Equation Models indicated that models of Individualizing to Bias (or Binding to threat) with SDO or RWA as mediators showed better fit (AIC and BIC statistics) than the alternative SDO and RWA to Bias (or to Threat) models with Individualizing (or Binding) as a mediator; thus, our use of Individualizing and Binding foundations as predictors based both upon moral foundations theory and based upon the limited statistics (AIC and BIC) available for such comparisons.

Moreover, it is unlikely that including Bias before the Threat measure in all conditions of Study 6 was an explanation for either the observed Bias effects or the observed Threat effects. In Study 3 of Chapter 2, we fully counterbalanced the presentation of Bias and Threat in order to statistically control for order effects. In Study 3, we observed the same basic pattern of Political to Bias and Political to Threat as we had observed in Study 2 in which Bias and Threat were not counterbalanced. Thus, we have good confidence that the observed Bias and Threat effects hold regardless of the order of presentation, and that we would see a similar pattern in Study 6 if Bias and Threat had been counterbalanced. At the time of conducting Study 6, which occurred before Study 3 of Chapter 2, we had been more concerned with the potential for Threat to influence Bias judgments more than the potential of Bias to influence the larger, more complicated scale used to measure Threat judgments.

Both Study 5 and 6 included participants from a variety of ethnic backgrounds, and one question that may be asked is the extent to which the findings are robust if we consider only participants, who identified as being of Caucasian ethnicity were included, or if we

included only participants who had lived in the US for a set number of years. Including only participants who identified as Caucasian did not change any of the general patterns observed between the individualizing and binding foundations and intergroup variables in either Study 5 or Study 6 (see Appendix M); it also did not change the results of the mediational analyses. Including only participants who had lived in the US for 10 or more years (Richeson & Nussbaum, 2004) also did not change any of the general patterns or significant results observed in Study 5 or Study 6 (Three participants removed from Study 5 and zero from Study 6). We also explored alternative analyses which found that the Binding foundations (and not Individualizing foundations) were strongly and significantly correlated with RWA. The SDO variable was also more strongly correlated with the Individualizing foundations than with the Binding foundations which gives confidence in our models (see Appendix M for alternative model); within the results section of Study 6, we also considered comparisons using Structural Equation models on the full sample of 157 participants to support our model construction (See Table. 3.3). Conducting these alternative analyses across both studies also demonstrated that neither ethnicity nor years living in the country was an explanation of the effects observed.

If immigrant groups are being perceived as threatening by those high in binding foundations, this has important implications for intergroup relations, especially given the likelihood of continuing immigration within the US and around the world due to the need to maintain population and economic growth. Finding ways to reduce threat perceptions directed toward immigrant groups may provide an important step in reducing intergroup and ideological-based tensions. In our exploratory analyses, we observed that accounting for threat perceptions in the multiple mediation models, significantly reduced the indirect effect



of SDO on the Individualizing to Intergroup Bias relationship, and also significantly reduced the indirect effect of RWA on the Binding to Bias relationship. This pattern of results supports the idea that threat processing may play a key role in both Authoritarianism and Social Dominance Orientation, which is in-line with research on RWA (Duckitt & Sibley, 2009; Federico et al., 2013; Van Leeuwen & Park, 2009) and on SDO (Morrison & Ybarra, 2008; Vezalli & Giovannini, 2010). However, such an important role of perceived symbolic and realistic threat has not been shown with Individualizing and Binding foundations previously. Thus, reducing perceived symbolic and realistic threats relating to harm and fairness, and relating to binding values of loyalty, authority, and purity may be avenues for reducing bias toward immigrants in an increasingly hostile climate, and for improving dialogues between groups with strong ideologies.

Overall the current research suggests some early steps which may aid our understanding of moral beliefs and intergroup relations, and ways to improve perceptions and relations among groups with different ideological positions. Moral beliefs and strong ideologies may contribute to perceptions of immigrant groups as being threatening and negative. Investment in the Individualizing foundations of harm and fairness was related to less Bias and less Perceived Threat, whereas investment in the Binding foundations of Loyalty, Authority, and Purity was related to more Bias and more Threat. The Binding to Bias relationship was mediated by Threat perceptions (both RWA and Perceived Threat) while Individualizing to Bias was mediated by SDO and Threat perceptions. Therefore, reducing such perceptions of perceived threat may play an important role in reducing intergroup tensions. The current emphasis on threats in the U.S and in Europe may exacerbate these tendencies for those who wish to avoid risk and threats. While this may be related to

intergroup tensions, it may also provide an avenue to discuss ways to continue being an open and democratic society while protecting against threats.

## **CHAPTER 4: GENERAL DISCUSSION**

The current thesis extends the role of moral foundations theory to the intergroup level. In doing so it has considered the role of threat perceptions, strong social ideologies and the intergroup bases of moral decisions to develop a more rigorous model of moral and political cognition. The findings in the thesis have a number of implications for thinking about intergroup relations in the context of moral and political cognition as well as for future research and interventions aiming to reduce prejudice and to improve intergroup relations.

In the first line of research we considered how framing the MFQ in terms of ingroups and outgroups would influence investment in the moral foundations as a function of political ideology, which addressed an important and unresolved debate within the Moral Foundations literature (Janoff-Bulman & Carnes, 2013; Graham, 2013). Drawing on the existing empirical literature surrounding threat (Van Leeuwen & Park, 2009), approach avoidance distinctions (Shook & Fazio, 2009), negativity biases (Hibbing et al., 2014) and ideology more generally (Jost et al., 2003) we predicted that using a preference score analysis to subtract each outgroup from each ingroup framed moral foundation score to measure an overall ingroup preference (i.e. Ingroup Harm – Outgroup Harm = Ingroup Harm Preference), would yield stronger investment for conservatives and lesser investment for liberals across all five foundations. Detecting this pattern highlighted a difference in group based morality as a function of political ideology. This was then broken down into linear regressions to highlight where the differences lay, here we predicted that political liberalism would positively relate to outgroup framed individualizing (Harm and Fairness) foundations

and that political conservatism would relate to ingroup framed binding (Loyalty, Authority and Purity) foundations.

In a second study we predicted the same pattern (this time using specified group framing) and further that outgroup individualizing foundations would mediate the relationship of political ideology to bias (we made no predictions for ingroup binding foundations) and that outgroup individualizing foundations and ingroup binding foundations would both mediate the hypothesized relationship from political ideology to threat. We did not make predictions in regards to perspective taking. After finding in Study 2 that bias, negative bias and threat were significantly mediated by both outgroup individualizing and ingroup binding foundations, for Study 3 we predicted the same pattern of mediations and made no predictions regarding implicit bias. In Study 3 we found the same mediation pattern as Study 2 and found that implicit bias was also mediated by outgroup individualizing and ingroup binding foundations. Study 4 compared the standard to the outgroup framed version of the MFQ where we explored whether comparing these versions of the MFQ would yield patterns similar to those detected within the ingroup and outgroup framed studies.

In the second line of research we considered how the general moral foundations questionnaire (MFQ; Graham et al., 2008) related to a number of important intergroup relations focused variables including Intergroup Bias (Saguy et al., 2009), Perceived Threat (Stephan et al., 1999), Collective Action (Saguy et al., 2009), Perspective Taking (Davis, 1983), Trust (Yamagishi & Yamagishi, 1994) and Collective Narcissism (Golec de Zavala, 2011). Based on prior research we predicted that the Individualizing foundations would predict lower perceived threat and the Binding foundations would predict higher levels of perceived threat (Van Leeuwen & Park, 2009). For Bias it was predicted that the Individualizing

foundations would predict lower bias. For the Binding foundations while the prior research regarding the binding foundations and outgroup attitudes was more limited (Federico et al., 2013; Kugler et al., 2014) we predicted that the Binding foundations would positively predict bias. In light of the current literature (Haidt, 2012; Janoff-Bulman & Carnes, 2013; Kugler et al., 2014) we also predicted that the Binding foundations would be linked to higher collective narcissism (based on the relationships to other strong belief systems, see Federico et al., 2013; Kugler et al., 2014) and predicted that the binding foundations would negatively, and the individualizing foundations positively relate to support for collective action. Given the sparse prior literature we made no predictions in regards to trust or perspective taking. Here we found support for the Individualizing predictions and partial support for the Binding predictions.

In a final study we aimed to further examine the relationship of individualizing and binding foundations on levels of intergroup bias, while also considering how these moral foundations influence strong ideologies such as Right Wing Authoritarianism (RWA: Altemeyer, 1988; 1996; 1998) and Social Dominance Orientation (SDO: Pratto et al., 1994). In addition we wished to further examine the role of threat based processes in these relationships. In this research we predicted that Individualizing foundations would negatively predict Bias and Threat and also following Study 5 would positively predict Perspective Taking. In contrast we predicted that the Binding foundations would positively predict Bias (given higher statistical power with the larger sample size of Study 6) and Threat and following the findings of Study 5 would have no relationship to Perspective Taking. Finally we predicted partially based upon prior research (Federico et al., 2013; Kugler et al., 2014) that

SDO would mediate the relationship from Individualizing foundations to Bias and RWA would mediate the relationship from Binding foundations to Bias.

#### **4.0. Moral and Political Cognition is Related to Group-Focused Cognition.**

The current thesis has played an important role in clarifying the influence of intergroup comparisons within moral foundations theory and intergroup relations. It has achieved this through using the technique of framing the moral foundations items by asking participants to think about either ingroup or outgroup members when considering moral investment across the Moral Foundations Questionnaire (MFQ; Graham et al., 2008). In Chapter 2, this dissertation addressed a crucial yet previously unresolved debate within Moral Foundation Theory (MFT) research regarding how the ingroup and outgroup level influence moral foundations; previous debates had largely been theoretical before the current research (Janoff-Bulman & Carnes, 2013a; Graham, 2013; Janoff-Bulman & Carnes, 2013b).

By framing the moral foundations in terms of abstract ingroups and outgroups as well as specific ingroups (*British*) and outgroups (*Pakistani Immigrant*) across four studies, we have found clear patterns in the way in which the moral foundations function when considering the intergroup level. Our ingroup and outgroup measures of the MFQ demonstrated comparable levels of reliability to the standard version of the MFQ (Graham et al., 2008; Graham et al., 2009) and we were able to detect important differences in the measurement of moral cognition after highlighting the ingroup and outgroup level. Across three ingroup-outgroup studies, a general pattern emerged in which conservative political ideology related more to ingroup-framed binding foundations whereas a liberal political ideology related more to outgroup-framed individualising foundations. This finding has a

number of important implications for MFT and debates about the intergroup level in MFT (Janoff-Bulman & Carnes, 2013a; Graham, 2013; Janoff-Bulman & Carnes, 2013b) and further in terms of understanding attitudes and perceptions toward group- and immigration-based social policies.

Within MFT, it has been argued that only conservatives care strongly about the wider group when making moral judgments and that liberals are not focused on broader group-level thinking when making moral judgments, and are instead said to be invested in the individual-focused foundations of Harm and Fairness (Graham et al., 2009; Haidt, 2012). However, the research presented in this thesis has demonstrated that once the moral foundations themselves are framed in terms of ingroups and outgroups, a more complex pattern emerges.

The current research is the first to demonstrate that liberals are more invested in the individualising foundations when framed about outgroups, which supports the idea that liberals may care about a wider range of societal groups when making their moral judgements around harm and fairness foundations, and are not simply invested in protecting individuals. Moral foundations researchers have previously said that liberals are not concerned with group-based morality (Graham et al., 2009); however, the research presented here does not support this proposition. Instead it suggests that liberals do extend their moral investment to outgroups and potentially a wider range of groups. In contrast, conservatives were much more invested in the binding-foundations (of Loyalty, Authority, and Purity) when framed about the ingroup, and inconsistently more invested than liberals when binding foundations were framed about specific outgroups, though this effect was small in Study 2 ( $R^2 = .016$ ) and non-significant in Study 3 ( $R^2 = .001$ ); it, however, was

observed in Study 1 with abstract outgroups ( $R^2 = .06$ ). This pattern of results suggests that MFT may be correct in assuming that conservatives are more ingroup orientated than are liberals, though there is some inconsistent evidence in regard to outgroup-binding foundations and what more investment in binding values means when framed about the outgroup; does it mean that participants wish that people from other groups should remain loyal to and respect the authority of their (other) group? This is an interesting future direction to pursue. Overall, the current research does suggest that whilst conservatives invest in a wider range of moral foundations, they are more focused towards ingroup concerns, at least in regard to strength of investment; this focus has important implications for moral and political psychology and differential policy perceptions as a function of ideology.

Our research further challenges the assumption that liberals do not care about the group-level in moral investment and our findings suggest important differences in further intergroup focused variables as a result of differential investment in ingroup and outgroup framed foundations amongst liberals and conservatives. Debates around moral foundations have highlighted the need for more scrutiny of the group level (Janoff-Bulman & Carnes, 2013; Graham, 2013; Sinn & Hayes, 2016). Arguably, part of the reason this group level has remained a point of debate is that within MFT research, the group level is currently only explicitly considered within 4 of 6 loyalty foundation items of the 30 item moral foundations measure (see Graham et al., 2008). Even within such items, only ingroups, (and not outgroups), are explicitly considered which has made it more difficult to determine how moral and political ideology relate to intergroup processes. While prior research has also challenged MFT with the idea of groups being important in relation to moral foundations



(Sinn & Hayes 2016; Janoff-Bulman & Carnes, 2013) and suggested different ideologies may have differential perceptions of groups (Waytz, Iyer, Young, & Graham, 2016), these have been only theoretical challenges. That research has not done so by framing the MFQ itself in terms of ingroups and outgroups across the MFQ scale; thus, many questions have been left unresolved. Therefore, by clarifying the role of the group level in the measurement of moral foundations our research was also able to demonstrate the important influence of the group-level on moral concerns. These were shown both when our version of the MFQ was framed abstractly in terms of ingroups and outgroups and when the groups were specified as a 'British ingroup' and 'Pakistani immigrant outgroup.' Overall this variation in groups bolsters the confidence in the effects demonstrated here as being relevant to general as well as more specific intergroup processes.

Our findings on the ingroup-outgroup distinction in Moral Foundations Theory have further practical and theoretical implications in relation to broader intergroup relations. In order to examine these implications, we examined a number of potentially important intergroup outcome variables from the social cognition and intergroup relations literature. The research presented in Chapter 2 suggests that investment in individualising foundations (i.e., fairness and harm reduction) when framed about outgroups (as opposed to ingroups) may promote a more positive reception of outgroups and immigrant groups. In the mediation models from Studies 2 and 3, we found that outgroup individualizing foundations mediated the relationship between political ideology and explicit bias, explicit negative bias, implicit bias, and threat perceptions against immigrants; with outgroup individualising foundations investment reducing scores on these outcome variables. Study 4 found the same pattern and also found that outgroup individualising mediated the relationship to

implicit bias against immigrants using the Affect Misattribution Procedure (AMP: Payne et al., 2005). These findings are especially important in light of previous research linking liberal ideology with less caution in a learning task (Shook & Fazio, 2009), higher levels of openness to experience (Carney et al., 2008) and fits with the call from Dodd et al. (2012) that focusing on approach behaviour may also be beneficial, rather than solely focusing on threat responses. Our findings may also help to explain why liberals may have more favourable views of policies such as immigration (Pew Research Centre, 2014).

In regards to the findings concerning the binding foundations (of Loyalty, Authority and Purity), we observed that ingroup binding foundations mediated the relationship between political ideology and threat perceptions as well as negative bias and explicit bias towards immigrant groups. Across Studies 2 and 3, more investment in the ingroup binding foundations was related to higher perceived threat from immigrants and more negative bias and more bias towards immigrants. In Study 4, standard binding foundations (i.e., no group-focus specified) mediated the relationship between political ideology and threat, but not explicit bias. Thus, the relationship to more explicit bias was inconsistent (significant mediation in Study 2 and Study 3, but not in Study 4, though this study had a vaguer group focus between a standard MFQ and an outgroup-MFQ). This research helps to explain the role that different kinds of moral cognition have in explaining threat perceptions surrounding immigration and immigration-based attitudes. In doing so, this research suggests potential opportunities for interventions in these areas and fits with prior research linking the standard-binding foundations of the MFQ with perceptions of a dangerous world (Van Leeuwen & Park, 2009) and other threat indices (Sinn & Hayes, 2016). It also suggests that like previous research, under certain conditions, strong investment in the binding

foundations could have negative consequences in intergroup contexts (Smith et al., 2014). This research therefore has not only demonstrated that there are important differences in the MFQ once the group-level is accounted for, but has further elaborated this conclusion by demonstrating that this differential investment in ingroup and outgroup focused moral foundations has a real impact on a number of other important intergroup and social cognition outcomes including explicit bias, explicit negative bias, implicit bias, and threat perceptions regarding immigration.

Recently there has been an emphasis on the ways in which ideological orientations can relate to broader social perceptions and attitudes (Carney et al., 2008; Jost, 2006; Hibbing et al., 2014a; Hibbing et al., 2014b; Shook & Fazio, 2009). Our research provides further evidence for the ways in which moral and political attitudes influence perceptions of different societal groups using a novel method, which has observed a consistent pattern using different samples (laboratory and online) and different ingroups and outgroups (abstract and when specified as a 'British ingroup' and a 'Pakistani-immigrant outgroup') to show that the intergroup level does relate to differential investment in moral foundations for people with different political ideologies. The relationship of the outgroup individualising foundations as negative predictors, and ingroup binding foundations as positive predictors of perceived threat also fits with threat based accounts of political ideology (Jost et al., 2007; Lilienfeld & Latzman, 2014; Oxley et al., 2008). For example, Dodd et al. (2012) have highlighted how an enhanced vigilance to threat may help to explain more ingroup-focused policy emphasis amongst those who are more politically conservative and our findings regarding ingroup-framed binding foundations support this idea. In contrast, liberals may be less risk orientated and be more approach orientated (Shook & Fazio, 2009) which could

assist in understanding our findings regarding the outgroup individualising foundations here. Finally, our work suggests that liberals do take into account group-concerns which has been suggested by some theorists, but has not been explicitly tested using group-based framing within the MFQ. Overall our research should cause a rethink in the way the group level is considered in future moral foundations and political ideological research and highlights the importance of considering and accounting for the group level.

#### **4.1. Moral Foundations, Strong Ideologies, and their Relationship to Intergroup Relations.**

The method of framing the moral foundations in our research was found to be highly effective in understanding the influence of the group level in moral foundations. However, we also conducted a series of studies employing the standard measure of moral foundations the *Moral Foundations Questionnaire* (MFQ; Graham et al., 2008) to examine its association to intergroup relations more generally and to further consider the relationships to strong ideological orientations, such as Social Dominance Orientation (SDO; Pratto et al., 1994) and Right Wing Authoritarianism (RWA; Altemeyer, 1988; 1996; 1998; Federico et al., 2013; Kugler et al., 2014), and to perceptions of threat. To first consider how the MFQ related to intergroup variables using a broad approach, we conducted an exploratory study in Chapter 3 between the MFQ (Graham et al., 2008) and a number of important intergroup variables from social psychology including trust (Yamagishi & Yamagishi, 1994), collective action (Saguy et al., 2009), perspective taking (Davis, 1983), explicit bias (Saguy et al., 2009), perceived threat (Stephan et al., 1999), and collective narcissism (Golec de Zavala, 2011); this research found that the individualising (average of Harm and Fairness) and binding

(average of Authority, Loyalty and Purity) foundations had different relationships with these intergroup variables.

In our studies, we observed that the individualising foundations positively predicted collective action support and perspective taking, but negatively predicted both explicit bias toward immigrants and perceived threat from immigrants, whilst the binding foundations positively predicted threat and collective narcissism. This is some of the first research to support the idea that moral foundations inform attitudes towards a host of important intergroup variables in meaningful ways. Research considering the impact of MFT on how we view other groups has been hitherto lacking despite the fact that MFT relates to a number of other important social policy issue perceptions (Koleva et al., 2012); therefore, this exploratory first step highlighted their relevance in understanding a host of different intergroup variables using the standard MFQ measure (Graham et al., 2008). Given that MFT relates to a number of important social and political attitudes we believe applying MFT to intergroup relations is important, novel and timely.

After establishing the relationship between the MFQ (Graham et al., 2008) and intergroup variables generally, our research in Chapter 3 went on to extend prior research which has considered the relationship between moral foundations and strong socio-political ideologies such as SDO and RWA (Federico et al., 2013; Kugler et al., 2014). In doing so the current project demonstrated that binding foundations were significantly related to explicit bias in our second and larger study. The research also examined how SDO and RWA ideologies mediated the relationships between moral foundations and explicit bias towards immigrants. We observed that the binding moral foundations (average of Authority, Loyalty

and Purity) predicted bias towards immigrants (as measured via the total effect) and this relationship was mediated by RWA. A separate model that examined the relationship between the individualising foundations (average of Harm and Fairness foundations) and explicit bias found that SDO mediated this relationship. Further, Structural Equation Models indicated that the MFQ to SDO or RWA models fit better than the SDO to RWA models. So, our modelling was warranted based both upon the theoretical ideas of moral foundation theory and based upon our empirical evidence. This research has helped to answer questions about the equivocal relationship between Binding foundations and intergroup bias. It also concurred with prior work demonstrating how RWA and SDO ideologies relate to different sets of moral foundations (Kugler et al., 2014; Milojev et al., 2014; Sinn & Hayes, 2016) whereby different moral cognition underpins the development of strong ideologies differentially. However, our work has extended this idea to explain how these relationships impact upon intergroup relations; crucially, we then also considered the role that threat perceptions may play in these relationships.

To explore the role of threat in Moral Foundations, strong ideologies and bias against immigrant groups, a further exploratory mediation-analysis was conducted in which a measure of threat perceptions was entered alongside SDO in model 3 and RWA in model 4. Across models it was demonstrated that threat more effectively explained the relationship between individualising foundations and bias than SDO (Study 6, Model 3, Figure 3.3) and binding foundations and bias than RWA (Study 6, model 4, Figure 3.4). This highlights the importance of the role of threat perceptions in understanding the relationship between moral values, strong ideological values, and intergroup bias; other models have previously suggested that threat may play an important role in such ideologies and that the binding

foundations may relate to threat (Sinn & Hayes, 2016; Van Leeuwen & Park, 2009). Our research, however, was the first to show how threat was most effective in explaining the relationships between moral foundations and bias, when entered into mediations with either RWA or SDO. This finding suggests that realistic and symbolic threat perceptions may be an important underlying variable in understanding strong social ideologies and attitudes toward immigrants whilst accounting for moral foundations. However, it should also be noted here that the measure of threat employed in our study was measured in relation to threat perceptions surrounding immigration; thus, there is a common target for the threat and bias measures, which could add to the effects observed. However, given that the Threat effect was so much larger than the SDO or RWA effects, it is unlikely that this common target explains all of the difference in variance observed. In future, it would be beneficial to test these effects with a target group other than immigrants for the bias measures. We had kept the groups on the bias measures consistent throughout this thesis in order to compare effects across studies and across chapters and countries. Now that we have established these effects, future studies can systematically vary the target group to test whether the effects change. This analysis was also exploratory in Studies 5 and 6, and therefore, should be tested and confirmed in future research. Understanding the antecedents to strong social ideologies especially as they relate to intergroup relations remains an important area for psychologists and the research here highlights important relationships between moral foundations and ideological and threat-focused variables.

## **4.2. General Implications and Further Considerations**

We now consider the more general implications of the findings from the empirical research conducted in Chapters 2 and 3 regarding the relationships between moral foundations and intergroup variables, such as bias and threat perceptions. Here we further discuss what these findings mean in the broader context of political psychology research and social cognition.

### **4.2.1. Binding Foundations, Bias and, Threat Perceptions**

In the studies presented in Chapter 2 and Chapter 3, we found a consistent pattern regarding the binding foundations and heightened perceived threat and negative bias towards immigrants. While this was the case for negative bias, the pattern regarding explicit bias towards immigrants was more inconsistent. The binding to explicit bias relationship was positive, but not significant in Study 5 ( $R^2 = .037$ ), but was significant in Study 6 ( $R^2 = .136$ ) with a larger sample, but also a larger observed effect size. While the studies in the Ingroup-Outgroup Moral Foundations Chapter 2 did not test the direct binding to bias relationships, they did test the mediation of political ideology to bias with ingroup-binding foundations as the mediator. In both Study 2 and Study 3, Ingroup-Binding foundations significantly mediated this relationship. The effect, however, was non-significant in Study 4 in which the standard binding foundations were used. These findings together present a complex picture on the relationship between the binding foundations and explicit levels of bias towards immigrants; on average, it does appear that binding foundations are significantly related to bias.



While there has been little prior research on the intergroup implications of MFT, the implicit and explicit bias patterns detected in our studies may fit with the small number of prior research studies. In one instance, the binding foundations have been related to strongly negative attitudes towards outgroups (Kugler et al., 2014), while other researchers have found that conditions such as low moral identity were necessary to detect negative attitudes in relation to binding foundations (Smith et al., 2014). Here it could be the case that in instances of very strong negative attitudes such as in those measured by the immigration posse scale (Sinn & Hayes, 2016, Study 1), there is a relationship between binding foundations and intergroup bias, which may also relate to development of strong socio-political ideologies potentially due to some of the moral values within the binding foundations overlapping with a strong normative group-focused ideology of RWA (Federico et al., 2013; Kugler et al., 2014). For more general attitudes, this relationship between binding foundations and bias may be weaker and harder to detect. More research considering the relationship of the binding foundations to bias is required for a future understanding of the extent and conditions under which such foundations are implicated in more generally biased attitudes towards immigrant groups. While this is the case if the binding moral values contribute to negative attitudes, and in certain cases, bias, this has important research implications for reducing prejudice.

In further understanding the intergroup implications for MFT, this research was the first to consider the relationship between different sets of moral foundations and realistic and symbolic threat, which are important variables for research in intergroup attitudes and social psychology, including important predictors of bias (Stephan & Stephan, 2000; Stephan et al., 1999; Riek et al., 2006; Tip et al., 2012). In the current research, realistic and symbolic

threat contributed to understanding both moral cognition and strong ideologies as related to immigration perceptions. Together the findings from Chapter 2 (ingroup-outgroup MFQ) and Chapter 3 (MFQ, RWA, SDO) demonstrated the importance of threat perceptions for understanding both general political ideological and strong social ideologies. The research in this thesis has demonstrated a consistent relationship between the moral foundations and threat perceptions across all studies in both chapter 2 and 3.

The general pattern from the threat findings across the studies in Chapter 2 and Chapter 3 included the individualising foundations being significantly related to lower perceptions of threat while the binding foundations were related to higher levels of threat. Our work on group-based framing in Chapter 2 also suggests that liberals being more invested in individualising foundations when framed about outgroups is at least a partial explanation for the significant political ideology to threat relationship (see also Study 4); these findings indicate that liberals may be less risk averse, whereas conservatives may be more risk averse, which would provide a partial explanation for why they are more invested in binding foundations when framed about ingroups. The detection of a significantly negative relationship between the individualising foundations and threat perceptions and a significantly positive relationship between the binding foundations and threat perceptions in Studies 5, and 6 also suggests that threat perceptions play a vital role in understanding abstract moral foundations, when group-status of the targets was underemphasized. Together these studies highlight the central role that threat may play in relation to moral foundations, strong ideologies, and intergroup perceptions.

Our findings regarding threat are in line with the literature showing that liberals are more open to experience, less avoidant of uncertainty or accepting of dogmatism, and may also been viewed in light of previous findings regarding the positive relationship between the binding foundations and belief in a dangerous world (BDW; Van Leeuwen & Park, 2009) and other uncommonly used threat indices using extreme examples of groups such as radical artists, illegal immigrants, transvestites, and radical environmentalists (Sinn & Hayes, 2016). Threat has played an important role in understanding ideology both generally (Jost et al., 2003; Jost et al., 2007; Jost, Stern, Rule, & Sterling, 2017) and in terms of understanding extreme social ideologies, such as RWA (Stenner, 2005) and SDO (Morrison & Ybarra, 2008; Vezalli & Giovanni, 2010) and ingroup-focused policy support (Oxley et al., 2008). One of the most promising avenues for future research should therefore be finding effective ways to reduce threat perceptions via either moral framing (Feinberg & Willer, 2013; Feinberg & Willer, 2015; Kidwell et al., 2013; Day et al., 2014) or techniques for addressing threat perceptions more directly (Lavine et al., 1999); our research may also aid in debates between liberals and conservatives regarding improving dialogues and differences in perspective around intergroup relations and intergroup social policies.

The current threat findings here may also be considered in light of research which suggests that in times of heightened threats or increased focus upon threats, moral and political cognition may also shift towards more conservatism (Van der Vyer et al., 2016) showing how threat relates to ideology generally, and that amongst those with strong RWA ideologies, perceptions of increased racial diversity increased negative attitudes towards minority groups and increased threat perceptions, which is of concern for reducing prejudice and negative attitudes (Kauff et al., 2013). These findings together suggest the importance

that the changing context and increased salience of threat perceptions can have on social and ideological attitudes and making more negative attitudes towards intergroup relations. Given that this is the case, it is an important challenge for psychologists to unpick the nuances of threat and ideological cognition to reduce prejudice. The work in the current thesis has contributed to this area by highlighting some of the ways in which moral and political cognition relate to threat perceptions.

Across the current studies, we used a composite measure of threat because symbolic and realistic threat subscales were highly correlated and highly reliable. In addition, Stephan et al.'s (1999) measure of threat has been combined in a number of prior studies considering the role of threat perceptions in intergroup relations (Tip et al., 2012; Verkuyten, 2009). While dissociations between realistic and symbolic threats perceptions may sometimes occur (Duckitt, 2006), studies on race and immigration perceptions generally observe no such dissociation. Future research could consider if different social groups would cause a dissociation between symbolic and realistic threat as has been detected in some prior work, though in relation to SDO and RWA and not in relation to bias. It, however, is striking that both realistic and symbolic threat were highly correlated across all of the studies presented; this finding mirrors previous work on racial policy perceptions and threat (Tip et al., 2012; Verkuyten, 2009). It also further suggests that when considering the topic of threat perceptions around immigration in both the U.S. and the U.K., perceived threats to both societal resources and social and cultural values may both be perceived as important factors in threat perceptions (Stephan et al., 1999; Stephan & Stephan, 2000). Such threat perceptions may therefore be playing an important part in prejudicial and negative attitudes towards immigrant groups (Riek et al., 2006) and therefore finding ways to reduce threat

perceptions may be important in the design of future interventions and policies surrounding perceptions of immigration and societal cohesion.

#### **4.2.2. Study Design and Cultural and Demographic Factors**

The studies conducted in the current project were quasi-experimental in design in which we did not manipulate political ideology and employed it as a continuous measured variable as is standard in the majority of research on political ideology (see Jost et al., 2003; Jost et al., 2017). Work aiming to manipulate the moral foundations as an independent variable is still under development within the field (Day et al., 2014; Kidwell et al., 2013; Feinberg & Willer, 2015). However, previous studies using moral framing to examine the impact upon attitudes have found reasonably small effect sizes for most studies (Day et al., 2014,  $R^2 = .02$ ; Kidwell et al., 2013; Feinberg & Willer, 2015). In light of this, the aim of our research was not to manipulate ingroup and outgroup cognition to change opinions or attitudes, and was instead to investigate differences in moral investment while considering the ingroup and the outgroup level in the measurement of the moral foundations questionnaire items (Graham et al., 2008). Using this method of group-level measurement across the MFQ demonstrated important differences in moral emphasis between liberals and conservatives once the group level was accounted for as evidenced by both the preference score analyses and ingroup-outgroup linear regression analyses found in Chapter 2. The current studies used quasi-experimental designs because of the inclusion of political orientation, and also carefully counterbalanced measures and used the optimal order of measures to allow for measurement of mediations (Baron & Kenny 1986; Hayes, 2013). We also tested alternative models to show our reasoning for the development of the models in the current thesis and detected reliable patterns across a range of groups within and across

two nations, which has increased our confidence in the observed results. Studies of political ideology often rely on quasi-experimental designs due to being unable to simply and easily manipulate someone into thinking in a more liberal or conservative way (see Kaplan, Gimbel, & Harris, 2016). Using ideology as a continuous variable also represents a more ecologically valid means of examining the role of ideology in intergroup relations, especially for research aimed at establishing the relationship between ideologies, moral foundations, and intergroup relations. Future experimental research might be conducted to test the influence of manipulated political ideology on the reliance on ingroups and outgroups in moral cognition, but such a robust manipulation remains to be developed.

Our research was carried out in the Western nations of the U.S. and the U.K. because prior research in moral foundations theory had found that liberal and conservative ideology related to moral foundations in a similar way within the U.S. and the U.K. (Graham et al., 2009; See Graham et al., 2011, Table 11 for comparisons). While it was not an aim of the current project to consider perceptions of immigration and intergroup relations within eastern nations, the existing MFT research does suggest that the binding foundations may be more emphasised in such contexts (Haidt, 2012; Graham et al., 2011), however, this does lead to questions regarding whether immigration perceptions in such nations would be perceived differently or not, or whether the effect sizes would simply be larger, even with the already medium to large effect sizes observed in the current studies for the binding foundations. MFT was developed through the study of different cultural emphasis in moral values (Haidt & Joseph, 2004) and therefore future work considering the operation of intergroup thinking in moral values in eastern nations may be an interesting expansion of the models here which have been early tests of the intergroup level in Western cultures.

There already exists a large cross-cultural psychological literature considering other cultural differences globally such as in individualism and collectivism (Markus & Kitayama, 1991; Markus & Conner, 2014); therefore, understanding if these moral and cultural value differences lead to differences in perceptions of intergroup relations in these cultures remains an interesting and unexplored area.

While the findings were conducted in western countries, the inclusion of multiple nations also strengthens the findings of the current project because it replicated the moral foundations and intergroup relations effects across nations. This is especially relevant given the salience of immigration in political debates in the UK, Europe, and the U.S. It is also important that we found broadly replicable patterns within the different samples collected in each nation increasing our confidence in the findings. In terms of the samples collected in this research, we used online methods to collect data in both the U.S. and the U.K., with research demonstrating that community and online samples tend to be more diverse and representative of populations (Henry, 2008) than student laboratory samples, which can have more culturally narrow characteristics (Henrich, Heine, & Norenzayan, 2010a; Henrich, Heine, & Norenzayan, 2010b). In addition, the fact that our laboratory sample findings matched the general pattern of findings observed in the online studies for the U.K. samples gives us increased confidence that our results in the online setting replicated the more tightly controlled, but more demographically constrained research environment of the laboratory. In order to validate the models across nations it would also be of further benefit to conduct further research based on Studies 1, 2, 3 and 4 in the U.S. and Studies 5 and 6 in the U.K. to cross validate these findings.

#### **4.2.3. Measurement of Political Ideology**

Moral foundations have often been used to highlight the complexity of differing political ideologies by considering how they are predicted by different sets of moral values with different ideologies constituting different blends of moral investment (Haidt et al., 2009); the current work has highlighted how such values are even more complex once the group level is considered. In our framing studies, we used a single item liberal-conservative measure of ideology (Jost, 2006) to examine the relationship of political ideology to ingroup- and outgroup-framed moral foundations in the U.K. and to general moral foundations in the U.S. Past research using this measure of ideology has also found the same results across U.S and U.K. samples for the standard MFQ (Graham et al., 2009; Graham et al., 2011).

Some may ask if the liberal-conservative distinction is similar to other measures of ideology expressed via left and right terminology, especially within the U.K. In order to be confident in our findings using the liberal-conservative item, a further left-right wing single item measure of ideology (adapted from Dawson & Tyson, 2012; as developed using Jost et al.'s, 2008 ideological categorisation) was included as a validation check in Study 1 and 3, using this left-right ideology item (Dawson & Tyson, 2012) it was found that in our U.K. sample the patterns on the ingroup and the outgroup moral foundations related in broadly the same way to the left-right ideology as they did for the liberal-conservative measure of ideology. Given this pattern of results, we are more confident in the effectiveness of our liberal and conservative ideology item which has been used across a large host of political psychology research (Jost, 2006; Graham et al., 2009) and remains powerful as a predictor of ideological attitudes (Jost, 2006) and is important for comparison across different research.



Crucially it was necessary to use a liberal-conservative single item measure to examine this relationship to the framed version of the MFQ because previous research using the standard MFQ had primarily used the liberal-conservative measure (Graham et al., 2009; Graham et al., 2011). While this is the case, the addition of the left-right ideological measure as an additional check increased our confidence in our findings.

While single item measures of political ideology are powerful predictors (Jost et al., 2017), other researchers have questioned the extent to which a single item of ideology overlooks economic and social aspects of political ideology (see Duckitt & Sibley, 2009; Feldman & Huddy, 2014). Our research partially addressed this question by also examining the relationship between moral foundations and the more polarised ideologies of SDO and RWA, which have been argued to relate to economic and social ideological concerns respectively (Duckitt & Sibley, 2009; Feldman & Huddy, 2014; See also Altemeyer, 1998). Our research has observed that moral foundations similarly related to these distinct ideologies as individualising foundations were negatively related to SDO and binding foundations positively related to RWA as is indicated in prior research (Federico et al., 2013; Kugler et al., 2014; Sinn & Hayes, 2016). This use of a number of different metrics regarding ideological cognition and its relationship to the moral foundations increased the scope and confidence we have in the results when considering how political and moral ideology relate to intergroup processes. Overall the diverse number of ideological measures considered in the studies presented within this thesis also increases the generalisability and the practicality of the models presented here.

#### **4.2.4. Implicit Cognition and Moral Foundations Theory**

The picture presented from the current research in terms of the relationship between ingroup- and outgroup-focused moral foundations and implicit cognition and explicit cognition prompts important remaining questions. We observed a consistent pattern between the sets of ingroup and outgroup moral foundations and implicit bias. We used the Affective Misattribution Procedure (AMP; Payne et al., 2005) as the measure of implicit bias because this measure has been used across the social cognition and the implicit bias literature as a measure of implicit bias or implicit prejudice (for a review, see Payne & Lundberg, 2014). While we found consistent results, they were smaller than expected. There are a few reasons why our measure of implicit bias may not have found larger effects across studies. First, the order of the administration of the AMP was later in the order of experimental materials and followed the measurement of Explicit Bias and Negative Bias in Study 4, and occurred 3 to 9 weeks after these measures in Study 3; while this procedure was used to reduce the influence of the implicit measures on the explicit measures, this order could have reduced the overall level of bias observed on the implicit measure (Cunningham et al., 2004; McConnell & Leibold, 2001). If the explicit before implicit order caused participants to attend more to the face primes, which has been shown to decrease bias on the AMP, then the implicit measure may have been attenuated (Payne et al., 2013).

Second, Study 4 was completed at the same time as when we were using the AMP in other, unrelated research. Thus, Study 4 may have had smaller effects because participants had seen the AMP in other studies up to 2 additional times. Chandler, Paolacci, Peer, Mueller, and Ratliff (2015), have shown that completing measures twice between one week

and one month apart reduces the effect size observed at the second measurement and this reduction in effect size (~70% of the effect size from the first measurement) occurs for a wide range of tasks (e.g., anchoring and adjustment, gain versus loss framing, imagined contact, norm of reciprocity, etc.). So, it is possible that the AMP underestimated the true effect size in these studies. However, it is also possible that the effect size is, in fact, small to medium. To test this possibility, future research will need to be conducted in which the AMP is administered first, and either, in a research context in which participants had not been exposed to the AMP previously or in which other implicit measures are used (e.g., the Implicit Association Test; Greenwald, McGhee, & Schwartz, 1998).

We included a measure of explicit bias within all of our studies in order to compare across studies both within chapters and between chapters, and also to accommodate more practical matters (i.e., in Studies 2, 5, & 6, we did not have the capacity, at that time, to conduct implicit measures of bias in an online study). The use of the online context allowed for a more diverse and a larger sample than our lab context allowed. Overall, we felt that the continued inclusion of the explicit measure was warranted for a number of reasons. First, we did not observe floor effects in which all participants responded at the bottom of the scale. In fact, we observed substantial effect sizes for these measures ( $R^2 = .15$ ,  $R^2 = .12$ , and  $R^2 = .10$  in Studies 2, 3, and 4 for explicit bias,  $R^2 = .14$ , and  $R^2 = .19$  for negative bias in Studies 2 and 3). Second, we wanted to keep a few measures the same between studies in order to compare across studies. Third, our results were in line with other research on political ideology and bias, in general, which we reviewed in the introduction for Chapter 2 (Cunningham et al., 2004; Luguri et al., 2012; Nisbet & Shanahan, 2004; Whitley & Lee, 2000; Webster et al., 2014; van Prooijen et al., 2015); thus, we do believe that these measures

were identifying, at least partially, a true effect. However, it is possible that there was some socially desirable responding. Liberals may have been reporting less bias than they actually felt, though we believe this would be a small change because they also showed little bias on the implicit measure (4.4% and 0% bias on the AMP in Studies 3 and 4). It is also possible that conservatives reporting of bias was deliberately higher on the explicit measures, which increased the overall effect size. Is it possible that in the modern climate (Brexit, the current political climate in the U.S., etc.) they felt okay about expressing bias against this group? This is a future direction that will need to be tested; one such test may be to use these measures with a greater variety of outgroups in order to begin to clarify this issue.

#### **4.3 Limitations and Future Considerations**

We now discuss potential limitations and areas for development in future research. Here we address the following areas: (1) statistical power in Study 5, (2) the focus on specific immigrant groups and generalizability to different groups, (3) intragroup processes and levels of political identification and (4) conclusions regarding direction of causality among variables.

One potential limitation of the current research is that in comparison to the other studies conducted within this research, Study 5 had a relatively lower sample size which may have reduced the levels of statistical power to detect an effect in this study. Here the sample after filtering out participants who were acquiescent when completing the MFQ (Graham et al., 2009) left a total of 90 participants in the final sample. It is of note that in Study 5 we were unable to detect a relationship between the binding foundations and bias. However given the low sample size for this study it is also difficult to conclude if the reason for this

lack of relationship was due to no effect being present or whether the low sample size reduced the power to detect such an effect. While the aim of Study 5 was exploratory and correlational, it is of note that the sample size for this study was low and thus the findings from this study should be treated with more caution before generalizing the outcomes. Study 6 contributed to explaining the relationship between RWA and SDO ideologies, moral foundations and intergroup processes with a more robust sample size and did detect a binding to bias relationship. Future research with larger sample sizes should aim to further examine and confirm the relationships between moral foundations and intergroup outcomes such as bias and collective narcissism considered within Study 5.

The current research was also concerned with perceptions of immigrant groups in general as well as more specified groups (Pakistani-immigrants) but did not consider other forms of non-immigrant social group such as those based on gender or different religious orientations as well as other different types of specified immigrant groups. The findings considered here may be useful for understanding factors affecting perceptions of immigration and immigrant groups in general as well as perceptions of Pakistani immigrants more specifically. However more research is required before we can apply the findings here to an even more broad appreciation of intergroup relations and also to more fine-grained patterns regarding different types of specified immigrant groups. The findings here make an important step in understanding perceptions of immigrant groups and forms of bias using the MFT, and detected a general replicable pattern regarding the groups considered. Whether the attitudes measured in our research also apply to non-immigration based attitudes towards different racial groups remains an important question for future researchers. Furthermore, using a broader range of specified immigrant groups in future

research would also aid in making broader inferences about the processes involved in immigration perceptions which involves a number of diverse and unique, cultural, ethnic and religious groups within society.

When considering the specified immigrant group considered within this research it is important to note that when framing the MFQ measure within Studies 2 and 3 we used a Pakistani immigrant outgroup. Pakistani immigration represents one of the higher populations of foreign born immigrants to the U.K. (Rienzo & Vargas-Silva, 2017) and is also a group that is growing within the U.K population (see Jivraj, 2012; Office of National Statistics, 2011). Some research has suggested that groups with lower populations may be more subject to societal stigma. Carslaw (2013) employed a measure from Sidanius and Pratto (1999) in which participants were asked to order what they conceived to be the most to least stigmatised groups using a ranking system, using this data Carslaw related these scores to national data and a variety of other sources reflecting estimates of the size of the group in the population. Overall it was found that higher population groups were associated with less perceived stigma, though later studies using agent based modelling demonstrated further complex factors that may also affect this relationship (Carslaw, 2013). Carslaw had explained this data using Allport's (1954) contact hypothesis in which opportunities to engage in contact with members of different groups reduces overall levels of prejudice and bias. Of Sidanius and Pratto's (1999) stigma ranking task used in Carslaw's (2013) research, Pakistani groups came 7<sup>th</sup> of a total of the 23 groups listed for overall highest perceived stigma. Therefore looking at whether changes in population size change perceptions of groups and to what extent opinions change as a function of population size remains an interesting area for researchers to consider. The need to tackle negative attitudes towards

immigration remains an important priority for a number of policy makers both nationally and internationally and therefore extending the research to a broader selection of immigrant and non-immigrant groups representing high and low levels within the national population may also extend the impact and implications of the research here, when considered in future research designs.

A further consideration when designing future research studies should also be the distinctions in intragroup processes as well as considering different levels of identification participants have with their political ideologies. The *intragroup* (within-group) level plays an important role in Self-Categorization Theory (SCT; Turner et al., 1987; See also Spears, 2011). While our research here has made important steps in understanding the *intergroup* (between-group) level of ingroups and outgroups for the role of Social Identity processes in MFT, future work could focus more on within-group (intragroup) distinctions when considering framing of the MFQ and political identification. Research with large sample sizes could also aim to distinguish how different identification levels within the liberal or conservative dimensions of the political spectrum differ from each other when forming attitudes. Some research has already highlighted important subtleties in moral value investment within democratic party supporters in the U.S and how these differences predict support for different democratic party political candidates (Iyer, Graham, Koleva, Ditto, & Haidt, 2010). While other research has highlighted that strength of moral identity can have an impact on intergroup outcomes (Smith et al., 2014) and strength of moral conviction on political engagement (Skitka, 2010; Skitka & Wisneski, 2011). The role of strength of *political ideological* identification will be important in future research aiming to extend the implications of SIT in MFT. Understanding how strongly somebody is engaged or identifies

with their political ideology may therefore be an important next step. Future research could employ statistical moderation designs to account for high and low identification with political ideology to further elaborate the models presented here.

Finally while the studies included in the current research were designed with a strong consideration of the order of administration of variables and methodological rigor. We cannot make causal inferences concerning the direction of causality, as the studies used quasi-experimental designs. The reason for the use of the quasi-experimental methods was due to considering political ideology as a continuous variable with people's political ideological positions being difficult to manipulate (see Kaplan, Gimbel, & Harris, 2016). Due to the quasi-experimental designs used there are remaining questions regarding causality and which processes are antecedents in predicting attitudes. Future experimental designs may aim to resolve these debates by manipulating different threat perceptions or finding methods to more effectively manipulate ideology though the latter may be more difficult. One method for addressing causality while still using a continuous measure of ideology would be to conduct longitudinal cross lagged regression designs to further establish how variables at one time point influence those at a later time point and to test the direction of causality in a sample over time while maintaining the continuous (rather than categorical) measure of ideology. While our research cannot make conclusions about causality here due to the static time point quasi-experimental design, we did design our studies with a strong degree of rigor including steps such as counterbalancing and randomization and found replicable general patterns highlighting variables of importance for intergroup relations. In Study 6 we also included Structural Equation Models (SEM) to justify the use of moral foundations as predictors for this study. Future experimental and longitudinal work should



now look to confirm which variables are antecedent and consequent in these relationships and to establish causality which may further be useful for future interventions and designs.

#### **4.4. Future Research and Policy Implications**

The findings of this research project have important implications for the communication and reception of policy messages surrounding perceptions of immigrant groups, and outgroups in general. Immigration plays an important role in U.K business, health services, research and higher education, and beyond and it remains a necessary and important feature of the growth of the economy (He, 2017). Whilst this is the case, perceptions of immigration remain a salient and polarising issue in social and political discourse. In recent times within the political sphere, the debate surrounding immigration is perhaps more salient than previously due to changes in policy around the European Union and BREXIT in the U.K., and changes in U.S. policy towards immigration and the current debates within the US Congress. In light of these changing times, it is increasingly important for researchers and policy makers to identify ways to reduce polarisation and increase forms of dialogue between different groups as well as to tackle hate crimes (Home Office, 2015-2016) and to understand the factors that contribute to development of strong ideologies that may exacerbate divisions. The current project considered attitudes towards Pakistani immigrants and perceptions of immigrant groups, and therefore, future research should be conducted to consider wider and different groups to broaden the impact of the current findings, which are limited to immigrant groups. Overall the current project assists in suggesting some important ways in which moral and ideological cognition relate to intergroup attitudes which may also inform development of future research interventions.

#### **4.4.1. Future Research in Moral Foundations and Group-Based Framing**

There is previous evidence to suggest that MFT can be used to cross political divides and help individuals to see a different perspective on different policy issues. Previous research using MFT has been able to achieve this by framing policy messages to focus on the specific moral concerns underlying liberal and conservative political attitudes. Framing techniques have been used as a way of understanding social attitudes in the social psychological and behavioural economic literature whereby the method around the way in which a message is communicated can influence attitudes and behaviour even if the message itself does not change (Kahneman & Tversky, 1984; Lavine et al., 1999; Sunstein & Thaler, 2008) for example in understanding how framing a message x in terms of either loss for not doing x or reward for doing x influences the behaviours and attitudes people pursue (Kahneman & Tversky, 1984).

Using framing in the domain of moral foundations theory, Feinberg & Willer (2013) have found evidence that climate change was often talked about from the perspective of liberal moral values to the neglect of conservative concerns (Feinberg & Willer, 2013, studies 2a and 2b). In order to look at how moral foundations could be used to improve reception of climate change messages they framed climate change using a purity moral foundation frame reflecting contamination and uncleanness to the environment around not pursuing climate change behaviours as compared to a liberal harm foundation frame (Feinberg & Willer, 2013) here it was found that using this purity framing increased willingness to endorse climate change interventions amongst those who were more politically conservative. Further research in the area of climate change messages also found similarly that using framing in

terms of the conservative binding foundations (e.g. “join the fight recycle today”) caused increased recycling willingness amongst conservatives while for liberals an individualising (Harm & Fairness) foundations frame was effective (study 1, Kidwell, Farmer, & Hardesty, 2013; 2013b, see p.4). Whilst framing in the moral domain has had some promising initial results there are a number of areas suggesting that such an approach may be more complex than initially perceived.

More recently research by Day et al. (2014) has provided evidence that in some cases framing policy messages using moral foundations can lead to ideological strengthening of attitudes to those already inclined towards message favourability, while attitude change was much more difficult to achieve (Day et al., 2014). While some research in framing messages using the moral foundations has been effective in changing opinions, much of this research relied on relatively large sample sizes to observe small experimental effects (Day et al., 2014; Feinberg & Willer, 2015; Kidwell et al., 2013) while these effects may be important over large populations, other forms and methods of message framing may potentially generate larger experimental effects and more effective persuasion.

#### **4.4.2. Threat Focused Framing Interventions and Political Ideology.**

One potential area in which framing messages surrounding immigration especially in cases of strongly polarised attitudes may be potentially effective is in threat based framing. Research by Lavine et al. (1999) found that those high in RWA were more likely to respond to a voting message framed in terms of the negative loss of not voting rather than one emphasising the positive features of voting suggesting that strong ideologies are especially responsive to threat processes, which is consistent with our research in Studies 5 and 6 (see

also Stenner, 2005). There is also evidence to show that heightened threat leads to more negative attitudes towards minorities (Craig & Richeson 2014b; Riek et al., 2006) as well as changes in social policy based ideological attitudes surrounding the ingroup (Oxley et al., 2008) which means that reducing perceptions of threat may be one way of improving negative attitudes and an area future framing and other forms of research should consider. Our research has helped to elucidate the mechanisms by which morality, threat, and ideology relate to intergroup attitudes and it is hoped that this research can therefore inform future framing experimental interventions. As well as provide a greater understanding of the ways in which ideologies function in relation to moral values and the effects upon intergroup relations. The current research also paves the way for future research testing whether differences in ingroup and outgroup moral investment and threat perceptions also predict attitudes to a host of broader social groups (such as those based on culture, gender or religion) and to expand our findings here regarding bias in relation to immigration. This research could also employ psychophysiological measures of threat or vigilance (Hibbing et al., 2014) and utilise different forms of implicit measures (Greenwald et al, 1998) and explore different manipulations of threat in which the group is non-specified to examine causality of threats using more generalised measures and manipulated experimental designs. Finally, future research could examine different cultural contexts and behavioural outcomes (Shook & Fazio, 2009) as well as longitudinal and contextual changes in attitudes while measuring moral foundation investment and threat perceptions over time. Experimental designs may be useful within future studies designed at establishing the causal relationships between ideology, threat perceptions and social attitudes.

#### **4.5. Overview: Going Beyond Moral and Political Ideology.**

The research reported in this thesis has detected important relationships between moral foundations and intergroup variables in both the U.S. (using online methods) and the U.K. (using laboratory and online methods). The research presented here has also considered the relationships between moral investment and attitudes towards a host of different target groups including abstract ingroups and outgroups, British ingroups and Pakistani immigrant outgroups, and immigrants as a general group. The methods in this thesis used two distinct types of research design to examine how moral values and political ideology relate to intergroup processes. The first set of study designs focused on framing the MFQ (Graham et al., 2008) in terms of both ingroups and outgroups to provide novel answers to important theoretical debates (Janoff-Bulman & Carnes, 2013a; Graham, 2013; Janoff-Bulman & Carnes, 2013b) demonstrating that liberals and conservatives showed different group based emphasis in moral foundations, with liberals investing more in outgroup individualizing foundations and conservatives in the ingroup binding foundations. Our research then went on to apply these differences to understanding intergroup attitudes, including explicit bias, negative bias, implicit bias and threat. The second set of studies in this project set out to understand how the MFQ in its standard format related to a host of social psychological variables with importance for intergroup relations and the MFQ's relationships to strong ideologies (SDO, RWA) and explicit bias around immigration extending previous models (Federico et al., 2013; Kugler et al., 2014) to account for intergroup factors.

Both of the two lines of research considered here have yielded important insights regarding how moral and political beliefs have important and previously unexplored

implications when considering the group level. The current thesis has argued that it does not make sense to consider political and moral beliefs as divorced from intergroup processes. By considering the role of the intergroup level we can form a more comprehensive and informative view of how moral and political beliefs function and have important implications for societal attitudes and cohesion affecting societal attitudes, policy perceptions and behaviour. Understanding this relationship leads to new methods and techniques to improve intergroup relations and reduce intergroup prejudice.

We also hope the findings here may help to reduce political polarisation and encourage debates amongst those who are liberal and conservative in which an appreciation of different ideological bases of emphasis in moral and political attitudes is more fully understood in the intergroup context as Dodd et al. (2012) note; “...in light of the connection between location on the political spectrum and physio-cognitive differences, those on the political right and those on the political left may simply experience the world differently...” (Dodd et al., 2012, p.647) and therefore the understanding of how different bases of moral reasoning (Haidt, 2012), threat vigilance (Jost et al., 2007; Hibbing et al., 2014; Lilienfeld & Latzman, 2014) and risk perceptions (Shook & Fazio, 2009) contribute to different policy perceptions is important especially in enabling liberals and conservatives to understand each other’s points of view and to reduce ideological polarisation.

Finding ways to enhance social cohesion, reduce political polarisation, understand threat perceptions, and reduce prejudice will remain focal issues for society and for social and political psychologists. This thesis has demonstrated that the intergroup level has important implications for the study of moral and political cognition just as recent work in

the area of empathy has found that ingroup and outgroup distinctions have a similarly important impact on improving intergroup attitudes (Bruneau, Cikara, & Saxe, 2017). It is hoped that the work presented in this thesis will contribute to a new understanding of moral and political cognition by encouraging consideration of the intergroup level in political psychology research and the implications this has for improving social harmony, reducing prejudice, understanding ideology and enhancing social cohesion.

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## **Appendix L: Supplemental Analyses, Chapter 2**

### **Reliability Analyses**

#### **Study 1**

While it is of note that a few alpha values were slightly low, many other moral foundations researchers have also demonstrated a mixture of low to high reliabilities. Federico, Weber, Ergun, & Hunt (2013) observed a range of reliabilities from  $\alpha = .52$  to  $.73$  across two separate samples. As Federico et al (2013) noted, lower reliability in the moral foundations subscales is partially due to the way the scale was created to capture broad moral dimensions instead of maximizing internal consistency. Furthermore, we observed similar reliabilities to Graham et al., 2009, in which they measured the relationship between moral foundations and political orientation (see below), and a similar range of reliabilities to other previous work (Graham et al., 2012; Hirsh, De Young, Xu, & Peterson, 2010).

Graham et al. (2009) divided the foundations into the 3 item (per foundation) relevance subscale (Study 1) and found reliabilities of  $\alpha = .62$  for Harm,  $\alpha = .67$  for Fairness,  $\alpha = .59$  for Loyalty,  $\alpha = .39$  for Authority, and  $\alpha = .70$  for Purity. In our study for the Outgroup relevance subscales (3 items per foundation) we found reliabilities of  $\alpha = .74$  for Harm,  $\alpha = .78$  for Fairness,  $\alpha = .70$  for Loyalty,  $\alpha = .60$  for Authority and  $\alpha = .66$  for Purity. For the ingroup relevance subscales we found reliability values of  $\alpha = .63$  for Harm,  $\alpha = .60$  for Fairness,  $\alpha = .67$  for Loyalty,  $\alpha = .51$  for Authority and  $\alpha = .68$  for Purity. Graham et al. (2009) also investigated the reliabilities for the 4 item judgment scales (Study 2) and found reliabilities of  $\alpha = .50$  for Harm,  $\alpha = .39$  for Fairness,  $\alpha = .24$  for Loyalty,  $\alpha = .64$  for Authority, and  $\alpha = .74$  for Purity. In our study for the Outgroup Judgement subscales (3 items per foundation) we found reliabilities of  $\alpha = .51$  for Harm,  $\alpha = .52$  for Fairness,  $\alpha = .44$  for Loyalty,  $\alpha = .54$  for Authority and  $\alpha = .58$  for Purity. For the Ingroup Judgment subscales we found reliabilities of  $\alpha = .44$  for Harm,  $\alpha = .40$  for Fairness,  $\alpha = .49$  for Loyalty,  $\alpha = .52$  for Authority and  $\alpha = .70$  for Purity even though we used the current 3 item (per foundation) judgment subscales.

#### **Alternative Measure of Political Ideology**

Sometimes liberal and conservative classifications of political ideology are referred to using a left- right terminology where “the *right-wing* label has come to represent political views that are conservative, supportive of the status quo, and hierarchical in nature, whereas *left-wing* views connote progressive social change and egalitarian ideals” (Jost, Nosek, & Gosling, 2008, p.127). We conducted additional analyses in order to confirm that the liberal-conservative measure of ideology used in moral foundations theory research and in the current studies was similar to other left-right measures of political ideology sometimes employed in other research.

The additional analyses indicated that using a left-right political ideology item (adapted to the U.K from Dawson & Tyson, 2012) to measure the relationship between political ideology and ingroup and outgroup focused moral foundations generally replicated the patterns using the liberal-conservative measure of political ideology for Study 1. This

item was also included in Study 3 and again replicated the general patterns of the findings using the liberal conservative measure. Overall this analysis gives us confidence that participants in our studies have similar investment in ingroup and outgroup moral foundations when political ideology is measured using a liberal conservative item, or a left-right political ideology item.

### **Models Entering Ingroup Binding Foundations Alongside Ingroup Individualizing Foundations to Predict Outcome Variables**

We constructed mediation models entering the ingroup individualizing foundations alongside the ingroup binding foundations as mediators to predict bias from political ideology; these models indicated ingroup individualizing indirect effects were non-significant. In Study 2 ( $N = 307$ ) using this model, the path from political to ingroup individualizing was non-significant ( $b = .04, p = .175$ ) and the path from ingroup individualizing to bias was non-significant ( $b = -.15, p = .150$ ), with the ingroup individualizing indirect effect being non-significant ( $b = -.01, CI -.025, .002$ ) and the ingroup binding indirect effect remaining significant ( $b = -.06, CI -.116, -.011$ ). Similar findings in Study 2 were found when constructing the same model for negative bias where the path from political to ingroup individualizing was non-significant ( $b = .04, p = .175$ ) and the path from ingroup individualizing to negative bias was non-significant ( $b = -.07, p = .617$ ). Here the indirect effect of ingroup individualizing foundations were non-significant ( $b = -.003, CI -.025, .006$ ) and again the indirect effect of the ingroup binding foundations was still significant when including the ingroup individualizing foundations in the model ( $b = -.17, CI -.257, -.101$ ).

We again constructed mediation models for Study 3 entering the ingroup individualizing foundations and the ingroup binding foundations as mediators to predict levels of explicit bias and negative bias. The ingroup individualizing indirect effect findings for explicit bias and negative bias models replicated those found in Study 2. In these models ( $N = 288$ ) using explicit bias as the model outcome variable the path from political to ingroup individualizing foundations was significant ( $b = .08, p = .002$ ) while the path from ingroup individualizing to bias was non-significant ( $b = -.11, p = .395$ ). The path from ingroup binding to bias was now also non-significant ( $b = .20, p = .079$ ), while the indirect effect for the ingroup individualizing foundations was non-significant ( $b = -.01, CI -.034, .007$ ) and the indirect effect for the ingroup binding foundations was non-significant ( $b = -.04, CI -.093, -.004$ ). We constructed the same model using negative bias as the model outcome variable and observed that the path from political to ingroup individualizing foundations was significant ( $b = .08, p = .002$ ) and the path from ingroup individualizing to negative bias was non-significant ( $b = -.06, CI -.392, .266$ ) while the same paths for ingroup binding were significant ( $p$ 's  $< .001$ ). The indirect effect for ingroup individualizing foundations was non-significant ( $b = -.005, CI -.032, .017$ ) with the indirect effect for ingroup binding foundations again being significant ( $b = -.118, CI -.195, -.059$ ).

Overall these findings indicate that including ingroup individualizing foundations did not improve the models in Studies 2 and 3

### **Appendix M: Supplemental Analyses, Chapter 3.**

All analyses in the supplemental materials are conducted on samples without participants who failed the MFQ attention checks.

#### **Study 5**

**TABLE S.1:** Study 5 Correlation matrix for the main Intergroup Variables Based on Participants Identifying as Caucasian Ethnicity and who passed the MFQ attention checks (N = 73)

	1. Trust	2. CA	3. PT	4. Bias	5. Threat	6. CN
1. Trust	1					
2. Collective Action	.335**	1				
3. Perspective Taking	.219	.199	1			
4. Bias	-.442***	-.779***	-.288*	1		
5. Threat	-.394**	-.750***	-.318**	.800***	1	
6. Collective Narcissism	.038	-.093	-.068	.066	.222	1

Note:  $p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

**TABLE S.2:** Study 5: Bivariate Pearson's correlations of Individualizing and Binding Foundation Scores with the Intergroup Variables Based on Participants Identifying as Caucasian Ethnicity and who passed the MFQ attention checks (N = 73)

	Trust	Collective Action	Perspective Taking	Bias	Threat	Collective Narcissism
Individualizing	.107	.348**	.307**	-.461***	-.357**	-.190
Binding	.104	-.189	.054	.185	.290*	.441***

Note:  $p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

**TABLE S.3:** Study 5 Correlation matrix for the main Intergroup Variables Based on Participants who had Lived in the U.S. for more than 10 years and who passed the MFQ attention checks (N=87).

	1. Trust	2. CA	3. PT	4. Bias	5. Threat	6. CN
1. Trust	1					
2. Collective Action	.279**	1				
3. Perspective Taking	.170	.187	1			
4. Bias	-.388***	-.756***	-.322**	1		
5. Threat	-.334**	-.723***	-.323**	.780***	1	
6. Collective Narcissism	.082	-.104	-.010	.082	.222*	1

Note:  $p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

**TABLE S.4:** Study 5: Bivariate Pearson's correlations of Individualizing and Binding Foundation Scores with the Intergroup Variables Based on Participants who had Lived in the U.S. for more than 10 years and who passed the MFQ attention checks (N=87).

	Trust	Collective Action	Perspective Taking	Bias	Threat	Collective Narcissism
Individualizing	.127	.343**	.279**	-.437***	-.322**	-.065
Binding	.122	-.147	-.026	.184	.260*	.389***

Note:  $p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

### Study 6

**TABLE S.5:** Study 6: Correlations between Individualising and Binding Foundations, RWA and SDO (N =157).

	1. Individualizing	2. Binding	3. SDO	4. RWA
1. Individualizing	1			
2. Binding	.082	1		
3. SDO	-.657***	.296***	1	
4. RWA	-.143	.757***	.436***	1

Note:  $p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$

### Study 6: Effects of Moral Foundations on Bias Controlling for Participant Race and Years Lived in the U.S.

To control for the influence of race an analysis was conducted in which participants not identifying as Caucasian were filtered from the sample. We then conducted regression models examining the influence of the moral foundations on Explicit Bias and Threat (N = 123 across models). To examine Explicit Bias a linear regression was conducted on this filtered sample entering the Individualizing foundation score as a predictor and Explicit Bias as the outcome variable. It was found that the Individualizing foundations were still a significant and negative predictor of Explicit Bias (Model  $R^2 = .07$ ,  $\beta = -.27$ ,  $t = -3.03$ ,  $p = .003$ ). Conducting a linear regression in which the Binding foundation score acted as a predictor found that Binding foundation score was still a positive and significant predictor of Explicit Bias (Model  $R^2 = .12$ ,  $\beta = .35$ ,  $t = 4.08$ ,  $p < .001$ ).

To control for the influence of Years Lived in the U.S. models were constructed (N = 157) entering this variable alongside the different sets of moral foundations. In the presence of the Years Lived in the U.S. variable the Individualizing foundation score was still a significant and negative predictor of Explicit Bias (Model  $R^2 = .80$ , Individualizing Foundations predictor:  $\beta = -.24$ ,  $t = -3.09$ ,  $p = .002$ ). Running the same model entering the Binding foundation score alongside years lived in the U.S again found that Binding foundations were a significant and positive predictor of Explicit Bias when controlling for Years Lived in the U.S. (Model  $R^2 = .15$ , Binding Foundations predictor:  $\beta = .36$ ,  $t = 4.77$ ,  $p < .001$ ).

### Study 6: Effects of Moral Foundations on Threat Controlling Participant Race and Years Lived in the U.S.

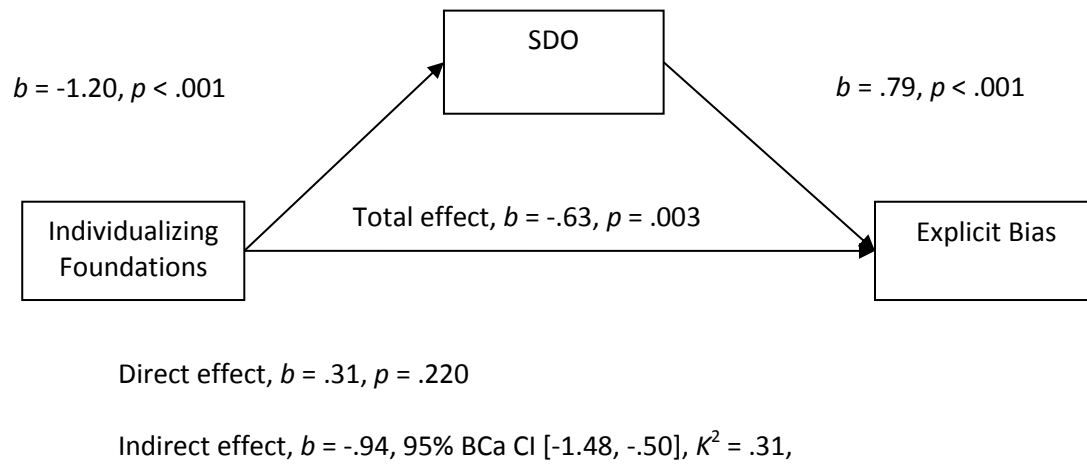
To control for the influence of race in the findings regarding moral foundations and perceived threat we again used the sample filtered by race in which participants not identifying as Caucasian were filtered from the sample ( $N = 123$ ). Again, as in the case of the Explicit Bias analysis, this did not change the findings as Individualizing foundation score negatively and significantly predicted Perceived Threat (Model  $R^2 = .06$ ,  $\beta = -.25$ ,  $t = -2.82$ ,  $p = .006$ ), while the Binding foundation score positively and significantly predicted Perceived Threat (Model  $R^2 = .28$ ,  $\beta = .53$ ,  $t = 6.79$ ,  $p < .001$ ).

To control for the influence of Years Lived in the U.S. models ( $N = 157$ ) were constructed entering this variable alongside the moral foundations as predictors. In the presence of the Years Lived in the U.S. variable the Individualizing foundation score was still a significant and negative predictor of Perceived Threat (Model  $R^2 = .10$ , Individualizing Foundations predictor:  $\beta = -.25$ ,  $t = -3.26$ ,  $p = .001$ ). Running the same model entering the Binding foundation score alongside years lived in the U.S again found that Binding foundations were a significant and positive predictor of Perceived Threat when controlling for Years Lived in the U.S. (Model  $R^2 = .27$ , Binding Foundations predictor:  $\beta = .48$ ,  $t = 6.98$ ,  $p < .001$ ).

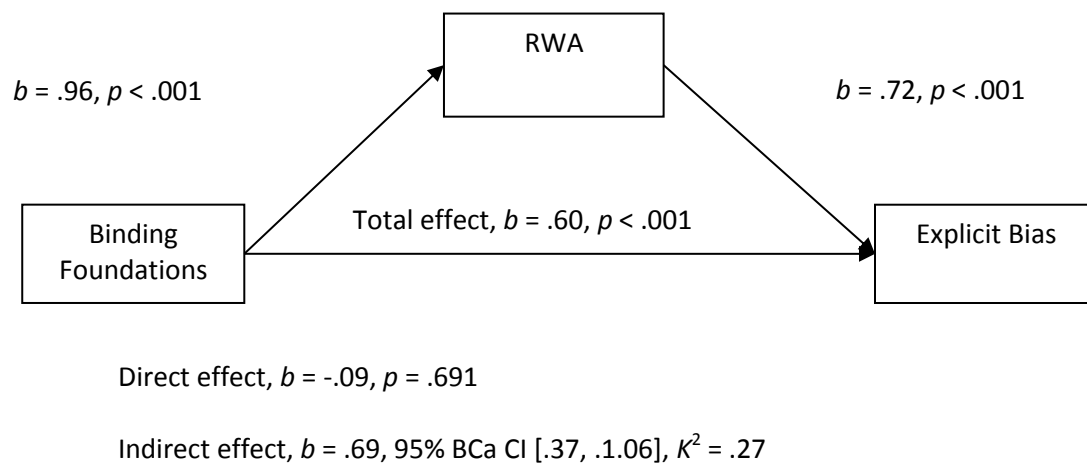
### **Study 6: Mediation Models**

Conducting the four mediation models while using the sample including participants who identified as Caucasian and who passed the MFQ attention checks did not change any of the general findings of the four mediation models (see below);

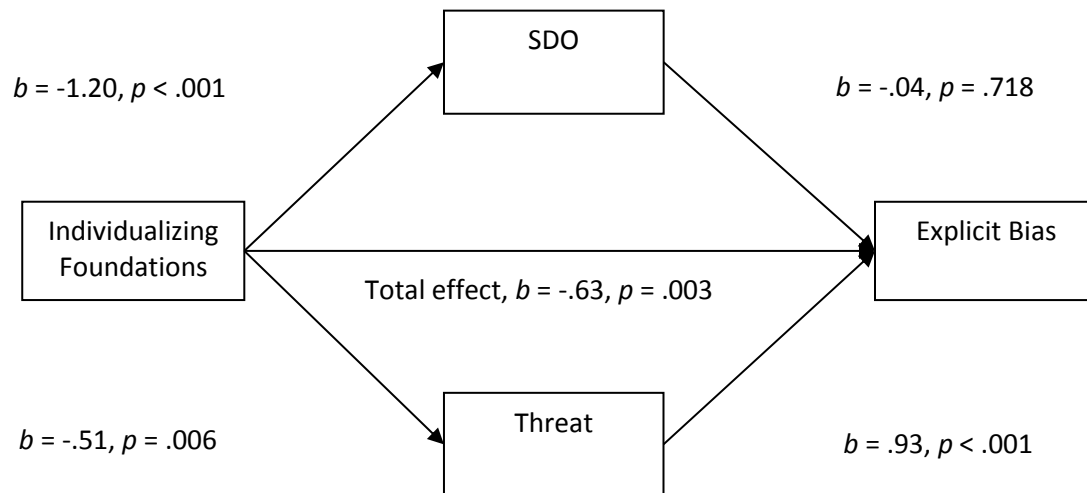
**FIGURE S.1:** Study 6: Controlling for the influence of race (N = 123) Individualizing to Explicit Bias mediated by SDO.



**FIGURE S.2:** Study 6: Controlling for the influence of race (N = 123) Binding to Explicit Bias mediated by RWA.



**FIGURE S.3:** Study 6: Controlling for the influence of race (N = 123) Individualizing to Explicit Bias mediated by Threat with SDO in the model.



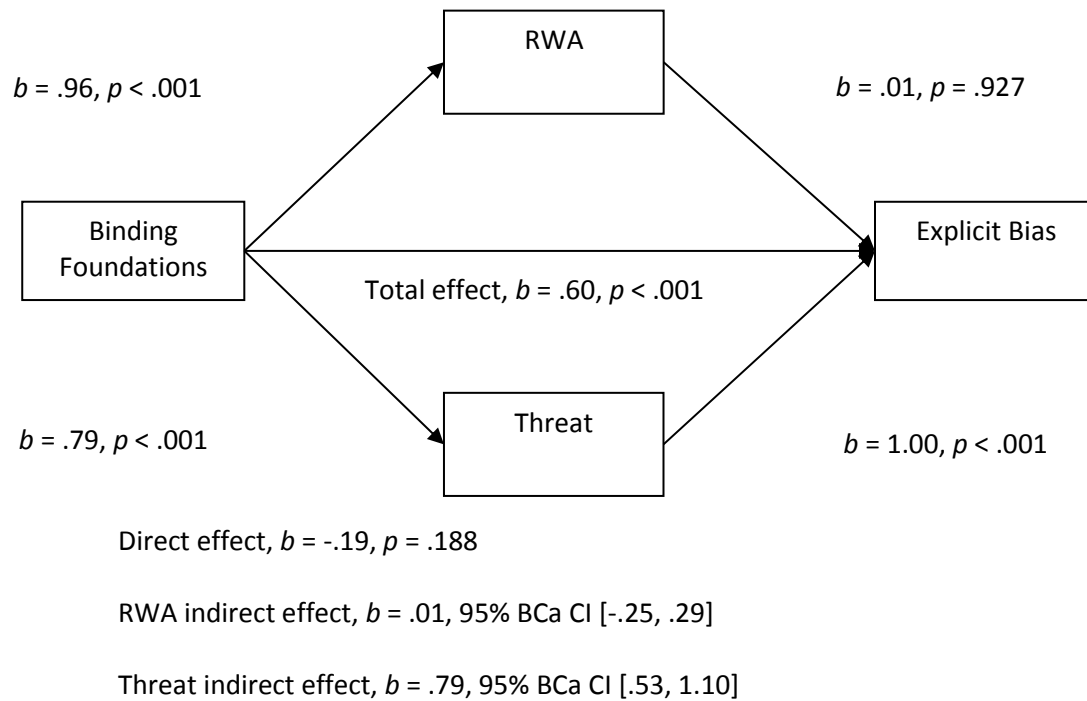
Direct effect,  $b = -.21, p = .246$

SDO indirect effect,  $b = .05, 95\% \text{ BCa CI } [-.28, .32]$

Threat indirect effect,  $b = -.47, 95\% \text{ BCa CI } [-.82, -.11]$



**FIGURE S.4:** Study 6: Controlling for the influence of race (N = 123) Binding to Explicit Bias mediated by Threat with RWA in the model.



**FIGURE S.5:** Alternative Model: Binding to Explicit Bias mediated by SDO

