Do You See What I See? When and Why Perspective-Taking Reduces Intergroup Hostility, or Backfires

By

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Summary

Intergroup hostility (commonly referred to as 'prejudice') is a pervasive and detrimental issue for societies and individuals. Although popular methods to improve intergroup relationships (e.g., perspective-taking) have evidence supporting their efficacy; there are occasions where they produce null effects, or even *exacerbate* hostility. Therefore, my research focusses on identifying and understanding when and why efforts to improve intergroup relationships do, or do not, achieve the intended outcome. I integrated multiple theories to demonstrate that: (a) intergroup hostility is a social phenomenon that involves negative and positive attitudes, and how people perceive other groups in relation to themselves and the group they belong to; and (b) these negative and positive attitudes play a role in the perspective-taking process and its impact on intergroup hostility. I propose that it is necessary to consider the broader intergroup context - that is, the substantive nature of the relationship between two groups - in order to understand when the effects of perspective-taking are positive (reducing hostility) or negative (enhancing hostility). As an additional contribution, I also examine how variation in hostility can be explained by other methodological and outcome-related factors.

In Chapter 2, I develop the proposition that people have a priori/pre-existing perceptions of different marginalised groups in their immediate or broader environment and that these perceptions matter for willingness and ability to engage in methods like perspective-taking. However, the literature is yet to consider how these perceptions may impact people's engagement in the methods practitioners and researchers used to reduce intergroup hostility. Accordingly, Chapter 2 explores the barriers and facilitators of motivations to engage in perspective-taking. Specifically, Chapter 2 reports the findings of two cross-sectional studies exploring: (a) how people perceive different social groups (based on models from the stereotype content and threat literatures); and (b) and how these perceptions shape willingness and ability to engage in perspective-taking.

Chapter 3 reports the findings of a systematic review and meta-analysis of the effect perspective-taking on intergroup attitudes, behaviours, and solidarity (i.e., Study 3). This meta-analysis

addresses two aims. First: to assess the overall effect of perspective-taking on reducing intergroup hostility. Second: to examine how these effects are influenced by four moderators pertaining to the methodological approach (e.g., imagine-self versus imagine-other instructions) and outcomes (e.g., attitudes versus behaviours, respectively) of perspective-taking. The findings from Study 3 provides some explanations as to why perspective-taking does not always reduce intergroup hostility, and resolves long-standing debates within the literature.

In Chapter 4, I investigate if, and how, perspective-taking has varying effects on intergroup hostility depending on the social group in question. Across two studies, I examine the moderating effects of group perceptions on the relationship between perspective-taking and intergroup hostility. The central study was a meta-analysis (i.e., Study 5) where I explored whether the effects of perspective-taking varied depending on the social group in question, and if the way in which people perceive social groups moderated the effects of perspective-taking on intergroup attitudes, behaviours, and solidarity. However, stereotypes of groups are known to change over time (Turner et al., 1994). Thus, for Study 4, I extracted historical context statements from each of the primary studies included in the meta-analysis from Study 3. The experts' ratings were then used in a meta-regression to determine whether the effects of perspective-taking on intergroup hostility were contingent on how people's perceptions of different groups.

Overall, the results from my studies emphasise the importance of context – factors relating to the motivation of the perceiver, as well as the substantive nature of the a priori relationship between groups – when applying strategies to reduce intergroup hostility. Insights from this research may help improve research and campaign practises, so that more effective strategies for combatting intergroup hostility are employed.

Declaration

I certify that this thesis:

1. does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university

2. and the research within will not be submitted for any other future degree or diploma without the permission of Flinders University; and

3. to the best of my knowledge and belief, does not contain any material previously published or written by another person except where due reference is made in the text.

Signed: **Eliana K A M G C Buonaiuto**

Date: **Friday 19th July 2024**

Acknowledgements

The troubling part about this is where to start. So many years were dedicated to this project and many people played a part in getting me across the finish line. In the typical words of social psychologists – there are many factors that contributed to this experience. But I think the most natural place to start is with my supervisors, Emma Thomas and Mariette Berndsen. Mariette has always been nothing short of warm, supportive, and generous with her knowledge. I am grateful for the insights (and book reviews) she has given me. Emma, my principal supervisor, who has gone to many lengths to make sure I was well-supported when I moved states to start my postgraduate training, and throughout the ups and downs of my candidature. Emma embodies all the qualities I wish to carry forward in my career. Not only is she an excellent researcher and supervisor, but she is also an excellent person and role model. I am so grateful that I had the opportunity to learn from her insightful and innovative approach to psychological research.

Of course, where would I be without the support of my friends in the Social Influence and Social Change Lab and the Justice Emotions and Morality Lab. Thank you to my co-authors, research assistants, and study participants – my studies would not have come to fruition without your support. I would also like to thank Paul Williamson for his passion in statistics and his generosity in sharing this knowledge. I have met so many wonderful people in the Flinders psychology department who openly, and collectively celebrated our wins and grieved our losses. I found solidarity and companionship – and everyone who has done a PhD (or other challenging feats) knows how valuable this is! Thank you to all the friends I met at the SIGN Winter School. Naomi, thank you for the emotional and technological support you've given me (especially in the final stages), and for helping me make my thesis tidy and beautiful (when I struggled to keep *myself* tidy and beautiful). Thank you to Luisa and Simone who brought sunshine to our otherwise grey spring in Adelaide. I hope we keep sharing pelicans and ridiculously long pizzas.

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Dedication

I dedicate this dissertation to those who do not fit into conventional society, that are outside of the status quo. The people from marginalised groups who strive to push the boundaries of structural and social inequalities and achieve more than what is expected of you. No matter what you are doing, the fact that you are here, and fighting, shows an incredible amount of strength and resilience. A huge part of me being here now, at the end of my PhD journey, is because of examples and paths that have been carved out from this fighting spirit. Our achievements are, for the most part, invisible and go unnoticed, but the invisibility does not make our efforts any less incredible. Let's keep pushing to make this place better for us, those around us, and those who will follow.

A Note About the Format of the Thesis

This thesis has been prepared as a series of papers to be submitted for publication. Chapters 1 and 5 have been prepared in a traditional thesis format to provide context to the thesis as a whole, while Chapters 2-4 each present a series of studies prepared as discrete empirical papers in publication format. As Chapters 2 – 4 were written in preparation for publication, there may be some repetition of information, although I have tried to minimise this as much as possible. Furthermore (to ensure consistency within the thesis), I have made minor alterations to the numbering system of the studies, sections, tables, and figures within this dissertation. I have also replaced the use of first-person plural pronouns ("we", "our") with the singular "I" throughout. In addition, to avoid repetition, I have created one single reference list that can be found at the end of the dissertation.

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Chapter 1

When and Why Perspective-Taking Reduces Intergroup Hostility, or Backfires

In Australia, a common and explicitly hostile statement is to tell members of culturally diverse backgrounds to "go back to where you came from". Australian public TV network Special Broadcasting Service (SBS) engaged directly with these comments in the documentary series "Go Back to Where You Came From" (2011-2018). Each season involved six Australian participants – with differing (and often opposing) views towards refugees and asylum seekers – who physically retraced an asylum seeker's journey from their country of origin to Australia. The participants' experiences would involve being taken to war zones, refugee camps, staying with refugee families, immigrations raids, and travelling back to Australia by a supposedly defective boat. At each step, the participants themselves – and the audience who viewed the series – were asked to consider the choices and perspective of the people fleeing conflict or persecution. Yet, despite these experiences, some of the participants did not change their stance, and still believed that it was wrong for people to seek refuge. As such, "Go Back to Where You Came From" was a prime example that putting yourself in someone else's shoes (formally termed perspective-taking) does not always result in the positive changes people would expect.

Perspective-taking is a socio-cognitive process where people imagine another person's thoughts, feelings, and/or experiences (Vescio et al., 2003; Vorauer, 2013). A significant body of evidence suggests that perspective-taking can successfully reduce negative attitudes towards members of marginalised groups (Berndsen & McGarty, 2012; Mashuri et al., 2017; Vescio et al., 2003). However, recent research also suggests that perspective-taking can, under some circumstances, exacerbate hostility (Berndsen et al., 2018; Pornprasit & Boonyasiriwat, 2020; Tarrant et al., 2012). For example, some studies demonstrated that perspective-taking may be helpful in promoting positive attitudes towards

members of marginalised groups for less-prejudiced people (Zebel et al., 2009). However, perspective-taking may exacerbate prejudice amongst people who strongly identify with their social group (Tarrant et al., 2012). Although the effects of perspective-taking on intergroup hostility are known to be highly variable, the corpus of studies are yet to be examined by a meta-analytic summary. Consequently, despite the prevalence of perspective-taking in the prejudice-reduction literature, it remains unclear when this process may be useful or detrimental.

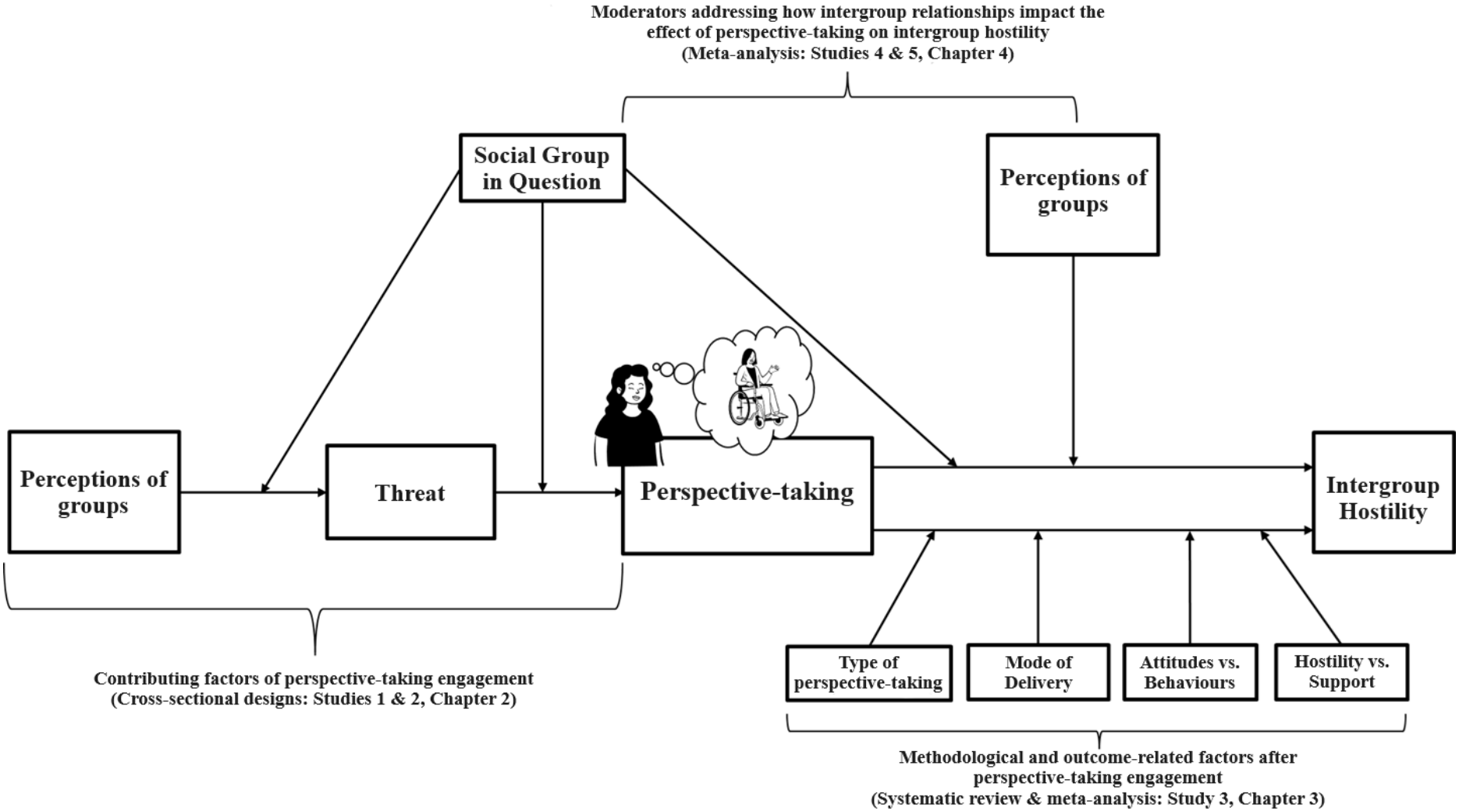
This thesis addresses two questions: (a) what are the factors that shape motivations to engage in perspective-taking? (i.e., Research Question 1); and (b) when perspective-taking is engaged, what conditions determine whether it reduces intergroup hostility, has no effect on intergroup hostility; or *exacerbates* hostility? (i.e., Research Question 2). Central to both is the claim that I propose that it is necessary to consider the broader intergroup context - that is, the substantive nature of the relationship between two groups - in order to understand when the effects are positive (reducing hostility) or negative (enhancing hostility). Namely, any two groups can have a qualitatively different relationship to each other compared to another two groups. For example, the relationship between refugees and many members of the Australian community is arguably more openly hostile than the relationship between those with and without mental illnesses. Even though both groups experience pervasive, negative attitudes from majority groups, the *nature* of that hostility is substantially different in ways that seem likely to affect attempts to address the hostility via methods like perspective-taking (Fiske et al., 2002; Kende & McGarty, 2019). It is this distinction regarding the substantive nature of the intergroup relationships that needs to be understood to explain the variable effects of engagement in, and outcomes of, prejudice-reduction techniques (including perspective-taking) on intergroup hostility. It is also the case that perspective-taking – and any other technique designed to reduce hostility – is likely to be

shaped by several other factors. As a secondary contribution, in this thesis I consider also the effects of methodological and outcome-related conditions (e.g., how perspective-taking is applied, the outcome in question). This investigation addresses longstanding debates in the literature about the optimal form of self and social categorisation through perspective-taking (e.g., Vorauer & Sasaki, 2014). Figure 1 displays the research strategy and conceptual model that underpins this thesis.

I also suggest that conceptualising and testing variation in the pattern of effects have implications beyond the perspective-taking literature per se. Indeed, in many respects perspective-taking is the social sciences equivalent of a scientist's petri dish – a paradigm or method in which many ingredients and reactions can be systematically studied, and outcomes measured. Thus, the findings in the context of this one piece of "equipment" (i.e., perspective-taking) can be used to inform our understanding of intergroup hostility and the strategies used to reduce it more broadly. Given that understanding the effects of perspective-taking on intergroup hostility involves both social cognition (thinking about social groups), and recognition of the interplay between perceiver (person) and the context, my thesis is broadly informed by a prominent theory of group processes and intergroup relations – that is, the social identity approach comprising social identity (Tajfel & Turner, 1979) and self-categorisation theory (Turner et al., 1987). In the review that follows, I provide a brief overview of each of the key parts in Figure 1.

Figure 1

The Research Strategy and Conceptual Model Underpinning My Thesis.



Positionality Statement

There have been recent debates in our field about the use of positionality statements in our reporting (e.g., Savolainen et al., 2023). I am disclosing my positionality because I believe it is important to be reflexive and transparent about our biases and motivations, particularly in research areas of social injustice and inequalities. I am a member of several of the marginalised groups mentioned and/or discussed in this thesis. I have first-hand experience of the hostility faced by being a part of these groups, and the subsequent social, health, and wellbeing ramifications. My lived experience is why I believe research on intergroup hostility is invaluable and *necessary*. I pursued a career as a psychological researcher in this field because people deserve to be safe, respected, and at peace no matter who they are.

While my personal history informs my research agenda, I remain committed to reflexivity, consistently interrogating my assumptions, and acknowledging the limitations of my perspective. I am aware that researchers from marginalised communities who study intergroup hostility can be perceived as having a personal agenda, thus biasing and delegitimising their conclusions and interpretations (Thai et al., 2021). However, I posit that the conclusions of all academics are subject to their own biases regardless of group identity, due to differing experiences and social realities. We all offer valuable perspectives and insights that benefit this field and the causes that we research. Thus, in parallel with my scientific training, my lived experience affords me a particular lens into this pervasive social phenomenon.

It is also important to note at the outset that any definition of what constitutes "successful" attitude change is subjective, and likely to be influenced by the ideological position of the researcher (Kende & van Zomeren, 2019). Others may have a different

conception of successful attitude change – one that promotes hostility and division between social groups, for instance. Indeed, social and political psychologists are becoming more aware of the effects of ideological bias in our work (Duarte et al., 2015; Kende & van Zomeren, 2019). Nevertheless, the right to a life free from discrimination and persecution is enshrined in the Universal Declaration of Human Rights ("United Nations", 1948). Given that intergroup hostility is also associated with significant objective personal, social, and economic costs (Nelson et al., 2011; Priest et al., 2012), and is disproportionately experienced by marginalised groups (that is, those who have objectively fewer resources to begin with), I focus here on the processes and outcomes through which positive attitudinal and behavioural change is engendered or undermined.

Defining the Outcome: Intergroup Hostility and 'Prejudice'

Intergroup hostility (commonly referred to as prejudice) is a pervasive and detrimental social phenomenon. On an individual level, people who experience prejudice and discrimination are more likely to suffer from afflictions to their health and wellbeing such as: depression, anxiety, stress, social isolation (Drabish & Theeke, 2022; Nelson et al., 2011; Perkins & Repper, 2013), substance abuse, and cardiac diseases (Pascoe & Smart Richman, 2009). Intergroup hostility also comes at a cost to societies. The social cost of intergroup hostility includes community division/tension, and economic costs such as decreased work productivity and retention rates (Nelson et al., 2011). As such, intergroup hostility has been a longstanding topic of interest within social psychology and its very nature is much debated.

Allport's (1954, p. 10) pivotal work on prejudice defined it as "…an antipathy based on faulty and inflexible generalizations." Additionally, many have described prejudice a person's negative attitudes and/or emotions towards outgroups (Brown, 1995; Ibanez et al., 2009; Meeusen, 2014). Prejudice can be represented cognitively (in beliefs or attitudes)

and/or affectively (in the emotions one experiences about group members; Allport, 1954; Brown, 1995; Meeusen, 2014). These definitions place the locus of prejudice on the person and their beliefs and feelings towards outgroups (Platow et al., 2019; Reicher, 2007).

However, for several years, many have argued that traditional conceptualisations and approaches do not sufficiently capture the complexity of 'prejudice' (Dixon et al., 2012; Platow et al., 2019; Reicher, 2007). Some of the nuances include (a) that prejudice is a social not cognitive phenomenon (Platow et al., 2019; Reicher, 2007); (b) prejudice is comprised of both positive and negative attitudes (Dixon et al., 2012); (c) the positive and negative expressions of prejudice serve to maintain unequal social hierarchies between majority and minority groups (Dixon et al., 2012). Each of these will be discussed in turn.

Conceptualising Prejudice as a Social Issue Rather Than a Faulty Cognition

Some psychologists argue that prejudice is a social phenomenon, instead of an aspect of a person's problematic or 'faulty' cognition (Bobo, 1999; Platow et al., 2019; Reicher, 2007). That is, prejudice is an expression of how members of one group perceive another group in relation to themselves, rather than a person's distorted or 'pre-judis' (pre-judged) perception (Bobo, 1999; Platow et al., 2019; Reicher, 2007). For example, similar to the participants of "Go Back to Where You Came From", some Australians hold hostile attitudes towards refugees and asylum seekers (e.g., Hartley & Pedersen, 2015; Pedersen & Hartley, 2015). It could be argued that this group of Australians may see refugees and asylum seekers as a threat to their culture and identity (Hartley & Pedersen, 2015). So, hypothetically, when Stacey (an Australian) tells Ahmed (a refugee) that he is a 'queue jumper' and to 'go back to where he came from' (Pedersen & Hartley, 2015), she is not being spiteful towards Ahmed as a person. Rather, Stacey treats Ahmed with contempt because he belongs to the social group 'refugee'. Conversely, Stacey did not form this opinion of Ahmed independently. Stacey is

acting upon the accepted beliefs and values of her own social group – the Australians who see refugees as a threat. That is, Stacey's actions towards Ahmed reflects her view that Ahmed's group membership is antagonistic to her group membership. Conceptualising prejudice as a person's distorted perception does not account for the influence group norms and values have on people's beliefs. Therefore, explanations should not be located at an individual level per se but need to acknowledge prejudice as a socially created and mediated phenomenon.

Prejudice Involves Negative and Positive Attitudes

Another critique of the traditional conceptualisations of prejudice is that it only depicts this construct as a *negative* attitude. However, it has been noted that prejudice can have both positive, (ostensibly) flattering appearances, and negative, overtly derogatory manifestations (Dixon et al., 2012; Reicher, 2007). Dixon et al. (2012) use sexism to demonstrate this point. Negative forms of hostile sexism would label women as 'weak', 'emotional', and 'dependent'. Whereas, "positive" forms of benevolent sexism would include labelling women as 'caring', 'nurturing', and 'warm'. Although the positive expressions of prejudice may appear to be complimentary on the surface, it nevertheless conveys a set of expectations to which women should adhere. Furthermore, positive and negative forms of prejudice are strongly linked (Dixon et al., 2012; Sibley et al., 2007). Sibley et al. (2007) found that females who endorsed 'positive prejudice' also expressed overt hostility towards women who did not conform to the traditional 'female identity'. Therefore, prejudice can have both positive and negative expressions. This, in turn, highlights that the original definition of prejudice as a 'negative attitude' does not capture the nuances of this construct.

Another critique of the traditional conceptualisations of prejudice argue that its positive and negative expressions serve another function – to maintain social hierarchies (Dixon et al., 2012; Reicher, 2007). That is, prejudice, in all its forms, has a key role in

preserving an unequal relationship between majority and minority groups. I draw on the previous example from Dixon et al. (2012) of hostile and benevolent sexism to demonstrate this point. Overtly negative sexism is often expressed in reaction to women who challenge, and try to change, their inferior position within society. In other words, women are being chastised for deviating from social norms such as being nurturers and the source of emotional support. However, 'positive' sexism maintains the status quo by praising women who uphold social norms that contribute to their inferior position in society. For example, complimenting a female by saying she is a caring person could also reaffirm the social norm of women being nurturers and (perhaps inadvertently) reinforce women to stay in this role. Thus, 'positive' and 'negative' forms of prejudice are tools used in tandem to sustain intergroup hierarchies – that is, an interdependent relationship between advantaged (the beneficiaries) and marginalised groups (there to serve) (Dixon et al., 2012). Furthermore, in understanding prejudice as a system which acts to preserve social hierarchy; this critique provides additional reasons as to why prejudice is a social issue, rather than an individual fault per se (Dixon et al., 2012; Reicher, 2007).

In sum, more traditional perspectives conceptualise prejudice as a person's negative, distorted evaluation of outgroups underpins many popular prejudice-reduction techniques – for example: contact interventions and perspective-taking (Dixon et al., 2013). Indeed, Dixon et al. (2013) specifically noted that, because of these complexities, many prejudice-reduction techniques may inadvertently worsen intergroup hostility and inequality, rather than address it. Given that the traditional definition does not account for the important nuances (its social influences and positive/negative expressions) of prejudice (Dixon et al., 2012; Platow et al., 2019; Reicher, 2007), this could help understand why prejudice-reduction techniques are often unsuccessful.

In terms of my PhD, this issue highlights the importance of re-examining prejudice-reduction strategies. Hence, addressing the complexity of prejudice provides a theoretical basis that informs my research question of when and why prejudice-reduction techniques fail or succeed. One concern is that adopting the term "intergroup hostility" may cause confusion about the outcome and phenomena I am exploring. I argue that intergroup hostility is a more inclusive term because it acknowledges the social nature of hostility. Furthermore, intergroup hostility is a spectrum of attitudes and behaviours (e.g., Dixon; Platow et al., 2019; Reicher, 2007). Using this term allows me to connect prevalent "everyday" expressions of hostility (e.g., microaggressions, discrimination) with extreme expressions such as war and hate crimes. Therefore, due to the current criticisms and lack of clarity surrounding the conceptualisation of 'prejudice', my thesis will refer to the key outcome variable as *intergroup hostility*.

Conceptualising Prejudice-Reduction Strategies

Due to its deleterious consequences, many strategies have been developed in attempts to reduce intergroup hostility (e.g., see Hsieh et al., 2022; Paluck & Green, 2009; Paluck et al., 2021 for reviews). Two popular methods in the literature include contact interventions and perspective-taking (Gonzalez et al., 2015). The impact of our potential misunderstanding of intergroup hostility has been considered in the literature on contact interventions (Dixon et al., 2005; Dixon et al., 2012; Reicher, 2007). However, despite the large body of research on perspective-taking, this literature is yet to (a) reconsider/re-examine intergroup hostility in the light of critiques of 'prejudice', and (b) conduct a synthesised in a meta-analysis. This is all the more notable because, overall, perspective-taking is known to produce mixed and conditional effects (e.g., Berndsen & McGarty, 2012; Berndsen et al., 2018; Mashuri et al., 2017; Pornprasit & Boonyasiriwat, 2020; Vescio et al., 2003). Accordingly, the major contributions of my PhD will be to establish how perceptions of groups influence

perspective-taking, and will involve meta-analytic reviews on the effects of perspective-taking on intergroup attitudes, behaviours (hostility, helping), and solidarity.

Perspective-Taking as a Means to Reduce Intergroup Hostility and Improve Positivity

People engage in perspective-taking to understand how another person, or people from another social group, perceive and experience their environment (Vorauer, 2013). As such, perspective-taking is one fundamental socio-cognitive process used to establish whether the perceiver "stands with" or "against" an ostensible outgroup and its members (e.g., Davis et al., 1996; Myers & Hodges, 2012). There are a few common variations of perspective-taking instructions. While perspective-taking, a person can either imagine themselves as a marginalised group member – known as 'imagine-self' (Vorauer & Sasaki, 2014), or imagine how the marginalised group member experiences a particular situation – known as 'imagine-other' (Vorauer & Sasaki, 2014; Batson et al., 1997). The '*imagine-self*' approach asks participants to imagine how they, as a marginalised group member, might perceive and experience a situation.

The alternative '*imagine-other'* approach has two different categories of instructions: either asking participants to imagine how a person (for example, 'Ahmed') might perceive and experience a particular situation, or asking participants to imagine how a group (for example, 'refugees') might perceive and experience a particular situation (see also Barth & Sturmer, 2016). These different types of perspective-taking may matter for outcomes, partly because they implicate different self-categorical relationships – an idea that I explore in detail in Chapter 3. Going forward, for clarity, I will use the terms 'perspective-taking' or 'perspective-taking techniques' on occasions where I refer to and discuss all forms of perspective-taking collectively. I will then use specific terms (i.e., imagine-self perspective-

taking; imagine-other perspective-taking; imagine-other [individual]; imagine-other [group]) when I am referring to, or comparing, particular types of perspective-taking.

Perspective-taking has been well-supported as an effective method in intergroup hostility. For instance, Vescio et al. (2003) asked White American participants to listen to an interview of a Black American person, and either adopt the person's perspective or remain objective. The participants who took the person's perspective reported an increase in positive attitudes towards Black Americans, compared to participants who remained objective (Vescio et al., 2003). Berndsen and McGarty (2012) conducted two studies on the influence of perspective-taking on attitudes towards Indigenous Australians. Similarly, the findings revealed that participants (non-Indigenous Australians) increased their support for, and had less anger towards, Indigenous Australians receiving monetary compensation for historical wrong-doing. Research has also shown that perspective-taking can alleviate hostility between religious minority and majority groups. For example, Muslim participants (who represent the religious majority in Indonesia) in Mashuri et al.'s (2017) study were more supportive of government initiatives that assist Christian Indonesians after engaging in the perspective-taking exercises. Thus, many studies have demonstrated that perspective-taking encourages positive attitudes towards marginalised groups and encourages advantaged group members to support assistance for marginalised groups.

Despite the substantial amount of evidence supporting the value of perspective-taking techniques, some studies have revealed that there are conditions where this strategy can amplify intergroup hostility (Berndsen et al., 2018; Pornprasit & Boonyasiriwat, 2020; Tarrant et al., 2012). For instance, Berndsen et al. (2018) explored whether the effects of perspective-taking on intergroup hostility between Australians and refugees were contingent on levels of glorifying nationalism. People who glorify their nation (i.e., American,

Australian, Israeli) are strongly committed to their national group, reject any criticism of their group, and tend to be inimical towards outsiders (Roccas et al., 2008). In both studies Berndsen et al. (2018) observed that the 'glorifying' participants expressed reactance, and increased hostility, when they were asked to adopt the perspective of a refugee. Furthermore, the findings revealed that these participants were unwilling to engage in the process, choosing instead to respond to questions from their own perspective.

Additionally, Pornprasit and Boonyasiriwat (2020) argued that perspective-taking techniques may produce different outcomes in collectivist (as opposed to individualistic) societies. To demonstrate, they explored the moderating effects of relational self-esteem on perspective-taking and homophobia (Pornprasit & Boonyasiriwat, 2020). Relational self-esteem is defined as a judgement of self-worth based on a person's relationship with their social group, and is strongly associated with collectivist cultures. They found that participants with high relational self-esteem reported increased homophobic attitudes after engaging in the perspective-taking exercises.

Furthermore, Tarrant et al. (2012) argued that the efficacy of perspective-taking on reducing intergroup hostility is dependent on group identification. That is, people who strongly identify with a target ingroup are more likely to respond negatively to perspective-taking instructions. This observation was demonstrated in two different contexts. In their first study, Tarrant et al. (2012) found that students who strongly identified with their educational institution (Keele University) reported higher hostile attitudes towards students from a rival university (University of Sussex) after the perspective-taking exercises. In their second study, the authors found that participants who strongly identified with their British nationality were also more hostile towards outgroup members (Germans) after engaging in perspective-taking.

Therefore, there is suggestive evidence indicating that perspective-taking techniques can exacerbate intergroup hostility under certain conditions.

The research demonstrating the mixed consequences of perspective-taking highlights two important points. Firstly, the extent to which perspective-taking reduces intergroup hostility remains unknown. That is, we are yet to discern the average effect of perspective-taking, and the strength of its effects. A meta-analytic summary will allow the impact of this technique to be established. Secondly, these studies suggest critical qualifications or boundary conditions which can determine the "success" (or otherwise) of perspective-taking techniques. That is, the identification (Tarrant et al., 2012) and the nature of the group memberships that people have (Berndsen et al., 2018) may impact their ability to take the perspective of outsiders. The latter observation echoes the criticisms of 'prejudice' (Bobo, 1999; Platow et al., 2019; Reicher, 2007) which emphasises the importance of social context when trying to understand intergroup hostility. My research adopts a focus on how social factors may contribute to engagement in perspective-taking, and in turn, moderate the outcomes of perspective-taking on intergroup hostility. A meta-analytic approach is well suited to allowing me to study when specific conditions are associated with stronger facilitative effects, or not.

What Factors Explain When Perspective-Taking Will Reduce or Increase Intergroup Hostility?

What are the factors that help to explain when perspective-taking will effectively promote positive outcomes (reduce intergroup hostility) or negative ones (increase intergroup hostility)? The literature has provided many observations which may explain the variable effects of perspective-taking on intergroup hostility. One side of the literature has pointed to possible methodological factors that may moderate the effects of perspective-taking on

intergroup hostility. In accordance with Figure 1, I will test and compare the impact of different methodological approaches (i.e., imagine-self or imagine other; computer avatars, reading, or writing) on the effects of perspective-taking on intergroup hostility.

I also offer additional factors that may explain the variation of effects, based on the insights of intergroup hostility. That is, attitudes and behaviours towards a social group in question are two forms of expressions of intergroup hostility. The principle-implementation gap posits that attitudes are more resistant to change than behaviours (Dixon et al., 2017). Therefore, as conveyed in Figure 1, I will examine whether perspective-taking has different effects on attitudes versus behaviours towards marginalised groups. The positive-negative asymmetry effect argues that it is more difficult to reduce hostility towards groups than promote support towards the ostensible outgroups (Mummendey & Otten, 1998). Therefore, I will also explore whether the effects of perspective-taking on intergroup hostility will vary depending on whether the aim is to reduce hostility towards, or encourage support for, marginalised groups.

In line with Figure 1, the central claim of my thesis is that perspective-taking will have variable effects on intergroup hostility based on the social group in question, and the perceptions people have about the social group. As previously explained, people are relatively more hostile towards some social groups compared to others because of the nature of their perceptions towards groups (e.g., Fiske et al., 2002; Kende & McGarty, 2019). In the literature, perspective-taking has been applied to many different social groups. Consequently, I will examine whether the effects of perspective-taking on intergroup hostility are contingent on the social group in question, and how perspective-taker may perceive that group. Moreover, the existing perceptions towards different social groups may shape their engagement in the perspective-taking process. However, to my knowledge, the program of

research in this field is yet to consider how these existing perceptions may impact perspective-taking. Therefore, I also consider that the effects of perceptions of social groups would influence whether people engage in perspective-taking.

Three separate perspective-taking reviews claim that techniques will backfire when marginalised groups are threatening to the perspective-taker (Sassenrath et al., 2016; Todd & Galinsky, 2014; Vorauer, 2013). Threat can be triggered by three situational factors. Firstly, perspective-taking creates an opportunity for the advantaged group member to be negatively judged by marginalised group members (Sassenrath et al., 2016; Todd & Galinsky, 2014; Vorauer, 2013). This is because perspective-takers instinctively know that marginalised groups have a less favourable view of the advantaged group, especially when there is existing tension between the two groups (Bruneau & Saxe, 2012; Sassenrath et al., 2016). Secondly, the perspective-taker believes that the marginalised group is too different from themselves. Identifying similarities enables the perspective-taker to develop positive associations of the marginalised group. Therefore, if the marginalised group are too dissimilar, the perspective-taker will not be able to establish these positive associations (Sassenrath et al., 2016; Todd & Galinsky, 2014). Thirdly, perspective-taking may emphasise the competition between the advantaged and marginalised groups (Sassenrath et al., 2016). That is, perspective-taking often highlights that the ingroup and outgroup are competing for the same resources. In these cases, the perspective-taker is likely to exaggerate the desire of the marginalised group to serve their own groups interests and gain possession of those resources. Therefore, perspective-taking may reinforce and emphasise the competition between the two groups (Sassenrath et al., 2016).

The observations of these reviews are consistent with key theories of threat and its relationship with intergroup hostility. Dickerson (2008) argued that the possibility of being

negatively judged by other people leads to *evaluative threat*. Rudolph and Popp (2010) posited that people feel threatened when social groups are perceived as too dissimilar to themselves, which gave rise to the term *dissimilarity threat*. Consistent with the reviews above, perspective-taking exacerbates hostility when people believe the ostensible outgroup will have negative judgements towards them (i.e., evaluative threat), or people see themselves as highly dissimilar to the group in question (i.e., dissimilarity threat). Furthermore, integrated threat theory proposes two additional forms of threat (Stephan et al., 2000; Stephan et al., 2015; Rios et al., 2018). *Realistic threat* occurs when a person perceives an ostensible outgroup and its members in competition with them for resources such as employment, housing, and threats to physical wellbeing (Stephan et al., 2000). *Symbolic threat* occurs when a person perceives an outgroup and its members as competitors in terms of dominant values and culture (Stephan et al., 2000; Stephan et al., 2015). As such, realistic and symbolic threats may help explain why perspective-taking can exacerbate hostility when competition between groups is emphasised. Therefore, in this thesis, I will examine whether these four discrete forms of threat shape perspective-taking engagement and influence the effects of perspective-taking on intergroup hostility.

The three reviews provide insights on the circumstances which activate threat (Sassenrath et al., 2016; Todd & Galinsky, 2014; Vorauer, 2013). However, they do not address *why* advantaged group members (the perspective-takers) would expect a negative evaluation; *why* they believe marginalised group members are too distinctive from themselves; and *why* they believe the marginalised group members are in competition with them for resources. I believe these perceptions have evolved from the type of 'real-world' relationship that exists between groups (that is, the nature of the intergroup relationship).

Nature of the Intergroup Relationship

As research has produced mixed results; there are calls for a renewed consideration of the intergroup relationship when applying prejudice-reduction strategies (Dixon et al., 2005; Livingstone & Haslam, 2008). Two theoretical models – the Stereotype Content Model (Fiske et al., 2002) and the Stigma and Prejudice Expression Model (Kende & McGarty, 2019) – provide an explanation as to why disparate effects occur. In the Stereotype Content Model, Fiske et al. (2002) propose that people's overall impressions of outgroups are composed of two dimensions: warmth and competence. The 'warmth' of an outgroup is the judgement of whether the group intends to help or harm the ingroup. The 'competence' of an outgroup is the judgement of whether the group is able to help or harm the ingroup. The type of perceptions the ingroup forms towards the outgroup depends on how 'warm' and 'competent' they perceive the outgroup to be. To demonstrate, if an outgroup is perceived as either low in competence and low in warmth (e.g., homeless people), or low in warmth and high in competence (e.g., Asians); this will culminate in the ingroup (e.g., affluent Caucasian people) expressing relatively more hostility towards the outgroup. However, if the ingroup perceives the outgroup as higher in warmth and lower in competence (e.g., elderly persons), relatively less hostility (or more paternalistic hostility) will be expressed towards the outgroup.

Leach and colleagues (2007) extend on the Stereotype Content Model and argued that stereotypes of social groups also revolve around a dimension of *morality*. Morality refers to the extent to which a social group and its members are perceived as moral and virtuous (Leach et al., 2007). Furthermore, Brambilla and Leach (2014) argue that morality is more diagnostic of perceived threat towards different social groups. That is, regardless of how warm and competent a group is perceived to be, people will perceive more threat from social groups that they perceived to be low in morality. In turn, people may be relatively more

hostile towards these groups. Conversely, people would be less threatened by social groups that they perceive to be high in morality (see also Brambilla et al., 2013; Brambilla et al., 2012). As such, people may be relatively less hostile towards these groups.

Kende and McGarty (2019) take a different tack and observed that there are three types of prejudicial expression: overt hostility, covert hostility, and stigma. They argue that overt and covert hostility are the result of the one social group feeling threatened by another social group. However, stigma is expressed towards outgroups that are perceived to be of little threat to the ingroup. The theoretical statement underpinning the Stereotype and Prejudice Expression Model (Kende & McGarty, 2019) is consistent with observations that effects of perspective-taking are determined by perceived levels of threat from the outgroup (Sassenrath et al., 2016; Todd & Galinsky, 2014; Vorauer, 2013)

The Stereotype and Prejudice Expression Model (Kende & McGarty, 2019) demonstrates that there are four dimensions on which the ingroup assesses the level of threat the outgroup has towards them: visibility, entitativity, responsibility, and politicisation. *Visibility* is the degree to which physical characteristics of an outgroup are 'visible' versus 'hidden'. *Entitativity* refers to whether members of an outgroup form a clearly defined group. *Responsibility* is an evaluation that people are in control of their group membership; and *politicisation* is an evaluation that the outgroup has, or does not have, a political agenda. For example, a Muslim person might be perceived as having a political agenda, a member of a clearly defined group, their group membership is physically visible (owing to the adoption of practices such as headscarves), and they have relatively greater volition (choice, responsibility) in adopting their group membership than would members of the other groups. On the other hand, people would not consider a person with a mental illness to have a political agenda, their group is not clearly defined, their group membership is typically not

physically visible, and they are generally considered to have less control over their group membership. According to the Stereotype and Prejudice Expression Model, as Muslims rank comparatively higher on these four dimensions, we could expect to observe expressions of overt and covert hostility from the ingroup (e.g., non-Muslim Australians). Conversely, as people with mental illness rank relatively lower on these four dimensions, we could expect to see expressions of stigma (benevolent attitudes) from the ingroup (Kende & McGarty, 2019).

For the current purposes of my research, these insights suggest that results of prejudice-reduction strategies on intergroup hostility is dependent on the relationship between the advantaged and marginalised groups (as depicted in Figure 1). This understanding may explain the variable effects of perspective-taking: that this process will *reduce* hostility when a benevolent relationship exists between two social groups, and will *increase* hostility when an antagonistic relationship exists between two social groups. Therefore, these theoretical models help shed light on the question of when and why prejudice-reduction techniques decreases, or enhances, intergroup hostility.

Overview and Summary of Thesis

Intergroup hostility has pervasive negative effects on a person's wellbeing (Drabish & Theeke, 2022; Nelson et al., 2011; Perkins & Repper, 2013; Priest et al., 2012) and on societies (Ferdinand et al., 2015). Consequently, intergroup hostility has become a prominent research topic in the field of social psychology, specifically with the focus on reducing it (Paluck & Green, 2009; Paluck et al., 2021). For decades, studies have demonstrated that intergroup hostility can be reduced via the use of some methods, for example: contact interventions, perspective-taking, and narrative interventions (Paluck & Green, 2009). Despite these efforts, current methods and approaches may not consistently reduce intergroup hostility (Platow et al., 2019; Dixon et al., 2013).

Rather, most concerningly, several studies using current and popular methods (e.g., perspective-taking) suggest that some techniques can *increase* hostility under specific conditions (Berndsen et al., 2018; Pornprasit & Boonyasiriwat, 2020; Tarrant et al., 2012). Coinciding literature has offered an explanation for these backlash effects: that future research needs to conceptualise 'prejudice' as a socially grounded phenomenon, rather than focussing on people's 'faulty' cognitions. As such, the intergroup context – specifically, the relationship between two social groups – needs to be accounted for when applying prejudice-reduction techniques (Dixon et al., 2012; Livingstone & Haslam, 2008; Reicher, 2007). However, these insights are yet to be comprehensively, systematically, and empirically examined. Additionally, meta-analytic reviews are needed to gauge whether, overall, specific prejudice-reduction strategies (in this case, perspective-taking) reduce hostility, and to test particular conditions that may moderate the strengths of their effects. Therefore, my PhD aims to provide insights that address the question of when and why perspective-taking decrease or increase intergroup hostility. The findings from this research may also have broader implications for future research on prejudice-reduction.

In accordance with Figure 1, I argue that people perceive groups differently, and the perceptions we have towards groups are associated with perceptions of threat towards the group. In turn, these perceptions shape our (dis)engagement with perspective-taking (as presented in Chapter 2). Once people engage in perspective-taking, the extent to which this process impacts intergroup hostility is contingent on several methodological and outcome-related conditions. That is, perspective-taking has variable effects on intergroup hostility based on (1) the type of perspective-taking we employ, such as imagine-self or imagine-other; (2) whether we seek to change attitudes or behaviours; (3) whether we seek to reduce hostility or increase support; (4) the mode of we use to employ perspective-taking, such as writing, reading, or via computer avatars (as presented in Chapter 3). Lastly, the effects of

perspective-taking on intergroup hostility may vary depending on the outgroup in question, and how the perspective-taker perceives the outgroup (as presented in Chapter 4). I present the chapters in the sequential order anticipated in Figure 1, where I first discuss the barriers to perspective-taking, then I examine factors that moderate the effects of perspective-taking on the outcomes.

In Chapter 2, I explore the barriers and facilitators of motivations to engage in perspective-taking. As proposed in Figure 1, people already have preconceived evaluations of different marginalised groups in their immediate or broader environment. However, the perspective-taking/prejudice-reduction literature is yet to consider how these perceptions may impact people's engagement in the methods practitioners and researchers used to reduce intergroup hostility. As such, Chapter 2 reports two cross-sectional studies where I explore perceptions towards a multitude of different social groups, and how these perceptions shape people's willingness and ability to engage in perspective-taking. That is, the purpose of these studies is to establish if and how existing perceptions can encourage, or discourage, people to engage in perspective-taking.

The key predictors are based on theories and models from the intergroup hostility literature (i.e., the stereotype content models, Fiske et al., 2002; Leach et al., 2007; the stigma and prejudice expression model, Kende & McGarty, 2019; and threat theories). In both studies, participants were asked to provide ratings for impressions of each group (i.e., group perceptions and threat towards groups), and identify how willing and able people are to engage in perspective-taking for each social group. That is, regarding the group perceptions, participants rated different social groups (e.g., Muslim people, elderly people, refugees, black people) on how visible, entitative, responsible, politicised (Kende & McGarty, 2019), warm, competent, and moral (Fiske et al., 2002; Leach et al., 2007), others may perceive these

groups to be. Regarding threat, participants were also asked to rate the extent to which people may perceive evaluative threat, dissimilarity threat, realistic threat, and symbolic threat from each social group. Study 1 is an exploratory study to identify the most consistent/prominent predictors of willingness and ability to engage in perspective-taking for 23 different social groups. Study 2 is a confirmatory test in which I explored how willing and able people are to adopt the perspective of six different social groups based on the factors identified in Study 1.

Chapter 3 reports the findings of a systematic review and meta-analysis of the effect of perspective-taking on intergroup attitudes, behaviours, and solidarity (i.e., Study 3). The use of perspective-taking in the context of prejudice-reduction is well-researched and popularly applied. As depicted in Figure 1, this meta-analysis addressed two aims. First: I plan to assess the overall effect of perspective-taking on reducing intergroup hostility. Second: I examined how these effects are influenced by four methodological and outcome-related moderators. That is, I explored whether the effects of perspective-taking on intergroup hostility were contingent on: (a) the type of perspective-taking people engaged in (i.e., imagine-self, imagine-other (individual), or imagine-other (group)); (b) the outcome in question (i.e., attitudes versus behaviours); (c) the valency of the outcome (i.e., reducing hostility versus increasing support); and (d) the mode of delivery (e.g., via reading, writing tasks, watching videos, computer avatars).

In Chapter 4, I investigate if, and how, perspective-taking has varying effects on intergroup hostility depending on the social group in question. Across two studies, I examine the moderating effects of group perceptions on the relationship between perspective-taking and intergroup hostility (see Figure 1). The central study was a meta-analysis (i.e., Study 5) where I explored whether the effects of perspective-taking varied depending on the social group in question, and if the way in which people perceive social groups (in terms of warmth,

competence, and morality) moderated the effects of perspective-taking on intergroup attitudes, behaviours, and solidarity. However, stereotypes of groups are known to change over time (Turner et al., 1994). Thus, for Study 4, I extracted historical context statements from each of the primary studies included in the meta-analysis from Study 3. I then asked expert coders to read through the historical context statements and rate the extent to which participants of the primary studies would have perceived the social group to be warm, competent, moral, and threatening (in terms of dissimilarity, evaluative, and competitive threat), at the time the study was conducted. The experts' ratings were then used in a meta-regression to determine whether the effects of perspective-taking on intergroup hostility were contingent on how people's perceptions of different groups.

Finally, Chapter 5 consists of my General Discussion, where I summarise and integrate the findings of my studies, and how they help us understand when and why perspective-taking reduces intergroup hostility, or exacerbates intergroup hostility. I then discuss the theoretical and practical implications of my research. I also discuss limitations to my research, and I suggest how they may be addressed in future studies. Finally, I offer and discuss general ideas on how future research can continue to examine real-world contributing factors, to improve the efficacy of perspective-taking and other prejudice-reduction strategies.

Chapter 2

Are Group Perceptions and Threat Associated With Ability and Willingness to Engage in Perspective-Taking?

Abstract

Perspective-taking can elicit reactance when people are asked to adopt the perspective of specific groups. However, the literature is yet to consider how existing (a priori) perceptions of specific social groups may impact motivation to engage in perspective-taking. Therefore, in two cross-sectional studies, I examined how group perceptions and threat relate to willingness and ability to engage in perspective-taking. In Study 1 ($N = 213$), I found that group perceptions (i.e., perceptions of warmth, competence, and morality), and threat (dissimilarity, realistic, and symbolic threats) were the primary predictors of willingness and ability to engage in perspective-taking. Study 2 ($N = 886$) used multigroup structural equation modelling to demonstrate that perceptions of warmth, competence, and morality were positively associated with lower levels of dissimilarity, symbolic, and realistic threat. In turn, heightened dissimilarity threat was associated with less willingness and ability to perspective-take ostensible outgroups, whereas increased symbolic threat was associated with more ability to perspective-take ostensible outgroups. The findings suggest that the way people perceive groups, and the related feelings of threat, are associated with (dis)engagement in perspective-taking. The results have implications for the application of this popular prejudice-reduction strategy.

Are Group Perceptions and Threat Associated With Ability and Willingness to Engage in Perspective-Taking?

> Alternatively, if stereotypes do come and go with the winds of social pressures, maybe we can understand those wind patterns and, thus, some origins of stereotype content. In short, perhaps we need a model that predicts the intergroup weather. (Fiske et al., 2002, p. 878)

The impressions we form of groups in our society not only change "with the wind" over time, but they can also vary considerably depending on the group in question (Fiske et al., 2002; Leach et al., 2007). Moreover, the nature of the impressions we form may impact the level of hostility people feel and express towards specific groups. However, applications of prejudice-reduction strategies often do not account for the impact of a person's existing evaluations (e.g., stereotypes), or perceptions of threat, of a social group *prior* to participating in the study (e.g., Paluck et al., 2021). Given that people perceive groups differently, it is plausible that the effects of prejudice-reduction strategies may be influenced by those a priori evaluations of particular social groups and their members. Although, it can be argued that stereotypes and threat are both expressions of attitudes towards the group; I argue that these constructs are related but distinct. As such, both stereotypes and threat have unique implications on when and why someone will adopt the perspective of others, or more broadly, engage with prejudice-reduction strategies. A deeper exploration of those existing evaluations may reveal why efforts to reduce intergroup hostility do not always produce the intended effects (e.g., Berndsen et al., 2018; Pierce et al., 2013; Tarrant et al., 2012).

To test this proposition, I examine perspective-taking and argue that engagement in this process is associated with the perceptions they have towards a group and its members, prior to engaging in the task. *Perspective-taking* is the subjective experience of adopting the viewpoint of another individual and imagining how that person perceives and understands

their environment (Vorauer, 2013). Perspective-taking is a popular strategy to reduce hostility in many different intergroup contexts such as: between Black people and White people (e.g., Dovidio et al., 2004; Todd et al., 2011), elderly people and non-elderly people, (e.g., Galinsky & Ku, 2004; Skorinko & Sinclair, 2013; Todd & Burgmer, 2013), and immigrants and non-immigrants (Castillo et al., 2011; Bruneau & Saxe, 2012). Perspective-taking is known to foster attitudinal positivity (e.g., Dovidio et al., 2004; Todd & Burgmer, 2013) and helping behaviours (e.g., Adida et al., 2018; Paluck, 2010) that support marginalised groups, and increase feelings of solidarity (e.g., Barth & Sturmer, 2016) with marginalised group members.

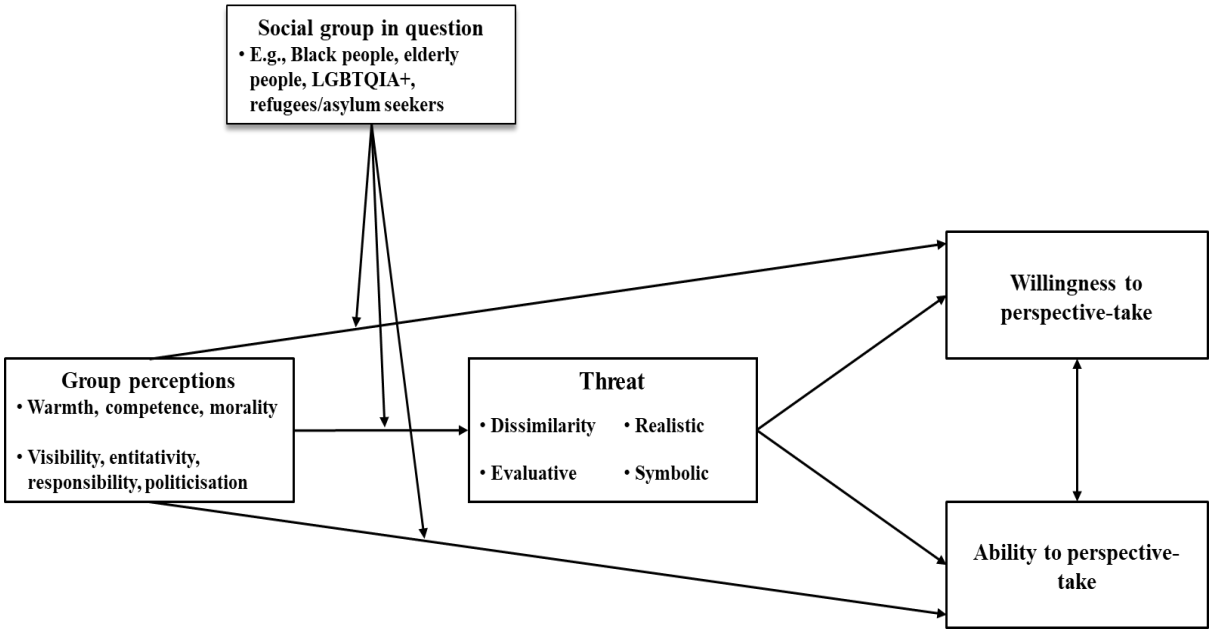
However, despite its benefits, a cluster of evidence has demonstrated that perspective-taking may at times exacerbate hostility (e.g., Berndsen et al., 2018; Pierce et al., 2013; Tarrant et al., 2012). One possible explanation for varying effects would be that people evaluate distinct social groups differently (Fiske et al., 2002; Leach et al., 2007). When people are asked to take the perspective of groups whom they view with hostility, this may elicit reactance – conceptualised here as feelings of threat (e.g., Sassenrath et al., 2016; Todd & Galinsky, 2014; Vorauer, 2013). In the perspective-taking literature, a standard experimental between-persons design treats prejudice (attitudinal and/or behavioural hostility) as an outcome of the design, and perceptions of the group in question are little assessed prior to intervention. Therefore, it is important to consider that pre-existing conceptions of social groups may determine engagement (or disengagement) in the perspective-taking process.

As depicted in Figure 2, our conceptualisation flips the traditional approach on its head to consider the perceptions of groups as predictors of willingness and ability to perspective-take (outcome). I adopt the insights of two discrete theoretical models – the stereotype content model and the stigma and prejudice expression model – to identify

dimensions on which people perceive members of different social groups and then test the degree to which they explain variation in the ability and willingness to engage in perspective-taking. The *stereotype content model* (Fiske et al., 2002; Leach et al., 2007) argues that people are evaluated based on dimensions of warmth, competence, and morality. In the *stigma and prejudice expression model*, Kende and McGarty (2019) identified four other dimensions that determine perceptions of social groups: visibility of the group, entitativity (i.e., the 'group-like' quality), responsibility (for group membership), and level of politicisation of the group. I adopt these models to understand the role of differing perceptions towards social groups and how they impact willingness and ability to perspective-take. Therefore, I plan to explore how people view different social groups along the seven different dimensions (which I refer to as *group perceptions*) adapted from the stereotype content model (Fiske et al., 2002; Leach et al., 2007) and the stigma and prejudice expression model (Kende & McGarty, 2019).

Figure 2

Conceptual Model Conveying the Relationship Between Group Perceptions (Independent Variable), Social Group (Moderator Variable), Threat (Mediator Variable), and Willingness/Ability to Perspective-Take (Dependent Variables)



Furthermore, as depicted in Figure 2, I also propose that the impact of group perceptions on willingness and ability to perspective-take is determined by feelings of threat. Perceptions of threat are known to exacerbate hostile attitudes (Butz & Yogeeswaran, 2011; Riek et al., 2006) and increase support for discriminatory actions (Pereira et al., 2010) towards marginalised groups. Conversely, weaker perceptions of threat are associated with advantaged group support for prosocial policies that would benefit marginalised groups (Durrheim et al., 2011). However, I am not aware of any empirical investigations on the effects of threat on *motivation* to engage in perspective-taking. That is, I'm not aware of any research that models how people's stated willingness and ability to perspective-take can be predicted by existing (stereotyped) group perceptions and threat. Furthermore, it is also unclear which specific group perceptions (i.e., warmth, competence, morality) or threat (i.e., evaluative, dissimilarity, realistic, symbolic) may uniquely predict people's intention to adopt the perspective of particularly outgroup members. Therefore, I assess the impact of four different types of threat on ability and willingness to engage in perspective-taking: dissimilarity threat, evaluative threat, realistic, and symbolic threat. In this chapter, I propose that group perceptions (i.e., warmth, competence, morality, visibility, entitativity, responsibility, and politicisation) may be associated with different forms of threat (i.e., dissimilarity, evaluative, realistic, and symbolic) towards a particular group. Consequently, the willingness and ability of someone to perspective-take is dependent on how they perceive a specific social group, and how threatening they perceive that group to be.

The Role of Group Perceptions and Threat in Predicting Motivation to Engage in Perspective-Taking

Empirical studies tend to (implicitly) assume that people are open to participating in the perspective-taking process. However, recent evidence has demonstrated that some people are reluctant to engage in perspective-taking. Berndsen and colleagues (2018) observed

reactance and non-compliance from those who glorified their Australian identity when these participants were asked to adopt the perspective of refugees and asylum seekers. That is, people high in glorifying nationalism ("Australia is the best country in the world"), were generally reluctant to take the perspective of refugees. This observation highlights the importance of considering barriers to engagement in perspective-taking. The theory of planned behaviour posits that a person's actions or intended actions are determined by their willingness and perceived ability to perform said action (Ajzen, 1991). *Ability* refers to a person's perceived capacity to engage in an act or process (Azjen, 1991), whereas *willingness* refers to the person's drive or desire to engage with an act or process (Gerrard et al., 2008). I apply these insights to understand engagement in perspective-taking. That is, I conceptualise engagement in perspective-taking as a person's willingness to perspective-take and their ability to perspective-take. Furthermore, the term "motivation" in the context of this thesis is referring to the combination of willingness and ability (to perspective-take).

It has been well-established that perceptions of different social groups vary considerably. Based on these perceptions, people may be more hostile towards some social groups compared to others (Fiske et al., 2002; Kende & McGarty, 2019) in ways that are relevant to understanding willingness and ability to perspective-take. Two theoretical frameworks provide insight about how people perceive different groups – the stereotype content models (Fiske et al., 2002; Leach et al., 2007) and the stigma and prejudice expression model (Kende & McGarty, 2019). I term the joint insights of these two models inclusively as *group perceptions*, reflecting evaluations of different groups.

According to the stereotype content model, evaluations of different social groups can be categorised into dimensions of warmth and competence. *Warmth* refers to evaluations of whether others intend to harm or help them; people high in warmth tend to be seen as more approachable and amicable. *Competence* refers to evaluations of whether people are capable

of harming or helping people; and those high in competence tend to be seen as successful, confident, intelligent, and/or competitive (e.g., Fiske et al., 2002). The stereotype content model proposes that if groups are seen as warmer and comparatively less competent (e.g., elderly people, housewives), then this will culminate in more paternalistic expressions of hostility towards that group. Whereas, when people are perceived as lower in warmth and higher in competence (e.g., Asian people, Jewish people), we may observe an increase in hostility towards these groups (Fiske et al., 2002).

Leach and colleagues (2007) updated the stereotype content model by arguing that people also form their perceptions based on the concept of morality. *Morality* often refers to the extent to which people are seen as trustworthy and honest (Leach et al., 2007). According to Brambilla and Leach (2014), morality is a unique and strong predictor of hostility and threat, even controlling for warmth and competence. As such, people express more hostility and an increased sense of threat when they perceive someone as low in morality.

Recently, Kende and McGarty (2019) provided an alternative framework based on a theoretical integration of the prejudice and stigma literatures. According to the stigma and prejudice expression model, we may be able to identify when people will express stigmatising attitudes, or overt versus covert forms of hostility along four dimensions: visibility, entitativity, responsibility, and politicisation. *Visibility* refers to the extent to which people perceive a specific social group as visibly distinctive from other social groups. *Entitativity* refers to the group-like quality of a specific social group. That is, the extent to which a group is seen as a cohesive, united group. *Responsibility* refers to the extent to which people perceive members of a specific group are responsible for their membership to that group. Finally, *politicisation* refers to the extent to which a social group is perceived as having a political agenda. These dimensions are linked with varying levels of threat, which then consequently lead to either higher or lower levels of hostility. That is, if groups are seen

as less visible, less entitative, less responsible, and less politicised; this will result in lower levels of hostility. However, if groups are seen as highly visible, entitative, responsible, and politicised; this will lead to increased expressions of hostility. Therefore, in this study I investigate whether evaluations of visibility, entitativity, responsibility, and politicisation relates to threat, and if this relationship varies between different social groups.

Between them, the stereotype content model and stigma and prejudice expression model identify several dimensions that may be relevant to the perceptions that people have of different groups, prior to engaging in perspective-taking (group perceptions; Figure 2). Given the paucity of evidence in relation to these factors and the motivation to engage in perspective-taking, Study 1 takes an inclusive approach to explore which of the dimensions (warmth, competence, morality, Fiske et al., 2002; Leach et al, 2007; visibility, entitativity, responsibility, and politicisation, Kende & McGarty, 2019) uniquely relate to threat, and willingness and ability to perspective-take.

Why Would Group Perceptions Influence Engagement in Perspective-Taking? Threat as a Mediator

Group perceptions may be contributing to peoples reported (un)willingness and (in)ability to perspective-take because of their association with feelings of threat. Indeed, other reviews within the literature have pointed to threat as a reason why perspective-taking can produce backlash effects (i.e., increased intergroup hostility; see reviews from Sassenrath et al., 2016; Todd & Galinsky, 2014; Vorauer, 2013). That is, perspective-taking may cause the person to believe they are dissimilar, or are negatively evaluated, by an outgroup and its members, with such circumstances resulting in adverse outcomes (Sassenrath et al., 2016). I therefore propose that group perceptions and threat may also be antecedents of willingness and ability to engage in perspective-taking.

I focussed on four different types of threat that may influence willingness and ability to perspective-take: dissimilarity threat, evaluative threat, realistic threat, and symbolic threat. *Dissimilarity threat* refers to feelings of threat that emerge from perceiving a group or person to be dissimilar to you (Rudolph & Popp, 2010). Group perceptions could lead to heightened dissimilarity threat because they may lead the perspective-taker to believe they are (or perhaps want to be) markedly different from the outgroup in question (see also Billig & Tajfel, 1973). For instance, people may believe they are (or wish to be) higher in morality, therefore may see themselves as different, or distance themselves, from people who they evaluate as lower in morality (Brambilla & Leach, 2014). *Evaluative threat* stems from feelings of threat if a person believes that an outgroup or its members are judging them or have negative beliefs about the person (Dickerson, 2008). Evaluations have been shown to influence the effects of perspective-taking, in that perspective-taking often produces null or backlash effects when people perceive that the ostensible outgroup has (or will) evaluate them negatively (Vorauer & Sasaki, 2009; Vorauer, 2013). Consequently, I will examine if dissimilarity and evaluative threat influence the relationship between group perceptions and willingness and ability to engage in perspective-taking.

I also consider two other forms of threat that are known to be implicated in intergroup hostility (e.g., Rios et al., 2018; Stephen et al., 2000; Stephan et al., 2015) and may also influence willingness and ability to engage in perspective-taking. *Realistic threat* occurs when a person perceives an ostensible outgroup and its members in competition with them for resources such as employment, housing, and threats to physical wellbeing (Stephan et al., 2000). Perspective-taking has been observed to result in self-serving behaviours (Epley et al., 2006) and malicious behaviours (Pierce et al., 2013) when the perspective-takers perceive competition between themselves and the ostensible outgroup. *Symbolic threat* occurs when a person perceives an outgroup and its members as competitors in terms of dominant values

and culture (Stephan et al., 2000; Stephan et al., 2015). Symbolic threat could potentially mediate engagement in perspective-taking for similar reasons as dissimilarity threat and realistic threat. That is, people view outgroups as having dissimilar values to themselves, and thus they are in competition of which group will have the dominant values in their society (see also Rios et al., 2018). Therefore, I will explore whether realistic and symbolic threat also mediate the relationship between group perceptions and engagement in perspective-taking.

The Current Research

This project aimed to establish if the perspective-taking process can be influenced by existing perceptions people have of the outgroup in question (see Figure 2). Specifically, I will investigate the potential effects of group perceptions on willingness and ability to adopt the perspective of different outgroups. I will also determine if the effects of group perceptions are mediated by perceptions of threat. In Study 1, I take an exploratory approach given the many group perceptions dimensions identified by the joint insights of the stigma and prejudice expression model (Kende & McGarty, 2019), stereotype content model (Fiske et al., 2002; Leach et al., 2007). In Study 2, I present a confirmatory test of the factors identified in Study 1 to formally test the impact of group perceptions on willingness and ability to perspective-take, and the extent to which the effects of group perceptions are mediated by perceptions of threat.

Openness and Transparency

Study 1 was an exploratory study and was not pre-registered. I then conducted confirmatory analyses in Study 2. The pre-registered Hypotheses 1-3 of Study 2 on Open Science Framework (OSF pre-registration can be viewed here: https://osf.io/ewpn7). Any deviations from the pre-registered plan are described transparently below.

Study 1

The stereotype and prejudice literature has put forward several group perceptions and threat, which shape evaluations of distinct groups in society. Study 1 uses multiple regression to identify the unique predictors of willingness and ability to perspective-take, controlling for the remaining group perceptions and threat. Participants were asked to consider their evaluations of 23 different social groups, and the extent to which they were willing and able to perspective-take each different group (i.e., a within-persons design). The social groups I asked people to consider were identified as those that were most prevalent within the perspective-taking literature (see Chapter 3). Study 1 was an exploratory study, and I did not have clear a priori expectations about which dimensions would emerge as stronger or more consistent unique predictors across the 23 different social groups. Nevertheless, my analysis was guided by the expectations that:

Expectation 1: After controlling for threat, relatively higher ratings in: visibility, entitativity, responsibility, politicisation, or competence would negatively predict ability and willingness to perspective-take for that group.

Expectation 2: After controlling for threat, relatively higher ratings in warmth or morality would positively predict willingness and ability to perspective-take for that group.

Expectation 3: After controlling for the group perceptions, relatively higher ratings in evaluative, dissimilarity, realistic, or symbolic threat would negatively predict willingness and ability to perspective-take for that group.

Method

Participants

Two hundred and sixteen participants were recruited from the undergraduate subject pool panels from Flinders University in Australia. However, I removed two participants because they indicated that they had not completed the study seriously (see Aust et al., 2013), and I removed one participant because they had been living in Australia for less than one year. The final sample involved 213 participants. The sample were primarily female (79.81%) and aged 18 – 61 years old (M = 21.68, SD = 6.89). A large proportion of participants were unsure of their political affiliation (48.36%), but 38.97% identified as liberal, 6.57% identified as conservative, and 4.69% identified as 'Other'. Most participants were Australian citizens (97.65%), with 81.69% born and raised in Australia. Regarding ethnicity, 79.80% of participants identified as White (central or Anglo-Celtic European), 10.80% identifying as multiple ethnicities, and 6.57% identifying as Indigenous, Asian, South American, Middle Eastern, or African. The sample primarily identified as heterosexual (65.73%), with 21.60% identifying as LGBTQIA+, and 12.68% identified as 'Other' or preferred not to disclose.

Procedure

Study 1 was hosted on Qualtrics and distributed through SONA, an online research participation portal for undergraduate psychology students. Participants were informed that the study was concerning the impressions that people have about 23 different social groups that exist in Australian society. I asked them to rate each social groups along unique dimensions, based on what they believe about these groups. Participants were presented with a definition of each of the group perceptions (e.g., visibility, entitativity, responsibility, and politicisation) prior to completing the ratings. The list of social groups was presented to participants in the same order for all participants and were not randomised or

counterbalanced. Using a 100-point sliding scale, participants then ranked how much they agreed each characteristic applied to different social groups (e.g., Muslim people, elderly people; see Table 1). Next, participants were given a description for each of the four types of threat, then asked questions pertaining to each type of threat in question. Following the threat questions, participants were asked to rate, on a scale of 0 – 100, how willing and able they would be to perspective-take for each group. Finally, participants were asked basic demographic information (e.g., age, ancestry), followed by a suspicion probe question (based on Aust et al., 2013).

Measures

Group Perceptions

Table 1 displays an overview of the item wording for the primary group perceptions. One-item measures were created for each of the following group perceptions: visibility, entitativity, responsibility, politicisation (as identified by Kende & McGarty, 2019), warmth and competence (Fiske et al., 2002), and morality (Leach et al., 2007).

Threat

Similar to the group perceptions, I created one-item measures to capture each of the four types of threat: dissimilarity threat, evaluative threat, realistic threat, and symbolic threat.

Willingness to Perspective-Take

The item for willingness to perspective-take was presented as follows: "Perspective-taking is the experience of adopting another person's point-of-view to imagine how that person sees and understands their environment. Please rate the degree to which you would be ***willing*** to adopt the perspective of someone from the following groups…" (0 = *Extremely unwilling*, 100 = *Extremely willing*).

Ability to Perspective-Take

The item for ability to perspective-take was presented as follows: "Perspective-taking is the experience of adopting another person's point-of-view to imagine how that person sees and understands their environment. Please rate the degree to which you would be ***able*** to take the perspective of someone from the following groups…" (0 = *Extremely unable*, 100 = *Extremely able*).

Table 1

Items and Scale Anchors for Group Perceptions and Threat

Perception	Item and Scale Anchor
Group Perceptions	
Visibility	Some groups are more visible/recognisable than others, whilst some groups can be concealed/easier to disguise from the outside world. Please rate each of these groups according to how visible (or, conversely, concealable) that group is to you. (0 = *Not at all visible*, 100 = *Extremely visible*)
Entitativity	Some groups have more of a group-like essence or quality than others. That is, some groups look more like one strong entity (a group) with unity and coherence, than others. Please rate each of these groups according to how much they seem like a group or single entity (that is, they are entitative), or, conversely are disparate and do not seem like a coherent group (not entitative). (0 = *Not at all entitative*, 100 = *Extremely entitative*)
Responsibility	Some groups are perceived to be more responsible for their social group membership. That is, people from particular social groups have a choice to be (and continue to be) part of that group. Please indicate the extent to which people in each social group have chosen to belong to this group; that is, they are responsible for their membership. (0 = *Not at all responsible*, 100 = *Extremely responsible*)

Table 1, continued

Perception	Item and Scale Anchor
Group Perceptions, continued	
Responsibility	Some groups are perceived to be more responsible for their social group membership. That is, people from particular social groups have a choice to be (and continue to be) part of that group. Please indicate the extent to which people in each social group have chosen to belong to this group; that is, they are responsible for their membership. (0 = *Not at all responsible*, 100 = *Extremely responsible*)
Politicisation	Some groups have a political purpose, whilst other groups do not. Please rate how much each of these groups has a political agenda, or, conversely, whether they are largely apolitical (that is, without political goals). (0 = *Apolitical*, 100 = *Extremely political*)
Warmth	Some group's members seem to be warmer, friendlier and more good-natured compared to other groups. Please rate each of these groups on their warmth (or, conversely, coldness/insincerity). (0 = *Extremely cold*, 100 = *Extremely warm*)
Competence	Some groups seem to be more competent and capable than other groups. Please rate how much each of these groups are competent and capable (versus incompetent, inept). (0 = *Extremely incompetent*, 100 = *Extremely competent*)
Morality	Some groups and their members seem to have a stronger sense of morality than other groups, and are guided by a strong sense of what is right, and what is wrong. Please rate how much each of these groups are moral and trustworthy, versus immoral and untrustworthy. (0 = *Extremely immoral*, 100 = *Extremely moral*)
Threat	
Evaluative threat	Sometimes people become aware that groups that they belong to are seen negatively by other groups in society. Please rate the extent to which you perceive the members of the following groups to hold negative judgements or evaluations of your social group. (0 = *Not at all negative*, 100 = *Very negative*)
Dissimilarity threat	Some groups may be more or less similar to the groups that we belong to ourselves. Please rate the extent to which you perceive the members of the following groups as similar or dissimilar to yourself. (0 = *Very dissimilar*, 100 = *Very similar*)

Table 1, continued

Perception	**Item and Scale Anchor**
Threat, continued	
Realistic threat	Sometimes different groups find themselves competing for the same economic resources (e.g., jobs, employment, housing). Please rate the degree to which you agree that members of the following groups make it more difficult for other Australians to get ahead (e.g., access jobs, employment, and housing). (0 = *Strongly disagree*, 100 = *Strongly agree*)
Symbolic threat	Sometimes different groups are seen as changing the fundamental character (norms, values, culture) of a broader societal group. Please rate the degree to which you agree that members of the following groups have norms and values that are incompatible with broader Australian society. (0 = *Strongly disagree*, 100 = *Strongly agree*)

All measures used a 100-point scale, where higher scores reflect a stronger perception of that variable (e.g., 100 = extremely visible, high in realistic threat, extremely willing to perspective-take), and lower scores reflect a weaker perception of that variable (e.g., 0 = not at all visible, extremely low in realistic threat, extremely unwilling to perspective-take). With one exception: the dissimilarity threat scale was framed to capture how similar people perceived the outgroup to be. Consequently, higher scores reflected higher perceived similarity with the outgroup. We, therefore, reverse-scored this item so that higher scores reflect higher perceived dissimilarity of the outgroup.

Suspicion Probe

I also included a one-item suspicion probe from Aust et al., (2013) to gauge the seriousness of the respondents' answers. Respondents could either answer 'I have taken part seriously' or 'I just clicked through' to the following statement: "It would be very helpful if you could tell us at this point whether you have taken part seriously, so that we can use your

answers for our scientific analysis, or whether you were just clicking through to take a look at the survey?".

Results and Discussion

I used multiple regression to identify which group perceptions uniquely predicted ability to perspective-take and willingness to perspective-take, and to test which forms of threat were associated with ability and willingness to perspective-take. Model 1 explored the relationship between the dimensions of group perceptions (i.e., visibility, entitativity, responsibility, politicisation, warmth, competence, and morality; IV) and ability to perspective-take (DV1). Model 2 added in the threat variables (i.e., evaluative, dissimilarity, realistic, symbolic; MV) to identify the unique group perceptions (IV) and threat (MV) predictors, and their relationship with ability to perspective-take (DV1). Model 3 explored the relationship between the dimensions of group perceptions (IV) and willingness to perspective-take (DV2). Model 4 added in the threat variables to identify the unique group perceptions (IV) and threat (MV) predictors, and their relationship with willingness to perspective-take (DV2). Given that Models 2 and 4 provide a test of all the group perceptions and threat predictors, my reporting focuses on those. Furthermore, for the purposes of clarity, I include the following regression equations demonstrate how each model was computed:

Model 1: $Y_{Ability} = a + \beta_{Visibility} + \beta_{Entitativity} + \beta_{Responsibility} + \beta_{Politicisation} + \beta_{Warmth} + \beta_{Competence} + \beta_{Morality}$

Model 2: $Y_{Ability} = a + \beta_{Visibility} + \beta_{Entitativity} + \beta_{Responsibility} + \beta_{Politicisation} + \beta_{Warmth} + \beta_{Competence} + \beta_{Morality} + \beta_{EvaluativeThreat} + \beta_{DissimilarityThreat} + \beta_{RealisticThreat} + \beta_{SymbolicThreat}$

Model 3: $Y_{Willingness} = a + \beta_{Visibility} + \beta_{Entitativity} + \beta_{Responsibility} + \beta_{Politicisation} + \beta_{Warmth} + \beta_{Competence} + \beta_{Morality}$

Model 4: $Y_{Willingness} = a + \beta_{Visibility} + \beta_{Entitativity} + \beta_{Responsibility} + \beta_{Politicisation} + \beta_{Warmth} + \beta_{Competence} + \beta_{Morality} + \beta_{EvaluativeThreat} + \beta_{DissimilarityThreat} + \beta_{RealisticThreat} + \beta_{SymbolicThreat}$

Given the large number of groups and variables, Table 2 provides an overview of the significant predictors of ability to perspective-take (DV1) identified in Model 2, and Table 3 provides an overview of the significant predictors identified in Model 4 for willingness to perspective-take (DV2). The significant predictors are denoted in Table 2 and Table 3 with bolded beta-weights, where the significance levels are depicted using asterisks (i.e., '*' denotes $p < .05$; '**' denotes $p < .10$; and '***' denotes $p < .001$); and suppression effects were denoted with a '^{v}' symbol. The specific standardised regression weights (β) and p-values for Models 1 – 4 can be found in Appendix A.

What are the Predictors of Ability to Take the Perspective of Different Groups?

Group Perceptions Predictors

Table 2 shows that visibility, entitativity, responsibility, and politicisation were not consistent predictors of ability to perspective-take. Rather, warmth was the most common predictor of ability to perspective-take, after accounting for the remaining group perceptions and threat. The analyses revealed that warmth had a small, positive relationship with the ability to perspective-take for Australian Aboriginal and Torres Strait Islander people, Black people, disabled people, homeless people, Muslim people, people from low socio-economic backgrounds, people experiencing substance dependencies, and unemployed people.

Therefore, the warmer people perceived members of these social groups to be, the better people were able to perspective-take with them.

Competence was also a consistent, significant predictor for five different groups: Aboriginal and Torres Strait Islander people, elderly people, European/Caucasian Australians, females, and people with a criminal history. Competence had a small, positive relationship with most of these social groups, except for Aboriginal and Torres Strait Islander people, which had a small, negative relationship with ability to perspective-take. Therefore, for some social groups, people tend to report a higher ability to perspective-take when these social groups appear to be more competent. However, people are less able to perspective-take when they perceive Aboriginal and Torres Strait Islander people to be higher in competence. Morality had a small, positive relationship with ability to perspective-take for four social groups: Aboriginal and Torres Strait Islander people, immigrants, LGBTQIA+ peoples, and refugees and asylum seekers.

Threat Predictors

As Table 2 demonstrates, dissimilarity threat was a consistent predictor of ability to perspective-take for almost all social groups (except for elderly people), after controlling for the remaining group perceptions and threat. Regarding the strength of relationships, perceived dissimilarity threat of most social groups had a small, negative relationship with ability to perspective-take. However, dissimilarity threat shared a medium, negative relationship with ability to perspective-take for females, LGBTQIA+ peoples, and for those experiencing mental health issues. Therefore, the more dissimilar each social group appeared to be to participants, the less able they were to perspective-take these groups. Symbolic threat was also a small, negative predictor of ability to perspective-take for six social groups: elderly people, homeless people, labourers/tradespeople, people from low socio-economic backgrounds, people with a criminal history, and refugees and asylum seekers. That is, the

more symbolically threatening members of these groups appears to be, the less able people were to adopt their perspective. Evaluative threat and realistic threat were not consistent predictors of ability to perspective-take.

What are the Predictors of Willingness to Perspective-Take for Different Groups?

Group Perception Predictors

As Table 3 reports, analyses revealed a different pattern of effects for willingness to perspective-take. Visibility, entitativity, responsibility, and politicisation were not consistent predictors of willingness to perspective-take. Instead, after accounting for threat, competence was the most common predictor of peoples' willingness to perspective-take, followed by warmth, then morality. Competence was a small, positive predictor of willingness to perspective-take for most social groups. The more competent participants perceived members of these social groups to be, the more willing they were to perspective-take for those social groups. However, competence did not significantly predict peoples' willingness to perspective-take for Aboriginal and Torres Strait Islander people, Asian people, Black people, immigrants, LGBTQIA+ peoples, and people with opposing political views to themselves.

Warmth was a predictor for seven social groups: Black people, elderly people, females, labourers/tradespeople, LGBTQIA+ peoples, Muslim people, and people with a criminal history. Perceptions of warmth had a small, positive association with peoples' willingness to perspective-take for members of these groups. Therefore, the higher in warmth members of these social groups are perceived to be, the more willing people are to adopt their perspective. Regarding morality, this perception only predicted peoples' willingness to perspective take for three social groups: Aboriginal and Torres Strait Islander people, females, and non-English speaking people. Morality had a small, positive relationship with willingness to perspective-take for people belonging to these social groups. That is, the more

moral members of these groups appeared to be, the more willing people outside of these groups would be to adopt their perspective.

Threat Predictors

As Table 3 conveys, dissimilarity threat was the most common predictor of willingness to perspective-take, followed by symbolic threat, then evaluative and realistic threat. Dissimilarity threat had a small negative association with willingness to perspective-take for all social groups except for Aboriginal and Torres Strait Islander people, disabled people, elderly people, European/Caucasian Australians, homeless people, Muslim people, non-English speaking people, people with multicultural heritage, and refugees and asylum seekers. Therefore, participants reported less willingness to perspective-take members of most social groups when those social groups were perceived as more dissimilar to the perspective-taker. Symbolic threat had a very small, negative relationship with willingness to perspective-take for homeless people, labourers/tradespeople, non-English speaking people, overweight people, and unemployed people. Evaluative threat had a very small, negative relationship with willingness to perspective-take for disabled people, LGBTQIA+ peoples, overweight people, and people with a multicultural heritage. However, realistic threat had a very small, negative association with willingness to perspective-take for Asian people, Black people, elderly people, and European/Caucasian people.

Sensitivity Analyses

Given the large number of associations and tests, I conducted a sensitivity analysis by comparing the *p*-values to a more conservative significance level of $p < .001$. Dissimilarity threat remained a significant predictor of ability to perspective-take across several social groups. Furthermore, warmth, competence, and morality remained significant

predictors of willingness to perspective-take across multiple social groups, even at this more conservative adjusted significance level.

Table 2

Significant Predictors of Ability to Perspective-Take in Model 2

	Group Perceptions							Threat			
Social Group	Visible	Entitative	Responsible	Politicised	Warm	Competent	Moral	Dissimilarity	Evaluative	Realistic	Symbolic
Aboriginal and Torres Strait Islander	.11	-.05	.11	-.03	**.21***	**-.19*ᵛ**	**.25*****	**-.26*****	-.10	.06	-.13
Asian people	-.04	.06	.04	.05	.16	-.08	.11	**-.29*****	-.08	.02	-.12
Black people	.02	-.04	.12	-.01	**.22****	-.06	.12	**-.22****	-.04	.07	-.07
People with disabilities	.07	.04	**.20****	.01	**.19***	.09	.10	**-.20****	-.001	.04	-.11
Elderly people	.07	**.19***	.07	.001	.08	**.16*ᵛ**	.08	-.12	-.14	**.21***	**-.18***
European/Caucasian Australians	.05	-.14	-.06	.06	.01	**.19***	.06	**-.34*****	-.12	-.07	.000
Females	**-.15***	.07	-.06	-.03	.08	**.20****	.09	**-.42*****	-.11	.04	.07
Homeless people	.12	-.02	.08	.09	**.20***	.13	.11	**-.17***	-.09	.07	**-.15***
Immigrants	-.02	-.02	.004	.13	.12	-.15	**.23***	**-.30*****	.002	-.08	-.07
Labourers/Tradespeople	.12	.08	-.09	-.05	.03	.12	.15	**-.22****	-.01	.04	**-.24****
LGBTQIA+ peoples	.09	-.01	.08	.04	.15	-.14	**.18*ᵛ**	**-.46*****	-.10	-.01	-.08
Muslim people	.06	-.03	-.02	.06	**.21***	-.05	.07	**-.21****	.02	-.01	-.12

Note: Bold values denote a significant predictor; '*' denotes $p < .05$; '**' denotes $p < .10$; '***' denotes $p < .001$); and 'ᵛ' denotes a suppression effect.

Table 2, continued

	Group Perceptions							Threat			
Social Group	Visible	Entitative	Responsible	Politicised	Warm	Competent	Moral	Dissimilarity	Evaluative	Realistic	Symbolic
Non-English speaking people	.02	.01	.01	.09	.10	-.04	.17	**-.25****	.01	.04	-.16
Overweight people	.01	-.002	-.05	.04	.12	.13	-.03	**-.34*****	-.09	.16	-.06
People from different religious backgrounds (other than Islam)	.03	-.01	-.06	.02	.16	.08	.07	**-.24****	.07	.05	-.12
People from low socio-economic backgrounds	.01	**.17*ᵛ**	.05	-.11	**.17***	.09	.09	**-.21****	-.12	.03	**-.20****
People with a criminal history	.05	.08	-.07	.03	.16	**.21***	-.03	**-.19***	.02	.09	**-.17***
People experiencing mental health issues	.07	-.13	.07	.002	.02	.11	.10	**-.50*****	.05	.03	-.09
People with multicultural heritage	-.01	.02	.09	.01	.10	-.05	.13	**-.38*****	-.16	.13	-.09
People with opposing political views to you	-.07	-.04	.09	-.04	.09	.11	.02	**-.34*****	-.04	-.03	-.06
People experiencing substance dependencies	.06	.13	-.08	.03	**.25****	.04	.10	**-.25*****	-.11	.01	-.07
Refugees and asylum seekers	.02	-.09	.02	.11	.12	-.06	**.20***	**-.18***	.04	-.03	-.20
Unemployed people	.03	.02	.13	.01	**.22****	.09	.01	**-.27*****	-.04	-.10	-.06

Note: Bold values denote a significant predictor; '*' denotes $p < .05$; '**' denotes $p < .10$; '***' denotes $p < .001$); and 'ᵛ' denotes a suppression effect.

Table 3

Significant Predictors of Willingness to Perspective-Take in Model 4

	Group Perceptions							Threat			
Social Group	Visible	Entitative	Responsible	Politicised	Warm	Competent	Moral	Dissimilarity	Evaluative	Realistic	Symbolic
Aboriginal and Torres Strait Islander	.12	-.13	-.08	-.02	.05	.16	**.24****	-.09	-.04	-.06	-.06
Asian people	-.01	.01	-.11	.03	.15	.14	.12	**-.18***	-.03	**-.16***	-.15
Black people	.07	-.05	-.07	-.06	**.25****	.16	.10	**-.16***	-.03	**-.16***	-.05
People with disabilities	.13	-.09	-.02	.06	.12	**.26****	.14	-.002	**-.22****	-.02	-.05
Elderly people	-.06	-.06	.01	.05	**.19***	**.23****	.05	-.13	-.06	**-.16***	-.14
European/Caucasian Australians	.10	-.08	-.10	.02	.07	**.31*****	.01	-.15	-.01	**-.19****	.001
Females	-.05	-.07	-.06	-.04	.15	**.32*****	**.16***	**-.22****	-.03	-.05	-.05
Homeless people	-.03	-.04	.06	-.003	.12	**.38*****	.03	-.05	-.05	.02	**-.19****
Immigrants	-.06	-.04	.03	.05	.14	.17	.14	**-.15***	-.11	-.08	-.06
Labourers/Tradespeople	.09	.002	-.05	-.10	**.21****	**.22****	-.06	**-.15***	-.02	-.03	**-.17***
LGBTQIA+ peoples	-.03	-.03	.08	.01	**.27*****	.11	.13	**-.26*****	**-.15***	.01	-.08
Muslim people	.04	-.09	-.13ᵛ	-.03	**.29*****	**.32*****	.02	-.13	-.10	-.05	.06

Note: Bold values denote a significant predictor; '*' denotes $p < .05$; '**' denotes $p < .10$; '***' denotes $p < .001$); and 'ᵛ' denotes a suppression effect.

Table 3, continued

	Group Perceptions							Threat			
Social Group	Visible	Entitative	Responsible	Politicised	Warm	Competent	Moral	Dissimilarity	Evaluative	Realistic	Symbolic
Non-English speaking people	.03	-.02	-.10	-.02	.11	**.19***	**.22****	-.11	-.12	.01	**-.15***
Overweight people	-.03	-.04	.05	-.004	.13	**.28****	-.02	**-.17***	**-.15***	.08	**-.18***
People from different religious backgrounds (other than Islam)	-.003	-.09	-.01	-.04	.12	**.31*****	.04	**-.16***	-.15	-.01	.04
People from low socio-economic backgrounds	-.03	-.01	.01	-.01	.06	**.35*****	.01	**-.17***	-.002	-.11	-.07
People with a criminal history	.05	.02	-.08	.07	**.22****	**.28****	-.05	**-.21****	-.02	.01	-.11
People experiencing mental health issues	.09	**-.17***	-.05	.07	-.01	**.23***	.05	**-.18***	-.12	-.01	-.04
People with multicultural heritage	.05	-.09	-.05	.04	.05	**.24****	.15	-.05	**-.17***	-.01	.02
People with opposing political views to you	.06	.13	-.04	.06	.01	.11	.17	**-.24****	-.02	-.09	-.05
People experiencing substance dependencies	-.05	.10	-.05	-.003	.11	**.34*****	.06	**-.15***	-.12	.05	-.12
Refugees and asylum seekers	.02	-.06	-.03	**.17**ᵛ	.15	**.22****	.15	-.10	-.13	-.06	-.13
Unemployed people	-.07	-.05	.06	-.08	.05	**.34*****	-.02	**-.16***	-.02	.08	**-.18***

Note: Bold values denote a significant predictor; '*' denotes $p < .05$; '**' denotes $p < .10$; '***' denotes $p < .001$); and 'ᵛ' denotes a suppression effect.

Study 1 Discussion

In Study 1, I conducted an exploratory study to determine the relationship between group perceptions, threat, and willingness and ability to take the perspective of 23 different social groups. I found that the dimensions of the stigma and prejudice expression model (i.e., visibility, entitativity, responsibility, and politicisation; Kende & McGarty, 2019) did not consistently predict willingness and ability to perspective-take, over and above other group perceptions and threat. Evaluative threat also did not reliably predict willingness and ability to perspective-take (contrary to the arguments of Sassenrath et al., 2016; Todd & Galinsky, 2014; Vorauer & Sasaki, 2009; Vorauer, 2013). Rather, the dimensions from the stereotype content models (Fiske et al., 2002; Leach et al., 2007), did consistently predict willingness and ability to perspective-take. Also, contrary to my expectations, competence had a positive association with willingness and ability to perspective-take, rather than a negative association. Regarding threat, dissimilarity, realistic, and symbolic threats were the most consistent predictors of engagement in perspective-taking, after controlling for the group perceptions.

Study 1 used multiple regression to identify the unique predictors of willingness and ability to perspective-take as separate outcomes, and for 23 different groups. However, it did not provide a test of the full conceptual model (Figure 2) because I could not model the two DVs at the same time, nor did I explicitly test for mediation. It is also the case that I adopted a within-person design (i.e., all participants evaluated every one of the 23 different social groups) but I did not statistically control for the nested nature of the data. That is, these data were nested within the people (who completed responses for the different groups), but that non-independence was not controlled for in the analysis because there was not a common outcome variable that I could use in (for example) a multi-level model.

Therefore, I addressed these limitations in Study 2 by conducting a well-powered test, with independent participants (a between-person design) and using multigroup structural equation modelling to formally test: (a) the direct effects of group perceptions on willingness and ability to perspective-take; and (b) if threat mediates the relationship between group perceptions and willingness and ability to perspective-take (i.e., the indirect effects).

Study 2

Study 2 sought to provide a confirmatory test of the variables identified in Study 1 as the primary predictors of willingness and ability to perspective-take. Based on the results of Study 1, I excluded the group perception items pertaining to the stigma and prejudice expression model (i.e., visibility, entitativity, responsibility, and politicisation; Kende & McGarty, 2019) and evaluative threat. That is, in Study 2 I only asked people to provide ratings for warmth, competence, morality, dissimilarity threat, realistic threat, symbolic threat, and willingness and ability to perspective-take. I then used structural equation modelling to examine whether threat mediates the effects of warmth, competence, and morality on willingness and ability to perspective-take.

Rather than assessing perceptions of all 23 social groups, I asked participants to consider other perceptions towards one of the following six social groups: Black people, elderly people, Asian people, undocumented people (i.e., people who live in the United States without legal documentation or permission), LGBTQIA+ people, and people with disabilities. I selected these six groups based on several considerations: how prevalent those groups were within the perspective-taking literature given my focus on groups commonly studied in the corpus (see Chapter 3), and to capture a range of different racial/age/ablest groups. I selected people with disabilities to probe them further because my preliminary analyses suggested that

perspective-taking with this group was associated with backlash (Chapter 4). Across all six groups, my pre-registered hypotheses were as follows:

> **Hypothesis 1:** Groups that are perceived as relatively higher in competence would be seen as more threatening. Threat will, in turn, be negatively associated with willingness and ability to perspective-take.
>
> **Hypothesis 2:** Groups that are rated as relatively higher in warmth would be seen as less threatening. Threat will, in turn, be negatively associated with willingness and ability to perspective-take.
>
> **Hypothesis 3:** Groups that are rated as relatively higher in morality would be seen as less threatening. Threat will, in turn, be negatively associated with willingness and ability to perspective-take.

I also formally compared the effects of these six different social groups to identify whether group perceptions, and threat, had stronger or weaker effects on outcomes for some target groups, relative to others. Thus, I also explored the degree to which the magnitude of effects differs across six social groups (i.e., elderly people, Asian people, Black people, undocumented people, LGBTQIA+ peoples, people with disabilities). To compare effects between social groups, I treated each social group as a moderator, and tested for moderation within a multi-group structural equation model (Byrne, 2013). Differences between groups are established in multi-group structural equation modelling by constraining each pathway (i.e., as a formal test of the proposition that the path has the same value across all social groups) and releasing each pathway (i.e., the weight may vary across all social groups) in the model. A chi-square distribution is used to determine which model has better fit. I did not have a priori predictions for these tests and the multi-group analyses are therefore exploratory.

Method

Participants

The sample size for this study was determined using a Monte Carlo Simulation of the direct and indirect effects (Thoemmes et al., 2010). I conducted a Monte Carlo Simulation with all the paths set to 0.20 (based on the minimum effect sizes observed in Study 1) with power exceeding .80 to detect an indirect effect of .04. According to the power analysis, I needed a minimum of $N = 100$ participants per social group condition (i.e., $N = 600$ in total). I aimed to collect data from 885 participants (i.e., $n = \sim148$ per social group) to oversample and allow for removal of participants due to inattentive or inauthentic responses. I recruited participants from United States residents using Amazon's Mechanical Turk.

Data was collected from 926 participants living in the United States using Amazon's Mechanical Turk. In accordance with my pre-registered exclusion criteria, I removed 23 participant responses as they completed less than 10% of the survey; 14 participant responses who answered 'I just clicked through' to the seriousness probe; and three rows of participant responses as they had completed the survey twice. Regarding the duplicate responses, participants had completed the survey during the soft and full launch of the study. I kept the responses they completed first. The final sample comprised of 886 participants.

Demographics

The participants mostly comprised of male (51.24%) and females (47.63%), with 1.02% of participants identifying as non-binary or other. Their ages ranged between 21 to 86 years old ($M = 42.20$, $SD = 12.38$). Also, most participants identified as White (71.64%), and 8.24% identifying with multiple ethnicities or as Black American, 8.13% identifying as Asian, and 3.72% identifying as 'Other' (e.g., Indigenous/Native American, South American, Pacific Islander). Regarding sexual orientation, most participants identified as heterosexual/straight (89.04%), 7.11% identifying as LGBTQIA+, or they preferred not to

disclose. Most participants were born in the United States (92.43%), had a politically left-leaning affiliation (51.58%), and completed a tertiary education (42.82% had completed a bachelor's degree and 16.72% had completed a graduate degree).

Measures and Procedure

The procedure and measures for Study 2 were identical to the measures used in Study 1 unless described below. However, I only asked for ratings for six social groups, rather than 23 groups examined in Study 1. I also modified the wording of the items to ensure that I was assessing consensual (societal) stereotypical perceptions. That is, I asked the participants what they thought other people in the United States society believed about the each of the social groups.

The participants were presented with an Information Sheet detailing the study purpose and a consent form. Participants were then randomly allocated to a social group condition and asked to provide ratings for one of the following social groups – Black people, elderly people, LGBTQIA+ peoples, people with disabilities, Asian people, or undocumented people – based on what they think other people in the United States believe about these groups. After being allocated into a condition, participants were then presented a modified version of the survey described in Study 1, that only contained measures of the focal independent variables (i.e., group perceptions: warmth, competence, and morality), mediator variables (i.e., dissimilarity threat, realistic threat, and symbolic threat), and dependent variables (i.e., willingness to perspective-take and ability to perspective-take).

Threat

I originally pre-registered that I would model threat as a latent variable, with realistic, symbolic, and dissimilarity threat as indicator variables. Analyses would then involve testing the indirect effects of the model for each social group separately with parameters

unconstrained (free to vary across group). However, initial testing of a single threat latent variable indicated that dissimilarity threat did not load significantly on the latent factor, β = 0.02 – 0.31, *p*s = .104 – .990. That is, dissimilarity threat did not load with the other two forms of threat to reflect an underlying threat. Consequently, the different forms of threat were modelled as three separate (but correlated) observed variables. Hypotheses 1-3 were assessed in relation to each of the discrete threat variables separately.

Results and Discussion

Preliminary Analyses

Given that missing data can affect estimation in structural equation modelling, I first conducted Little's MCAR test to establish how much data was missing, and whether it was missing at random. A very small amount of data (three single datapoints) was missing completely at random, X^2 (6) = 6.87, p = .332. I replaced the missing values with the relevant means for that variable and social group.

Table 4 displays the means, standard deviations, and denotes where the means differ across social groups for the key variables. The means of the key variables were mostly around the scale midpoint across the social groups. However, the means for realistic and/or symbolic threat were lower than the scale midpoint for all social groups, except undocumented people. The ANOVAs revealed significant differences on all the variables for at least two social groups. For example, Asian people were seen as significantly higher in competence compared to other social groups, whereas undocumented people were seen as more realistic threat than other groups. Participants were significantly less willing to adopt the perspective of undocumented people relative to other groups. Furthermore, people with disabilities were seen as lower in symbolic threat than the other groups. Otherwise, perceptions of threat towards all six groups were largely similar.

Table 4

Group Differences (Means and 95% Confidence Intervals) Between Perceptions and Willingness and Ability to Perspective-Take

Variable	Social group					
	Black people[a]	Asian people[b]	Elderly people[c]	Undocumented people[d]	LGBTQIA+ people[e]	People with disabilities[f]
Warmth	57.82[cd]	58.36[cd]	69.63[abdef]	45.69[abcef]	59.58[cd]	61.70[cd]
	[54.36, 61.27]	[54.98, 61.74]	[66.74, 72.51]	[42.13, 49.25]	[56.03, 63.13]	[58.42, 64.98]
Competence	55.65[bde]	81.07[acdef]	54.82[bde]	43.23[abce]	63.13[abcdf]	48.35[be]
	[52.02, 59.27]	[78.34, 83.81]	[51.36, 58.28]	[39.52, 46.93]	[59.74, 66.51]	[44.60, 52.11]
Morality	51.69[bcf]	69.87[ade]	75.26[ade]	43.71[bcf]	50.33[bcf]	68.40[ade]
	[48.26, 55.13]	[66.78, 72.97]	[72.31, 78.21]	[40.26, 47.16]	[46.50, 54.16]	[65.18, 71.61]
Dissimilarity threat	49.18	47.60[de]	47.73[de]	62.40[bc]	55.89[bc]	60.19
	[45.53, 52.83]	[43.94, 51.26]	[43.93, 51.54]	[58.64, 66.16]	[51.86, 59.91]	[56.22, 64.15]
Realistic threat	35.03[d]	38.27[df]	35.69[d]	55.91[abcef]	31.93[d]	27.30[bd]
	[30.85, 39.21]	[34.03, 42.51]	[31.30, 40.09]	[52.07, 59.74]	[27.62, 36.23]	[22.76, 31.84]
Symbolic threat	40.03[df]	36.01[def]	41.24[df]	50.42[abcf]	47.21[bf]	26.54[abcde]
	[35.84, 44.23]	[31.97, 40.06]	[36.89, 45.60]	[47.08, 53.77]	[42.77, 51.65]	[22.43, 30.66]
Willingness to perspective-take	44.58[d]	48.44[d]	51.50[d]	34.60[abcef]	45.40[d]	50.34[d]
	[41.14, 48.02]	[44.60, 52.28]	[47.81, 55.20]	[31.14, 38.04]	[42.01, 48.79]	[46.62, 54.06]
Ability to perspective-take	43.62[c]	50.71[d]	53.15[ade]	39.04[bcf]	44.18[c]	46.90[d]
	[39.84, 47.40]	[47.04, 54.39]	[49.58, 56.72]	[35.44, 42.64]	[40.55, 47.81]	[42.91, 50.88]

Note. Subscripted letters denote where there are the significance differences ($p < .05$) between groups.

Primary Analyses

I tested Hypotheses 1 – 3 with multigroup structural equation modelling, using IBM SPSS Amos Version 28 software. Multigroup structural equation modelling allows us to test whether a model fits each social group and determine if the paths between variables in the model are different between several groups. Model 1 modelled the paths as unconstrained (i.e., each group is allowed to have different effects). Then Model 2 constrained the paths to equality across groups to test if there are significant differences between social groups when the pathways in the model are constrained. The chi-square distribution was used to determine if Model 1 or Model 2 had significantly better fit. Goodness-of-fit of the models was evaluated via chi-square statistic, comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardised root mean squared residual (SRMR). The chi-square statistic should be non-significant to indicate good fit. To indicate acceptable model fit, the CFI value needs to be equal to or over .95 (Ullman, 2001); the RMSEA needs to be below or equal to .08 (Kline & Little, 2016); and the SRMR needs to be below .08 (Hu & Bentler, 1999).

I first tested a pure mediation model (Model 1a), of the model portrayed in Figure 2, in which the three threat variables fully mediated the effects of group perceptions on outcomes (ability and willingness). Warmth, competence, and morality were modelled as observed independent variables, and were correlated with one another. The independent variables were regressed onto the three correlated observed mediator variables (i.e., realistic, symbolic, and dissimilarity threat). The threat variables were then regressed onto both dependent variables. The two dependent variables – willingness to perspective-take and ability to perspective-take – were also treated as correlated, observed variables in the model.

The goodness-of-fit for Model 1a was poor for most groups (Table 5). Modification indices suggested that there was significant unaccounted for variance between some of the

perceptions and the outcomes – especially, between morality and willingness to perspective-take and ability to perspective-take, and competence and willingness to perspective-take. Given that I anticipated (Figure 2) that there may also be direct associations between group perceptions and willingness/ability to perspective take (i.e., over and above the association with threat), I added these three direct paths between morality and willingness; morality and ability; and competence and willingness (Model 1b). The fit statistics showed that this model demonstrated acceptable fit with the data for all social groups after adding the direct pathways (Table 5). Model 1b was thus my final model.

Having established a model with good configural fit across the six social groups (Model 1b), I next sought to test whether/not the paths differed across social groups by systematically constraining and releasing each pathway in the model. The pathways denoting covariance between the three group perceptions variables, three threat variables, or two outcome variables, respectively, were also released in the final model. For readability, the pathways denoting covariance are not reported in Table 6 or depicted in Figure 3 below. Table 6 reports the fit statistics when each path between the group perceptions, threat, and outcomes were released and constrained. Figure 3 displays the final model, with bolded paths indicating those paths that were shown to be reliably different across groups. Figure 3 shows that the paths from competence to symbolic threat and dissimilarity threat, warmth to realistic threat and dissimilarity threat, morality to symbolic threat and realistic threat, and morality to willingness to perspective-take differed reliably in magnitude across groups.

As conveyed in Figure 3, group perceptions are related to different forms of threat. Contrary to Hypothesis 1, competence was negatively correlated with threat (specifically, dissimilarity and symbolic threat). However, warmth and morality were negatively associated with symbolic and dissimilarity threats. Furthermore, morality was the only group perception that was associated with all three forms of threat. Thus, Hypotheses 2 and 3 were supported

(see Table 7). Specifically, across all groups, people perceived less dissimilarity threat when the social groups were seen as higher in competence (except Asian people), and higher in morality. Also, people perceived more symbolic threat from all social groups when they viewed the groups as lower in warmth. Additionally, the significance, and strength, of associations between the group perceptions and threat, threat and ability/willingness to perspective-take, varied depending on groups. These are described in greater detail below.

Sensitivity Analyses

Given the large number of associations, I conducted a sensitivity analysis by comparing the p-values to a more conservative significance level of $p < .001$. The analysis revealed that competence remained negatively correlated to dissimilarity threat for Elderly people, Undocumented people, LGBTQIA+ peoples, and people with disabilities. Warmth remained negatively correlated with dissimilarity threat for Asian people. However, morality was no longer associated with realistic threat. Furthermore, the relationships between symbolic threat and warmth, and symbolic threat and ability to perspective-take, were no longer significant. Lastly, the association between morality and willingness to perspective-take ($p = .001$) was no longer significant.

Table 5

Chi-Square, CFI, RMSEA, and SRMR for Each Model Tested.

Model	Social Group	Chi-square(*df*)	*p*-value	CFI	RMSEA	SRMR
Model 1a	Black people	X^2 (8) = 31.37	< .001	.964	.141	.0927
	Asian people	X^2 (8) = 39.33	< .001	.920	.163	.0610
	Elderly people	X^2 (8) = 24.67	.002	.948	.119	.0719
	Undocumented people	X^2 (8) = 41.91	< .001	.939	.168	.0884
	LGBTQIA+ people	X^2 (8) = 62.35	< .001	.874	.214	.1168
	People with disabilities	X^2 (8) = 15.23	.055	.981	.079	.0533
Model 1b	Overall	X^2 (88) = 176.65	< .001	.967	.034	.0452
	Black people	X^2 (3) = 5.62	.132	.996	.077	.0171
	Asian people	X^2 (3) = 22.42	< .001	.950	.210	.0469
	Elderly people	X^2 (3) = 14.73	.002	.963	.164	.0492
	Undocumented people	X^2 (3) = 14.69	.002	.979	.161	.0253
	LGBTQIA+ people	X^2 (3) = 6.26	.100	.992	.086	.0265
	People with disabilities	X^2 (3) = 3.30	.347	.999	.027	.0140

Table 6

Invariance Testing of Full Model

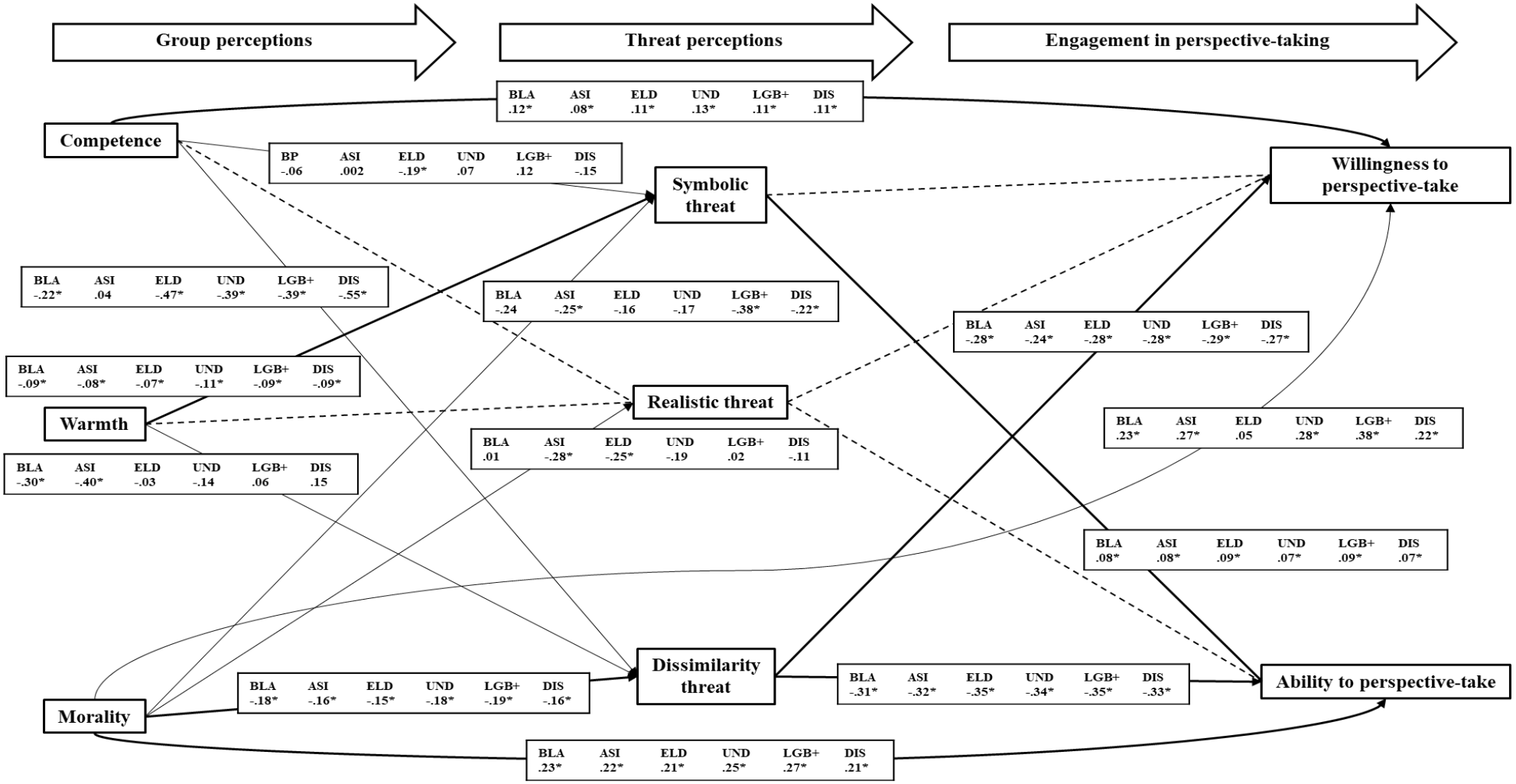
Model	χ^2 (df)	*p-value*	CFI	RMSEA	SRMR
Hypothesised model	X^2 (18) = 67.02	< .001	.982	.056	.0171
Fully constrained	X^2 (143) = 359.35	< .001	.921	.041	.0718
X^2 difference test	X^2 (125) = 297.33	< .001		Variant	
Warmth → Symbolic threat released	X^2 (138) = 352.06	< .001	.921	.042	.0693
X^2 difference test	X^2 (5) = 7.29	.200		Invariant	
Warmth → Realistic threat released	X^2 (138) = 346.76	< .001	.923	.041	.0724
X^2 difference test	X^2 (5) = 12.59	.028		Variant	
Warmth → Dissimilarity threat released	X^2 (138) = 345.45	< .001	.924	.041	.0664
X^2 difference test	X^2 (5) = 13.90	.016		Variant	
Competence → Symbolic threat released	X^2 (138) = 340.61	< .001	.926	.041	.0676
X^2 difference test	X^2 (5) = 18.74	.002		Variant	
Competence → Realistic threat released	X^2 (138) = 352.23	< .001	.921	.042	.0715
X^2 difference test	X^2 (5) = 7.12	.212		Invariant	
Competence → Dissimilarity threat released	X^2 (138) = 346.68	< .001	.923	.041	.0729
X^2 difference test	X^2 (5) = 12.67	.027		Variant	
Moral → Symbolic threat released	X^2 (138) = 340.79	< .001	.925	.041	.0676
X^2 difference test	X^2 (5) = 18.56	.002		Variant	
Moral → Realistic threat released	X^2 (138) = 335.64	< .001	.927	.040	.0751
X^2 difference test	X^2 (5) = 23.71	< .001		Variant	
Moral → Dissimilarity threat released	X^2 (138) = 352.63	< .001	.921	.042	.0712
X^2 difference test	X^2 (5) = 6.72	.242		Invariant	

Table 6, continued

Model	χ^2 (df)	*p-value*	CFI	RMSEA	SRMR
Symbolic threat → Will to perspective-take released	X^2 (138) = 353.63	< .001	.921	.042	.0705
X^2 difference test	X^2 (5) = 5.72	.335		Invariant	
Symbolic threat → Able to perspective-take released	X^2 (138) = 354.47	< .001	.920	.042	.0736
X^2 difference test	X^2 (5) = 4.88	.431		Invariant	
Realistic threat → Able to perspective-take released	X^2 (138) = 356.39	< .001	.920	.042	.0725
X^2 difference test	X^2 (5) = 2.96	.706		Invariant	
Realistic threat → Will to perspective-take released	X^2 (138) = 354.63	< .001	.920	.042	.0720
X^2 difference test	X^2 (5) = 4.72	.451		Invariant	
Dissimilarity threat → Will to perspective-take released	X^2 (138) = 356.15	< .001	.920	.042	.0696
X^2 difference test	X^2 (5) = 3.20	.669		Invariant	
Dissimilarity threat → Able to perspective-take released	X^2 (138) = 353.72	< .001	.921	.042	.0767
X^2 difference test	X^2 (5) = 5.63	.344		Invariant	
Moral → Able to perspective-take released	X^2 (138) = 351.84	< .001	.921	.042	.0671
X^2 difference test	X^2 (5) = 7.51	.185		Invariant	
Moral → Will to perspective-take released	X^2 (138) = 347.53	< .001	.923	.042	.0753
X^2 difference test	X^2 (5) = 11.82	.037		Variant	
Competence → Will to perspective-take released	X^2 (138) = 354.18	< .001	.921	.042	.0711
X^2 difference test	X^2 (5) = 5.17	.396		Invariant	

Figure 3

The Direct Effects of Group Perceptions on Willingness and Ability to Perspective-Take, and Indirect Effects via Threat (Model 1b)



Notes. Bold lines denote constrained paths; thin lines denote unconstrained paths; dotted lines denote non-significant paths; 'BLA' denotes Black people; 'ASI' denotes Asian people; 'ELD' denotes elderly people; 'UND' denotes undocumented people; 'LGB+' denotes LGBTQIA+ people; 'DIS' denotes people with disabilities. Please note that, for readability, the figure excludes the covariation between the independent variables, mediator variables, and dependent variables, respectively.

General Discussion

People have existing perceptions towards different groups in their society, and these perceptions are known to vary from group to group. In turn, these contrasting group perceptions are likely to influence the nature of the hostility towards specific groups (Fiske et al., 2002; Kende & McGarty, 2019; Leach et al., 2007). Thus, we may observe more hostility towards those who are perceived as low in warmth and morality, high in competence (Fiske et al., 2002; Leach et al., 2007), and threatening to ourselves (e.g., Sassenrath et al., 2016; Todd & Galinsky, 2014; Vorauer, 2013). In this chapter, I extended these observations to the perspective-taking literature to examine how the ways that people perceive different groups influence willingness and ability to adopt the perspective of different groups. Therefore, in Studies 1 and 2, I examined potential predictors (i.e., group perceptions and threat), that may influence engagement in perspective-taking. The hypotheses and corresponding findings for Studies 1 and 2 are summarised in Table 7.

In Study 1, I sought to identify key predictors of motivation to engage in perspective-taking. I tested several dimensions of group perceptions drawn from two theoretical models of stereotype content (warmth, competence, and morality; Fiske et al., 2002; Leach et al., 2007) and stigma/prejudice expression (i.e., visibility, entitativity, responsibility, and politicisation; Kende & McGarty, 2019), as well as four different types of threats (i.e., evaluative, dissimilarity, realistic, and symbolic), across 23 discrete social groups. I found that warmth, competence, and morality were the most consistent predictors for both ability and willingness to perspective-take. Competence was the most prominent predictor of ability and willingness to perspective-take for almost all social groups. Although, in contrast to expectations, participants were more willing and able to perspective-take when they perceived the social group as higher in competence. Warmth and morality were also positive predictors of willingness and ability to perspective-take for several different groups –

as expected. However, in most cases, visibility, entitativity, responsibility, and politicisation were not significant predictors of willingness or ability to perspective-take, once the analyses accounted for the stereotype content model dimensions. Regarding threat, only dissimilarity and symbolic threat predicted ability to perspective-take, whereas all forms of threat predicted willingness to perspective-take. Dissimilarity threat was the most consistent threat predictor across all social groups.

In Study 2, I conducted a confirmatory test of the full conceptual figure (Figure 2) to determine whether the relationship between group perceptions (i.e., warmth, competence, and morality), and willing and ability to perspective-take, were mediated by threat (i.e., dissimilarity, realistic, and symbolic threat). That is, I examined the relationship between group perceptions and threat, and how threat, in turn, is associated with willingness and ability to perspective-take for six different social groups. I then compared whether the strength of these relationships differed between six specific groups. I was unable to treat realistic, symbolic, and dissimilarity threats as one latent variable in the analyses. As such, Hypotheses 1-3 was tested in relation to three observed forms of threat.

The findings revealed that increased perceptions of warmth were negatively associated with symbolic threat for all six social groups, and dissimilarity threat for Black people and Asian people. Warmth was not reliably associated with realistic threat. Moreover, heightened perceptions of morality were associated with less dissimilarity threat for all six social groups; symbolic threat for Asian people, LGBTQIA+ people; and realistic threat for Asian people and elderly people. Thus, I find support for Hypotheses 2 and 3 (denoted as partial support). Unexpectedly, perceptions of competence were again *negatively* associated with perception of symbolic and dissimilarity threat, disconfirming Hypothesis 1. This finding may be reflective of competence being viewed as a valuable and desirable characteristic (e.g., Chen et al., 2012; Chen et al., 2014). As such, it is plausible that people

are more willing and able to perspective-take for outgroups they perceive as highly competent. Furthermore, people were more willing to adopt the perspective of all or most social groups when they were perceived as highly competent and moral, respectively. Participants were also more able to take the perspective of social groups that they perceived as highly moral.

Regarding threat, dissimilarity threat had the most consistent relationship with willingness and ability to perspective-take. People reported that they were less willing and able to adopt the perspective of all social groups that they perceived as dissimilar. Thus, I found partial support for Hypotheses 1 to 3. I also observed another unexpected effect – people reported an increased ability to perspective-take for all social groups that were perceived as symbolically threatening, a suppressor effect. Additionally, the strength of the pathways between the group perceptions and threat often varied depending on the group in question. That is, some pathways were either mostly non-significant (e.g., competence and symbolic threat), or stronger relationships (e.g., competence and dissimilarity threat), for some groups compared to other groups. Thus, I also find some evidence that group perceptions towards some groups have a stronger relationship with threat than other groups.

Table 7

Summary of Support or Unsupported Hypotheses from Study 2.

Hypothesis	Supported?			Findings
	Yes	Partial	No	
H1: Groups that are perceived as relatively higher in competence would be seen as more threatening. Threat will, in turn, be negatively associated with willingness and ability to perspective-take. Therefore, people would be less willing and able to perspective-take for that group (a negative indirect effect).		✓		○ ∧ **competence** = ∨ **symbolic threat** towards elderly people ○ ∧ **competence** = ∨ **dissimilarity threat** towards most groups (excl. Asian people) ○ ∧ **competence** = ∧ **willing to perspective-take** for all groups ○ ∧ **symbolic threat** = ∧ **able to perspective-take** for all groups ○ ∧ **dissimilarity** = ∨ **willing** and **able to perspective-take** for all groups
H2: Groups that are rated as relatively higher in warmth would be seen as less threatening. Threat will, in turn, be negatively associated with willingness and ability to perspective-take. Therefore, people would be more willing and able to perspective-take for that group (a positive indirect effect).		✓		○ ∧ **warmth** = ∨ **symbolic threat** towards all groups ○ ∧ **warmth** = ∨ **dissimilarity threat** towards Black and Asian peoples
H3: Groups that are rated as relatively higher in morality would be seen as less threatening. Threat will, in turn, be negatively associated with willingness and ability to perspective-take. Therefore, people would be more willing and able to perspective-take for that group (a positive indirect effect).		✓		○ ∧ **morality** = ∨ **symbolic threat** towards most groups ○ ∧ **morality** = ∨ **realistic threat** towards Asian and Elderly people ○ ∧ **morality** = ∨ **dissimilarity threat** towards all groups ○ ∧ **morality** = ∧ **willing to perspective-take** for all groups ○ ∧ **morality** = ∧ **able to perspective-take** for all groups

Notes. '∧' denotes 'higher'; '∨' denotes 'lower'.

Theoretical Implications

Despite the knowledge that group perceptions and threat vary between groups; the literature had not yet considered the impact of these variations on engagement in perspective-taking. Consequently, I presented evidence that: (a) group perceptions (specifically warmth, competence, and morality) are associated with willingness and ability to engage in perspective-taking; (b) group perceptions are associated with different forms of threat (particularly dissimilarity threat); and (c) perceptions of threat are also associated with willingness and ability to engage in perspective-taking. Therefore, to my knowledge, the findings in this project provide a novel contribution to our understanding by highlighting the impact of group perceptions and threat on perspective-taking processes.

Dissimilarity Threat Matters for Motivation to Engage in Perspective-Taking

Dissimilarity threat appeared to have the most consistent association with willingness and ability to adopt the perspective of different social groups (consistent with the arguments of Sassenrath et al., 2016; Vorauer, 2013). Study 2 also highlighted that people tended to perceive more dissimilarity threat to an ostensible outgroup when they perceived the group to be lower in warmth, competence, and morality. Independently, warmth, competence, and morality are generally seen as valued and favourable qualities (e.g., Brambilla et al., 2012; Fiske et al., 2007). Arguably, people would prefer to align themselves (and their ingroup) with such favourable qualities, and distance themselves from people who do not possess these traits (Tajfel & Turner, 1979; see also Abele & Wojciszke, 2007; Wojciszke, 2005). Therefore, people would perceive more dissimilarity threat towards those seemingly lower in warmth, competence, and morality. Furthermore, perspective-taking is also known to incite more hostility towards groups that are strongly disliked (Paluck, 2010). If certain social groups do not possess favourable qualities, this could result in the perspective-taker disliking the outgroup and its members, which could hinder their engagement in perspective-taking

processes (see also Todd & Galinsky, 2014; Yzerbyt & Demoulin, 2010). Consequently, dissimilarity may discourage perspective-taking for particular outgroups because people are motivated to maintain a positive evaluation of themselves (and their ingroup) and distance themselves from groups they dislike.

Challenges to group identity may also explain why dissimilarity threat discourages people to engage in perspective-taking. According to social identity theories, people experience adverse reactions (such as anxiety) when their group membership is questioned (e.g., Hogg, 2007), or seek to maintain differences between their ingroup and the ostensible outgroup when boundaries become unclear (e.g., Ellemers et al., 2002; Jetten & Spears, 2003). Perspective-taking is known to facilitate merging or overlap with the perspective-takers self-concept and the target person or outgroup in question (Barth & Sturmer, 2016; Galinsky et al., 2005). When people see themselves as dissimilar to a particular social group (and thus want to distance themselves from said group), the idea or suggestion to adopt the perspective of (and thus merge yourself with) a disliked group may invite resistance. This is because people could feel that getting closer to someone they perceive as (or want to be) dissimilar to, is a threat to their self-concept and group membership (see also Okimoto & Wenzel, 2011; Sassenrath et al., 2016). Additionally, perspective-taking may exacerbate or instil any insecurity a person has of their own group membership, thus eliciting anxiety (Hogg, 2007). Therefore, challenges to group identity may explain why heightened dissimilarity threat was most consistently associated with unwillingness and inability to perspective-take.

Symbolic Threat Matters for Perspective-Taking

Okimoto and Wenzel (2011) highlighted in their studies that research often focussed on the prosocial outcomes of perspective-taking. However, perspective-taking may often elicit antisocial outcomes towards another person (e.g., harsher revenge, Okimoto & Wenzel,

2011) or outgroup in question (e.g., malicious behaviours, Pierce et al., 2013). I also observed a similar pattern in Study 2 – that is, people were reportedly more capable of adopting the perspective of marginalised groups when they perceived the groups as symbolically threatening. People are motivated to maintain a sense of agency, mastery, and control of their environments, particularly when they are under threat (Bandura, 1990; Gecas, 1989). Therefore, my findings support the notion that people perspective-take to understand how another person thinks, perhaps as a means to overcome the feelings of threat by regaining a sense of mastery and control of the situation. Consequently, people may be more capable of adopting the perspectives of threatening outgroups, because they want to understand how the other people think.

Practical Implications

The findings highlight potential barriers to perspective-taking that can be applied in future research and advocacy practices that employ this process as a way to reduce intergroup hostility. Firstly, it was apparent across both studies that dissimilarity threat had the most consistent association between ability and willingness to engage in perspective-taking for most, if not all, social groups. Consequently, the primary implication is that advocates could focus on reducing dissimilarity threat to encourage engagement in perspective-taking.

Reducing Dissimilarity Threat Through Representation

The findings from Study 2 may highlight the importance of how marginalised groups are represented and portrayed in our society. That is, the results suggest, for most groups, people would perceive less dissimilarity threat in contexts where the social group in question is depicted as highly warm, competent, and/or moral (e.g., LGBTQIA+ people, Black people, undocumented people, and people with disabilities). Thus, people may be more willing and able to engage in perspective-taking when the warmth, competence, and morality of these social groups are emphasised. As such, to encourage engagement in perspective-taking, I

suggest future practices encourage public representations of marginalised groups (e.g., through media representations or campaign messaging) that portray the ostensible outgroup as warm, competent, and moral.

I also found some group differences that highlight a need to consider *how people perceive specific social groups prior to their engagement in perspective-taking* (and potentially other prejudice-reduction strategies). For example, warmth did not have a significant association with dissimilarity threat for elderly people, undocumented people, LGBTQIA+ people, and people with disabilities. Instead, increases in perceived competence and morality of these social groups was associated with reduced dissimilarity threat. Therefore, emphasising the competence and morality of elderly people, undocumented people, LGBTQIA+ people, may encourage people to adopt the perspective of members from these groups. In sum, the findings demonstrate that the perceptions (in terms of warmth, competence, or morality) people have towards different marginalised groups vary considerably. Consequently, to reduce dissimilarity threat and encourage perspective-taking, representations of different groups need to correspond with the how warm, competent, and/or moral people perceive the outgroup in question to be.

Limitations and Future Directions

Study 2 examined six of the original 23 groups included in Study 1 and, in that sense, is not exhaustive. Therefore, future studies could try to test the model from Study 2 to understand the relationship between group perceptions and threat, and engagement in perspective-taking for other social groups. Furthermore, although I used multigroup structural equation modelling in Study 2, I could not adopt a latent measurement approach. This is because dissimilarity threat did not load onto an underlying factor with realistic and symbolic threat, suggesting that these are discrete forms of threat (see also Rios et al., 2018; Stephan et al., 2000; Stephen et al., 2015). Consequently, I could not address potential measurement

error. Additionally, I analysed my data using multiple regressions and multigroup structural equation modelling, and thus my findings are correlational with the usual caveats about inferring causal relationships. Nevertheless, future studies should do experimental manipulations to test whether there is indeed a causal relationship between group perceptions, the different forms of threats and engagement in perspective-taking.

Another point for future research to consider the possible effects of cultural and/or country-level differences. The history and relational dynamics between groups in societies may be different. For example, the relationship between Black people (generally of African descent) and non-Black people in the United States is substantially different to the relationship between Black people and non-Black people in Australia. Therefore, it is possible that the perceptions of warmth, competence, and morality of some marginalised groups in some countries (e.g., Australia) may be different to other countries (e.g., the United States). Furthermore, the results of Studies 1 and 2 were based on samples from Australia and the United States, which are more culturally individualistic (e.g., Načinović Braje et al., 2019). There is evidence to suggest that different countries and/or cultures vary in the extent to which they value warmth, competence, and morality (e.g., Cuddy et al., 2009; Stanciu et al., 2017). Therefore, it would be interesting to examine whether the pattern of effects differ from WEIRD (i.e., Western, Educated, Industrialised, Rich, and Democratic; Henrich et al., 2010) and primarily individualistic, to non-WEIRD, and often more collectivist, countries.

Finally, for practical reasons, I could not exclude relevant marginalised participants from each condition. For example, I had participants in the Black people condition who identified as a Black person, and participants in the LGBTQIA+ condition who identified as LGBTQIA+. This may have affected the results, especially in Study 1 where I asked participants what their own perceptions of a social group. However, this issue may have been addressed in Study 2, as I asked participants what they thought the general US society

believed about these groups, rather than their own perceptions. In future, it would be beneficial to compare if including ostensible ingroup members in the sample would produce differing results.

Conclusions

When people are invited to adopt the perspective of (often marginalised) social groups, they carry with them their existing perceptions of the social group in question. These existing perceptions may determine whether people engage in perspective-taking processes. This is an important point to consider if we want to understand why perspective-taking, or the invitation to perspective-take, sometimes results in resistance and/or increased hostility. People may feel as though they are dissimilar to people from other social groups, particularly when these groups appear to be low in warmth, competence, and morality. The perceived dissimilarity then incites feelings of threat, which may subsequently lead to unwillingness and inability to engage in perspective-taking. Thus, our efforts to reduce intergroup hostility may be in vain if we do not account for existing perceptions towards a particular social group. In the words of Fiske and colleagues (2002, p. 878): "…*In short, perhaps we need a model that predicts the intergroup weather…"*. To ensure better outcomes and prepare for (applicability to) the "real world", the way we operationalise perspective-taking processes should be based on the intergroup weather forecast.

Chapter 3

When Will People Take the Perspective of Other Group Members? A Systematic Review and Meta-Analysis of the Effects of Perspective-Taking on Intergroup Attitudes, Behaviours, and Solidarity

Abstract

Intergroup hostility is known to have adverse effects for individuals who experience it, and societies who host it. One popular method for tackling intergroup hostility is to encourage members of advantaged or majority groups to take the perspective of marginalised group members (i.e., "perspective-taking"). However, it is becoming clear that this strategy does not always reduce negative attitudes and can sometimes exacerbate hostility. I conducted a systematic review and meta-analysis to establish the overall effects of perspective-taking on intergroup attitudes, behaviours, and solidarity, and identify conditions under which perspective-taking has stronger or weaker effects on outcomes ($k = 147$, involving $N = 21, 841$ participants). I expected that perspective-taking will have greater facilitative effects on changing attitudes than behaviours; and reducing hostility versus increasing support. I also tested longstanding debates about which instructions (imagine-self/imagine-other [individual/group]) and modes (e.g., written and reading tasks, computer avatars) have greater influence on promoting positive intergroup relations. I found that perspective-taking techniques have a small facilitative effect overall, and that effects differ based on the outcomes, and type of instructions, and mode of delivery. The findings of the systematic review and meta-analysis provide key insights which can inform research practices and improve campaign strategies.

When Will People Take the Perspective of Other Group Members? A Systematic Review and Meta-Analysis of the Effects of Perspective-Taking on Intergroup Attitudes, Behaviours, and Solidarity

Although there are legal sanctions against overt forms of discrimination, members of marginalised groups report that hostility is an all-too-common experience (Berman & Paradies, 2008; Dunn & Nelson, 2011). Denigration and discrimination inflict a great deal of suffering both to individuals (Drabish & Theeke, 2022; Nelson et al., 2011; Perkins & Repper, 2013; Priest et al., 2012) and society at large (Ferdinand et al., 2015). On an individual level, the people who experience hostility and discrimination are more likely to suffer from depression, anxiety, stress, social isolation (Drabish & Theeke, 2022; Nelson et al., 2011; Perkins & Repper, 2013), substance abuse, and cardiac diseases (Pascoe & Smart Richman, 2009), unemployment (Friedman, 2020; Johnston & Lordan, 2016; Schofield & Butterworth, 2018), incarceration (Creighton & Wozniak, 2019; Duxbury, 2020). There are also costs to the organisations and communities who host it. For instance, organisations in which rates of intergroup hostility and discrimination are relatively high, report reduced employee productivity and lower employee retention (Nelson et al., 2011). Communities in which intergroup derogation and hostility are relatively more commonplace are more likely to be more conflictual and have lower social cohesion (Nelson et al., 2011). These processes (i.e., the tensions that can exist between groups) affect people's lives, their physical and mental wellbeing, their livelihoods, and the communities in which they live. Due to the detrimental impact of intergroup hostility, many strategies have been developed as an effort to reduce hostile attitudes and behaviours between groups (Paluck & Green, 2009; Paluck et al., 2021). Indeed, identifying the drivers of such hostility has been a key area of endeavour for social psychology more broadly (e.g., Dixon et al., 2012; Platow et al., 2019; Reicher, 2007).

One popular method for improving intergroup attitudes and actions is the perspective-taking technique (Galinsky & Ku, 2004; Todd et al., 2011; Vescio et al., 2003). *Perspective-taking* is defined as the subjective experience of adopting the viewpoint of another person and imagining how they perceive and understand their environment (Vorauer, 2013). Many studies have demonstrated that perspective-taking strategies can reduce hostile attitudes towards various groups including: Black Americans (e.g., Dovidio et al., 2004; Drwecki et al., 2011; Todd et al., 2011; Yang et al., 2014), elderly people, (e.g., Edwards et al., 2017; Galinsky & Ku, 2004; Packer & Chasteen, 2006; Skorinko & Sinclair, 2013; Todd & Burgmer, 2013), immigrants (Castillo et al., 2011; Bruneau & Saxe, 2012), members of the LGBTIQ+ community (Ahuja et al., 2019; Hodson et al., 2009; Pornprasit & Boonyasiriwat, 2020; Tompkins et al., 2015) and historically adversarial intergroup relationships (Bilewicz, 2009; Noor & Halabi, 2018; Paluck, 2010; Simonovits et al., 2018). There is also evidence that perspective-taking increases positive behavioural intentions such as willingness to help members of marginalised groups (e.g., Adida et al., 2018; McKeever, 2015; Nario-Redmond et al., 2017; Paluck, 2010; Shih et al., 2009) and/or compensate for transgressions (Barth & Sturmer, 2016; Berndsen & McGarty, 2012). Consequently, perspective-taking techniques have been considered as a means of building supportive intergroup relations (Goldstein et al., 2014). Importantly, such techniques form the basis of many practical "real world" strategies designed to promote intergroup positivity, including educational programs (e.g., Wong et al., 2014) and attitude change campaigns (e.g., Strong & Martin, 2014).

However, studies also report that perspective-taking has no effect on people's perceptions and actions towards groups or exacerbate intergroup hostility (e.g., Berndsen et al., 2018; Tarrant et al., 2012). A closer examination of the literature reveals considerable variation in a great number of other factors that may also shape the relative effects of perspective-taking. For instance, there is variation in: how perspective-taking techniques are manipulated (e.g., instructions to "imagine-self" versus "imagine-other"; Barth & Sturmer,

2016; Vorauer & Sasaki, 2014); the mode of delivery (e.g., narratively, via video, via computer-generated avatar; Herrera et al., 2018; Martinez et al., 2018; van Prooijen & Coffeng, 2013); characteristics of the study sample (e.g., community versus student sample; geographical location of study); and how the outcomes themselves are captured (e.g., as attitudes versus behaviours; Herrera et al., 2018; Shih et al., 2009; Todd et al., 2011; and a feeling of "oneness" or solidarity; Barth & Sturmer, 2016; Nario-Redmond et al., 2017). Moreover, some research seeks to improve intergroup hostility (that is, reduce negativity; e.g., Roussos & Dovidio, 2016; Tippin & Maranzan, 2019; Todd & Burgmer, 2013) where as other work aims to promote intergroup benevolence (that is, promote positivity; e.g., Adida et al., 2018; Bruneau & Saxe, 2012; Dovidio et al., 2004). It seems plausible that the effects of perspective-taking are also conditioned upon this variation but, as yet, we do not know which settings are most associated with improved intergroup relationships. Despite its popularity, we are not aware of a meta-analytic summary on the perspective-taking strategies in the context of intergroup attitudes, actions, and solidarity. Consequently, we do not know the average effect of perspective-taking, and the strength of its effects. I address these critical oversights identified above by conducting a systematic review and meta-analysis of the literature on perspective-taking and intergroup attitudes, behaviours, and solidarity.

Outcomes of Perspective-Taking

One possibility is that the efficacy of perspective-taking techniques varies depending on the expected outcome. The current perspective-taking literature operationalises outcomes that can be broadly conceptualised as: *attitudes* towards outgroup members, *specific actions or behaviours* taken in relation to those outgroup members, and feelings of *solidarity* with outgroup members. Moreover, attitudes and behaviours can be thought of as either seeking to increase positivity, or reduce negativity. My review engages with these nuances, as outlined below.

Distinguishing Effects on Attitudes, Behaviours and Solidarity

It may be that the effects of perspective-taking differ (in strength) for attitudes compared to behaviours. *Attitudes* are evaluations that reflect whether we approve or disapprove a person, group, or object (Haddock & Maio, 2017). Studies on perspective-taking generally measure attitudes towards outgroup members directly (e.g., "Blacks are getting too demanding in their push for equal rights", Castillo et al., 2011; McConahay et al., 1981, p. 568) or attitudes toward the treatment of the outgroup (e.g., "To what extent are the Stolen Generations entitled to monetary compensation?", Berndsen & McGarty, 2012, p. 1319). *Behaviours*, in this context, are considered as physically observable actions of an individual or group towards an outgroup. The perspective-taking studies that measured behaviour have tended to do so using three types of methods: (a) observing how participants allocate resources (e.g., donating money; Herrera et al., 2018) to the relevant ingroup and outgroups; (b) observing whether participants are willing to help outgroup members (e.g., via volunteering or signing petitions; Adida et al., 2018; McKeever, 2015); (c) and observing the physical distance a participant places between themselves and an outgroup member (e.g., if a person sits close to, or far away, from an outgroup member; Todd et al., 2011).

There are myriad theoretical reasons to suspect that the strength of the effect of perspective-taking on attitudes and behaviours, may differ. Research on the theory of planned behaviour (e.g., Ajzen, 1991; Ajzen & Fishbein, 1977) recognises that attitude change does not necessarily or uniformly translate to behavioural change. In the context of intergroup relations more specifically, the *principle-implementation gap* (Dixon et al., 2017) posits that although peoples' attitudes may favour reducing social inequality, people often do not take specific actions to bring about that desired change. For example, after apartheid, many South Africans support the notion of racial equality. However, relatively fewer engage in behaviours that support or maintain the desired equal relations (such as balanced racial representation in their national sports teams; Dixon et al., 2017). In the context of

perspective-taking, these findings suggest that perspective-taking strategies may have relatively stronger effects on changing attitudes than changing behaviours. Therefore, I will compare the effects on attitudes versus behaviours, and expect to find that:

> **Hypothesis 1:** Perspective-taking will produce stronger effects on attitudes than behaviours.

There is a third key outcome of perspective-taking: One of the key mechanisms that is purported to underpin the positive effects of perspective-taking is an enhanced sense of psychological closeness ("oneness") with ostensible outgroup members (Barth & Sturmer, 2016; Galinsky et al., 2005). Consequently, the degree to which a person develops a greater sense of psychological closeness towards the people whose perspective they are adopting is a prevalent area of interest (Galinsky et al., 2005; Myers et al., 2014; Na & Chasteen, 2016; Wiese et al., 2019). For instance, some research seeks to identify the degree of self-other lap ('how similar you are to an outgroup member?'; Oh et al., 2016; Vorauer et al., 2009). Other research measures psychological bonds and closeness with ostensible outgroup members (e.g., 'to what extent do you feel a bond with [group]?'; Barth & Sturmer, 2016). These processes are conceptualised as mechanisms via which perspective-taking impacts intergroup attitudes and actions, but are also measured as an outcome in perspective-taking studies (Barth & Sturmer, 2016; Galinsky et al., 2005; Laurent & Myers, 2011; Sarge et al., 2020).

Self-other overlap and closeness both reflect the degree to which person feels psychologically connected to, or part of, an outgroup and its members. In this paper, I conceptualise self-other overlap and psychological bonding inclusively as forms of solidarity. *Solidarity* refers to the extent to which a person identifies with, and "stands with", an outgroup (Subašić et al., 2008). The ability to feel solidarity with an outgroup is recognised as an important pre-condition of actions to support members of other groups (Reicher et al., 2006; Thomas et al., 2019). Alongside a focus on attitudes and behaviours per se, the meta-

analysis thus seeks to establish whether there is a net positive effect of perspective-taking on psychological solidarity with an ostensible outgroup.

Testing for a Positive-Negative Asymmetry Effect

Attitudes and behaviours can be thought of as either positive or negative. That is, there is a large literature on perspective-taking that seeks to reduce negativity (i.e., reduce prejudice and intergroup hostility). Moreover, there is also a focus within the literature on promoting positivity between groups (i.e., promoting intergroup helping, cooperation, and reconciliation). Therefore, I sought to examine whether perspective-taking would reduce negativity to the same magnitude as it increases positivity.

There are reasons to believe that the strength of effects may differ based on whether the perspective-taking task is intended to reduce negativity (i.e., reduce hostility) versus promote positivity (i.e., increase benevolence). Mummendey and Otten (1998) observed across several studies that participants would willingly distribute rewards to both ingroup and outgroup (although unevenly, in favour of the ingroup). But the pattern of effects differed when it came to active derogation of the outgroup, in that people were reluctant to allocate aversive tasks or stimuli to both their ingroup and the perceived outgroup. This pattern of results became known as the *Positive-Negative Asymmetry Effect* (Mummendey & Otten, 1998). The Positive-Negative Asymmetry Effect (Mummendey & Otten, 1998) has since been tested in studies using prejudice-reduction techniques (Barlow et al., 2012; Graf & Paolini, 2017, p.94). Barlow et al. (2012) tested the asymmetry effect in their study on contact interventions and found that negative contact was a stronger predictor of increased intergroup hostility than positive contact on decreasing intergroup hostility (see also, Paolini & McIntyre, 2019). These findings are consistent with the general observation that negative ('bad') experiences and attributions have stronger effects than positive ('good') experiences and attributions (i.e., the negativity bias, Baumeister et al., 2001; Cacioppo et al., 1997). In

that sense, it may be easier to effect changes in positivity than to change negative intergroup attitudes.

> Hypothesis 2: Perspective-taking will produce stronger effects on promoting support than reducing hostility.

Conceptual and Methodological Nuances of Perspective-Taking

The perspective-taking literature is comprised of studies which employ very different issues, samples, methodologies, and approaches. Exploring these differences may offer important practical insights as to when perspective-taking is most effective, but also reveal fascinating yet theoretically relevant insights about when mentalising the experiences of others yields relatively stronger (versus weaker or even negative) effects.

Imagine Me, Imagine You: Does It Matter Whose Perspective You Are Adopting?

There are several different forms of perspective-taking in the literature which may explain why there is variation in its effects. Each of these forms of perspective-taking are highly relevant to understanding how "I" and "me" can become the basis for "we" and "us". For instance, in the *imagine-self* approach, an individual may be asked to imagine that they are an outgroup member (Batson et al., 1997; Vorauer & Sasaki, 2014). A typical imagine-self instruction would read "Imagine a day in a life of this individual as if you were that person…" (Galinsky & Moskowitz, 2000, p. 711). Alternatively, the *imagine-other* approach asks participants to take the perspective of an outgroup member, (Batson et al., 1997; Vorauer & Sasaki, 2014). A typical imagine-other instruction would be "…imagine how an asylum seeker feels in Papua New Guinea…" (Berndsen et al., 2018, p. 129). The distinction between the two is subtle, however, the key difference between imagine-self and imagine-other instructions is that the former asks a person to visualise themselves (i.e., self *as* an outgroup member) in a given situation, whereas the latter requires a person to visualise other people (i.e., them, outgroup members) in a given situation. My analysis tests four different,

competing, theoretically informed hypotheses about which form, or type, of perspective-taking is most effective at reducing negativity and promoting intergroup positivity.

Arguments for Imagining-Self. The relative efficacy of perspective-taking instructions is a matter of contention in the field, with some researchers arguing that imagine-self is more effective (e.g., Vorauer & Sasaki, 2014), and others suggesting that imagine-other instructions may be more effectual (e.g., Davis et al., 2004). On the one hand, some evidence suggests that imagine-self instructions have stronger effects than imagine-other instructions on helping behaviours (Myers et al., 2014) and attitudes towards an outgroup (Vorauer & Sasaki, 2014). Vorauer (2013) suggest that imagine-other instructions may lead participants to become aware of meta-stereotypes – that is, how members of the outgroup in question could potentially view the perspective-taker and their social group. When meta-stereotypes are activated via imagining others' reactions, participants may believe that the outgroup has a negative opinion towards the participant's ingroup, thus evoking defensive responses from the participant. Conversely, by asking participants to engage in imagine-self perspective-taking, the manner of perspective-taking effectively bypasses consideration of how the outgroup may view them (Vorauer, 2013).

Indeed, consistent with these arguments, Vorauer and Sasaki (2014) found across two studies that participants who engaged in imagine-self perspective-taking had lower negative attitudes towards Chinese and Indigenous Canadians, compared to participants who engaged in imagine-other perspective-taking. Furthermore, imagine-self perspective-taking instructions increase self-other merging between the perspective-taker and the target. Consequently, as the perspective-taker feels more connected to the target, they feel compelled to help the other person (Myers et al., 2014). Therefore, imagine-self instructions could be superior to imagine-other instructions as it increases helping behaviours, and is less likely to

result in defensive responses which maintain negative intergroup attitudes. If this perspective is correct, then the meta-analysis would find support for Hypothesis 3a.

> **Hypothesis 3a:** Imagine-self perspective-taking conditions have stronger effects on attitudes, behaviours, and solidarity than imagine-other conditions.

Arguments for Imagining-Other. On the other hand, some contend that imagine-other instructions are a more impactful method of perspective-taking. Contrary to Vorauer (2013; Vorauer & Sasaki, 2014), Davis et al. (2004) have argued that imagine-self instructions encourage participants to focus on themselves and, in doing so, produce fewer positive thoughts towards the outgroup. Furthermore, Batson and colleagues found participants from both the imagine-self and imagine-other conditions experienced empathy towards the target (a person recounting a discomforting situation), compared to the control group. However, the imagine-self participants experienced distress about their personal welfare and prioritised reducing their own distress (Batson et al., 1997). Participants who received imagine-other instructions, on the other hand, only felt compelled to relieve the distress of the target in question. One caveat is that the studies conducted by Batson et al. (1997) and Davis et al. (2004) examined the effects of perspective-taking effects primarily at an interpersonal level rather than intergroup level. Therefore, it is unclear whether the same processes that Batson, Davis and colleagues observed would be mirrored in an intergroup setting.

A further complexity is that, when taking the perspective of an outgroup, the perceiver may be asked to adopt the perspective of a specific person from an outgroup, or to adopt the perspective of the outgroup more broadly. For example, an instruction asking participants to imagine a specific individual from an outgroup (*imagine-other individual*) would be: “Try to imagine how 17-year-old Katundu must have experienced the events in

Namibia, how he must have felt and what kind of influence these events might have had on his life." (Barth & Sturmer, 2016, p. 317). Alternatively, an example of an instruction focussing on the outgroup in general (*imagine-other group*) would be: "Try to imagine how the Herero must have experienced the events in Namibia, how they must have felt and what kind of influence these events might have had on their lives." (Barth & Sturmer, 2016, p. 317). In practice, the difference between these two instructions is that the participant is either provided with personalised information that identifies an individual from an outgroup, or they are provided with general information about an outgroup.

Empirical tests of the distinction between imagining other individuals versus imagining other group members are relatively scarce and, where they do exist, conflicting. Barth and Sturmer (2016) demonstrated that both perspective-taking conditions induced greater solidarity and support for reconciliatory actions (i.e., willingness to compensate) relative to a control, however, the pattern of effects on these outcomes were not uniform between the two (imagine-other individual, imagine-other group) perspective-taking instructions. In Study 1, participants who were instructed to imagine other group members were more supportive of reconciliatory actions than participants who imagined the experiences of other individuals from that group and control conditions. But in Study 2 and 3, participants in both perspective-taking conditions experienced a uniform increase in solidarity (Study 2), and support for reconciliatory actions (Study 2 and 3), towards an outgroup when compared to a control group. Together, the results provide some evidence that the two forms of instructions may have independent and distinct effects on outcomes (i.e., solidarity and willingness to compensate).

There are other reasons to suspect that the pattern of effects may differ based on whether participants imagine individuals versus group members. Firstly, according to research on the *Identifiable Victim Effect*, people are more inclined to support an identified

(and therefore relatable) person compared to an unidentified person (Small et al., 2007). For instance, Lee and Feeley's (2016) meta-analytic review revealed that, across several moderators, people are more likely to support a singular, identified person over a group of identified persons or an anonymous group. Given that imagine-other (individual) instructions provide details of a single, identified, outgroup member, these instructions may be processed differently (and thus have different effects on) the perspective-taker. If this perspective is correct, then I would find that imagine-other (individual) perspective-taking would have the strongest effects on outcomes (Hypothesis 3b below).

> **Hypothesis 3b:** Imagine-other (individual) conditions will have stronger effects on attitudes, behaviours, and solidarity than imagine-other (group) and imagine-self conditions.

On the other hand, the perceptions and impressions people form about a person do not always generalise to the social group to which this individual belongs (Brown & Hewstone, 2005; Hamilton & Sherman, 1996). That is, although a person might become sympathetic and connected towards an individual and feel compelled to help a specific, identified individual, this does not guarantee that the person will share the same sentiment towards the broader social group (Hamilton & Sherman, 1996). Brown and colleagues (1999) showed, for instance, that a salient group membership was critical for the positive attitudes generated from intergroup contact, to generalise to the outgroup more broadly. If these limits are correct, then imagine-other (group) perspective-taking would have stronger effects on outcomes, and Hypothesis 3c would be supported.

> **Hypothesis 3c:** Imagine-other (group) conditions will have stronger effects on attitudes, behaviours, and solidarity than imagine-other (individual) and imagine-self conditions.

Arguments Suggesting That All Instructions Are Effective. A fourth possibility is that both imagine-self and imagine-other have broadly comparable effects on intergroup attitudes (Todd & Galinsky, 2014). For example, Todd et al., (2011) reported a reduction in racist attitudes towards Black people (the outgroup) for both imagine-self and imagine-other conditions, relative to a control group. However, there were no meaningful differences between the racial attitudes of participants in the imagine-self and imagine-other conditions. If this position is correct, then I propose:

> **Hypothesis 3d:** Imagine-self and the imagine-other (individual/group) conditions have a similar strength of effects on attitudes, behaviours, and solidarity.

The competing conceptual arguments and mixed findings provide little definitive evidence regarding the relative efficacy of imagine-self, imagine-other (individual or group) perspective-taking. Thus, my analysis coded whether the instructions were imagine-self, imagine-other (individual) and imagine-other (group). I then compared the effects of each type of instruction to determine whether there is greater support for Hypotheses 3a to 3d.

"You can write it in a letter, you can tell me on the phone": Does It Matter How Perspective-Taking Instructions Are Delivered?

The effects of perspective-taking techniques could vary depending on the mode for how the manipulations are operationalised. Perspective-taking research traditionally asks the perspective-taker to read or listen to a narrative, write an essay, imagine a scenario, or watch a video about the experiences of a specific outgroup. As far as I am aware, the difference between these traditional methods and how they impact the effects of perspective-taking have not been explored.

Moreover, in recent years an emerging approach has been used to facilitate perspective-taking: computer-generated avatars (e.g., see studies by Hasson et al., 2019 &

Herrera et al., 2018). For instance, proponents of virtual reality have suggested that using avatars is more immersive for participants than imagining scenarios (e.g., Herrera et al., 2018). That is, virtual reality simulates a "real-world" experience where people are seeing themselves in the perspective-taking scenario. Therefore, participants can solely focus on how they are responding to that scenario. Traditional approaches (e.g., written exercises such as 'day in a life' essay; Galinsky & Moskowitz, 2000; or reading narratives; van Prooijen & Coffeng, 2013), on the other hand, involve imagining the perspective-taking scenario, which may be more psychologically demanding. Thus, people are more susceptible to distractions. Given that effects may vary depending on how perspective-taking exercises are delivered; my analysis will test for these potential differences. If the arguments of Herrera et al. (2018) are supported, then I would expect to find:

> **Hypothesis 4:** Studies in which perspective-taking is deployed via computer avatars will produce stronger effects on attitudes, behaviours, and solidarity than those studies which have used other modes (e.g., reading, written, imagination, video, audio) of perspective-taking.

Study 3

The Current Research

Perspective-taking is a widely adopted technique amongst researchers and practitioners in their efforts to reduce intergroup hostility or increase support. Yet, some research has also suggested that perspective-taking often results in null effects. I adopted systematic review and meta-analytic methods to test whether and when perspective-taking effectively attenuates intergroup hostility and promotes intergroup positivity. The current systematic review will provide an overview of the characteristics of this important but diverse literature overall (e.g., study characteristics, type of outcome, type of perspective-taking

instruction, type of outgroup in question, delivery of perspective-taking). The meta-analysis only includes data from experimental studies of perspective-taking, suitable for establishing causal links between perspective-taking and its outcomes.

Moreover, as outlined above, the meta-analysis examines whether the strength of the effect of perspective-taking is conditioned upon other factors. In keeping with the literature on the principle-implementation gap (e.g., Dixon et al., 2017), I expect that effects of perspective-taking will be greater for attitudes, than for specific behaviours or actions (Hypothesis 1). I also sought to establish the magnitude of the effect of perspective-taking on solidarity although I did not have any a priori expectations about the nature or strength of that effect. Similarly, extrapolating from research on the positive-negative asymmetry (e.g., Mummendey & Otten, 1998; Barlow et al., 2012), I expected that effects will be stronger for attempts to increase positivity, than they will be for efforts to reduce negativity (Hypothesis 2).

I also tested for conditional effects of a range of moderators which address key debates about the conditions under which people can effectively imagine themselves as members of other groups (see, e.g., Batson et al., 1997; Barth & Sturmer, 2016; Vorauer & Sasaki, 2014). That is, the strength of effects could be contingent on the type of perspective-taking instructions used (e.g., imagine-self vs. imagine-other (individual) vs. imagine-other (group). Hypotheses 3a-3d reflect different, competing hypotheses derived from the current literature on this topic which suggest, variously, that perspective-taking is most effective when people are either: asked to imagine themselves as an outgroup member (Hypothesis 3a; Vorauer, 2013; Vorauer & Sasaki, 2014), imagine a specific individual from an ostensible outgroup (Hypothesis 3b; Batson et al., 1997; Barth & Sturmer, 2016; Davis et al., 2004), imagine outgroup members as a whole (Hypothesis 3c; Batson et al., 1997; Barth & Sturmer, 2016; Davis et al., 2004), or, perhaps that the methods are relatively equally effective

(Hypothesis 3d; Todd et al., 2011; Todd & Galinsky, 2014). It may also be that the magnitude of the effect differs based on the mode of delivery (e.g., narrative, virtual reality; Hypothesis 4). I collected and coded data for each of these factors to calculate the differences in effects.

As anticipated in the introduction, I expected that the literature would contain instances where the perspective-taking had a positive effect on intergroup attitudes and behaviours – that is, cases where perspective-taking reduced negativity (hostility) and promoted positivity (helping, reconciliation). I term these *facilitative effects*. However, I also expected to identify instances where the perspective-taking had a normatively negative effect on attitudes and behaviours, that is, where perspective-taking enhanced negativity and/or reduced positivity. I term these *backlash effects*.

Openness and Transparency

I pre-registered my theoretical and analytical approach, research questions, eligibility criteria, methods, and hypotheses regarding the positive-negative asymmetry (Hypothesis 2; referred to there as H1a) and principle-implementation gap (Hypothesis 1; referred to there as H1b) on Open Science Framework (https://osf.io/nasj3/). In this study (Study 3), I only tested Hypotheses 1a and 1b from the pre-registration. Furthermore, I did not pre-register specific Hypotheses 3-4 (relating to the type of perspective-taking instructions, mode of delivery) because there was no clear a priori reason for supporting one pattern of effects relative to another; these hypotheses were exploratory.

Method

Search Strategy

The key terms were established after reviewing the terms used in the perspective-taking literature. The key terms were: ‘Perspective-taking OR Cognitive Empathy AND Prejudice OR discrimination OR intergroup attitudes/actions’. I included the term ‘cognitive empathy’ as it is often used interchangeably with ‘perspective-taking’ in the literature

(Stephan & Finlay, 1999). Furthermore, I was only interested in the cognitive form of perspective-taking, as opposed to affective perspective-taking (as described below in 'Inclusion Criteria'). The master search string was as follows:

> (("perspective taking" OR "perspective-taking" OR "cognitive empathy" OR "role taking" OR "role-taking") AND (hostil* OR prejudi* OR outgroup* OR intergroup* OR stigma* OR discriminat* OR bigot* OR colo*rism OR racis* OR sexis* OR weightis* OR ableis* OR ageis* OR xenophobi* OR classis* OR nationalis* OR islamophobi*))

The databases searched for these terms in the title, abstract, and keyword of the papers. The primary search was conducted in May 2019 after pilot testing the electronic database search string. I used ProQuest, PsycINFO, Scopus, and Web of Science to cover both multidisciplinary databases and discipline-specific databases. The second database search was conducted towards the end of the coding stage (August 2020) to collect any recent publications added after the initial search. The additional citations were then screened for inclusion or exclusion.

To identify unpublished studies, an announcement was sent to the mailing lists of four prominent social psychology societies to solicit unpublished data (see https://osf.io/nasj3/ for 'Call for Unpublished Literature' announcement and details). I also conducted backward and Forward Searching (following the recommendations of Card, 2011) to identify additional eligible studies, and to ensure saturation. For the backward searching, I examined the reference lists of theoretical and review papers on the topic of perspective-taking. For the forward searching I identified the highest impact empirical studies in my corpus and examined the lists of papers that had cited those papers.

Inclusion and Exclusion Criteria

Two people screened the papers based on the eligibility criteria. The primary inclusion criteria were studies that experimentally manipulated the cognitive aspects of

perspective-taking. Given the experimental focus of the meta-analysis, the studies also had to include a control comparison measure of intergroup attitudes and actions, either as a pre-test (for repeated measures) or between groups control group. That is, the primary studies must have used at least one perspective-taking technique ('imagine-self', 'imagine-other (individual)' and/or 'imagine-other (group)') to experimentally manipulate perspective-taking. Primary studies also needed to include at least one measure of intergroup attitudes (e.g., evaluations towards an outgroup and the treatment of the outgroup) and/or actions (e.g., physical distancing, letter-writing, petitioning) and/or solidarity (e.g., psychological bonding and self-other overlap). I only included primary, empirical studies that were published in journals, articles in press, dissertations/theses, conference reports, and unpublished data. I excluded narrative or theoretical articles, commentaries, letters, editorials, book chapters, opinions, and responses. I also excluded studies that were written in languages other English.

To isolate the effects of perspective-taking (i.e., adopting the viewpoint of another individual and imagining how that person perceives and understands their environment; Vorauer, 2013) relative to other related constructs, I excluded articles addressing manipulations of affective perspective-taking (i.e., attempts to invoke feelings of sympathy or compassion) and those addressing on Theory of Mind/Social Perspective-Taking. For instance, some studies examined the extent to which children, or people with psychological disorders, are able to adopt the perspective of other people. These studies tend to be related to psychopathology (e.g., autism, schizophrenia; Eack et al. 2017) and/or development (the development of empathy in children; Geary, 1983), rather than intergroup relationships per se, and were therefore excluded. Also, regarding the dependent variables, studies on perspective-taking were excluded if they did not include at least one measure of intergroup attitudes, behaviours, or solidarity (as described in previous paragraph). Thus, papers in which the outgroup variable was warmth or support for an (idiosyncratic) individual were excluded from the analysis.

In keeping with my pre-registered approach, I excluded studies that did not include enough information to calculate effect sizes, and the authors could not provide these details. I excluded studies that did not provide participants with information about the experience of an outgroup member in their perspective-taking scenarios. For example, participants in a virtual reality study embodied an avatar of a Black or Caucasian person. They were then asked to describe pictures of neutral setting (e.g., shopping or travelling) with the assistance of another avatar who belonged to the outgroup (Hasler et al., 2017). Despite fostering a perspective-taking experience and measuring attitudes towards Black people, the experimental scenario did not invite participants to consider the experience of an outgroup member (i.e., it did not include an explicit instruction to perspective-take). Therefore, this study was excluded due to the ambiguity of the perspective-taking manipulation.

Data Extraction

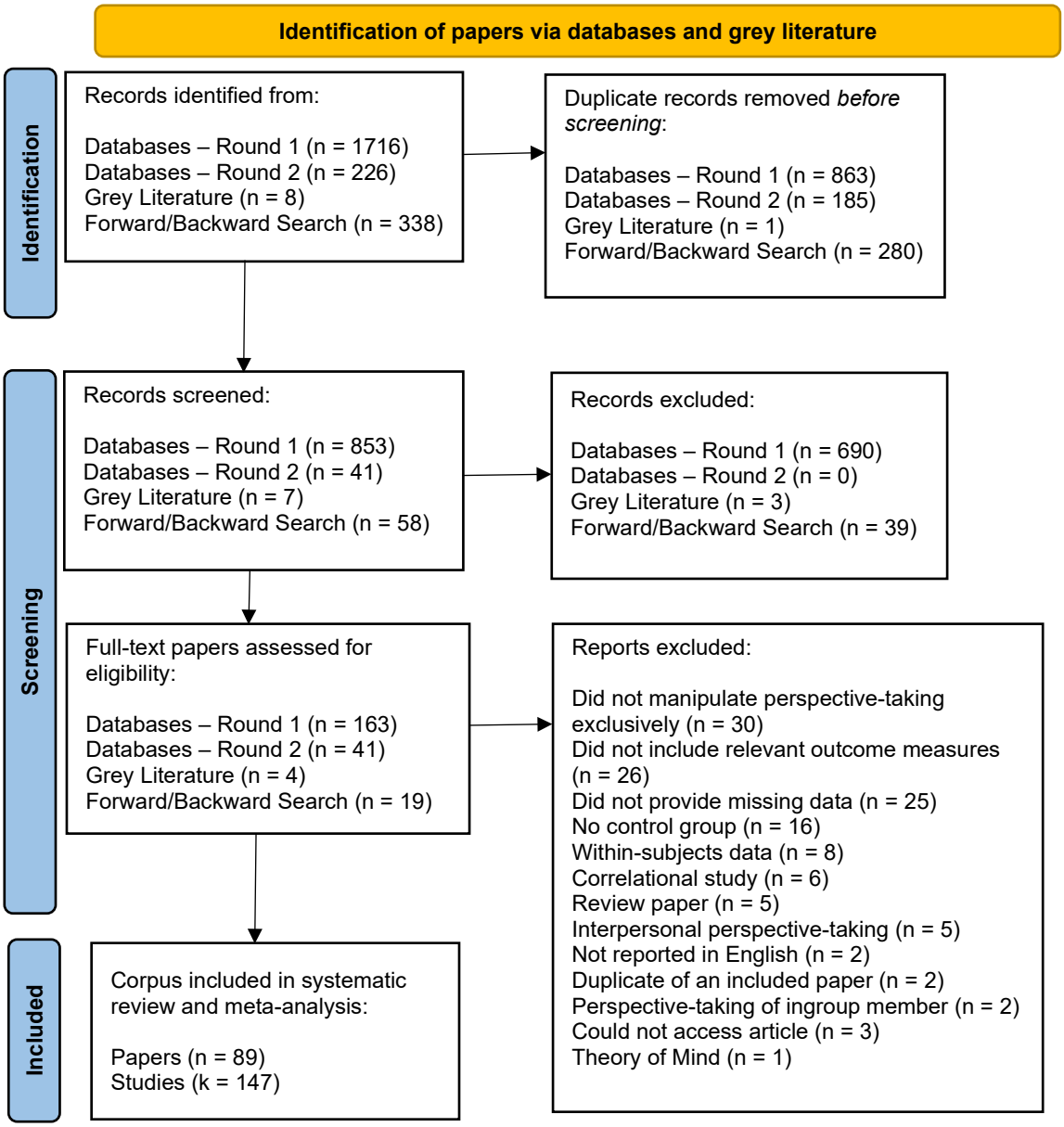
Selection Process

All studies identified in the first and second rounds of electronic database searches were imported to EndNote (a reference management software) for de-duplication. After de-duplication, the electronic database search returned 853 papers from May 2019, and 226 papers from August 2020 (see Figure 4 below for PRISMA diagram). The remaining citations were uploaded to the online software program Rayyan (https://rayyan.qcri.org/welcome; Ouzzani et al., 2016), and screened for inclusion/exclusion by the lead researcher. The residual duplicates from EndNote were removed on Rayyan. Once the screening process for published and unpublished studies were completed, the remaining studies were transferred to a Microsoft Excel Spreadsheet for coding. The papers identified in the Forward/Backward searches (n = 58) were de-duplicated and screened for inclusion/exclusion during the coding process.

To mitigate bias and to calculate interrater reliability, both reviewers screened 10% of articles. Inter-rater agreement between the two coders was excellent (99.5%). Ambiguous cases (that is, cases which did not clearly meet inclusion or exclusion criteria) were resolved via discussion between the lead researcher and second reviewer, and in discussion with a third reviewer as needed. Some eligible studies from the initial title and abstract screening were later excluded during the coding stage, as it was found that they did not meet inclusion criteria (see Figure 4 for summary).

Figure 4

Prisma Diagram



Coding of Articles

Data collection. The data were coded by two researchers who read the full-text of the included studies and extracted the required information. Details that were provided in a different format (e.g., statistics other than effect sizes) were recorded in Excel spreadsheet, to be converted into a standardised unit (e.g., an effect size). Both authors coded ~10% ($k = 22$) of the included articles (selected at random) so that inter-rater reliability could be established. Inter-rater agreement between the two coders was high (87.78%). Any disparities in the coding of those articles were resolved and settled through discussion. In rare cases where a consensus could not be reached, the matter would be discussed with, and resolved by, a third reviewer.

Coding Form. The coding form was constructed on a Microsoft Excel spreadsheet (see https://osf.io/nasj3/). I recorded the relevant descriptive statistics from each study (e.g., sample sizes, means, standard deviations). I also recorded categorical results (e.g., 'yes/no' responses, or 'number of events' versus 'no events') and inferential statistics (e.g., *t*-statistics). Some studies compared perspective-taking with an additional technique which was not applicable to my review (e.g., mindfulness; Edwards et al., 2017). When this occurred, I only recorded the statistics and sample sizes for participants in the perspective-taking conditions and the control conditions. I also calculated weighted means in situations where researchers compared groups that were not relevant variables for my analyses (e.g., compared results for female versus male participants, but did not report the combined/overall results; Ahmad, 2005).

Missing Data. Seventy-three papers were missing the information necessary to calculate the effect size. In these instances, the lead author contacted researchers via email. If authors did not respond after two attempts to seek those details, the study was excluded from

the meta-analysis. I was able to collect sufficient statistical data from 39 papers, out of the 73 papers with missing data, to include in the final analyses (see Figure 4).

Data Synthesis and Analysis

Meta-Analysis

I adopted the Hedges and Olkin (1985) approach to synthesise overall effect sizes, and the calculations used a random-effects model approach. The meta-analyses were conducted using the software program Comprehensive Meta-Analysis Version 3 (Borenstein et al., 2013). Comprehensive Meta-Analysis also calculated the effect sizes for the descriptive statistics, and converted the inferential statistics and categorical data into Hedge's *g*. I also used Comprehensive Meta-Analysis to conduct the moderator analyses. Comprehensive Meta-Analysis provided forest plots and calculated heterogeneity between studies using *Q*-statistics and I^2. The corpus was primarily comprised of data using a between-groups design. A sub-set of seven papers used mixed methods (i.e., within and between person factors), however, it was not appropriate to count the same participants twice and so I recorded only the between groups effects for these studies.

Effect Sizes

I converted the statistical data from each of the studies to Hedge's *g*[1]. In most cases, Comprehensive Meta-Analysis calculated Hedge's *g* of each study using the means, standard deviations, and sample sizes. However, there were some studies that provided categorical data (e.g., proportions of people who performed a specific behaviour), or only reported inferential statistics. Comprehensive Meta-Analysis converted the categorical and inferential statistics to Hedge's *g*.

[1] Initially, I intended to use Cohen's *d* as the effect size (as declared in the pre-registration). However, decided to use Hedge's *g* because it adjusts for small sample sizes.

Several studies had multiple dependent measures of the same outcome (e.g., multiple measures of attitudes or behaviours). Consequently, on these occasions, I needed to provide Comprehensive Meta-Analysis with an aggregate estimate of effects per outcome (i.e., attitude, behaviour, or solidarity) for each study. That is, when a study had more than one measure of the same outcome (e.g., multiple measures of hostile attitudes, or supportive attitudes, for instance), I calculated the overall means of the descriptive statistics (i.e., sample size, condition means and standard deviations) for that outcome. I also selected the option in Comprehensive Meta Analysis to "use the mean of the selected outcome". Furthermore, some studies compared two types of perspective-taking instructions (e.g., 'imagine-self' or 'imagine-other') or mode of delivery (e.g., reading exercise, written task, or computer-generated avatar) against a control condition (e.g., Barth & Sturmer, 2016), and/or included more than one outcome measure (i.e., attitude, behaviour, and/or solidarity – e.g., Skorinko & Sinclair, 2013). Therefore, to avoid artificially inflating the sample size; in cases where there were multiple experimental groups compared to a single control group, I followed the recommendations of Higgins, Eldridge, and Li (2022) and divided the control group sample size equally between the number of experimental conditions. I then selected the option in Comprehensive Meta-Analysis also provided an option to "use all of the selected outcomes, assuming independence" when running the analysis.

I used two approaches to establish whether one condition (e.g., attitudes) had a reliably stronger effect than another condition (e.g., behaviours). Initially, I compared the confidence intervals of each condition to determine if there were significant differences between conditions. These analyses include all the datapoints that were available for inclusion within the meta-analysis. Then I used subgroup analyses (*Q*-tests) in Comprehensive Meta-Analysis to test if the difference of effects were reliable. Some studies included more than one outcome or condition of interest. In these cases, Comprehensive

Meta-Analysis automatically created a third group (labelled either 'combined' or 'all independent'), which was included in the subgroup analyses. I report the *k* of studies with non-independent datapoints as footnotes in the results below. While the confidence intervals include all datapoints, but the *Q*-tests were based on datapoints that were categorised depending on if they were independent or non-independent.

Interpretation of Findings. Perspective-taking can have a facilitative or backlash effect on intergroup relations. Thus, I needed to be able to identify when perspective-taking resulted in reduced hostility/increased support (i.e., facilitative effect) increased hostility/reduced support (i.e., backlash effect). Below, I report facilitative effects as positive values and any backlash effects as negative values.

Furthermore, studies often included study characteristics or moderators belonging to more than one category. For example, a study could include community and student samples, assess attitudes and behaviours, or use more than one type of perspective-taking. Therefore, the reported '*n*' in tables and text often exceeds the number of included studies ($k = 147$). Instead, the *n* reflects the number of studies that are included in each characteristic/category (Table 1 and Table 2), or the number of studies included in the specific analysis reported in that row (Table 4 and Table 5).

Results

Systematic Review: Characteristics of Studies

The studies spanned 1972-2021 but were primarily published or reported between the years 2006 and 2021 and were presented mostly as peer-reviewed journal articles and dissertations (see Table 8). The studies were implemented mainly in an offline setting (70.27%), with a small number of studies conducted online (27.70%), or using a combination of offline and online modes (1.35%). The average age of participants across all the included studies was 26.34 years old ($SD = 8.56$). The mean proportion of female participants across

all studies was 61.07% (*SD* = 14.45). The studies primarily involved student participants from the United States. Most studies did not use manipulation checks or collect follow-up data.

Table 8

Characteristics and Demographic Information of Primary Studies

Characteristics of Primary Studies	*n*	% of Studies
Year of Publication		
1972	1	1.1
2000-2005	7	7.87
2006-2010	16	17.98
2011-2015	28	31.46
2016-2021	37	41.57
Type of Document		
Empirical journal article	104	70.75
Dissertation/thesis	42	28.57
Conference proceedings	1	0.68
Participants Recruited		
Students	113	76.35
Members of local community	25	16.89
Combination of students and community	9	6.08
Other (i.e., trained nurses from the community)	1	0.68
Study Location		
North America (Canada & United States)	110	73.33
South America (Colombia)	1	0.67
Asia (China, Singapore, India, South Korea, Thailand)	9	6.00
Australia	6	4.00
Middle East (Palestine & Israel)	4	2.67
Continental Europe (Germany, The Netherlands, Spain, Hungary, Italy, Poland)	18	12.00
United Kingdom	2	1.33
Manipulation check		
Yes	61	40.67
No	89	59.33
Follow-up data		
Yes	10	6.71
No	139	93.29

Effects of Perspective-taking on Hostile or Supportive Attitudes and Behaviours, and Solidarity

My systematic review revealed that the majority of studies included attitudinal measures, however behavioural and solidarity measures were less common. Regarding the valency of outcome measures, more studies used measures which captured an increase of support, whereas fewer studies used measures capturing a reduction in hostility (see Table 9 for a summary).

To test Hypothesis 1, I compared the effects of perspective-taking on attitudes, behaviours, and solidarity by synthesising and averaging the effect sizes for each outcome. I then compared the effects of attitudes versus behaviours, and the effects of solidarity were considered independently. Table 10 shows that, overall, perspective-taking techniques had a small facilitative effect on attitudes and behaviours, and a small-to-medium effect on solidarity. Therefore, consistent with Hypothesis 1, perspective-taking appears to have a small facilitative effect on attitudes but does not reliably affect behaviours. Table 10 suggests that the 95% confidence intervals for the effect sizes for attitudes and behaviours overlap and the subgroup analysis suggested that attitudes were not significantly stronger than their effects on behaviours[2], $Q(2) = 2.96$, $p = .228$. Thus, the results suggest that, on the one hand, perspective-taking reliably affects attitudes, but does not reliability facilitate changes to intergroup behaviours, yet, on the other hand, these two outcomes are not significantly different to each other.

For Hypothesis 2, I assessed the strength of increasing support versus reducing hostility by synthesising and calculating the overall effect sizes for each outcome valency (i.e., aggregating across attitudes and behaviours). Table 10 demonstrates that perspective-

[2] A third 'combined' subgroup was created during this analysis as several studies ($k = 9$) had non-independent datapoints.

taking had a very small (in Cohen's 1988, terms) facilitative effect on reducing hostility, and a small facilitative effect on increasing support. Inspection of confidence intervals and a subgroup analysis[3] revealed that the effects of perspective-taking on reducing hostility did not significantly differ from its effects on increasing support, $Q(2) = 2.22$, $p = .329$. Thus, Hypothesis 2 was not supported, and perspective-taking appears to have equally facilitative effects on intergroup positivity and intergroup hostility.

[3] A third 'combined' subgroup was created during this analysis as considerable proportion of studies ($k = 31$) had non-independent datapoints.

Table 9

Summary of Outcome Measures, Outcome Valency, Perspective-Taking Instructions, and Modes of Delivery Used in Each Study

Moderators	*n*	% of Studies
Outcome Measure		
Attitudes	137	93.20
Behaviours	16	10.88
Solidarity	18	12.24
Valency of Outcome Measure		
Decreasing Hostility	76	51.70
Increasing Support	93	63.27
Perspective-Taking Instructions		
Imagine-Self	45	30.61
Imagine-Other (Individual)	97	65.99
Imagine-Other (Group)	14	9.52
Mode of Delivery		
Listening to audio	4	2.72
Using an avatar (e.g., computer game avatar or Virtual Reality)	12	8.16
Imagination exercises	9	6.12
Imagination exercises and written task	2	1.36
Reading narratives	41	27.89
Role-playing exercises	7	4.76
Watching a video	21	14.29
Watching a video and written task	1	0.66
Written task	55	37.41
Other	4	2.63

Note. Studies often included two or more of the outcome measure in question (e.g., attitudes and solidarity, or attitudes and behaviours). Thus, the total numbers of measures (i.e., $n = 171$) in Table 9 is higher than the number of included studies ($n = 147$).

Table 10

Effects of Perspective-Taking on All Outcomes and Hostile or Supportive Attitudes and Behaviours

Outcome Variables and Valency	*n*	Hedge's *g* [95% CI]	*SE*	*p*-value
Outcome Variables				
Attitudes and Behaviours	152	0.19	0.03	< .001*
Overall		[0.13, 0.25]		
Attitudes	143	0.19	0.03	< .001*
		[0.13, 0.25]		
Behaviours	18	0.09	0.07	.206
		[-0.05, 0.24]		
Solidarity	19	0.31	0.07	< .001*
		[0.18, 0.45]		
Outcome Valency				
Hostility	85	0.14	0.04	.001*
		[0.06, 0.23]		
Support	98	0.23	0.04	<.001*
		[0.16, 0.30]		

Note. '*' denotes statistically significant result to level of $\alpha = .05$

Effects of Perspective-Taking Depend on the Type of Instructions

Table 9 shows that imagine-other (individual) perspective-taking was the most common instruction. Imagine-self perspective-taking instructions was used in approximately one third of included studies, while imagine-other (group) instructions were the least common method. Also, studies examining the impact of different perspective-taking instructions on behavioural outcomes were sparse. Therefore, I did not have enough power to determine the effects of each type of perspective-taking instruction (i.e., imagine-self, imagine-other [group], imagine-other [individual]) on attitudes versus behaviours separately.

Hypotheses 3a-3d addressed the impact of different perspective-taking conditions on attitudes, behaviours, and solidarity. To address these questions, I averaged and compared the

effects of each type of perspective-taking condition on attitudes and behaviours (combined) and solidarity. Results in Table 11 reveal that, contrary to H3a, imagine-self instructions did not have a reliable effect on attitudes and behaviours overall. However, imagine-other (individual) conditions have a small facilitative effect on attitudes and behaviours. Furthermore, imagine-other (group) instructions have a small-to-medium facilitative effect on attitudes and behaviours. Confidence intervals and subgroup analyses revealed that, consistent with H3b, imagine-other (individual) conditions had stronger effects on attitudes and behaviours than imagine-self conditions[4], $Q(2) = 9.67$, $p = .008$. Imagine-other (group) conditions were also significantly stronger than imagine-self conditions, $Q(1) = 10.10$, $p = .001$. However, the effects of imagine-other (individual) and imagine-other (group) conditions on attitudes and behaviours did not reliably differ from each other[5], $Q(2) = 3.30$, $p = .192$.

Regarding solidarity, both imagine-self and imagine-other (individual) instructions had a small-to-medium facilitative effect on this outcome. Imagine-other (group) instructions did not reliably influence solidarity. Subgroup analysis and confidence intervals demonstrated that the effects between imagine-self instructions and imagine-other (individual) instructions on solidarity were not significantly different[6], $Q(2) = 0.54$, $p = .764$. Even though Table 11 denotes a significant facilitative effect of imagine-self perspective-taking on solidarity, it was not significantly different to imagine-other (group), $Q(1) = 0.06$, $p = .802$. The only two studies that tested the effects of imagine-other (group) on solidarity also included imagine-other (individual) conditions. Therefore, I could not conduct a subgroup analysis for this comparison because the datapoints were nested within a single study (not independent). However, the confidence intervals displayed in Table 11 suggest that the

[4] A third subgroup was created during this analysis as several studies ($k = 8$) had non-independent datapoints.
[5] A third subgroup was created during this analysis as several studies ($k = 4$) had non-independent datapoints.
[6] A third subgroup was created during this analysis as several studies ($k = 3$) had non-independent datapoints.

effects of both imagine-other conditions were not significantly different. It is notable that the confidence intervals for imagine-other (group) are noticeably larger for solidarity. Only two studies explored the effects of imagine-other (group) perspective-taking on solidarity. Therefore, the non-significant difference between imagine-self and imagine-other (group) may be a reflection of greater error/variance around the estimated effect size.

Table 11

The Effect of Different Perspective-Taking Instructions on Outcomes.

Perspective-taking Instruction	Type of Outcome	*n*	Hedge's *g* [CI]	*SE*	*p*-value
Imagine-Self	Attitudes and Behaviours	49	0.07 [-0.19, 0.16]	0.05	.124
	Solidarity	9	0.36 [0.19, 0.53]	0.09	< .001*
Imagine-Other (Individual)	Attitudes and Behaviours	99	0.24 [0.17, 0.31]	0.04	< .001*
	Solidarity	13	0.33 [0.13, 0.52]	0.10	.001*
Imagine-Other (Group)	Attitudes and Behaviours	16	0.39 [0.20, 0.59]	0.10	< .001*
	Solidarity	2	0.41 [-0.15, 0.97]	0.29	.146

Note. '*' denotes statistically significant result to level of $\alpha = .05$

Mode of Delivery

Table 9 shows that perspective-taking studies adopt a variety of modes with the most common modes of delivery being written tasks, reading narratives, and watching videos. A smaller portion of studies used computerised avatar (i.e., computer game characters or virtual reality), imagination exercises, role-playing exercises, listening to audio, imagination and written tasks, and video and written tasks.

Hypothesis 4 tested whether the effects on outcomes were greater when perspective-taking was applied via computer avatars, compared to other modes of delivery. Attitudinal

and behavioural outcomes were combined for this analysis, as there were few primary studies that measured behaviour changes. I tested this hypothesis by calculating the average effect size of perspective-taking on attitudes and behaviours, and solidarity, for each mode of delivery (e.g., audio modes, then computer avatar modes). Then I compared the confidence intervals of each mode to determine which had the strongest effect on the outcomes.

Table 12 shows that only four modes of delivery reliably influenced the effects of perspective-taking on attitudes, behaviours, and solidarity. Engaging in perspective-taking by reading a narrative or watching a video has a small facilitative effect on attitudes and behaviours. Engaging in perspective-taking via writing tasks yielded a small-to-medium facilitative effect on attitudes and behaviours. However, using a computer avatar did not influence attitude and behaviour change. These four modes had a different pattern of effects for solidarity. Implementing perspective-taking techniques using narratives and avatars both had small-to-medium facilitative effects on solidarity. But perspective-taking via written tasks had no effect on solidarity. The studies that applied perspective-taking via videos did not measure solidarity, thus these effects are unknown.

Regarding effects on attitudes and behaviours, subgroup analyses and confidence intervals revealed that reading narratives had a stronger effect than embodying computer avatars, $Q(1) = 5.57$, $p = .018$; and writing tasks had stronger effects than embodying computer avatars, $Q(1) = 12.47$, $p < .001$. Furthermore, the effects of watching videos did not significantly differ from computer avatars, $Q(1) = 3.62$, $p = .057$; the effects of reading narratives did not differ from watching videos, $Q(1) = 0.052$, $p = .819$, or writing tasks, $Q(1) = 2.37$, $p = .124$; and the effects of watching videos did not significantly differ from writing tasks, $Q(1) = 2.30$, $p = .129$. Regarding solidarity, subgroup analyses and confidence intervals revealed that: computer avatar modes and narrative modes, $Q(1) = 1.05$, $p = .307$, and computer avatar and writing tasks, $Q(1) = 1.61$, $p = .205$, did not significantly differ. Also,

the effects of narrative modes and writing tasks were not reliably different, $Q(1) = 0.11$, $p = .742$.

Table 12

The Effect of Perspective-Taking on Outcomes Depending on Mode of Delivery

Mode	Outcome Variable	*n*	Hedge's *g* [CI]	*SE*	*p*-value
Audio	Attitudes and Behaviours	3	0.07 [-0.17, 0.31]	0.12	.560
	Solidarity	1	-	-	-
Avatar	Attitudes and Behaviours	13	-0.01 [-0.18, 0.16]	0.09	.902
	Solidarity	3	0.43 [0.20, 0.67]	0.12	< .001*
Imagine	Attitudes and Behaviours	5	-0.02 [-0.20, 0.16]	0.09	.830
	Solidarity	1	-	-	-
Imagine and written	Attitudes and Behaviours	2	0.06 [-0.14, 0. 26]	0.10	.544
	Solidarity	0	-	-	-
Reading narratives	Attitudes and Behaviours	41	0.22 [0.11, 0.33]	0.05	< .001*
	Solidarity	7	0.30 [0.06, 0.54]	0.12	.015*
Role-Play	Attitudes and Behaviours	7	-0.22 [-0.50, 0.07]	0.15	.133
	Solidarity	0	-	-	-
Video	Attitudes and Behaviours	21	0.20 [0.05, 0.34]	0.07	.008*
	Solidarity	0	-	-	-
Video and written	Attitudes and Behaviours	1	-	-	-
	Solidarity	0	-	-	-
Writing task (e.g., 'day in the life' essay)	Attitudes and Behaviours	55	0.34 [0.23, 0.45]	0.06	< .001*
	Solidarity	6	0.24 [-0.03, 0.51]	0.14	.084
Other		4	-	-	-

Note. '*' denotes statistically significant result to level of $\alpha = .05$

Heterogeneity Between Studies

I examined heterogeneity using Q and I^2 statistics on Comprehensive Meta-Analysis Version 3 (Borenstein et al., 2013). The Q-statistic is used to determine if the experimental effects of each primary study in a meta-analysis are significantly different from each other (Cochran, 1954). The I^2 test indicates the magnitude of the heterogeneity between effect sizes. The boundaries for I^2 are as follows: values below 30 signify mild heterogeneity, values between 30 – 50 signify moderate heterogeneity, and values above 50 signify substantial heterogeneity (Higgins & Thompson, 2002). Table 13 demonstrates that experimental effects were significantly different for most of the tests, with a substantial ($I^2 >$ 50) proportion of variance being explained by heterogeneity.

Table 13

Heterogeneity Tests for Each Analysis

Moderators	Outcome Variables	*n*	Heterogeneity
Outcome Variables	Attitudes and Behaviours Overall	152	Q (151) = 575.79, p < .001*, I^2 = 73.78
	Attitudes overall	143	Q (142) = 573.58, p < .001*, I^2 = 75.24
	Behaviours overall	18	Q (17) = 26.82, p = .060, I^2 = 36.61
	Solidarity	19	Q (18) = 30.85, p = .030*, I^2 = 41.64
Outcome Valency	Hostility	85	Q (84) = 349.23, p < .001*, I^2 = 75.95
	Support	98	Q (97) = 288.31, p < .001*, I^2 = 66.36
Perspective-taking Instruction			
Imagine-Self	Attitudes and Behaviours	49	Q (48) = 149.12, p < .001*, I^2 = 67.81
	Solidarity	9	Q (8) = 12.26, p = .140, I^2 = 34.74
Imagine-Other (Individual)	Attitudes and Behaviours	99	Q (98) = 387.43, p < .001*, I^2 = 74.71
	Solidarity	13	Q (12) = 25.32, p = .013, I^2 = 52.60
Imagine-Other (Group)	Attitudes and Behaviours	16	Q (15) = 49.68, p < .001*, I^2 = 69.81
	Solidarity	2	Q (1) = 2.11, p = .146, I^2 = 52.65
Mode of Delivery			
Audio	Attitudes and Behaviours	3	Q (2) = 2.63, p = .268, I^2 = 24.04
	Solidarity	1	-
Avatar	Attitudes and Behaviours	13	Q (12) = 37.77, p < .001*, I^2 = 68.23
	Solidarity	3	Q (2) = 0.33, p = .846, I^2 = 0.00
Imagine	Attitudes and Behaviours	5	Q (4) = 9.10, p = .059, I^2 = 56.05
	Solidarity	1	-
Imagine and Written	Attitudes and Behaviours	2	Q (1) = 0.01, p = .939, I^2 = 0.00
	Solidarity	0	-
Reading narratives	Attitudes and Behaviours	41	Q (40) = 169.19, p < .001*, I^2 = 76.36
	Solidarity	7	Q (6) = 11.74, p = .068, I^2 = 48.88
Role-Play	Attitudes and Behaviours	7	Q (6) = 16.51, p = .011*, I^2 = 63.67
	Solidarity	0	-
Video	Attitudes and Behaviours	21	Q (20) = 51.81, p < .001*, I^2 = 61.40
	Solidarity	0	-
Video and Written	Attitudes and Behaviours	1	-
	Solidarity	0	-
Writing task (e.g., ‘day in the life’ essay)	Attitudes and Behaviours	55	Q (54) = 238.84, p < .001*, I^2 = 77.39
	Solidarity	6	Q (5) = 11.47, p = .043*, I^2 = 56.42
Other		4	-

Note. ‘*’ denotes statistically significant result to level of α = .05

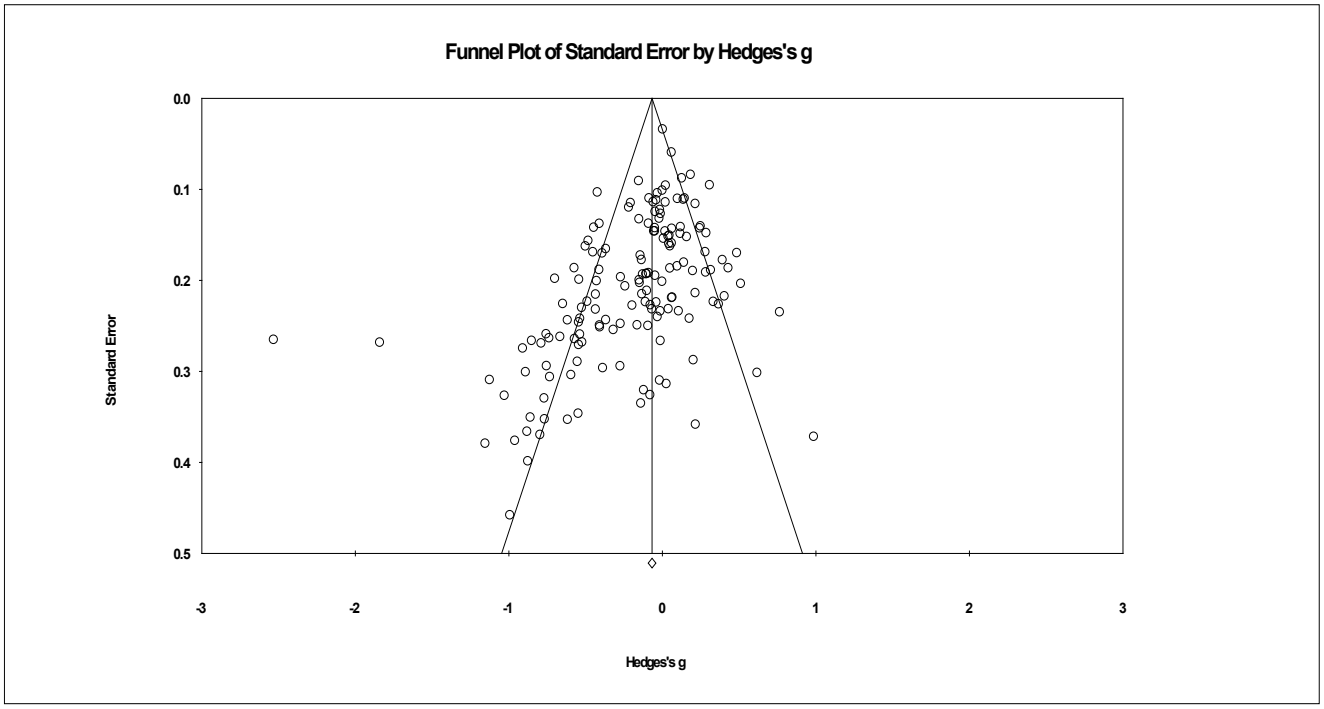
Assessment of Biases

Publication Bias

I conducted the following analyses to test for publication bias: funnel plots comparing either standard error or precision, against Hedge's *g* (as a first impression of bias), Egger's regression, (see Rothstein et al., 2005). Figure 5 shows that there may be evidence of publication bias in both directions (i.e., both positive and negative effects), with two clear outliers in the negative direction. The Egger's regression test was significant, which would also indicate evidence of bias $\beta_0 = -1.70$, $t(152) = 5.58$, $p < .001$, CI [-2.30, -1.10]. Therefore, it is possible that the synthesised effect size estimate was affected by publication bias.

Figure 5

Funnel Plot Comparing Hedge's G Against Standard Error of Observed Studies.



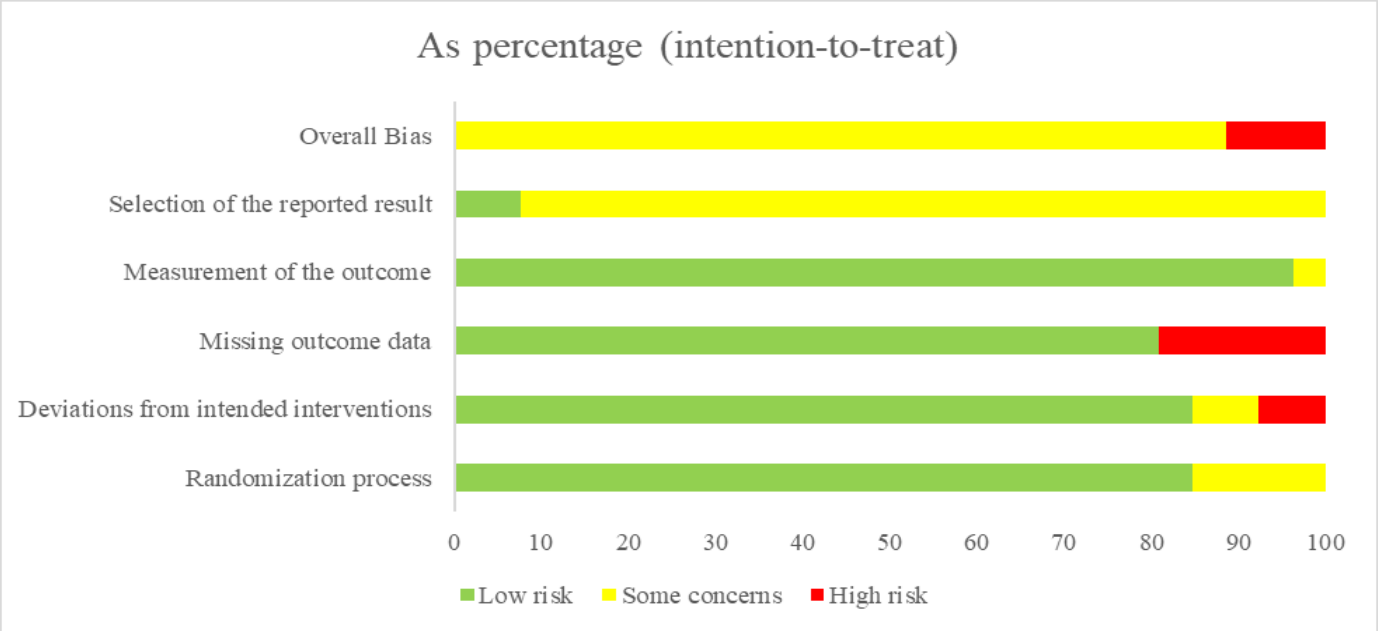
Risk of Bias in Individual Studies

The risk of bias was evaluated for 20 randomly selected studies (13.61% of overall sample) using the Risk of Bias 2.0 (R.o.B 2.0) tool developed by Sterne et al. (2019). R.o.B 2.0 assesses bias against five domains for each of the studies' outcomes (i.e., attitudes, behaviours, solidarity). The five domains were: (1) whether the participants were randomly assigned into experimental conditions (randomisation process); (2) if participants knew the condition they were assigned to and if deviations (e.g., non-adherence) from experimental procedures occurred (deviation from intended interventions); (3) if substantial amounts of data were excluded without an admissible explanation (missing outcome data); (4) whether the outcomes were measured appropriately (measurement of the outcome); and (5) if the authors used one or multiple analyses to assess the data (selection of the reported result).

Figure 6 conveys that 81.77 - 96.15% of studies had minimal risk regarding the randomisation process, deviations from the intended interventions, missing outcome data, and measurement of the outcome. However, 92.31% of studies nevertheless raised some reasons for concern towards the selection of the reported results, that is, there appeared to be multiple ways of analysing the data. Some studies (7.69%) raised high risk concerns in the 'deviations from intended interventions' domain. Also, 19.23% of studies were classified as high risk in the 'missing outcome data' domain primarily due to researchers failing to declare why some participants and/or data were excluded. As Figure 6 conveys, the overall assessment identified some concerns or high risk of bias, however, it is worth noting that with current pre-registration requirements and norms, I suspect that a selection of a more current sample would show quite different effects.

Figure 6

Overview of Bias Judgements Across All Assessed Studies



Discussion

Perspective-taking is a popular and widely adopted method of tackling intergroup hostility, yet, the evidence of its effectiveness is mixed. Whilst some evidence supports its efficacy (a facilitation effect; e.g., Vorauer & Sasaki, 2014), others have shown that, under some conditions, the effects of perspective-taking can vary considerably, and indeed have no effect on intergroup attitudes, behaviours, and solidarity. Consequently, this meta-analysis sought to establish the magnitude of the overall effect of perspective-taking on reducing intergroup attitudes, behaviours, and solidarity. I predicted that perspective-taking would have a stronger effect on attitudes than behaviours (Hypothesis 1). I also argued that perspective-taking may have stronger facilitative effects on promoting positivity relative to reducing negativity (Hypothesis 2). Finally, I examined whether variation in perspective-taking studies could be explained depending on: The type of perspective-taking instructions (i.e., imagine-self, imagine-other (individual), or imagine-other (group); Hypothesis 3a-3d),

or the mode of delivery (e.g., reading narrative, written tasks, computer avatars; Hypothesis 4).

The findings have demonstrated that, overall, perspective-taking has a small, reliable facilitative impact on intergroup outcomes. Yet, the strength of that effect varied considerably across outcomes and perspective-taking types. Unexpectedly, and contrary to Hypothesis 1, perspective-taking did not have a significantly different effect on attitudes compared to behaviours. However, perspective-taking had a reliable facilitative effect on attitudes, but it did not have a reliable effect on behaviours. Therefore, I observed partial support for Hypothesis 1. Also contrary to expectations (Hypothesis 2), perspective-taking was shown to be equally facilitative of reducing hostility and increasing support with small effect sizes of perspective-taking on those outcomes respectively.

Given the debate within the literature about the most effective type of perspective-taking instructions, I identified three competing hypotheses (Hypothesis 3) that tested the propositions that imagine-self (Hypothesis 3a), imagine other-individual (Hypothesis 3b), or imagine other-group (Hypothesis 3c), respectively, would produce stronger facilitative effects. Hypotheses 3b to 3d were partially supported because imagine-other (individual) and imagine-other (group) both had significantly stronger effects on attitudes and behaviours relative to imagine-self perspective-taking. Furthermore, the imagine-other conditions did not significantly differ from each other regarding their effects on attitudes and behaviours (Hypothesis 3b and 3c). However, the effects of the imagine-other conditions did not reliably differ from imagine-self with regards to solidarity, despite imagine-other (group) having no effect on solidarity; thus, providing some support for Hypothesis 3d.

Finally, Hypothesis 4 was based on debates the most effective mode of delivery for perspective-taking. I did not find support for Hypothesis 4 because computer avatar modes did not influence attitudes and behaviours, and writing and reading tasks produced

significantly stronger facilitative effects on attitudes. Computer avatar modes had a facilitative influence on solidarity, but the effects were not reliably different from the other modes (i.e., writing and reading tasks, but not video modes). Thus, there are specific conditions under which perspective-taking techniques are more effective or not effective at all. Table 14 provides an overview and summary of the findings in relation to my key hypotheses. I dissect and discuss the nuances of the findings for each of my hypotheses below.

Table 14

Summary Support or Non-Support of Hypotheses.

Hypothesis	Supported?			Findings
	Yes	Partial	No	
H1: Perspective-taking will produce stronger effects on attitudes than behaviours.		✓		**Attitudes > Behaviours**
H2: Perspective-taking will produce stronger effects on promoting support than reducing hostility.			✓	**Hostility = Support**
H3a: Imagine-self perspective-taking conditions will have stronger effects on attitudes, behaviours, and solidarity than imagine-other conditions.			✓	**Attitudes & Behaviours:** Nil effects **Solidarity:** Imagine-self = imagine-other (individual) Imagine-self = imagine-other (group)
H3b: Imagine-other (individual) perspective-taking conditions will have stronger effects on attitudes, behaviours, and solidarity than imagine-other (group) and imagine-self conditions.		✓		**Attitudes & Behaviours:** Imagine-other (individual) = imagine-other (group) Imagine-other (individual) > imagine-self **Solidarity:** Imagine-other (individual) = imagine-self Effects of imagine-other (individual) vs. imagine-other (group) unknown

Note. '=' denotes equal effects between conditions, '>' denotes that condition on left has stronger effects, '<' denotes that condition on right has weaker effects.

Table 14 continued

Hypothesis	Supported?			Findings
	Yes	Partial	No	
H3c: Imagine-other (group) perspective-taking conditions will have stronger effects on attitudes, behaviours, and solidarity than Imagine-other (individual) and imagine-self conditions.		✓		**Attitudes & Behaviours:** Imagine-other (group) > imagine-self Imagine-other (group) = imagine-other (individual) **Solidarity:** Imagine-other (group) had nil effects on solidarity, but: Imagine-other (group) = imagine-self Effects of imagine-other (group) vs. imagine-other (individual) unknown
H3d: Imagine-self, imagine-other (individual), and imagine-other (group) conditions have the same effect on attitudes, behaviours, and solidarity.		✓		**Attitudes & Behaviours:** Imagine-other (individual) = imagine-other (group) Imagine-other (individual/group) > imagine-self **Solidarity:** Imagine-other (individual) = imagine-self Imagine-other (group) = imagine-self Effects of imagine-other (group) vs. imagine-other (individual) unknown
H4: Studies in which perspective-taking is deployed via computer avatars will produce stronger effects on attitudes, behaviours, and solidarity than those studies which have used other modes (e.g., reading, written, imagination, video, audio) of perspective-taking.			✓	**Attitudes & Behaviours:** Computer avatars < reading tasks Computer avatars < writing tasks Computer avatars = watching videos **Solidarity:** Computer avatars = reading tasks Computer avatars = writing tasks Nil effects/inconclusive effects for writing tasks and videos, respectively

Note. '=' denotes equal effects between conditions, '>' denotes that condition on left has stronger effects, '<' denotes that condition on right has weaker effects.

Effects of Perspective-Taking May Be Contingent on the Intended Outcome

Perspective-Taking Has Stronger Effects on Attitudes and Solidarity

I sought to establish the extent to which perspective-taking techniques would impact attitudes and behaviours, and promote a sense of 'oneness' (solidarity) with members of other groups. Regarding attitudes and behaviours, the principle-implementation gap (Dixon et al., 2017) suggested that improvements in attitudes do not necessarily equate to behavioural changes towards a perceived outgroup and its members. Furthermore, the theory of planned behaviour (Ajzen, 1991; Ajzen & Fishbein, 1977) would suggest that behaviours are often impervious to change because they depend on many conditions, such as, previous actions, whether people intend to change their behaviours, the person's current environment/context, and whether the behaviour in question is achievable. So, while the evaluations of an outgroup can shift, we may not see changes in behaviours because it may be that other conditions need to be met for behavioural changes to occur (e.g., Dixon et al., 2017). The findings of this meta-analysis are consistent with the principle-implementation gap and the theory of planned behaviour in the context of perspective-taking techniques. Therefore, perspective-taking is an effective strategy, but it may not be a suitable technique if the aim is to change how "outgroups" are treated in a behavioural sense. Alternatively, in accordance with the Theory of Planned Behaviour (Ajzen, 1991; Ajzen & Fishbein, 1977), studies may not always capture behavioural change during the experiment because these changes occur over time, and when conditions are perceived as optimal.

Furthermore, the analyses revealed that, overall, perspective-taking has a small-to-medium effect on promoting solidarity between social groups. Imagine-self and imagine-other (individual) both had significant effects on solidarity but imagine-other (group) did not. There were no significant differences between the three perspective-taking instructions. Therefore, imagine-self and imagine-other (individual) perspective-taking are equally useful

methods to decrease the amount of perceived conceptual distance between the perspective-taker's "self" and members of the outgroup in question. My findings are consistent with previous studies that also observed participants feeling a heightened sense of overlap between themselves and an outgroup member (e.g., Barth & Sturmer, 2016; Galinsky et al., 2005). Overall, perspective-taking exercises can meaningfully enhance feelings of solidarity towards other groups and their members. Consequently, this may lead to positive changes in attitudes and behaviours towards the outgroup in question (e.g., Barth & Sturmer, 2016; Galinsky et al., 2005; Laurent & Myers, 2011; Sarge et al., 2020).

The Type of Perspective-Taking Condition Matters

One contention in the perspective-taking literature is the possibility that certain types of perspective-taking instructions have stronger effects on intergroup relations than others (e.g., Barth & Sturmer, 2016; Davis et al., 2004; Vorauer & Sasaki, 2014); or that all perspective-taking conditions have equal effects (Todd et al., 2011). The meta-analysis revealed a complex story whereby the efficacy of each perspective-taking condition is contingent on the outcome in question. That is, imagine-other (individual) and imagine-other (group) were the only conditions to effectively influence attitudes and behaviours. The imagine-other conditions had similar effects on attitudes and behaviours, and these effects were stronger than the imagine-self condition. These findings lend support for those who argue that imagine-other conditions have stronger effects (e.g., Batson et al., 1997; Davis et al., 2004). However, I did not find evidence to support the contention that imagine-other (individual) and imagine-other (group) have different effects (e.g., Barth & Sturmer, 2016).

A similar pattern was found when assessing the effects of different perspective-taking conditions have on solidarity. Except, the imagine-self and imagine-other (individual) conditions influenced solidarity, while imagine-other (group) conditions did not. It appears that imagine-self and imagine-other conditions have equivalent effects, but only when

seeking to increase solidarity, not attitudes and behaviours. These findings lend some support for arguments that imagine-self and imagine-other conditions have equivalent effects (e.g., Todd et al., 2011; Todd & Galinsky, 2014). However, arguably some of the meta-analytic findings remain inconclusive. Whilst the imagine-self and imagine-other group are not significantly different from each other, the number of studies using imagine-other (group) conditions was substantially smaller for solidarity than the other two perspective-taking conditions. Therefore, the confidence intervals around imagine-other (group)'s estimated effect size are considerably larger. If more studies explored the effects of imagine-other (group) on solidarity, the variance around the estimated effect size may decrease; and perhaps then we may be able to determine whether there are significant differences or not. Additionally, I did not have enough studies to decipher the (potential) differences between imagine-other (individual) and imagine-other (group) and their effects on solidarity. These findings highlight the need for more studies exploring the effects of imagine-other (group) on solidarity.

Perspective-Taking Conditions Have Equivalent Effects on Intergroup Hostility and Support

One well-established position in the prejudice-reduction literature is that negativity has a stronger influence than positivity (e.g., Baumeister et al. 2001; Mummendey & Otten, 1998). For example, the literature on intergroup contact (Barlow et al., 2012) and impression formation (Paolini & McIntyre, 2019) observed negative experiences as stronger predictors of intergroup hostility than positive experiences were on intergroup support. Thus, I suggested that it would be easier to increase supportive attitudes and behaviours than to reduce hostile attitudes and behaviours. However, in this context, perspective-taking had the same effect on reducing intergroup hostility compared to increasing intergroup support. Therefore, these

findings diverge from long-standing positions, as it appears that perspective-taking techniques do not have the same pattern of effects on valency.

Although I did not identify a valence asymmetry at a broader level (i.e., by comparing an aggregate of hostile attitudes and behaviours to an aggregate of support attitudes and behaviours); a closer/precise inspection of the moderators revealed further nuances. Specifically, the supplementary analyses report on further in-depth analysis comparing the effects of imagine-self and imagine-other (individual/group) conditions on hostile, versus supportive, attitudes or behaviours. These analyses revealed that all three perspective-taking conditions had effects on supportive attitudes and behaviours, but only imagine-other (individual) perspective-taking had reliable effects on both reducing hostility *and* increasing support. Therefore, it appears that imagine-other (individual) perspective-taking is a method with broader applications, as it can be used for increasing positivity as well as reducing negativity.

The Mode of Delivery Matters

Although perspective-taking has been deployed using a multitude of modes, empirical evidence comparing these modes are uncommon. However, emerging research exploring the use of computer avatars have proposed that this mode would elicit the strongest effects (e.g., Hasson et al., 2019; Herrera et al., 2018). I compared each mode of delivery and found that computer avatars did not affect attitude and behaviour changes. Instead, reading narratives, written tasks, and watching videos had similar effects on attitudes and behaviours. Regarding solidarity, only two modes of perspective-taking were found to be effective. That is, reading narratives and computer avatar modes had stronger effect on increasing feelings of solidarity. However, writing tasks did not have a meaningful impact on solidarity. Therefore, computer avatars appear to have stronger effects than some modes of delivery when the aim is to increase solidarity. Therefore, my findings provide partial support for the arguments put

forward by Hasson and colleagues (2019) and Herrera and colleagues (2018). Still, the results may need to be interpreted with some caution as solidarity was only measured in less than 10 studies. Also, none of the studies on perspective-taking using videos modes measured solidarity, thus the effects in this setting remain unknown.

As comparisons between modes are scarce, it is unclear why reading and writing tasks, video, and computer avatars have a different pattern of effects on outcomes. The modes in question are immersive because they increase self-other merging, and thus, increases feelings of solidarity. People tend to make positive attributions towards those with whom they identify. Therefore, if people have an increased sense of 'oneness' (i.e., solidarity) towards an outgroup, they may also be more inclined to greater positive evaluations and actions towards that outgroup (Tajfel & Turner, 1979). However, it is an open theoretical and empirical question as to why computer avatar modes increase feelings of solidarity with an outgroup yet do not affect attitudes and behaviours. All modes show similarly confronting scenarios to participants, where perspective-takers learn and imagine adverse experiences of an outgroup member. For example, experiences of discrimination (Herrera et al., 2018; Todd et al., 2011), or experiences of military conflict or racial assault (Hasson et al., 2019; Johnson et al., 2013). Therefore, I speculate that the immersive experience of computer avatars could be too confronting, which may elicit aversive reactions. These aversive reactions may hinder the perspective-takers abilities to change their attitudes and/or behaviours towards the outgroup member, despite feeling connected to them. Consequently, this review highlights the need to consider how and why perspective-taking have varying effects on each outcome based on the mode in which the tasks are delivered.

Why Do Perspective-Taking Conditions Have Different Effects? Theoretical Insights

Overall, the ways in which we adopt other people's perspectives are processed differently, and in turn have distinct impacts on our perceptions of other social groups (Barth

& Sturmer, 2016; Todd & Galinsky, 2014). This meta-analysis demonstrated that the three types of perspective-taking conditions (imagine-self, imagine-other (individual), and imagine-other (group)) have different patterns of effects on attitudes and behaviours, and solidarity. Therefore, my results are consistent with theoretical approaches such as the work of Hamilton & Sherman (1996), the Identifiable Victim Effect (Small et al., 2007); and self-categorisation theory (Turner et al., 1987).

In particular, the findings here are consistent with the theoretical positions that people perceive individuals differently to how they perceive groups (Hamilton & Sherman, 1996). Furthermore, people are also more likely to help a specific person (e.g., 'Ahmed') than a specified group (e.g., refugees; Small et al., 2007). That is, when people adopt the perspective of a specific person (i.e., imagine-other (individual) and imagine-self conditions), they display more supportive attitudes and behaviours, and have an increased feeling of solidarity with the outgroup. Whereas when people are asked to imagine the experiences of groups (i.e., imagine-other (group) perspective-taking), their supportive attitudes and behaviours improve, but it does not facilitate a sense of solidarity with the ostensible outgroup. Therefore, my findings suggest that adopting the perspective of a specific person leads to stronger effects on attitudes, behaviours, and solidarity, Not only do people perceive a person versus a group differently, but people are also more likely to help a specific person (e.g., 'Ahmed') than a specified group (e.g., refugees; Small et al., 2007). These findings may also indicate that it is difficult to feel a sense of solidarity with a vague group/entity. Given that imagine-other (individual) and imagine-other (group) instructions produce their own distinct pattern of effects, I can argue that, in the case of perspective-taking, people process individualising information differently to information at the group-level. Therefore, these two conditions will need to be considered as separate methods of perspective-taking.

Self-categorisation theory (Turner et al., 1987) offers another way to understand why each perspective-taking conditions produce its own distinctive effects on attitudes, behaviours, and solidarity. Both imagine-self and imagine-other (individual) conditions increase a sense of solidarity towards outgroup members, but only imagine-other (individual) instructions influence attitudes and behaviours. Perhaps the reason why imagine-other (individual) conditions promote a sense of solidarity is because the perspective-taker is considering the outgroup member as a part of their own ingroup (Turner et al., 1987). Once a person perceives an outgroup member as being part of their 'ingroup', this inclusive self-category may foster more positive attitudes and behaviours towards that person and their group (Tajfel & Turner, 1979). On the other hand, imagine-self conditions only promote solidarity because the perspective-taker is imagining *themselves* as an outgroup member. Therefore, it is easier to develop a sense of solidarity with the outgroup member (i.e., themselves), but the positive attitudes and behaviours that the perspective-taker has towards themselves may not generalise to the outgroup in question. Furthermore, imagine-other (group) conditions increase positive attitudes and behaviours towards an outgroup, but does not have an effect on solidarity. This finding again highlights that people process information differently, depending on the type of perspective-taking we use (Barth & Sturmer, 2016; Hamilton & Sherman, 1996). That is, imagine-other (group) perspective-taking focusses on a group and their experiences. It may be more difficult to feel a sense of 'oneness' with a group of people, which would explain the null effects for solidarity.

Perspective-Taking is Effective, but it Depends on the Intended Outcome: Practical Insights

Perspective-taking is a technique that is used in public communications messages and educational campaigns (Strong & Martin, 2014; Wong et al., 2014). My findings suggest that practitioners must consider the outcome they would like to achieve and use the most suitable

perspective-taking conditions and modes for that specific outcome. Perspective-taking works well to change attitudes. However, the facilitative effects of perspective-taking seemingly may not extend to behaviours. This could perhaps suggest that perspective-taking is a useful precursive tool to initiate improvements in intergroup relationships, but it may not be the most effective approach to encourage harmonious and conciliatory intergroup actions. If the aim is to increase supportive attitudes, the most appropriate approach would be to use imagine-other (individual) and imagine-other (group) perspective-taking. Also, in this context, perspective-taking tasks can be effectively delivered via reading and writing tasks, or by asking people to watch videos. However, imagine-self and computer avatar modes appear to be lesser or ineffective methods, given the null effects on attitudes and behaviours. It appears that imagine-other (individual) and imagine-self conditions are apt methods for encouraging solidarity with an ostensible outgroup. Furthermore, computer avatar modes and reading narratives are the most suitable modes to encourage solidarity. If practitioners are aiming to improve intergroup attitudes, behaviours, and solidarity; then imagine-other (individual) and reading narratives are the best methods to use as they both have facilitative effects on these outcomes.

Limitations and Future Directions

Despite the insights we have gained from this review, we have many avenues which require further exploration. For example, most empirical studies did not conduct follow-up studies. Therefore, it is difficult to ascertain whether the effects of perspective-taking are sustained over time. Publication bias was present and there was considerable heterogeneity of effects within the studies themselves, suggesting that we sampled from more than one population of studies (e.g., interpersonal, social cognition, intergroup literature). Given the evidence of population bias in both directions, the reported effect sizes could have been overestimated. I also did not have enough studies (and thus power) to decipher effects of

different perspective-taking conditions (e.g., imagine-self, imagine-other) and modes (e.g., writing and reading tasks) on behaviours and attitudes separately. Consequently, I suggest that future studies continue to explore the effects of perspective-taking on behaviours. This is because the confidence intervals around the effect of perspective-taking on behaviours were relatively larger than attitudes. Therefore, we need more behavioural observations to consolidate our confidence in the effects of perspective-taking on behaviours, and if they are reliably different or the same as attitudes. Furthermore, if there are more studies on the effects on behaviours, we can compare the impact of different modes on attitudes versus behaviours.

We also need more studies comparing imagine-other (individual) and imagine-other (group) perspective-taking, given that these two types of instructions appear to produce different effects. Furthermore, I reported that imagine-other (group) instructions did not influence solidarity. However, only two studies measured the effects of imagine-other (group) on solidarity. Therefore, I currently cannot conclude with certainty that imagine-other (group) perspective-taking does not have an effect on solidarity. Additionally, comparisons between delivery modes are relatively unexplored, aside from studies of perspective-taking through avatars that have compared two modes (e.g., Sri Kalyanaraman et al. 2018; compared avatar and imagination tasks). Although my results provide evidence that particular modes are more effective than others; some effects of different delivery modes remain unknown because most of the modes identified in this review are scarcely used. That is, many modes (e.g., audio, imagination exercises, role-playing exercises) were examined in a small number (less than 10) of studies, which is insufficient to determine if these modes have a reliable effect. Furthermore, more studies on perspective-taking via computer avatars need to be conducted to better understand its (null) effects on attitudes and behaviours.

Conclusions

To my knowledge, this study was the first meta-analytic review of experimental studies on the effects of perspective-taking on intergroup relationships. The findings from this meta-analysis aggregates across 147 studies involving 21, 841 people to consider pattern of effects based on outcome and outcome valency, different types of perspective-taking, and all modes of delivery. I sought to provide insights into the conditions under which perspective-taking is most effective in changing attitudes, behaviours, and feelings of solidarity. Although the effects of perspective-taking appear small, its effect could create a noticeable positive shift in intergroup relationships at a population level (Richard et al., 2003; Rosenthal, 1994). I not only established the overall effects of perspective-taking, but also tested multiple moderators to determine which conditions result in the strongest effects of perspective-taking. As such, I have improved theoretical understandings of how perspective-taking works, as well as a better understanding of how to improve campaign practises. We know intergroup hostility is a pervasive and enduring problem in society. Therefore, we need a thorough understanding of when, and why, perspective-taking does not produce the intended outcomes. To “walk in someone else’s shoes”, we first need to make sure that the shoes match the occasion.

Chapter 4

Do the Relationships Between Groups Moderate the Effects of Perspective-Taking on Intergroup Attitudes, Behaviours, and Solidarity?

A Systematic Review and Meta-Analysis

Abstract

Intergroup hostility is a social phenomenon that is often determined by who we identify with and their relationship with a specific outgroup. Perspective-taking is a commonly used method to try and attenuate hostility between groups. However, despite considerable evidence supporting its efficacy, perspective-taking is also known to *exacerbate* intergroup hostility in some contexts. I propose that the extent to which perspective-taking shapes intergroup attitudes, behaviours, and feelings of solidarity, is contingent on *the specific group* that people are taking the perspective of (e.g., Black people, elderly people, LGBTQIA+ people), primarily because of the nature of that relationship between groups (i.e., the perceptions people have towards different groups). A meta-analysis (k = 147, N = 21, 841) examined the impact of perspective-taking on intergroup attitudes, behaviours, and solidarity, to determine why perspective-taking produces varied effects. Findings show that the effects of perspective-taking depend on how warm and competent people perceive the social group in question to be. Furthermore, although perspective-taking had facilitative effects for some groups, it had null effects for several social groups, and exacerbate hostility towards people with disabilities. Results emphasise the importance of context when applying strategies to and reduce hostile attitudes and behaviours, and increase solidarity. These insights can inform research and campaign practices aimed at developing strategies to attenuate intergroup hostility.

Do the Relationships Between Groups Moderate the Effects of Perspective-Taking on Intergroup Attitudes, Behaviours, and Solidarity?

A Systematic Review and Meta-Analysis

Chapter 3 considered the effects of different forms of perspective-taking, and considered the possibility of valence effects in the context of the outcome variable (i.e., increasing positivity, reducing negativity). Chapter 2 mapped out the existing (group and threat) perceptions people have of different groups in society, and how these perceptions relate to people's influence in perspective-taking processes. In this Chapter I extend upon the conceptualisation of intergroup hostility to consider it a more complex phenomenon; namely, intergroup attitudes (including hostility) as a reflection of social relationships, rather than something that is located primarily in the minds of individual people (Dixon et al., 2012; Platow et al., 2019; Reicher, 2007).

Intergroup hostility may arise when an outgroup poses a (real or imagined) threat to the person's relevant ingroup identity (Dixon et al., 2012; Reicher, 2007). In other words, attitudes and behaviours towards other groups and their members are influenced by the group a person identifies with, the norms and values of the ingroup (Platow et al., 2019), and the relational dynamic between the ostensible outgroup and the person's own group (Reicher, 2007). Furthermore, there is variation in our perceptions (and the nature of our perceptions) of different social groups (Fiske et al., 2002; Leach et al., 2007). For example, when elderly people are perceived as warmer and less competent than younger people, people may be less hostile towards the elderly. However, people may view Asian or Black people as less warm and higher in competence, which then leads to increased hostility towards these groups (Fiske et al., 2002). If intergroup hostility is conditioned on the way people perceive different groups, then this would have implications for how people engage in perspective-taking as well as shaping the outcomes of perspective-taking. Specifically, perspective-taking may lead

to reactance (e.g., Berndsen et al., 2018), or weaker effects on attitudes and behaviours, in contexts where intergroup hostility already exists.

In this Chapter I advance the idea that the effects of perspective-taking may be contingent on which group a person is being asked to take the perspective of, as well as the perceptions that the person has of that group, in context. Indeed, there is evidence that perspective-taking does not reliably influence intergroup hostility (see Todd & Galinsky, 2014; Sassenrath et al., 2016 for reviews). Some studies observed that perspective-taking may produce *backlash* effects by exacerbating intergroup hostility (Berndsen et al., 2018; Tarrant et al., 2012). Berndsen and colleagues (2018) found that perspective-taking elicited reactance for participants who scored relatively higher in glorifying nationalism which increased their hostile attitudes towards refugees (see also Stone et al., 2011). Tarrant and colleagues (2012) observed that perspective-taking increased negative perceptions and critical attributes towards the outgroup (students from a different university) for participants who stronger identified with the ingroup (the participant's university), compared to participants who reported relatively lower identification with the ingroup. Conceptually, it has been argued that perspective-taking may not reduce intergroup hostility if the group in question is perceived as threatening (Sassenrath et al., 2016; Todd & Galinsky, 2014). However, the very nature of that threat may also differ between the group in question (see Chapter 2). Overall, evidence within the perspective-taking literature suggests that some of the effects on intergroup relations are highly variable (Chapter 3). There are conditions grounded in social context and group identification whereby perspective-taking produces outcomes that are conducive to reducing hostility, or indeed exacerbate hostility.

How Do You See Me? The Importance of Perceptions and the Intergroup Context

Multiple theoretical statements suggest that perspective-taking is more likely to have negligible or negative effects (i.e., enhance hostility) when the person taking the perspective

sees the outgroup as threatening (Sassenrath et al., 2016; Todd & Galinsky, 2014). The current literature suggests that threat can be triggered by three situational factors: Firstly, perspective-taking creates an opportunity for the advantaged group member to be negatively judged by marginalised group members (Sassenrath et al., 2016; Todd & Galinsky, 2014; Vorauer, 2013). Secondly, the perspective-taker believes that the marginalised group is too different from themselves (Sassenrath et al., 2016; Todd & Galinsky, 2014). Thirdly, perspective-taking may emphasise the competition between the advantaged and marginalised groups (Sassenrath et al., 2016). These arguments suggest that there would be considerable heterogeneity in the perspective-taking literature based on the nature of the group (i.e., the people or group members who are the targets of the perspective-taking).

Indeed, these perspectives help to explain the circumstances which activate threat and lead to ironic or unintended consequences of perspective-taking (Sassenrath et al., 2016; Todd & Galinsky, 2014; Vorauer, 2013). However, they do not address *why* the perspective-takers might have such aversive perceptions. Given that intergroup hostility is a product and reflection of the relational dynamic between groups (i.e., Dixon et al., 2012; Platow et al., 2019; Reicher, 2007); I suggest that threatening perceptions have evolved from the substantive, perceived 'real-world' relationship that exists between groups (that is, the nature of the intergroup relationship). That is, as observed in Chapter 2, whilst threat is the more proximal driver; the threat itself comes from the stereotypes and perceptions that people have of the group. Thus, I ask: what are those characteristics of groups that are likely to be seen as more threatening?

I adopt the insights of the stereotype content model to help understand how the (subjectively perceived) real-world relationship between groups may explain variable effects of perspective-taking on intergroup hostility. I specifically enlist those intergroup perceptions to help understand when the effects of perspective-taking are more likely to facilitate versus

"backfire". The stereotype content model is underpinned by the insight that *it is the impressions or perceptions* (Brambilla & Leach, 2014; Fiske et al., 2002) *of the outgroup that is key to explaining the direction and nature of the emerging attitude*. Therefore, according to this approach, the perspective-taker's existing perceptions of the outgroup and its members can influence their engagement with this process. In keeping with the arguments of Dixon and colleagues (2012), the model also explains that negative intergroup attitudes (i.e., prejudice, stigma) can be expressed in ways that are (more or less) overtly hostile. These perspectives posit a key role for the intergroup context in explaining the effects of perspective-taking.

The Stereotype Content Model

The stereotype content model (Fiske et al., 2002) proposes that people's overall impressions of outgroups are composed of two dimensions: *warmth* and *competence*. The *warmth* of an outgroup relates to judgements or stereotypes of whether the group intends to help or harm the ingroup. The *competence* of an outgroup refers to judgements or stereotypes of whether the group can help or harm the ingroup. Therefore, the type of perceptions the ingroup forms towards the outgroup depends on how warm and competent they perceive the outgroup to be. If an outgroup has stereotypes that lead to the perception that they are either low in competence and low in warmth (e.g., homeless people; according to Fiske et al., 2002), or low in warmth and high in competence (e.g., Asians; according to Fiske et al., 2002); this will culminate in the ingroup expressing overt intergroup hostility towards the outgroup. However, if the ingroup has stereotypes leading to the belief that the outgroup is high in warmth and low in competence (e.g., elderly persons), more benign forms of intergroup hostility will be expressed towards the outgroup.

For perspective-taking, perceptions of competence and warmth seem likely to explain variation in whether perspective-taking will reduce or alleviate intergroup hostility. If

participants view an outgroup (and its members) as relatively high in competence and low in warmth, the outgroup will be perceived as relatively more threatening (see Ramsay & Pang, 2017). Consequently, perspective-taking may have weaker, non-significant effects and/or perversely increase negative intergroup attitudes and actions. However, if participants view an outgroup (and its members) as relatively less competent and high in warmth, the outgroup will be perceived as less threatening (see Ramsay & Pang, 2017). Under these conditions, perspective-taking should be associated with stronger decreases in negativity (attitudes and behaviours), and increases in positivity (attitudes and behaviours, solidarity). Thus, I propose:

> **Hypothesis 1:** Perspective-taking will produce weaker facilitative effects on attitudes and behaviours (Hypothesis 1a), and solidarity (Hypothesis 1b) when the outgroup is seen to be high in competence and low in warmth. This is also the condition under which we are most likely to observe net "backlash" or perverse effects, i.e., that perspective-taking exacerbates negativity.

Subsequent work by Leach and colleagues extended on the stereotype content model to emphasise *morality* as another key dimension of intergroup impression formation, along with warmth and competence (Brambilla & Leach, 2014; Leach et al., 2007). Morality, as a group impression, is defined as the extent to which a social group and its members are seen as moral and virtuous (Leach et al., 2007). Brambilla and Leach (2014) argue that the morality of an outgroup determines whether the ingroup perceives an outgroup as threatening or not. According to Brambilla and colleagues, if the ingroup believes an outgroup is moral, then the outgroup will not be deemed as threatening. However, if the ingroup believes outgroup is immoral, then the outgroup will be perceived as threatening (see Brambilla et al., 2013; Brambilla et al., 2012). Furthermore, an outgroup that is perceived as immoral will be seen as threatening regardless of how otherwise warm and competent they are perceived to be.

Conversely, a group that is perceived to be highly moral will not be perceived as threatening even if they are ostensibly also perceived to be low in warmth and/or competence. Thus, I propose:

> **Hypothesis 2:** Perspective-taking will have weaker facilitative effects on intergroup attitudes and behaviours (Hypothesis 2a), and solidarity (Hypothesis 2b) if the outgroup is perceived as relatively low on morality. This is also the condition under which we are most likely to observe net "backlash" or perverse effects, i.e., that perspective-taking exacerbates negativity.

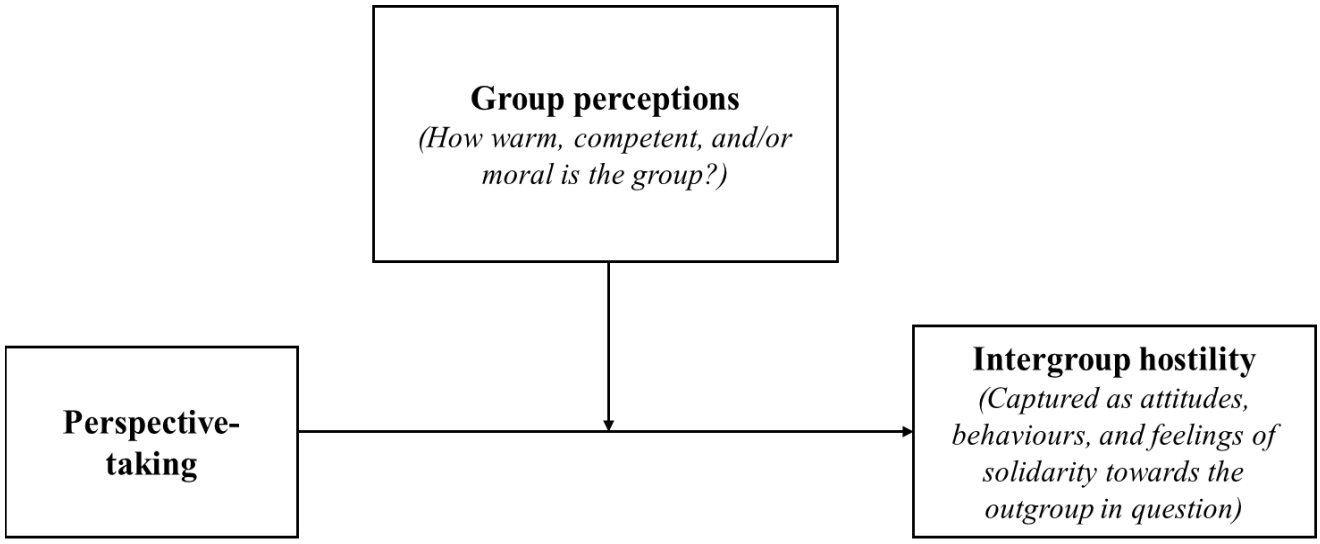
The Current Research

Intergroup hostility is a socially grounded phenomenon, rather than a product of biased cognitions that reside in the minds of atomised people (Dixon et al., 2012; Platow et al., 2019; Reicher, 2007). Its presentation is complex, involving both unfavourable and seemingly favourable stereotypes that also serves a function to oppress, and maintain authority over, marginalised groups (Dixon et al., 2012; Reicher, 2007). There are some studies in the perspective-taking literature that have highlighted the role of group identification (Berndsen et al., 2018; Tarrant et al., 2012) and perceptions (Bruneau & Saxe, 2012; Epley et al., 2006; Paluck, 2010) in the effects of perspective-taking on intergroup hostility. Thus, it is necessary to consider social contexts such as the nature of relationships between groups, and how this may impact the efficacy of perspective-taking on intergroup attitudes, behaviours, and solidarity. One way to examine the impact of intergroup relationships is to determine how the effects of perspective-taking on intergroup hostility can be influenced by how groups are perceived, that is, their stereotype content.

The antecedents of backlash effects are yet to be established. This, in part, could be because a systematic and meta-analytic review that examines the effects of group memberships in relation to the perspective-taking literature, is yet to be conducted (to my knowledge). In Chapter 3, I reported findings of a meta-analysis that investigated and established the overall effect of perspective-taking on intergroup attitudes, behaviours, and solidarity. This Chapter builds on Chapter 3 by assessing the extent to which the effects of perspective-taking on intergroup attitudes, behaviours, and solidarity are contingent on group perceptions that capture the overall impressions perspective-takers have towards the ostensible outgroups (see Figure 7). I coded for the different social groups examined in the primary studies (e.g., LGBTQIA+ community, elderly people, Black people, Asian people, people experiencing homelessness) to determine if the direction and magnitude of effects vary between these groups. As outlined above, I expected that perspective-taking would have weaker effects on intergroup hostility when groups are perceived as lower in warmth and higher in competence (Hypothesis 1), and lower in morality (Hypothesis 2).

Figure 7

Group Perceptions Moderate the Effects of Perspective-Taking on Intergroup Attitudes, Behaviours, and Solidarity



Stereotypes Can Fluctuate Over Time: Accounting for Historical Context

A key goal of this chapter is not only to test *whether* there are differences in perspective-taking outcomes for different groups, but *why* this is the case. In order to test the hypotheses using meta-regression, I needed a way of quantifying group perceptions (warmth, competence, morality). In addition to the data collection during the coding stage, I harvested the authors' descriptions of the intergroup relationships they are examining (e.g., White and Black American people; Muslim and non-Muslim people) and sought to use these to characterise the nature of the intergroup context in question. However, a key consideration here is that the stereotypes about specific groups can fluctuate over time (e.g., Turner et al., 1994). For example, the level of hostility directed towards Muslims in Western countries was lower before the events of the September 11th, 2001, terrorist attacks (Ogan et al., 2014; Steele et al., 2015). Since the meta-analysis includes studies collected over a period of 30-40 years, modern-day judgements about how groups were perceived at the time studies were conducted may be inaccurate. Therefore, we need to be able to account for the historical changes in relationships between groups to be able to draw comparisons between the earlier studies and recent studies.

To address these challenges, I extracted the primary explanation of the intergroup context from the authors themselves. I then requested expert coders to read that information and used it to develop a judgement of how participants in the primary studies would have seen the outgroup in question – a form of meta-perspective-taking (raters taking the perspective of perspective-taking participants). Specifically, three expert raters (i.e., three people at post-graduate level of study in group processes and intergroup relations) examined the information and completed ratings of the subjectively perceived intergroup relationships on each of the following group perceptions: warmth, competence, and morality. My

preliminary tests sought to establish that these ratings (of warmth, competence, and morality) were valid and reliable.

Openness and Transparency

The hypotheses were pre-registered on Open Science Framework (https://osf.io/nasj3/), where Hypothesis 1 is documented as Hypothesis 2 in the preregistration, and Hypothesis 2 is documented as Hypothesis 3. The studies in this chapter only tested Hypotheses 2 and 3 from the pre-registration. Furthermore, I did not make any a priori predictions for the effects of perspective-taking on outcomes for each social group in question; that is, these analyses were exploratory.

Study 4

Historical Context Ratings

Method

Raters

Three researchers with doctoral-level expertise in group processes and intergroup relations provided ratings. From a total of 106 papers, 43 papers were randomly presented to each rater. Twelve of the papers (i.e., roughly 10% of total papers) were rated by multiple raters so that interrater reliability could be assessed. Please note that some of the papers that were included in the reliability and validity assessments were later excluded from the meta-analysis.

Procedure

Raters accessed the survey electronically via Qualtrics software. The survey provided the citation of the original article, and two key pieces of information that the raters needed to inform their decisions on ratings. First, I harvested key contextual details from the original article that described the relationship between the ingroups and outgroups in question at the

time the study was conducted (i.e., the historical context). For instance, in Pornprasit and Boonyasiriwat's (2020, p. 142) study, the relationship between Thai people and Thai individuals in the LGBT+ community group was described as "…not fully accepted. Individuals in Thai society do not explicitly attack or defend the LGBT community; however, these individuals may have negative attitudes or may be closed-minded towards the LGBT community. In addition, people in Thai society may expect LGBT people to conform to social constraints". This information was presented to the raters.

Second, the raters were given the participants' demographic information as reported in the study (e.g., gender, sexual orientation, ethnicity) so that they had an idea of who the perspective-takers were and their relative group membership. For instance, Pornprasit and Boonyasiriwat (2020, p. 144) described their participants as such: "...a final sample of 112 participants (M_{age} = 20.40), 35 (31.25%) were males, 76 (67.86%) were females, and 1 (0.89%) was unidentified.". Thus, the raters were given all available narrative information about the relationship that existed between the perspective-takers (the participants in the original research) and the outgroup (the group whose perspective was taken), in the words of the primary authors. Given that some articles contained minimal information, raters were also encouraged to search for information online about the history between the ostensible advantaged group and outgroup, if necessary, in order to inform a meaningful rating.

Measures

Having read the above, the raters then answered a series of questions on a 100-point sliding scale. Specifically, they were asked to rate the degree to which participants in the study would have perceived the outgroup in question as warm, competent, and moral. The items for each group perception included a summary describing the perception and instructions on how to rate this perception. The items were as follows:

Warmth. “Some group's members seem to be warmer, friendlier, and more good-natured compared to other groups. Please rate the extent to which the participants in this study would have perceived the outgroup as warm (or, conversely, cold, insincere)”, ‘0’ = ‘Extremely cold’ and 100 = ‘Extremely warm’.

Competence. The item for competence was: “Some group's members seem to be more competent and capable than other groups. Please rate the extent to which the participants in this study would have perceived the outgroup members to be competent and capable (versus incompetent or inept)”. ‘0’ = ‘Extremely incompetent’ and ‘100’ = ‘Extremely competent’.

Morality. “Some group's members seem to have a stronger sense of morality than other groups, and are guided by a strong sense of what is right, and what is wrong. Please rate the extent to which the participants in this study would have perceived the outgroup members as moral and trustworthy, versus immoral and untrustworthy”; ‘0’ = ‘Extremely immoral’ and ‘100’ = ‘Extremely moral’.

Results

Interrater Reliability

The reliability of the ratings was assessed using intraclass correlations. Intraclass correlations determine the degree to which the raters reached the same decision with their ratings (i.e., Absolute Agreement), or their decisions followed a similar pattern (i.e., Consistency). Ten percent of the papers were rated by either a combination of two raters or all three raters. I used a two-way random model, performed in SPSS, examining reliability across combined group perceptions (i.e., warmth, competence, and morality). To interpret the results, the reliability benchmarks for intraclass correlation coefficients are as follows: *ICC* <

0.50 is ‘poor’; *ICC* = 0.50 – 0.75 is ‘moderate’; *ICC* = 0.75 – 0.90 is ‘good’; and *ICC* > 0.90 is ‘excellent’ (Koo & Li, 2016).

The results revealed intraclass correlation coefficients that ranged between *ICC* = .49 to *ICC* = .80 (Consistency) and *ICC* = .47 to *ICC* = .66 (Absolute Agreement) for the group perceptions (i.e., warmth, competence, and morality). This reflects weak to strong correlation between the raters’ decisions, with most decisions falling within the ‘moderate’ range (Koo & Li, 2016). The final scores used in the meta-regression were generated in two ways: If the raters gave the same score (e.g., ‘4’), that number would be the final value. However, occasionally, scores from each rater would have a 1-point, or greater, difference. When scores had a 1-point difference, I would calculate the mean score to create the final value. If scores had a 2-point (or greater) difference, I (as the third expert rater) would consult the historical context information from the Qualtrics survey (or through internet searches when required) and decide the final value. If the value was congruent with another rater, then this number would be the final value. But if the value was different from both raters, the final value would be based on the third rater’s evaluations. I used the final values to conduct the validity analyses, and in the meta-regressions.

Validity of Expert Ratings

To assess the validity of the ratings, I correlated the expert ratings with ratings collected from 213 university students (M_{age} = 21.68, SD_{age} = 6.89; 79.81% female). The participants (who were the same sample from Study 1, Chapter 2) were asked to provide ratings of the same group perceptions and threat for a multitude of different social groups. The questions presented to the expert raters and the student sample were the same; that is, both experts were asked the degree to which a specific social group are seen as warm (versus cold), competent (versus incompetent), and moral (versus immoral). However, the student sample only rated social groups that appeared prominently in the meta-analysis and did not

rate groups that appeared once (e.g., gangsters/ 'hooligans'). I expected that, although there would be differences in time and context, ratings of a specific group in the context of a single study (i.e., the expert ratings) should still correlate, at least moderately, with ratings of the attributes of that group in general (i.e., the university student ratings). The correlations between the expert ratings and the student samples' group perception ratings were indeed strong, *r*s = .57 – .69, $p < .001$.

As part of my preliminary analyses, I examined the correlations between the group perceptions ratings. Warmth and competence were not related, $r = -.04$, $p = .620$ and neither were competence and morality, $r = .16$, $p = .056$. However, warmth and morality had a significant, strong relationship, $r = .68$, $p < .001$.

Study 5

The Role of Intergroup Context on the Effectiveness of Perspective-Taking

Method

I collected the data for this meta-analysis alongside the meta-analysis in the previous chapter. Therefore, the search strategy, inclusion/exclusion criteria, data extraction, data synthesis and analysis procedures were identical to the previous meta-analysis and can be found in Chapter 3 on pages 87 – 96.

Results

Characteristics of Primary Studies

The studies included in the analysis applied perspective-taking strategies to 28 different social groups. Broadly, these groups captured various ethnic identities; physical characteristics such as age, sex, ethnic background, and socioeconomic status. I summarise the different social groups in question in Table 15 below.

Table 15

Summary of Social Groups Examined in Perspective-Taking Studies

Social Group	*n*	% of Studies
Black people	40	27.52
Immigrants	6	5.37
Asian people	7	4.03
Latinx people	2	1.34
Refugees & asylum seekers	5	3.36
Indigenous people	9	6.04
Palestinian people	3	2.01
Israeli people	1	0.67
Middle Eastern people	3	0.67
Colonial/historical injustices (i.e., colonising country no longer occupies country)	3	2.01
Intergroup ethnic conflict (e.g., Roma or Polish vs. Czech people)	4	2.68
People from multicultural backgrounds	1	0.67
Elderly people	22	14.09
Females	3	2.01
LGBTQIA+ people	9	6.04
People experiencing mental health issues	8	4.70
Fat people	5	2.68
People with disabilities (e.g., people experiencing blindness, amputations, dementia)	4	2.68
Sex trafficking victims	1	0.67
People with opposing political beliefs (e.g., liberals vs. conservatives)	4	2.68
Muslim people	2	1.34
People from a different ethnicity to the perspective-taker	1	0.67
People experiencing homelessness	5	2.01
People from low socioeconomic backgrounds	3	2.01
People with trades/labour professions	1	0.67
People experiencing unemployment	1	0.67
Urban residents (as opposed to Rural Residents)	1	0.67
Ah Bengs (hooligans, gangsters, punks)	1	0.67

Exploring Differences in Effects Depending on Social Groups

I initially explored whether the effects of perspective-taking differed depending on the social group in question (e.g., Black people, LGBTQIA+ peoples, people with disabilities) via subgroup analysis. Figure 8 summarises the effects of perspective-taking on attitudes and behaviours depending on the social group in question. Perspective-taking had small (in Cohen's 1988, terms) facilitative effects on attitudes and behaviours towards Black people, Palestinian people, elderly people, and females, *p*s < .001 – *p* = .012. Furthermore, perspective-taking had a small-to-medium effect on attitudes towards Asian people, *p* = .026, and a medium-to-large effect for Muslim people and people who experienced colonial injustices, *p*s < .001.

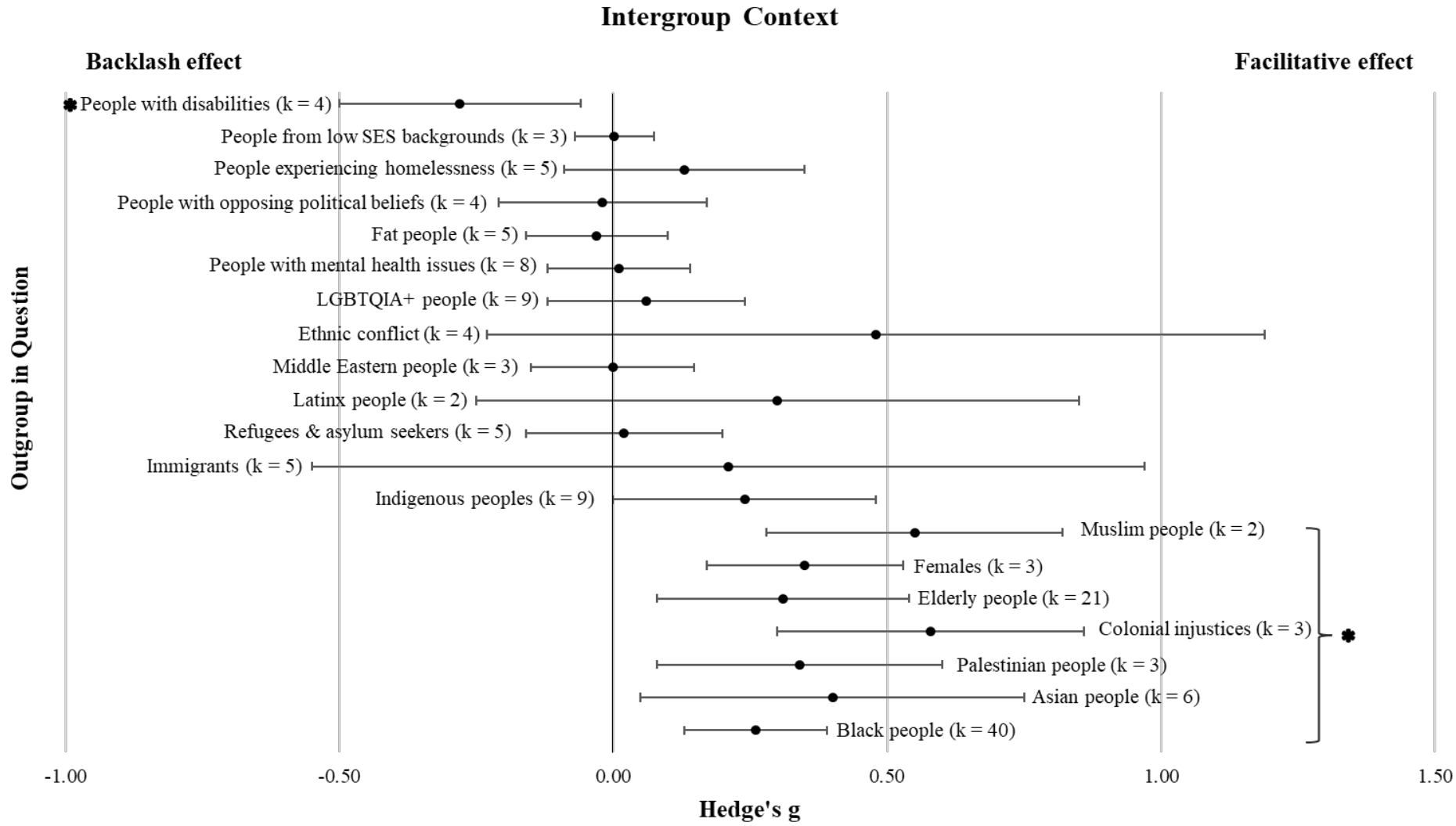
Perspective-taking, however, did not have a reliable effect on attitudes and behaviours towards immigrants, refugees and asylum seekers, Indigenous people, people from a Middle Eastern background, intergroup ethnic conflict, LGBTQIA+ peoples, people experiencing mental health issues, fat people, people with opposing political beliefs, people experiencing homelessness, and people from low socioeconomic backgrounds. Analyses also revealed that perspective-taking had a backlash effect on attitudes and behaviours towards people with disabilities, *p* =.016.

There were a number of groups for whom I only recorded data from one study and who could not be meta-analysed: Israeli people, people from multicultural backgrounds, sex trafficking victims, people from a different ethnicity to the perspective-taker, people with trades/labour professions, people experiencing unemployment, urban residents (opposed to rural residents), and 'Ah Bengs' (i.e., a Singaporean term meaning hooligans/gangsters). Therefore, the effects of perspective-taking on attitudes and behaviours towards these groups remain unknown.

Figure 9 summarises the impact of perspective-taking on solidarity by the different social groups. Solidarity was only measured in some studies on Black people, people experiencing mental health issues, elderly people, and people experiencing homelessness. Figure 9 shows that perspective-taking had a small, facilitative effect on feelings of solidarity with people experiencing homelessness, $p = .006$, and a small-to-medium facilitative effect of solidarity with elderly people, $p = .014$. However, perspective-taking did not influence solidarity towards Black people, $p = .203$, and people experiencing mental health issues, $p = .748$. As data only exists for feeling of solidarity towards Black people, people experiencing mental health issues, elderly people, and people experiencing homelessness; we are yet to establish the effects of perspective-taking on solidarity in the context of the remaining 26 social groups.

Figure 8

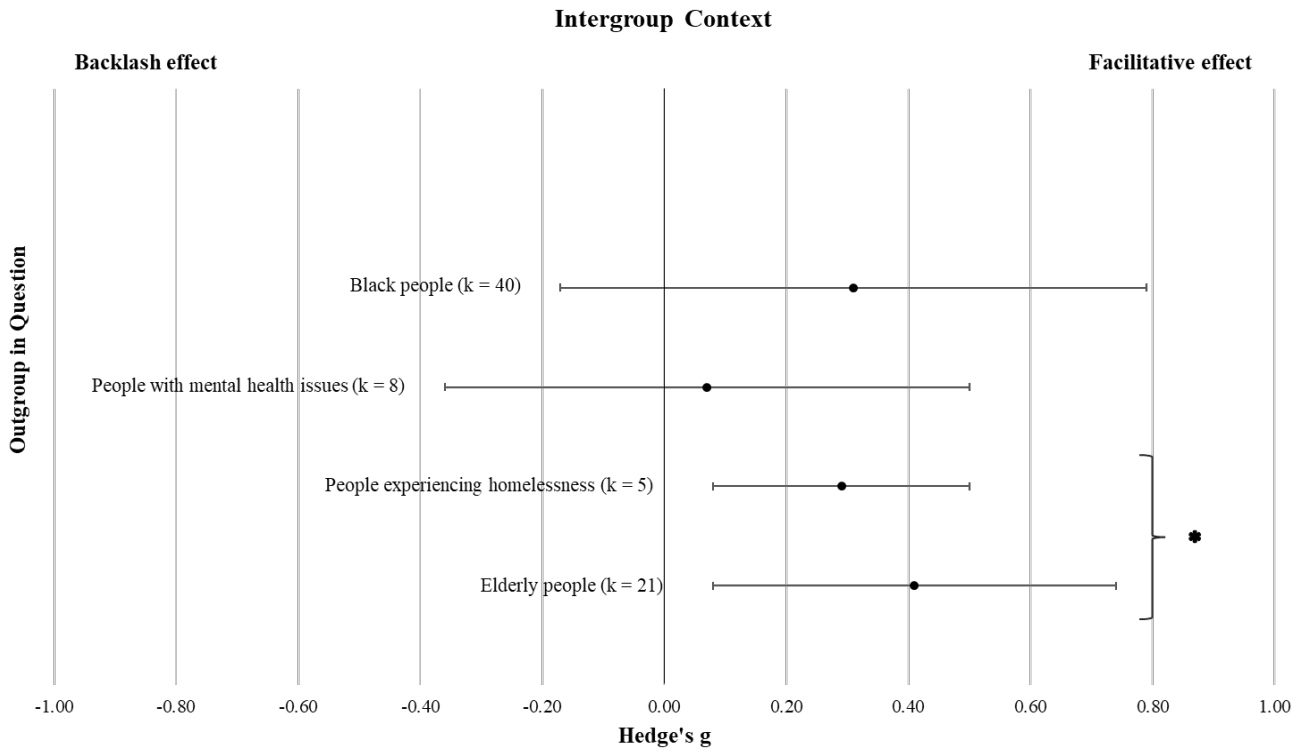
Effects of Perspective-Taking on Attitudes and Behaviours Depending on Group.



Note. '*' denotes statistically significant result to level of $p < .05$; 'k' denotes the number of studies included in the analysis.

Figure 9

Effects of Perspective-Taking on Solidarity Depending on Group



Note. '*' denotes statistically significant result to level of $p < .05$; 'k' denotes the number of studies included in the analysis.

Meta-Regression

Hypothesis 1

I used meta-regressions to determine whether group perceptions moderated the effects of perspective-taking on attitudes, behaviours, and solidarity. I predicted that perspective-taking will have weaker effects on intergroup attitudes, behaviours, and solidarity when groups were perceived as high in competence and low in warmth (Hypothesis 1). Since I planned to assess the interaction between warmth and competence (per Hypothesis 1), I first centred the expert ratings of the group perceptions to avoid multicollinearity (as per the recommendations of Aiken et al., 1991).

The models for warmth, competence, and the interaction demonstrated acceptable fit with the data for attitudes and behaviours (combined), $Tau^2 = 0.08$, $Tau = 0.28$, $I^2 = 72.06\%$, $Q(148) = 529.79$, $p < .001$. Also, the model explained a significant proportion of variance for attitudes and

behaviours (combined), $R^2 = 0.02$. The models also demonstrated acceptable fit for solidarity, $Tau^2 = 0.03$, $Tau = 0.17$, $I^2 = 38.59\%$, $Q(15) = 24.43$, $p = .058$; and explained a significant proportion of variance for solidarity, $R^2 = 0.09$. Table 16 shows that perspective-taking had stronger effects on attitudes and behaviours when the outgroup was perceived as relatively higher in warmth or competence. However, the interaction between warmth and competence did not have a moderating effect on the outcomes. Furthermore, perceptions of warmth and competence did not significantly moderate the effects of perspective-taking on solidarity. Therefore, the findings only partially support Hypothesis 1 in that perspective-taking has stronger effects when groups are perceived to be higher in warmth. Unexpectedly, I also found that increased perceptions of competence lead to stronger effects of perspective-taking on outcomes.

Table 16

Testing the Effects of Perspective-Taking on Outcomes When Moderating for Warmth and Competence Independently, and the Interaction of Warmth and Competence

Group Perception	*n*	Coefficient (*SE*)	[95% CI]	*z*-value and *p*-value
Warmth				
Attitudes & Behaviours	151	0.06 (0.03)	[0.002, 0.12]	$z = 2.04$, $p = .041$*
Solidarity	19	0.02 (0.05)	[-0.07, 0.11]	$z = 0.41$, $p = .679$
Competence				
Attitudes & Behaviours	151	0.06 (0.03)	[0.01, 0.12]	$z = 2.51$, $p = .012$*
Solidarity	19	-0.08 (0.05)	[-0.17, 0.01]	$z = -1.79$, $p = .073$
Warmth x Competence				
Attitudes & Behaviours	151	0.01 (0.02)	[0.03, 0.05]	$z = 0.47$, $p = .639$
Solidarity	19	-0.01 (0.03)	[-0.06, 0.05]	$z = -0.18$, $p = .856$

Note. * denotes $p < .05$, '*n*' denotes the number of studies included in the analysis

Hypothesis 2

The model for morality demonstrated acceptable fit with the data for attitudes and behaviours (combined), $Tau^2 = 0.08$, $Tau = 0.28$, $I^2 = 73.01\%$, $Q(150) = 555.76$, $p < .001$. The model also had good fit for solidarity, $Tau^2 = 0.04$, $Tau = 0.19$, $I^2 = 45.92\%$, $Q(150) = 555.76$, $p < .001$. Table 17 displays the effects of morality on attitudes and behaviours (Hypothesis 2a) and solidarity (Hypothesis 2b). It can be seen that morality did not significantly moderate the effects of perspective-taking on intergroup attitudes and behaviours, or solidarity. Therefore, I did not find support for Hypothesis 2a and 2b.

Table 17

Testing the Effects of Perspective-Taking on Outcomes When Moderating for Morality

Group Perception	*n*	Coefficient (*SE*)	[95% CI]	*z*-value and *p*-value
Morality				
Attitudes & Behaviours	151	0.05 (0.03)	[0.003, 0.10]	$z = 1.85$, $p = .065$
Solidarity	19	0.01 (0.04)	[-0.08, 0.09]	$z = 0.15$, $p = .883$

Note. * denotes $p < .05$, '*n*' denotes the number of studies included in the analysis

Discussion

Perspective-taking is known to have variable effects on reducing intergroup hostility (Sassenrath et al., 2016; Todd & Galinsky, 2014). Several theoretical statements have highlighted that people have varying perceptions towards different social groups; with some groups being viewed and/or treated with more overt hostility than other groups. That is, the variation in perceptions towards groups each lead to different forms of expressions of hostility (Brambilla & Leach, 2014; Dixon et al., 2012; Fiske et al., 1999; Fiske et al., 2002; Kende & McGarty, 2019) and are likely to play an important role in conditioning the effects of perspective-taking on outcomes. Therefore, in this meta-analysis, I sought to comprehensively empirically test how participants

perceive 28 identified groups, and how these perceptions, in turn, influence the effects of perspective-taking on attitudes, behaviours, and solidarity.

First, I sought to determine whether there was indeed variation in the magnitude of the effect for the 28 social groups. My preliminary analyses identified that perspective-taking had facilitative effects on attitudes and behaviours towards a substantial number of groups (e.g., Black people, Muslim people, elderly people, or Asian people). However, it had no reliable effect on the attitudes and behaviours towards nearly half of the social groups commonly considered in the literature on this topic (e.g., people from the LGBTQIA+ community, Indigenous peoples, people experiencing mental health issues, or refugees and asylum seekers). Perspective-taking elicited an *increase* in hostility towards people with disabilities. I also found that perspective-taking only increased feelings of solidarity for elderly people and people experiencing homelessness. Thus, I found evidence that the outcomes of perspective-taking vary considerably depending on the social group in question.

My primary aim was to test two hypotheses about how the perceptions of the outgroup (as warm, and/or competent and/or moral) shaped perspective-taking outcomes. I expected that perspective-taking would have weaker effects when groups were perceived as lower in warmth and higher in competence (Hypothesis 1) and were perceived as lower in morality (Hypothesis 2). I found partial support for Hypothesis 1; the meta-analysis demonstrated that warmth and competence independently predicted variation in the effect of perspective-taking on intergroup hostility. That is, perspective-taking had stronger facilitative effects on intergroup attitudes and behaviours when the social groups were perceived as relatively higher in warmth and/or higher in competence. Unexpectedly, however, the interaction between warmth and competence did not impact the effect of perspective-taking on attitudes and behaviours. Also, unexpectedly, perceptions of higher levels of competence were associated with stronger facilitative effects of perspective-taking on outcomes. Furthermore, perceptions of warmth and competence did not moderate the

effects of perspective-taking on solidarity. Thus, there was evidence of separate additive effects of warmth and competence, but not always in the direction that I anticipated, nor was the interaction effect significant. I also did not find support for Hypothesis 2, as morality did not reliably moderate the effect of perspective-taking on intergroup attitudes, behaviours, or solidarity.

Theoretical Implications

Intergroup hostility is often conceptualised as a product of a person's biased cognitions and thinking (Dixon et al., 2012; Platow et al., 2019; Reicher, 2007). However, the way in which we perceive outgroups in relation to our own group has an impact on the effectiveness of perspective-taking on intergroup attitudes and behaviours. This meta-analysis provides evidence demonstrating that perspective-taking has varying effects depending on the particular social group in question. That is, perspective-taking only encourages facilitative changes in intergroup attitudes, behaviours, and solidarity for some groups. Perspective-taking had null effects for nearly half of the social groups, and increased hostility towards people with disabilities. Furthermore, I also found that people's perceptions of a social group (specifically warmth and competence) indeed determined the strength of effects perspective-taking would have on intergroup hostility. However, unexpectedly, perspective-taking had stronger effects when groups were viewed as higher in competence. This finding is consistent with observations that competence is viewed favourably in some countries (e.g., the United States and Taiwan, Chen et al., 2012; Chen et al., 2014); perhaps in these contexts it is easier, or people may be more willing, to adopt the perspective of those who possess a valued character trait. Therefore, my findings may also broaden our conceptualisation of the phenomenon of 'prejudice', so that we situate this phenomenon in a social context, rather than in the heads of individuals alone (see also Dixon et al., 2012; Sassenrath et al, 2016; Sassenrath et al., 2022; Todd & Galinsky, 2014; Vorauer, 2013). That is, conceptualisations of "prejudice" need to acknowledge that attitudes do not formulate on their own, rather, they are informed by social dialogue, the attitudes of other people, and the systems in which a person exist (e.g., Platow et al., 2019; Reicher,

2007). Moreover, attitudes can evolve and change over time depending on contemporary relationships between the social groups involved (e.g., Turner et al., 1994).

Perceptions of warmth, competence, and morality did not moderate the impact of perspective-taking on feelings of solidarity. Which suggests that perceptions (at least, how sociable and capable people are) do not necessarily play a role in how closely they identify with the outgroup in question. Additionally, perspective-taking increased feelings of solidarity towards people experiencing homelessness and elderly people but did not significantly change peoples' feelings of solidarity towards Black people and people experiencing mental health issues. I offer two explanations for these findings – one pertaining to the power to detect effects and another relating to the dissimilarity between the perspective-taker and outgroup. There were only two studies that measured solidarity when applying perspective-taking to reduce hostility towards Black people and people experiencing poor mental health. As such, I may not have had enough studies, and thus power, to detect effects.

In terms of dissimilarity, the observed null effects for Black people, and significant effects for elderly people, may be partially attributed to one's capacity to imagine the perspective of an ostensible outgroup that they perceive as markedly different (or similar) to themselves. In the perspective-taking literature, what I conceptualise as solidarity was often captured using self-other merging scales (e.g., Herrera et al., 2018; Vorauer et al., 2009). We will all be old one day; thus, it may be easier for people to adopt the perspective of, and consequently, overlap their self-concept with elderly people. This could explain why perspective-taking significantly impacted solidarity with elderly people. However, we cannot change our ethnic heritage. Therefore, people may perceive Black people as too dissimilar and consequently find it difficult to imagine a Black person's perspective. As such, it would be relatively difficult to enhance a sense of self-other merging (and thus solidarity) with members of this group.

Practical Implications

My findings also have implications for how perspective-taking strategies can be applied in "real-world" campaigns. The results highlight that perspective-taking is a useful strategy to reduce intergroup hostility, but only in some contexts. Perspective-taking has minimal effects for several groups (e.g., people who identify as LGBTQIA+, immigrants, or people experiencing mental health issues or homelessness, as depicted in Figure 8), or may backfire, when used to reduce hostility towards people with disabilities. Although, most of the perspective-taking studies for these groups were scarce (i.e., less than 10 studies) and may warrant further exploration. Thus, it is not recommended to use perspective-taking in these contexts, at least until there is further investigation that explains and clarifies why I observed null and backlash effects. Furthermore, it is important to consider the existing relationships between groups, and how the people perceive the social group in question, before applying perspective-taking strategies. Perspective-taking may not achieve intended outcomes (e.g., reducing intergroup hostility) in situations where people have negative perceptions (e.g., low in warmth/low in competence) towards the outgroup in question. Therefore, my findings highlight the need to account for the broader context and how that may influence the efficacy of prejudice-reduction strategies (see also Paluck et al., 2021).

Limitations and Future Directions

I encountered several limitations while conducting Studies 4 and 5. Firstly, due to the limited number of studies, I did not have enough power to explore whether adopting the perspective of different social groups weakened the effects on outcomes depending on: the type of perspective-taking (i.e., imagine-self; imagine-other [individual/group]), the type of outcome (i.e., attitudes, behaviours, or solidarity), or the outcome valency (i.e., reducing hostility, or increasing support). Therefore, we are yet to understand if the effects of different types of perspective-taking on hostile/supportive attitudes and behaviours, or solidarity, are contingent on the social group in question. As such, I recommend future studies continue exploring the effects of perspective-taking according to these nuanced conditions (e.g., whether perspective-taking has the same, or varying,

effect/s on reducing hostility or increasing support for Black people versus Elderly people) to further develop our understanding and research practices.

Quantifying stereotypes and historical perceptions, held by participants in various countries and times, is not a straightforward task as it requires raters to measure and quantify historical perceptions which may no longer exist, or apply to, the context they live in. I approached this by harvesting the descriptions from the studies themselves as well as the details of participants and asking experts to make a judgement about how the perspective-takers would have "seen" the outgroup in question. As such, whilst most ratings demonstrated acceptable reliability and validity, there were some occasions where interrater reliability was sub-optimal. This may be because several articles did not include historical information about the contemporary perceptions towards the outgroups in question, thus resulting in variation between the raters' decisions. Indeed, many of these studies would examine intergroup hostility towards a marginalised group whose relationship with the ostensible advantaged group is well-documented (e.g., hostility of White Americans towards Black Americans, Todd et al., 2011; Todd & Galinsky, 2012); and the experts could find information available on the internet to make educated estimations. I also compared the expert's ratings against current ratings of a student population to gauge and determine the validity of the expert's ratings. However, there were occasions where the history between groups were relatively obscure. This quandary highlights the importance of future studies providing contemporary information on the relationships between the social group of the perspective-taker and the ostensible outgroup, especially if the relationships are relatively unfamiliar (e.g., German colonisation in Namibia, as described in Barth & Sturmer, 2016).

Most primary studies focus on examining the effects of advantaged group members taking the perspectives of marginalised group members. This, at first, is problematic because it is also important to understand the effects and outcomes of marginalised groups taking the perspective of advantaged groups (see Bruneau & Saxe, 2012; Vorauer & Sasaki, 2009). Moreover, several

primary studies included members of marginalised groups taking perspective of other marginalised groups (e.g., Black people were the subject of perspective-taking, and participants primarily comprised of White people, but also included Asian, and Latinx people). There is research that marginalised groups have varying opinions of each other. For example, Tokeshi (2023) found that Asian people had significantly lower hostile attitudes towards Black people compared to White Americans. However, Thornton and Taylor (2014) observed that Black people have hostile attitudes towards Asian people. I could not segregate the data for each participant according to their ancestral identity, nor could I meta-analyse the effects of marginalised people taking the perspective of advantaged groups. Therefore, it was impossible to test if effects of perspective-taking on outcomes may have differed depending on if participants were from the ostensible advantaged group, or marginalised group. Although most participants were from ostensible advantaged groups, the consideration that members of marginalised groups may have varying levels of hostility towards other marginalised and/or advantaged groups is another contextual nuance worth exploring in future.

There were some limitations regarding the group perceptions (warmth, competence, and morality) that I could not address in this meta-analysis. Firstly, evidence suggests that people evaluate and treat groups differently depending on if they perceive the group as moral (i.e., actively moral in character) versus immoral (i.e., actively immoral in character; Jankovic & Cehajic-Clancy, 2021; Martijn et al., 1992). For example, perceptions of immoral behaviours are more diagnostic of hostility/negative evaluations when compared to perceptions of moral behaviours, which tend to lead to more positive evaluations (Martijn et al., 1992). Therefore, future studies should also consider the outcomes not only if perspective-takers view the group as moral, but also the outcomes if groups were perceived as immoral.

Secondly, the stereotype content can vary between different cultures (Cuddy et al., 2009) and within the same cultures (Stanciu et al., 2017). In individualistic cultures, people tend to have

more positive evaluations of those they perceive as high in warmth and competence (generally, their ingroup). However, Cuddy and colleagues (2009) did not observe ingroup preference in collectivist cultures. Furthermore, Stanciu and colleagues (2017) found that people living in areas with larger population of ethnic minorities viewed members of this group more favourably (i.e., higher in warmth) than other regions in Romania. These findings highlight cultural differences in evaluations people have towards other people and themselves. The meta-analysis included studies that were conducted in 18 countries (see Table 8 in Chapter 3). Thus, it is possible that the coding of the group perceptions may not have reflected how the perspective-takers viewed the outgroup members. Therefore, in future, cultural context should be accounted for when examining the moderating role of group perceptions on perspective-taking and intergroup hostility.

Conclusions

For this meta-analysis, I extended upon the analysis of Chapter 3 to develop the argument that intergroup hostility is a phenomenon embedded in a social context between the groups with whom people identify (Dixon et al., 2012; Platow et al., 2019; Reicher, 2007). Perspective-taking is a cognitive process that we use for social purposes by understanding the how another person thinks, feels, and behaves (Baron-Cohen et al., 1994; Vorauer, 2013). When a person participates in a perspective-taking study, typically, they are asked to engage in the process as though they are blank slates. However, people begin the study with existing perceptions of the group they are about to be asked to take the perspective of; and these perceptions, as I have shown in the meta-analysis, have an impact on the effects of perspective-taking.

In the same vein, people leave the study and re-enter into an environment where the structural inequalities and level of hostility towards some groups have not changed, and thus may weaken the effects of the perspective-taking exercises they participated in (see also Paluck et al., 2021). Therefore, we need to consider what social group the perspective-taker belongs to, and whose perspective they are being asked to adopt. If the perspective-taker has unfavourable

perceptions towards the outgroup in question, then perspective-taking processes may not be an appropriate facilitator for changes in attitudes, behaviours, and solidarity towards the supposed outgroup. Instead, perspective-taking appears to be a more constructive approach in cases where the social group in question are perceived as more competent or warm. Therefore – although perspective-taking can be an effective way to improve intergroup relationships – it must be used with much consideration of the context to which it is being applied.

Chapter 5

General Discussion

> When you wipe your eyes, see it clearly, there's no need for you to fear me. If you take your time to hear me, maybe you can learn to cheer me. It ain't about black or white, ‘cause we human, I hope we see the light before it's ruined. (Shakur et al., 2004)

Intergroup hostility is an enduring and destructive social problem. Since I have commenced this PhD, the world has borne witness to countless events of extreme social division – starting from (but not limited to): the COVID-19 pandemic, which gave rise to increased anti-Asian hate crimes across the globe (e.g., Han et al., 2023; Lantz & Wenger, 2023; Liu et al., 2023), and division between those who supported vaccinations and those who oppose vaccinations (Cowan et al., 2021); the death of George Floyd sparking a resurgence of the Black Lives Matter movement (Nguyen et al., 2021); the election of political parties and policies that have driven polarisation between their constituents (e.g., Brexit; Brändle et al., 2022; Richards & Heath, 2023; and Trump presidency; Abramowitz & McCoy, 2019; Tarzi, 2019); and the re-emergence of war between Ukraine and Russia, and now Palestine and Israel, resulting in mass loss of life and human displacement. Intergroup hostility is the foundation of these events, and these events, in turn, enable hostility to thrive and perpetuate. Intergroup hostility emerges when people position themselves and their group in opposition to others. That is, especially in times of conflict and threat, people tend to see each other as “black or white”, “us or them”, rather than seeing a shared identity of “human” (see also Stephan et al., 2015). Given the deleterious outcomes of intergroup hostility; we urgently need to understand the factors under which people will show support versus hostility, so that we “see the light before its ruined” (to borrow from Tupac Shakur, above).

Perspective-taking is a fundamental socio-cognitive process we use to make sense of our environment – particularly, the other people around us (Vorauer, 2013). Furthermore, successful

perspective-taking inherently involves members of one social group (or social category) adopting the perspective of another. As such, perspective-taking is one fundamental socio-cognitive process used to establish whether the perceiver "stands with" or "against" an ostensible outgroup and its members (e.g., Davis et al., 1996; Myers & Hodges, 2012). In order to articulate the links between social cognition, social categorisation and the social structures within which people operate, my thesis was broadly guided by the insights of the social identity perspective, incorporating social identity (Tajfel & Turner, 1979) and self-categorisation theory (Turner et al., 1987). Indeed, like a scientist's petri dish, I suggest that the process and outcomes of perspective-taking provide a way of exploring deep and fundamental questions about how people perceive and make sense of their social realities. As perspective-taking offers a window into understanding the lives and perspectives of others, it is also known to foster empathy (e.g., Batson et al., 1997), mitigate hostility, and to promote reconciliation after conflict (Paluck, 2010; Vorauer, 2013). Consequently, perspective-taking has been used as a means to reduce intergroup hostility. Indeed, the efficacy of perspective-taking for reducing intergroup hostility is well-documented and supported (e.g., Galinsky & Ku, 2004; Galinsky & Moskowitz, 2000; Todd et al., 2011; Todd & Burgmer, 2013; Vescio et al., 2003).

Nonetheless, the effects of perspective-taking are highly variable and may increase hostility under specific conditions. Many such conditions have been identified in the literature and appear to indicate that perspective-taking is influenced by several factors ranging from methodological approaches, the outcome in question, and people's perceptions of the ostensible outgroup. That is, different applications of perspective-taking may produce different effects on intergroup hostility (e.g., approaches such as imagine-self or imagine-other; Vorauer & Sasaki, 2014; Batson et al., 1997; or the mode of delivery such as computer avatars or writing tasks; Herrera et al., 2018; Galinsky & Moskowitz, 2000). Furthermore, the benefits of perspective-taking can be undermined by conditions pertaining to how perspective-takers perceive the outgroup in question (e.g., Sassenrath et al., 2016; Todd & Galinsky, 2014), and the nature of the relationship between the groups in question (e.g., Bruneau & Saxe, 2014; Epley et al., 2006; Pierce et al., 2013). Moreover, it

is possible that the effects of perspective-taking vary depending on the outcome in question (i.e., changing attitudes versus behaviours; Dixon et al., 2012) and outcome valency (i.e., reducing hostility versus increasing support; Mummendey & Otten, 1998).

Despite these theoretical and empirical observations, there have only been little systematic, empirical tests of the conditions that shape the outcomes of perspective-taking on intergroup hostility. That is, there is evidence supporting that imagine-self perspective-taking is more effective than imagine-other perspective-taking, and vice versa (e.g., Batson et al., 1997; Vorauer & Sasaki, 2014). Also, others have argued that perspective-taking via virtual reality could produce stronger effects on intergroup hostility than traditional modes of delivery such as reading and writing tasks (e.g., Hasson et al., 2019; Herrera et al., 2018). However, no formal meta-analytic test has been conducted to determine whether one of these perspective-taking approaches are indeed stronger, and to what extent they impact intergroup hostility. Furthermore, although perspective-taking research often assesses the impact of perspective-taking on hostile or supportive intergroup attitudes, behaviours, or solidarity; the literature is yet to consider that the strength of effects may be contingent on the outcomes (i.e., solidarity, or attitudes versus behaviours; as per Dixon et al., 2012) or the valency of the outcome (i.e., reducing hostility versus increasing support; as per Mummendey & Otten, 1998).

Yet, many have noted that perspective-taking exacerbates hostility when people feel threatened (e.g., Sassenrath et al., 2016; Todd & Galinsky, 2014), have negative perceptions of the outgroup in question (e.g., Paluck, 2010; Skorinko & Sinclair, 2016), or when the relationship between the groups in question is already hostile (e.g., Bruneau & Saxe, 2014; Epley et al., 2006; Pierce et al., 2013). As such, I also propose that perceptions of other groups, the threat people feel towards them, and the existing relationship between groups, impact the process of perspective-taking and its potential in reducing intergroup hostility. However, empirical tests of *why* and *how*

these factors impede the positive, restorative outcomes of perspective-taking remain relatively scarce.

Thus, the purpose of my thesis was to comprehensively understand the conditions that shape or dictate when and why perspective-taking reduces intergroup hostility, and when it might have null effects or backfire. That is, I examined the influencing factors before perspective-taking happens and what contexts and conditions moderate the effects after perspective-taking takes place. Broadly, I wanted to know (a) what are the factors that shape motivations to engage in perspective-taking? (Research Question 1); and (b) when perspective-taking is engaged, what conditions determine whether it reduces intergroup hostility, has no effect on intergroup hostility; or *exacerbates* hostility? (Research Question 2). I integrated multiple theories to demonstrate that intergroup hostility is a social phenomenon that involves complex (i.e., positive/negative) attitudes, and how people perceive other groups in relation to themselves and the group they belong to. Furthermore, these complexities all play a role in the perspective-taking process and its impact on intergroup hostility. That is, participants of a perspective-taking study will have existing perceptions towards different social groups before they enter the (physical or virtual) laboratory. These perceptions may determine whether the participant will adopt the perspective of the outgroup in question. In turn (once perspective-taking has occurred), the degree to which perspective-taking influences intergroup hostility is contingent on the existing perceptions towards the outgroup in question, as well as methodological and context-dependent conditions such as: how perspective-taking is applied (e.g., imagine-self versus imagine-other; writing task versus computer avatars), the outcome in question (i.e., attitudes, behaviours, or solidarity), the outcome valency (i.e., reducing hostility versus increasing support).

Overview of Thesis Studies and Findings

The core premise and argument of the thesis is articulated in Chapter 1. The findings of my studies are presented in three empirical chapters. Chapter 2 addresses the question of what factors

shape motivation to engage in perspective-taking. I drew on and integrated theoretical frameworks from the prejudice and stereotyping literature (Fiske et al., 2002; Leach et al., 2007; Kende & McGarty, 2019) and threat literature (e.g., Rios et al., 2018; Stephan et al., 2000, Stephan et al., 2015) to explore the key perceptions that serve as barriers to engage in the perspective-taking process. Perspective-taking is often used to change negative stereotypes of specific outgroups (e.g., Galinsky & Moskowitz, 2000; Todd et al., 2011; Wang et al., 2018; Weyant, 2007). However, intergroup hostility can be comprised of both negative and positive stereotypes (e.g., Dixon et al., 2012), and both may influence the perspective-taking process. As such, I considered how specific negative *and* positive stereotyped perceptions of groups (e.g., in terms of how warm, competent, and moral group members are seen to be) may be related to enhanced perceptions of threat, which may consequently relate to inability and unwillingness to adopt the perspective of the group. Given that such perceptions differ across groups – and my interest in establishing what kinds of content are barriers for some groups relative to others – I compared barriers to motivation across many different groups that are prominently studied in the perspective-taking literature.

In both Study 1 and 2 (Chapter 2), I used a cross-sectional design to explore how group perceptions and threat shape motivation to engage in perspective-taking. I found that, indeed, people perceive greater threat (especially dissimilarity threat) when groups are perceived as low in warmth, competence, and/or morality – which was then, in turn, associated with reduced willingness and ability to perspective-take. I also established that warmth, competence, morality, and dissimilarity and symbolic threat appeared to be the primary factors associated with motivation to engage in perspective-taking. However, visibility, entitativity, responsibility, politicisation, and evaluative and realistic threats were not uniquely associated with motivation to engage in perspective-taking. Study 2 was a confirmatory test of the relationship between perceptions, threat, and motivations to engage in perspective-taking. That is, people were more able and willing to adopt the perspective of several outgroups when those groups were seen as more competent and/or more moral. Also, perceptions of lower warmth, competence, morality, and higher dissimilarity

threat are barriers to perspective-taking; whereas perceptions of higher warmth, competence, morality, and lower dissimilarity threat appear to be associated with positive motivation to engage in perspective-taking. Thus, Chapter 2 provided insights into the antecedent factors that may govern when people are reluctant (or inclined) to adopt the perspectives of marginalised groups; demonstrating that motivations to engage in perspective-taking are associated with, and shaped by, group (stereotypical) perceptions and threat towards the social group in question.

Chapters 3 and 4 address the question about the conditions that determine whether perspective-taking reduces intergroup hostility, has no effect on intergroup hostility; or exacerbates hostility, once this process is engaged. Methodologically, I answered these questions by conducting a systematic review and meta-analysis on the empirical literature on perspective-taking and its effects on intergroup attitudes, behaviours, and solidarity (conceptualised as the extent to which a person identifies with, and "stands with", an outgroup; e.g., Subašić et al., 2008). I embarked on this undertaking due to the observations made by my supervisors (e.g., Berndsen et al., 2018), myself, and other researchers (e.g., Paluck, 2010; Pierce et al., 2013; Sassenrath et al., 2016; Tarrant et al., 2012; Todd & Galinsky, 2014; Vorauer, 2013) had made that perspective-taking could elicit perverse, backlash effects. Despite the longevity of experimental studies on perspective-taking as a prejudice-reduction strategy, a meta-analytic review of this literature had not been conducted. Perspective-taking has been included in other meta-analyses on prejudice-reduction strategies (i.e., Hsieh et al., 2022; Paluck et al., 2021), but these reviews only included perspective-taking studies applied in specific contexts (e.g., field studies using perspective-taking and other prejudice-reduction strategies; Hsieh et al., 2022). Therefore, the effects of perspective-taking, and conditions under which perspective-taking is most effective, were unknown. Consequently, I focussed on perspective-taking and establishing its effects on intergroup hostility.

In my meta-analysis (Study 3, Chapter 3), I explored the impact of several methodological and theoretical moderators on the causal relationship between perspective-taking and intergroup

hostility. Intergroup hostility was captured by three outcomes: attitudes and behaviours towards an outgroup; and solidarity). In recognition that perspective-taking is a socio-cognitive process, I explored its effects on people's sense of "oneness" with an outgroup (which I conceptualised as solidarity), as another aspect of intergroup hostility. Given the insights of the principle implementation gap (Dixon et al., 2017), I tested whether the effects were weaker or stronger when the aim was to change attitudes or behaviours; increase support for, or reduce hostility towards, the ostensible outgroup (per the positive-negative asymmetry effect; Mummendey & Otten, 1998); the type of perspective-taking a person engages in (i.e., imagine-self, Vorauer 2013; or imagine-other [individual/group]; Barth & Sturmer, 2016; Batson et al., 1997); or the mode in which perspective-taking tasks are delivered (e.g., reading, van Prooijen & Coffeng, 2013; or writing tasks, Galinsky & Moskowitz, 2000; computer avatars, Hasson et al., 2019; Herrera et al., 2018; or watching videos, Shih et al., 2009).

I observed that perspective-taking had a facilitative effect on reducing intergroup hostility overall. Specifically, perspective-taking had stronger effects on changing intergroup attitudes compared to behaviours; relatively equivalent magnitude of effects on reducing hostility and increasing support; and that imagine-other (individual) and imagine-other (group) perspective-taking were effective methods to reduce intergroup hostility. Also, an exploratory analysis (Appendix B) revealed that imagining-other (individual) was the only type of perspective-taking that reduced hostile attitudes and behaviours *and* increased supportive attitudes and behaviours. However, imagine-self perspective-taking was only effective for increasing feelings of solidarity. Similarly, perspective-taking via computer avatars (which are arguably a form of imagine-self perspective-taking) also only improved solidarity with the ostensible outgroup. Of the remaining perspective-taking delivery modes, perspective-taking via reading and writing tasks and watching videos had facilitative effects on intergroup attitudes, behaviours. Furthermore, reading narratives also increased feelings of solidarity towards the outgroup in question. Thus, I can conclude that the extent to which perspective-taking reduced intergroup hostility were contingent on the following

methodological conditions: the outcome in question (i.e., attitudes, behaviours, or solidarity); the outcome valency (i.e., hostility or support); the type of perspective-taking (i.e., with imagine-other (individual), imagine-other (group), or imagine-self); the mode of delivery (i.e., reading, writing, computer avatars, or watching videos).

Then in Chapter 4, I addressed my focal research question to examine whether the effects of perspective-taking on intergroup hostility are contingent on perceptions towards the outgroup in question. First, I investigated the extent to which perspective-taking influenced intergroup hostility towards each social groups identified in the systematic review. Then, I revisited the role of group perceptions (i.e., warmth, competence, morality) and threat (i.e., evaluative, dissimilarity, competitive) from Chapter 2 to explore whether these qualify the effects of perspective-taking on the outcomes. That is, I examined the moderating role of warmth, competence, and morality on the relationship between perspective-taking and intergroup hostility. Specifically, I explored whether the effects of perspective-taking on intergroup attitudes and behaviours, and solidarity were contingent on the extent to which groups were perceived as warm *or* competent, warm *and* competent, or moral.

In Study 4 (Chapter 4), to account for changes in stereotypes over time (e.g., Turner et al., 1994), I attempted to quantify how the perspective-takers may have perceived the outgroup in question at the time the study was conducted. Expert coders read historical context statements extracted from original study papers, and used this information to gauge how warm, competent, moral, and threatening (i.e., evaluative, dissimilarity, competitive) the perspective-takers saw the ostensible outgroup. Study 5 (Chapter 4) involved triangulating the historical context ratings with the effect sizes obtained in the meta-analysis to determine how the group perceptions and threat moderated the strength of effects of perspective-taking on intergroup attitudes, behaviours, and solidarity. Although I was able to explore the moderating effects of group perceptions; the threat ratings were not sufficiently reliable or valid, therefore I had to exclude these from the analysis.

I observed that perspective-taking had different effect sizes depending on the outgroup in question. That is, perspective-taking had a small-to-moderate facilitative effect for several social groups (e.g., Black people, elderly people, Asian people, Muslim people); null effects for many groups (e.g., Indigenous peoples, immigrants, people experiencing mental health issues, LGBTQIA+ peoples); and a backlash effect for people with disabilities whereby perspective-taking appeared to exacerbate hostility. Furthermore, perspective-taking increased solidarity for elderly people and people experiencing homelessness but did not reliably influence feelings of solidarity for Black people and people experiencing mental health issues. When considering group perceptions, perspective-taking produced facilitative effects (i.e., reduced intergroup hostility) when groups were perceived as higher in warmth and/or higher in competence, independently. However, morality did not moderate the effects of perspective-taking on intergroup hostility. Thus, I can conclude that the effects of perspective-taking on intergroup hostility vary depending on the outgroup in question and, indeed, exacerbate hostility towards some groups (i.e., people with disabilities). Furthermore, the extent to which perspective-taking influenced intergroup hostility appear to be shaped by the perspective-taker's perceptions (i.e., warmth or competence) of the social group in question.

Contributions to Theoretical Understanding of Perspective-Taking and Intergroup Hostility

Firstly, my thesis has contributed empirical evidence that help resolve long-standing debates in the perspective-taking literature on intergroup hostility. For instance, a persistent debate revolves around whether imagine-self or imagine-other perspective-taking is more effective in reducing intergroup hostility (e.g., Vorauer & Sasaki, 2014; Batson et al., 1997). The meta-analysis in Chapter 3 (i.e., Study 3) revealed that imagine-other (individual) perspective-taking instructions were the only approaches that elicited facilitative changes (i.e., reduced hostility, increased support) in intergroup attitudes, behaviours, and increasing solidarity – consistent with the identifiable victim effect (e.g., Lee & Feeley, 2016; Small et al., 2007). In contrast, imagine-self has equivalent facilitative effects only on solidarity and does not influence attitudes and behaviours.

Furthermore, some recent studies propose that perspective-taking through computer avatars (e.g., virtual reality, Hasson et al, 2019; Herrera et al., 2018), may have stronger effects on reducing intergroup hostility because it is presumed to provide a more authentic and immersive perspective-taking experience (e.g., Herrera et al., 2018). However, the meta-analysis revealed that perspective-taking via computer avatars increased solidarity, but did not reliably influence attitudes and behaviours. Rather, perspective-taking through reading or writing modes were most efficient in fostering facilitative changes in intergroup attitudes and behaviours. It may be that the same sense of virtually enabled immersion that facilitates perspective-taking for people who are able and willing (per Study 1 and 2, Chapter 2) also promotes greater reactance amongst those who are not. Therefore, my PhD has contributed to theoretical understanding by addressing long standing debates and establishing that some methods of perspective-taking have stronger effects on intergroup attitudes, behaviours, and solidarity.

My studies also pinpoint specific conditions under which perspective-taking does not reduce intergroup hostility and may result in null or perversive effects. To demonstrate, I observed that imagine-self perspective-taking increases solidarity, but did not affect attitudes and behaviours (Study 3, Chapter 3). Imagine-self perspective-taking is distinct from other approaches because the perspective-taker is imagining themselves as the outgroup member. It is difficult to then conclude that imagine-self perspective-taking does reduce intergroup hostility, because the increased solidarity did not translate to facilitative changes in attitudes and behaviours. I also observed some negative outcomes of perspective-taking, in particular, I observed increased hostility when people were asked to perspective-take for people with disabilities (Study 5, Chapter 4). Chapter 2 revealed that symbolic threat was associated with greater ability to perspective-take. This could be related to people's motivations to maintain mastery and control over their environments, particularly when experiencing threat (Bandura, 1990; Gecas, 1989). Also, drawing on the insights of social identity and threat theory; perceptions of marginalised groups serve to maintain the advantaged group's dominance in values and status (Dixon et al., 2012; Reicher, 2007), and people perceive symbolic

threat when their values and status are challenged (Stephan et al., 2015). As such, people may perspective-take to overcome the feelings of (symbolic) threat and regain a sense of mastery and control of the situation. Therefore, this finding highlights that people may be motivated to engage in perspective-taking as a protective measure to preserve their values and social status, rather than with an intent to reduce hostility towards ostensible outgroups.

Additionally, intergroup hostility can be observed and expressed in different ways. To account for this, I turned to theoretical statements from the social identity to explore the variable effects of perspective-taking depending on the different types of outcomes of intergroup hostility (i.e., attitudes, behaviours, solidarity), and the valency of these expressions (specifically, attitudes and behaviours). To illustrate, Study 3 (Chapter 3) examined whether perspective-taking had stronger effects on changing attitudes versus behaviours (reflecting the claims of the principle-implementation gap, Dixon et al., 2017), or reducing hostility versus increasing support (reflecting the claims of positive-negative asymmetry, Mummendey & Otten, 1998). The analyses revealed that perspective-taking influenced intergroup attitudes but did not reliably influence intergroup behaviours. Thus, I provide further support for the principle-implementation gap (Dixon et al., 2017), but in the context of perspective-taking. Regarding outcome valency, perspective-taking had equivalent effects on reducing hostility and increasing support, which suggests the absence of a positive-negative asymmetry effect. However, exploratory analyses did reveal that imagine-other (individual) perspective-taking was the only approach that reduced hostility and increased support; whereas imagine-self and imagine-other (group) had no effect on hostility and only increased support. Therefore, I observed some support for the presence of positive-negative asymmetry effect (Mummendey & Otten, 1998) in the context of perspective-taking. Consequently, I observed that perspective-taking had different effects on intergroup hostility depending on the outcome in question, and outcome valency.

The Social World Impacts Perspective-Taking and its Relationship with Intergroup Hostility

Another overarching theoretical asset of my dissertation is that I integrated multiple theories and longstanding empirical observations, such as the social identity approach to intergroup hostility and stereotyping; the stereotype content model; and theories of threat. I then empirically tested their insights to understand when and why perspective-taking reduces or exacerbates intergroup hostility. Although perspective-taking researchers engage deeply with the reality and complexity of intergroup hostility, the empirical studies often necessarily fall short of accounting for the social factors that influence the relationship between perspective-taking and intergroup hostility. This is because, due to the very nature of laboratory experiments, most of the studies have focussed on establishing the isolated effects of perspective-taking on intergroup hostility. Consequently, much of the literature has not yet empirically examined external and structural factors that may invite/impede engagement in perspective-taking, or undermine its effects on intergroup hostility (see also Turner, 1981). In response to these limitations, and to account for social influences; my PhD explored, then established, how possible engagement in, and the outcomes of, perspective-taking are shaped or influenced by crucial real-world factors.

My dissertation was broadly informed by the social identity perspective because it provided me with a framework to understand the structural factors that shape intergroup hostility, and consider perspective-taking as a particular form of social categorisation (i.e., determining who I "stand with" and "against"; see Chapter 3; Davis et al., 1996; Laurent & Myers, 2011; Myers & Hodges, 2012). According to these approaches, intergroup hostility (termed otherwise as prejudice) is a complex social phenomenon grounded in group dynamics, rather than a product of a person's own cognitive shortcomings (i.e., their own 'faulty judgements', Dixon et al., 2012; Platow et al., 2019; Reicher, 2007). That is, intergroup hostility may arise from our (positive or negative) perceptions of different social groups (Dixon et al., 2012), and the nature of the relationship between the groups in question (e.g., whether they challenge the status and values of our own group; Dixon et al., 2012; Platow et al., 2019; Reicher, 2007). Indeed, it is for these reasons that I

have followed others in adopting the use of the term ‘intergroup hostility’ to prejudice (which literally translates to ‘pre-judgement’). Consequently, I argue that we will have a better understanding of when and why perspective-taking reduces, or exacerbates, intergroup hostility when we account for the truly *social* nature of those relationships and not merely as a cognitive phenomenon “in the mind”.

Attitudinal Complexity Behind Intergroup Hostility.

Dixon and colleagues’ (2012) argument that intergroup hostility may arise from positive and negative perceptions also coincides with the stereotype content models (Fiske et al., 2002; Leach et al., 2007). The stereotype content model posits that the stereotypes people have about others are grounded in perceptions of warmth, competence, and morality. For example, intergroup hostility may develop when groups are perceived as low in warmth and morality, but high in competence (which is equivalent to hostility in the form of negative attitudes; Dixon et al., 2012); or when groups are perceived as high in warmth and morality, but low in competence (i.e., a combination of positive and negative perceptions, which is equivalent to paternalistic attitudes; Dixon et al., 2012). My findings are consistent with these observations in that they demonstrate that people have both negative and positive attitudes towards groups, as these attitudes are informed by how high/low in warmth, competence, and morality people perceive the social groups to be (Studies 1 & 2). Furthermore, perceptions can serve as both a barrier or facilitator of perspective-taking (Studies 1 & 2) and can moderate the effects of perspective-taking on outcomes (Study 5). Specifically, findings in Studies 1 and 2 (Chapter 2) highlight that perceptions of warmth, competence, and morality are associated with motivation to (dis)engage in perspective-taking via dissimilarity threat. Moreover, the effects of perspective-taking on intergroup attitudes, behaviours, and solidarity were stronger when groups were seen as higher in warmth and competence. I therefore presented evidence that people have negative and positive perceptions towards marginalised groups. Consequently, accounting for people’s positive and negative perceptions of social groups can help us understand when and why perspective-taking reduces, or exacerbates, intergroup hostility.

Group Perceptions are Associated with Threat and Underlie Intergroup Hostility.

Many social identity theorists have also argued that intergroup hostility is reflective of the nature of the relationship between groups (e.g., Dixon et al., 2012; Platow et al., 2019; Reicher, 2007). Rather than examine social structural conditions (Tajfel & Turner, 1979), I took a different approach. There are two ways in which I explored this proposition – that is, by establishing that people perceive groups differently, and that people feel threatened by (some) ostensible outgroups. First, I tested whether the effects of perspective-taking on intergroup hostility were indeed contingent the social group in question. If people indeed had varying perceptions of social groups, this would be because the nature of their relationship with specific groups were different. In Study 5 (Chapter 4), I explored whether effects were stronger based on the social group in question, and the perspective-taker's perceptions towards the social group. The rationale for these tests of moderation were informed by the theoretical and empirical observations that people perceive groups differently in ways that shape the stereotypic content ascribed to those groups (Fiske et al., 2002; Leach et al, 2007).

I found that the effects of perspective-taking, indeed, varied depending on the outgroup in question. For example, perspective-taking had facilitative effects on attitudes and behaviours towards Black people and elderly people, null effects on attitudes towards immigrants and LGBTQIA+ individuals, and a backlash effect (i.e., increased hostility, reduced support) for people with disabilities. Furthermore, the impact of perspective-taking on intergroup hostility was contingent on how warm or competent the social group in question was perceived to be. Although, contrary to my predictions, increased perceptions of competence promoted, or were associated with, positive outcomes. That is, in Chapter 2, higher levels of perceived competence were associated with more willingness to adopt the perspective of outgroups. Similarly, in Chapter 4 perspective-taking had stronger facilitative effects when the ostensible outgroups were perceived as highly competent.

Secondly, I argue that perceiving groups as threatening is indicative of the nature of relationships between the groups in question. Intergroup hostility often results when one group challenges the values and status of another group (Dixon et al., 2012; Platow et al., 2019; Reicher, 2007). These insights are consistent with the observations of threat theories which argue that people feel threatened when an ostensible outgroup appears to compete for dominant values and culture (i.e., symbolic threat; Stephan et al., 2000; Stephan et al., 2015), and/or for physical resources such as employment, housing, or perceived threats to physical wellbeing (i.e., realistic threat; Stephan et al., 2000). Arguably, realistic threat, although it was not explicitly conceptualised as such, has been observed in previous perspective-taking studies (e.g., Epley et al., 2006; Pierce et al., 2013). That is, studies showed participants engaging in more antagonistic behaviours when they perceived intense competition for resources between themselves and the ostensible outgroup (e.g., perspective-takers took more resources, such as grant funds; Epley et al., 2006; or engaged in behaviours to deceive the competitor group to gain more resources; Pierce et al., 2013). Others have observed that perspective-taking tends to increase hostility when people feel threatened by the outgroup in question (Sassenrath et al., 2016; Todd & Galinsky, 2014; Vorauer, 2013). Specifically, perspective-taking can increase hostility when people feel the outgroup in question would evaluate them negatively (Sassenrath et al., 2016; Vorauer, 2013); which is equivalent to evaluative threat (see Dickerson, 2008). Also, perspective-taking can backfire when people perceive themselves as too dissimilar from the outgroup in question (Sassenrath et al., 2016), which corresponds to dissimilarity threat (see Rudolph & Popp, 2010).

My findings provided some support for these insights by identifying relationships between specific forms threat and perspective-taking. That is, I found that, consistent with observations on dissimilarity threat (i.e., Rudolph & Popp, 2010; Sassenrath et al., 2016), people were less motivated to engage in perspective-taking if the social group was perceived as too dissimilar from themselves. Also, unexpectedly, increased perceptions of symbolic threat were associated with heightened ability to perspective-take. This finding still supports my theorising that symbolic threat

is associated with perspective-taking, albeit counter-intuitively. However, evaluative threat and realistic threat were not associated with motivations to engage in perspective-taking (contrary to the observations of Sassenrath et al., 2016; Vorauer, 2013).

Furthermore, linking groups perceptions with distinct forms of threat enabled me to offer one potential explanation as to *why* people feel threatened by other social groups. That is, in Studies 1 and 2 (Chapter 2), I linked the stereotype content models (Fiske et al., 2002; Leach et al., 2007) and threat theories (e.g., Dickerson et al., 2008; Rudolph & Popp, 2010; Stephan et al., 2015) to help us understand why people may be inclined, or resistant, to perspective-taking. The findings demonstrated that warmth, competence, and morality are associated with threat (particularly dissimilarity and symbolic threats). In turn, these perceptions may serve as barriers of perspective-taking. One possible way to interpret these findings is that the extent to which social groups and their members are perceived as warm, competent, and moral could lead to perspective-takers feel threatened by the social group in question. As such, it is these perceptions that may determine whether people want to, or believe they are capable of, adopting the perspective of an ostensible outgroup member. Moreover, the very nature in which people perceive groups may also explain why perspective-taking may elicit reactance or lead to weaker effects on hostility. Consequently, my findings have demonstrated – and argue for – the importance of considering external, real-world social factors that contribute to the perspective-taking process.

Additionally, the way that people perceive groups may explain why some previous studies observed reactance in perspective-taking studies (e.g., Berndsen et al., 2018; Paluck et al., 2010; Pierce et al., 2013). The findings across both studies in Chapter 2 suggest that people feel dissimilarity threat towards groups they perceive as low in warmth, competence, and morality, which consequently leads to lower motivation to engage in perspective-taking. People often show resistance to instructions when they feel ambivalent or hesitant towards a task they are asked to partake (Westra & Norouzian, 2018). Therefore, we may observe reactance if people are asked to

adopt the perspective of people they view unfavourably (e.g., low in warmth, competence, morality, and threatening - as observed in Studies 1 and 2). Thus, the studies in this PhD build on existing observations that perspective-taking may exacerbate hostility (e.g. Sassenrath et al., 2016; Todd & Galinsky, 2014; Vorauer, 2013) by identifying specific conditions that may lead to increases or perpetuate intergroup hostility under specific circumstances.

In sum, over the course of this PhD project, I linked multiple theories in the prejudice-reduction literature (i.e., conceptualisations of prejudice, stereotype content models, threat theories, perspective-taking literature) to help understand role of context and importance of embedding prejudice-reduction strategies (specifically perspective-taking) in social reality, and provided empirical support for this proposition. I presented empirical evidence that supported theories – for example, in Studies 1 and 2 (Chapter 2) integrated the stereotype content models (Fiske et al., 2002; Leach et al., 2007) and threat theories (Rios et al., 2018; Stephan et al., 2000; Stephan et al., 2015) to demonstrate how existing perceptions can serve as barriers to engagement in perspective-taking. As I have integrated theories of intergroup hostility; the insights of this thesis could also help inform other prejudice-reduction strategies (e.g., the importance of context, considering how you apply techniques in terms of methods/approaches, and the impact of antecedent factors such as perceptions towards different social groups). Linking theoretical literature on intergroup hostility with perspective-taking helps us to understand when the process produces facilitative or backlash outcomes, and thus, how this process is best applied. It is to the applications of this research that I turn next.

How My Studies Inform Future Research and Real-World Applications

My thesis identified barriers that could deter people from engaging in perspective-taking, and highlighted conditions that may determine whether perspective-taking reduces, exacerbates, or does not impact intergroup hostility. As such, my studies offer a guide that can help improve practical efforts to ensure that we employ perspective-taking in ways that reduce intergroup

hostility, and avoid contexts where the efforts may be a waste of resources (time, money) or, worse, exacerbate hostility. For example, the meta-analyses demonstrated that perspective-taking tends to have stronger effects when people are imagining the perspective and experiences of other people (i.e., outgroup members), rather than imagining themselves as an outgroup member. Specifically, imagine-other (individual) perspective-taking was the only approach that reliably elicited reductions hostile attitudes and behaviours, increases in supportive attitudes and behaviours, and increased feelings of solidarity with the ostensible outgroup. Therefore, asking people to adopt the perspective of an identified (individual) outgroup member would be the most efficient way to elicit positive changes in intergroup hostility (consistent with the identifiable victim effect; Lee & Feeley, 2016; Small et al., 2007). Furthermore, the findings revealed that perspective-taking via reading and writing have the most efficient, facilitative effects on improving intergroup attitudes and behaviours, and increasing solidarity, compared to other modes. Perspective-taking via watching videos also had a facilitative effect on intergroup attitudes and behaviours, but not solidarity. Although the meta-analyses, in most cases, revealed that perspective-taking had an effect size of .20 - .30 on outcomes; these effect sizes are still known to produce a meaningful (small-medium) effect at the population level (see reviews by Lovakov & Agadullina, 2021; Richard et al., 2003). Therefore, my research findings offer insights to practitioners on the most effective ways to apply perspective-taking.

The meta-analyses also revealed contexts where perspective-taking may not be a useful method to reduce intergroup hostility. That is, perspective-taking appeared to have no effect on intergroup hostility towards several different groups, such as LGBQTIA+ people, people experiencing mental health issues, immigrants, refugees/asylum seekers, and Indigenous peoples. Additionally, the meta-analysis in Chapter 4 revealed an *increase* in intergroup hostility when people adopted the perspective of people with disabilities. Consequently, I suggest that practitioners avoid using perspective-taking to reduce intergroup hostility towards these groups. Having said this, perspective-taking studies on disabilities have used behavioural simulations, such as blindfolding

participants, or using restraints to simulate amputations (e.g., Silverman et al., 2015). These methods may perpetuate the stereotype that people with disabilities are relatively incompetent (see also, Clore & Jeffery, 1972; Silverman et al., 2015). Therefore, to mitigate potential backlash effects, future practices could use alternative perspective-taking approaches (i.e., reading or writing).

Perspective-taking can also foster stronger facilitative effects if future practices accounted for perceptions people have towards the outgroup in question. That is, the findings in Chapter 4 highlighted that perspective-taking had a stronger effect on reducing intergroup hostility when people perceived groups as highly warm or competent. Also, as illustrated in Chapter 2, people were more motivated to engage in perspective-taking when they perceive groups as higher in warmth, competence, and/or morality, as these perceptions were associated with less dissimilarity threat. Therefore, it is feasible to suggest that researchers and practitioners emphasise the warmth, competence, and/or morality of the social group in question before, or while, asking people to perspective-take. Conversely, we should avoid perspective-taking if groups are perceived as lower in warmth, competence, and morality.

Furthermore, my findings support the use of scalable applications of perspective-taking. That is, based on my findings, I recommend that organisations use imagine-other forms of perspective-taking in their media campaigns or educational activities – especially imagine-other (individual) perspective-taking (see Study 3, Chapter 3). That is, asking people to read or write about, or watch the experience of a specific marginalised group member, would be a method that is easier/cost effective to apply in terms of mass communication. However, one caveat is that organisations need to tailor their messaging depending on their target audience. As per the findings in Studies 1 and 2 (Chapter 2); people are less motivated to engage in perspective-taking if they perceive groups as low in warmth, competence, and morality. Therefore, I recommend that organisations conduct a preliminary investigation (e.g., surveys) to understand how their target

audience perceives the social group in question, in terms of warmth, competence, and morality. Organisations could then tailor mass communication to specific audiences based on (for example) where their audience predominantly reside and visit, or use targeted online advertising/campaigns. This way, practitioners can avoid asking people to adopt the perspective of social groups who they view unfavourably, and thus only apply perspective-taking in situations where people would be more receptive to engage in this process. I will expand on this point further in the future research directions below, by arguing that the profile of the perspective-taker should also be considered.

Strengths, Limitations, and Future Research Directions

The findings of my thesis were supported by robust, sophisticated methodologies that were able to help us understand the factors that shape motivations to engage in perspective-taking (i.e., Research Question 1); and (b) when perspective-taking is engaged, which conditions determine whether it reduces intergroup hostility, has no effect on intergroup hostility; or *exacerbates* hostility (i.e., Research Question 2). That is, structural equation modelling enabled me to identify a network of relationships between several independent variables, mediators, and dependent variables. Furthermore, employing a multigroup structural equation model allows us to test whether a model is applicable across many different groups, and where there is variation in the magnitude of the paths across groups (Kaplan, 2009). Therefore, I was able to establish that these associations were relatively generalisable (albeit with varying strengths) across several different social groups.

The centrepiece of my thesis is a systematic review and meta-analysis. Meta-analyses calculate the average effect size of a method from an accumulated (and most likely heterogenous) body of empirical studies. Therefore, this method enables us to determine, overall, whether a method has a significant impact on a specific outcome, and provides robust indicator of the true effect size (Card, 2011). Systematic reviews and meta-analyses also point out gaps in the literature, thus highlighting areas which need attention from research. Furthermore, a meta-analysis enables us to conduct rigorous, high-powered tests of multiple different moderators that would otherwise be

impossible/impractical to test with experimental studies (Card, 2011). I used these methods to help us gain an in-depth understanding of how existing circumstances affect perspective-taking processes, and what to expect after perspective-taking happen, within and outside of a laboratory setting (see also Turner, 1981).

The historical context coding study (i.e., Study 4, Chapter 4) was another methodological strength. As previously discussed, stereotypes and perceptions of social groups are known to change over time (Turner et al., 1994). As such, the level of hostility towards social groups would also fluctuate over time. For example, we observed an increase in hostility towards Asian people (especially Chinese people) after the onset of the COVID-19 pandemic (Han et al., 2023; Lantz & Wenger, 2023; Liu et al., 2023). As demonstrated in Studies 1, 2, and 5, the perceptions people have towards social groups has an impact on their motivations to engage in the perspective-taking process, and its subsequent effects on intergroup hostility. Therefore, it is plausible that the effects of prejudice-reduction strategies may also be dependent on how the outgroup in question was perceived at the time the study was conducted. Despite this key contextual nuance, most meta-analytic reviews (to my knowledge) are yet to consider changes in stereotypes and perceptions as a moderating factor (e.g., Hsieh et al., 2022; Paluck et al., 2021; Pettigrew & Tropp, 2006). However, by accounting for historical context in Study 4, the subsequent meta-analysis (Study 5) was able to demonstrate an estimate of effects of perspective-taking on intergroup hostility, that accounted for possible fluctuations in hostility over time. Given the complexity of quantifying these evaluations, I did extensive testing to ensure that the content rating was sufficiently reliable and valid. The methodologies employed in my dissertation afforded me a unique opportunity to meaningfully contribute to the theoretical understandings and practical applications of perspective-taking as a means to reduce intergroup hostility.

Despite these strengths, my thesis still had notable limitations and leaves some questions waiting to be answered in future studies. Firstly, Chapter 2 consisted of cross-sectional studies and

examined correlational data. Thus, I could not establish causal direction of the relationship between group perceptions, threat, and engagement in perspective-taking. Having said this, my findings overall do suggest a possible dynamic/reciprocal relationship between group perceptions and threat, perspective-taking, and intergroup hostility. That is, Study 2 demonstrated that perceptions shape motivation to engage in perspective-taking, but also, perceptions of groups also moderate the effect of perspective-taking on intergroup hostility. Conducting experimental studies to establish causal relationships between group perceptions, threat, and perspective-taking will allow us to predict when people will, or will not, engage in perspective-taking. In turn, this would help us develop more efficient methods that encourage perspective-taking (e.g., focussing on improving people's perceptions of groups). As such, I still recommend future studies examine whether group perceptions cause increased dissimilarity threat; and establish whether group perceptions and dissimilarity threat lead to disengagement with, and/or reactance to, perspective-taking. Furthermore, future research may benefit from examining whether the effects are robust once controlling for more general attitudes.

I was also unable to conclude from the meta-analysis in Chapter 4 if the effects of perspective-taking were moderated by perceptions of threat. The threat ratings I collected from the expert raters (i.e., in Study 4) were unreliable, thus I could not include or report them in the main findings. Consequently, we are yet to establish whether threat influences the effects of perspective-taking on intergroup hostility, nor identify specific types of threat that may moderate this relationship (per Sassenrath et al., 2016; Todd & Galinsky, 2014; Vorauer, 2013). Furthermore, the findings in Chapter 2 established a relationship between dissimilarity threat, symbolic threat, and motivation to engage in perspective-taking. As such, future research should conduct experimental studies that explore if different types of threat (e.g., dissimilarity, evaluative, and competitive threat) impact the effects of perspective-taking on intergroup hostility.

Future studies should continue exploring the effects of perspective-taking on intergroup hostility towards different social groups. In Chapter 4, the analyses also revealed that several groups had a limited number of studies included in the analysis. For example, for the effects of perspective-taking on outcomes, people from low socioeconomic backgrounds, Latinx people, and immigrants were examined in five (or less) studies, and I observed null effects for these groups. Perspective-taking also had moderate-strong effects on intergroup attitudes and behaviours towards Muslim people and people who experienced colonisation; and only two to three studies were included in each of these analyses. Therefore, it is possible that I did not have adequate power to observe significant effects for the former groups; and the reported effect size may have been overestimated for Muslim people and people who experienced colonisation. In the same vein, the results for solidarity were inconclusive for most groups because studies did not include these measures; or there were too few studies to gauge a better estimate of the average effects.

The scarcity of perspective-taking studies on each social group was also evident in the large confidence intervals around the estimated effect. That is, we observed wide confidence intervals around the estimated effects in most cases. Therefore, at present, my findings may not have definitively established the extent to which perspective-taking reduces intergroup hostility towards several social groups. Consequently, to ensure we have a better estimate of effects of each social group; future research should continue to explore the impact of perspective-taking on intergroup hostility towards the social groups identified in the meta-analysis that are, at present, relatively underrepresented in the perspective-taking literature (e.g., Muslim people, people from low socioeconomic backgrounds, immigrants).

Furthermore, the systematic review in Chapter 3 revealed that although perspective-taking studies were conducted in many different countries; the vast majority (approximately) 90% of studies were completed in Western, Educated, Industrialised, Rich, and Democratic (WEIRD; Henrich et al., 2010) countries – for example, in North America or Europe. This highlights a substantial gap in our research and understanding, as most of our observations are based on findings

from WEIRD countries (see also Pornprasit & Boonyasiriwat, 2020; Wang et al., 2018). Consequently, the effects I observed in Study 3 may not represent the impact of perspective-taking on intergroup hostility in non-WEIRD countries. More broadly, this means our field may not fully understand the impact of perspective-taking on intergroup hostility in other countries and cultures (see also Hagenaars, 2023 on decolonising psychology). Furthermore, regarding group perceptions, there is evidence that demonstrates cultural differences in the way people perceive and value warmth, competence, and morality (e.g., Cuddy et al., 2009; Stanciu et al., 2017). Consequently, it is possible that the way perceptions of social groups shape the perspective-taking process could be dependent on culture as well. Therefore, it is imperative that we encourage research in non-Western countries to ensure that our findings on perspective-taking are grounded in "social reality" and are applicable to other contexts and cultures.

Lastly, the systematic review in Study 3 (Chapter 3) revealed that follow-up studies are scarce in the perspective-taking literature. As such, we are yet to establish whether the effects of perspective-taking on intergroup hostility persist over time, outside of a laboratory setting. It is, therefore, important for future research in this field to conduct follow-up or longitudinal studies. Longitudinal studies would allow us to gauge whether perspective-taking maintains its influence on intergroup hostility over an extended period of time. We would also be able to observe if perceptions towards social groups change over time, and how these changes may relate to engagement in perspective-taking. Furthermore, we would be able to examine if a dynamic relationship between group perceptions, threat, and intergroup hostility exists (e.g., by using methodologies such as cross-lagged panel models). Therefore, I recommend we conduct more longitudinal studies to establish (a) if or how changes in perceptions towards social groups influence engagement in perspective-taking, and (b) if perspective-taking has an impact on intergroup hostility over time, especially in a broader context, outside of an experimental setting.

Additional Research Suggestions to Situate Perspective-Taking Within a Broader Context

One key message of this thesis is the importance of grounding our work in social context and reality. But how do we incorporate or account for the impact of group perceptions and threat in future perspective-taking studies? Coinciding with the recommendations from other reviews; we need to conduct studies that are embedded in social reality (e.g., field studies), or incorporate contributing real-world factors in their approach (see also Hsieh et al., 2021; Paluck & Green, 2009; Paluck et al., 2021). As such, I offer one method that may increase the efficacy of perspective-taking studies outside of laboratory settings – encouraging the presence of social groups (particularly highly stigmatised and often marginalised groups) in society. Drawing on the insights of Chapter 2 and 4, organisations and researchers should also focus on external contributors, such as improving people's perceptions of marginalised groups, to maximise the possible effects of perspective-taking and other prejudice-reduction strategies. That is, people may need to have better perceptions of specific social groups first before perspective-taking and other strategies can produce facilitative effects on attitudes and solidarity, and hopefully behaviours. For example, encouraging representation of people from marginalised and stigmatised groups in the media (as it is a form of mass communication). Although I did not test this proposition in the thesis, I put forward the following ideas for future explorations: (a) testing to see if increased social/media representations impact group perceptions and threat towards marginalised groups; and (b) experimentally testing whether improving perceptions (by emphasising warmth, competence, and morality of different groups) encourages engagement in perspective-taking, especially for some groups of people (as discussed below).

Understanding who the perspective-taker is, and how they perceive their (social) environment, and considering the messaging people are most receptive to, are other factors to contemplate to ensure that future research situates perspective-taking within a 'real-world' context. That is, we may observe variable effects, or indeed reactance, depending on who is being asked to participate perspective-taking. When people enter a laboratory setting, they not only carry their

existing perceptions of groups, but they will most likely be different from other people participating in the study. To illustrate, emerging evidence have identified five ways in which people from advantaged groups manage their advantaged identities, especially when considering social inequality. Knowles and colleagues (2014) and Shuman and colleagues (2024) observed five distinct profiles of advantaged group members: those who deny inequality; those who defend inequality; those who distance themselves from an advantaged identity; those who distance themselves from inequality; and those who seek to dismantle inequalities.

The insights from advantaged identity management (Knowles et al., 2014; Shuman et al., 2024) also provide an additional key nuance to understanding the effects of perspective-taking. That is, the effects of perspective-taking may vary depending on the *profile* of the participant (e.g., deniers, defenders, distancers, or dismantlers). Using the profiles as guides; we could establish who may be more receptive (e.g., dismantlers), or reluctant (e.g., deniers), to adopt the perspective of a marginalised group. We could also ascertain how people from these profiles perceive other groups in terms of warmth, competence, morality, and threat. Understanding the impact of a person's "profile" could also inform how campaigners/organisations may frame their messages to appeal to specific audiences (see also Hine et al., 2016). I was unable to investigate this conditional factor in my thesis. However, I recommend future explorations into this avenue, perhaps using person-centred approaches such as latent profile analysis. Person-centred statistical approaches may help us understand how different *profiles* of perspective-takers can influence the engagement – and outcomes – of perspective-taking. Therefore, we can address another key contextual factor that may inform our practices with perspective-taking.

Conclusion

"Prejudice will always be a problem, so what is the point in trying to change it?". This is a common response I receive when people ask what I research. Yet this question leaves a significant impression on me because the response inadvertently justifies our continual pursuit of reducing intergroup hostility. Yes, intergroup hostility is a longstanding, persistent social problem. But this does not mean we should suspend all efforts to reduce intergroup hostility, given the damaging effects it has on people (Drabish & Theeke, 2022; Nelson et al., 2011; Perkins & Repper, 2013; Priest et al., 2012) and the societies they live in (Ferdinand et al., 2015). We have identified many methods that attenuate intergroup hostility. But our efforts to reduce intergroup hostility may encounter stifles in progress if current methods do not sufficiently account for the very social nature of prejudice-reduction. Perspective-taking is one example of a method that can reduce intergroup hostility, especially under specific conditions and contexts. Throughout the projects in my dissertation, I aimed to provide meaningful and applicable insights on how to improve our methods going forward, so that when people ask me (or fellow researchers in this field) what we study, people will not be inclined to say, "prejudice will always be a problem".

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Appendix A

Chapter 2: Study 1 Supplementary Materials

Study 1: Beta-weights and *p*-values for multiple regression Model 1 and Model 2

Table 1

Beta Weights and Significance of Perceptions and Perspective-Taking Towards Aboriginal and Torres Strait Islander People

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .150*	β = .112
	Entitativity	β = -.079	β = -.049
	Responsibility	β = .053	β = .106
	Politicisation	β = -.039	β = -.027
	Warmth	β = .260**	β = .213*
	Competence	β = -.124	β = -.186*
	Morality	β = .275**	β = .248**
	Dissimilarity threat	-	β = -.257***
	Evaluative threat	-	β = -.099
	Realistic threat	-	β = .055
	Symbolic threat	-	β = -.125
Willingness to perspective-take			
	Visibility	β = .138	β = .118
	Entitativity	β = -.150*	β = -.134
	Responsibility	β = -.104	β = -.079
	Politicisation	β = -.028	β = -.018

	Warmth	β = .056	β = .045
	Competence	β = .198*	β = .158
	Morality	β = .257**	β = .241**
	Dissimilarity threat	-	β = -.089
	Evaluative threat	-	β = -.040
	Realistic threat	-	β = -.057
	Symbolic threat	-	β = -.057

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 2

Beta Weights and Significance of Perceptions and Perspective-Taking Towards Asian People

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = -.047	β = -.043
	Entitativity	β = .012	β = .063
	Responsibility	β = .052	β = .044
	Politicisation	β = .065	β = .053
	Warmth	β = .214*	β = .157
	Competence	β = -.035	β = -.077
	Morality	β = .156	β = .113
	Dissimilarity threat	-	β = -.294***
	Evaluative threat	-	β = -.075
	Realistic threat	-	β = .017
	Symbolic threat	-	β = -.116
Willingness to perspective-take			
	Visibility	β = -.010	β = -.008

Entitativity	β = -.059	β = .013
Responsibility	β = -.130	β = -.109
Politicisation	β = .021	β = .028
Warmth	β = .213**	β = .145
Competence	β = .202*	β = .138
Morality	β = .138	β = .117
Dissimilarity threat	-	β = -.179*
Evaluative threat	-	β = -.026
Realistic threat	-	β = -.164*
Symbolic threat	-	β = -.145

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 3

Beta Weights and Significance of Perceptions and Perspective-Taking Towards Black People

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .033	β = .019
	Entitativity	β = -.073	β = -.044
	Responsibility	β = .100	β = .118
	Politicisation	β = -.021	β = -.005
	Warmth	β = .221*	β = .215*
	Competence	β = -.046	β = -.055
	Morality	β = .124	β = .106
	Dissimilarity threat	-	β = -.221**
	Evaluative threat	-	β = -.044
	Realistic threat	-	β = .068

	Symbolic threat	-	β = -.065
Willingness to perspective-take			
	Visibility	β = .076	β = .065
	Entitativity	β = -.100	β = -.049
	Responsibility	β = -.110	β = -.065
	Politicisation	β = -.064	β = -.055
	Warmth	β = .264**	β = .254**
	Competence	β = .219*	β = .159
	Morality	β = .105	β = .098
	Dissimilarity threat	-	β = -.158*
	Evaluative threat	-	β = -.025
	Realistic threat	-	β = -.161*
	Symbolic threat	-	β = -.050

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 4

Beta Weights and Significance of Perceptions and Perspective-Taking Towards Immigrants

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .041	β = -.016
	Entitativity	β = -.050	β = -.016
	Responsibility	β = -.028	β = .004
	Politicisation	β = .125	β = .134
	Warmth	β = .133	β = .120
	Competence	β = -.081	β = -.146
	Morality	β = .294**	β = .230*

	Dissimilarity threat	-	β = -.304***
	Evaluative threat	-	β = .002
	Realistic threat	-	β = -.079
	Symbolic threat	-	β = -.067
Willingness to perspective-take			
	Visibility	β = -.063	β = -.060
	Entitativity	β = -.066	β = -.040
	Responsibility	β = .031	β = .028
	Politicisation	β = .036	β = .054
	Warmth	β = .176*	β = .140
	Competence	β = .217*	β = .173
	Morality	β = .178*	β = .140
	Dissimilarity threat	-	β = -.149*
	Evaluative threat	-	β = -.105
	Realistic threat	-	β = -.075
	Symbolic threat	-	β = -.063

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 5

Beta Weights and Significance of Perceptions and Perspective-Taking Towards Refugees and Asylum Seekers

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .011	β = .021
	Entitativity	β = -.079	β = -.087
	Responsibility	β = -.019	β = .022

	Politicisation	β = .075	β = .105
	Warmth	β = .143	β = .116
	Competence	β = -.010	β = -.056
	Morality	β = .270**	β = .199*
	Dissimilarity threat	-	β = -.183*
	Evaluative threat	-	β = .038
	Realistic threat	-	β = -.026
	Symbolic threat	-	β = -.204*
Willingness to perspective-take			
	Visibility	β = -.039	β = .016
	Entitativity	β = -.054	β = -.064
	Responsibility	β = -.044	β = -.027
	Politicisation	β = .130	β = .171*
	Warmth	β = .196*	β = .150
	Competence	β = .254**	β = .224**
	Morality	β = .200*	β = .145
	Dissimilarity threat	-	β = -.100
	Evaluative threat	-	β = -.126
	Realistic threat	-	β = -.059
	Symbolic threat	-	β = -.129

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 6

Beta Weights and Significance of Perceptions and Perspective-Taking Towards Muslim People

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .046	β = .057
	Entitativity	β = -.055	β = -.029
	Responsibility	β = -.019	β = -.023
	Politicisation	β = .017	β = .061
	Warmth	β = .244*	β = .210*
	Competence	β = .003	β = -.048
	Morality	β = .107	β = .072
	Dissimilarity threat	-	β = -.206**
	Evaluative threat	-	β = .015
	Realistic threat	-	β = -.013
	Symbolic threat	-	β = -.115
Willingness to perspective-take			
	Visibility	β = .053	β = .040
	Entitativity	β = -.108	β = -.088
	Responsibility	β = -.116	β = -.132*
	Politicisation	β = -.072	β = -.030
	Warmth	β = .314***	β = .292***
	Competence	β = .338***	β = .318***
	Morality	β = .036	β = .016
	Dissimilarity threat	-	β = -.127
	Evaluative threat	-	β = -.103

	Realistic threat	-	β = -.049
	Symbolic threat	-	β = .058

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 7

Beta Weights and Significance of Perceptions and Perspective-Taking Towards Females

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = -.084	β = -.148*
	Entitativity	β = .086	β = .070
	Responsibility	β = -.050	β = -.062
	Politicisation	β = -.014	β = -.033
	Warmth	β = .104	β = .082
	Competence	β = .170*	β = .201**
	Morality	β = .162	β = .094
	Dissimilarity threat	-	β = -.417***
	Evaluative threat	-	β = -.112
	Realistic threat	-	β = .041
	Symbolic threat	-	β = .066
Willingness to perspective-take			
	Visibility	β = -.005	β = -.048
	Entitativity	β = -.070	β = -.072
	Responsibility	β = -.061	β = -.057
	Politicisation	β = -.040	β = -.044
	Warmth	β = .164*	β = .154*

	Competence	β = .318***	β = .316***
	Morality	β = .198*	β = .160*
	Dissimilarity threat	-	β = -.215**
	Evaluative threat	-	β = -.025
	Realistic threat	-	β = -.054
	Symbolic threat	-	β = -.046

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 8

Beta Weights and Significance of Perceptions and Perspective-Taking Towards LGBTQIA+ People

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .123	β = .093
	Entitativity	β = .015	β = -.008
	Responsibility	β = -.048	β = .084
	Politicisation	β = .042	β = .038
	Warmth	β = .314***	β = .146
	Competence	β = -.045	β = -.141
	Morality	β = .172	β = .176*
	Dissimilarity threat	-	β = -.457***
	Evaluative threat	-	β = -.098
	Realistic threat	-	β = -.014
	Symbolic threat	-	β = -.083
Willingness to perspective-take			
	Visibility	β = -.026	β = -.028

Entitativity	β = -.019	β = -.029
Responsibility	β = .000	β = .084
Politicisation	β = .012	β = .008
Warmth	β = .384***	β = .267***
Competence	β = .187*	β = .107
Morality	β = .126	β = .134
Dissimilarity threat	-	β = -.258***
Evaluative threat	-	β = -.150*
Realistic threat	-	β = .013
Symbolic threat	-	β = -.082

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 9

Beta Weights and Significance of Perceptions and Perspective-Taking Towards People with Substance Dependencies

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .090	β = .056
	Entitativity	β = .084	β = .125
	Responsibility	β = -.085	β = -.077
	Politicisation	β = -.015	β = .025
	Warmth	β = .281**	β = .245**
	Competence	β = .111	β = .043
	Morality	β = .162	β = .100
	Dissimilarity threat	-	β = -.246***
	Evaluative threat	-	β = -.108

	Realistic threat	-	β = .006
	Symbolic threat	-	β = -.071
Willingness to perspective-take			
	Visibility	β = -.027	β = -.047
	Entitativity	β = .066	β = .102
	Responsibility	β = -.053	β = -.046
	Politicisation	β = -.027	β = -.003
	Warmth	β = .138	β = .113
	Competence	β = .375***	β = .335***
	Morality	β = .121	β = .057
	Dissimilarity threat	-	β = -.152*
	Evaluative threat	-	β = -.115
	Realistic threat	-	β = .045
	Symbolic threat	-	β = -.119

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 10

Beta Weights and Significance of Perceptions and Perspective-Taking Towards People with a Criminal History

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .066	β = .048
	Entitativity	β = .074	β = .080
	Responsibility	β = -.115	β = -.072
	Politicisation	β = .010	β = .028
	Warmth	β = .188*	β = .164

	Competence	β = .214*	β = .205*
	Morality	β = .056	β = -.027
	Dissimilarity threat	-	β = -.192*
	Evaluative threat	-	β = .024
	Realistic threat	-	β = .087
	Symbolic threat	-	β = -.165*
Willingness to perspective-take			
	Visibility	β = .063	β = .053
	Entitativity	β = .007	β = .019
	Responsibility	β = -.122	β = -.084
	Politicisation	β = .051	β = .072
	Warmth	β = .246**	β = .224**
	Competence	β = .317***	β = .284**
	Morality	β = .028	β = -.047
	Dissimilarity threat	-	β = -.206**
	Evaluative threat	-	β = -.021
	Realistic threat	-	β = .006
	Symbolic threat	-	β = -.108

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 11

Beta Weights and Significance of Perceptions and Perspective-Taking Towards Elderly People

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .077	β = .071
	Entitativity	β = .162*	β = .192*

	Responsibility	$\beta = .063$	$\beta = .074$
	Politicisation	$\beta = .004$	$\beta = .001$
	Warmth	$\beta = .143$	$\beta = .083$
	Competence	$\beta = .144$	$\beta = .160$*
	Morality	$\beta = .058$	$\beta = .078$
	Dissimilarity threat	-	$\beta = -.123$
	Evaluative threat	-	$\beta = -.141$
	Realistic threat	-	$\beta = .206$*
	Symbolic threat	-	$\beta = -.183$*
Willingness to perspective-take			
	Visibility	$\beta = -.047$	$\beta = -.056$
	Entitativity	$\beta = -.084$	$\beta = -.055$
	Responsibility	$\beta = -.011$	$\beta = .010$
	Politicisation	$\beta = .032$	$\beta = .046$
	Warmth	$\beta = .228$**	$\beta = .193$*
	Competence	$\beta = .259$***	$\beta = .227$**
	Morality	$\beta = .103$	$\beta = .046$
	Dissimilarity threat	-	$\beta = -.130$
	Evaluative threat	-	$\beta = -.061$
	Realistic threat	-	$\beta = -.157$*
	Symbolic threat	-	$\beta = -.139$

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 12

Beta Weights and Significance of Perceptions and Perspective-Taking Towards Overweight People

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = -.023	β = .012
	Entitativity	β = -.073	β = -.002
	Responsibility	β = .029	β = -.048
	Politicisation	β = .004	β = .036
	Warmth	β = .225*	β = .120
	Competence	β = .195*	β = .132
	Morality	β = -.063	β = -.033
	Dissimilarity threat	-	β = -.339***
	Evaluative threat	-	β = -.088
	Realistic threat	-	β = .157
	Symbolic threat	-	β = -.059
Willingness to perspective-take			
	Visibility	β = -.067	β = -.027
	Entitativity	β = -.113	β = -.039
	Responsibility	β = .080	β = .051
	Politicisation	β = -.041	β = -.004
	Warmth	β = .223**	β = .133
	Competence	β = .368***	β = .278**
	Morality	β = -.041	β = -.015
	Dissimilarity threat	-	β = -.173*
	Evaluative threat	-	β = -.149*

	Realistic threat	-	β = .075
	Symbolic threat	-	β = -.184*

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 13

Beta Weights and Significance of Perceptions and Perspective-Taking Towards People with Mental Illnesses

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .110	β = .071
	Entitativity	β = -.118	β = -.132
	Responsibility	β = -.019	β = .065
	Politicisation	β = .024	β = .002
	Warmth	β = .053	β = .019
	Competence	β = .233**	β = .114
	Morality	β = .203*	β = .104
	Dissimilarity threat	-	β = -.501***
	Evaluative threat	-	β = .049
	Realistic threat	-	β = .027
	Symbolic threat	-	β = -.091
Willingness to perspective-take			
	Visibility	β = .086	β = .090
	Entitativity	β = -.173*	β = -.167*
	Responsibility	β = -.091	β = -.048
	Politicisation	β = .082	β = .073
	Warmth	β = .006	β = -.012

	Competence	β = .294***	β = .229*
	Morality	β = .101	β = .053
	Dissimilarity threat	-	β = -.179*
	Evaluative threat	-	β = -.116
	Realistic threat	-	β = -.012
	Symbolic threat	-	β = -.036

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 14

Beta Weights and Significance of Perceptions and Perspective-Taking Towards People with Opposing Political Views (To You)

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = -.046	β = -.067
	Entitativity	β = -.066	β = -.036
	Responsibility	β = .094	β = .093
	Politicisation	β = -.082	β = -.042
	Warmth	β = .137	β = .094
	Competence	β = .129	β = .108
	Morality	β = .134	β = .021
	Dissimilarity threat	-	β = -.338***
	Evaluative threat	-	β = -.041
	Realistic threat	-	β = -.031
	Symbolic threat	-	β = -.062
Willingness to perspective-take			
	Visibility	β = .066	β = .058

Entitativity	$\beta = .111$	$\beta = .132$
Responsibility	$\beta = -.042$	$\beta = -.041$
Politicisation	$\beta = .029$	$\beta = .062$
Warmth	$\beta = .050$	$\beta = .013$
Competence	$\beta = .122$	$\beta = .108$
Morality	$\beta = .253$**	$\beta = .169$
Dissimilarity threat	-	$\beta = -.241$**
Evaluative threat	-	$\beta = -.018$
Realistic threat	-	$\beta = -.089$
Symbolic threat	-	$\beta = -.047$

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 15

Beta Weights and Significance of Perceptions and Perspective-Taking Towards Disabled People

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	$\beta = .081$	$\beta = .072$
	Entitativity	$\beta = .056$	$\beta = .039$
	Responsibility	$\beta = .172$*	$\beta = .200$**
	Politicisation	$\beta = .005$	$\beta = .014$
	Warmth	$\beta = .210$**	$\beta = .191$*
	Competence	$\beta = .151$	$\beta = .093$
	Morality	$\beta = .126$	$\beta = .104$
	Dissimilarity threat	-	$\beta = -.204$**
	Evaluative threat	-	$\beta = -.001$

	Realistic threat	-	β = .043
	Symbolic threat	-	β = -.108
Willingness to perspective-take			
	Visibility	β = .101	β = .127
	Entitativity	β = -.110	β = -.092
	Responsibility	β = -.026	β = -.021
	Politicisation	β = .063	β = .064
	Warmth	β = .129	β = .119
	Competence	β = .275***	β = .258**
	Morality	β = .160*	β = .142
	Dissimilarity threat	-	β = -.002
	Evaluative threat	-	β = -.216**
	Realistic threat	-	β = -.015
	Symbolic threat	-	β = -.054

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 16

Beta Weights and Significance of Perceptions and Perspective-Taking Towards People from Different Religious Backgrounds (Other Than Islam)

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .034	β = .026
	Entitativity	β = -.054	β = -.014
	Responsibility	β = -.061	β = -.064
	Politicisation	β = .039	β = .023
	Warmth	β = .155	β = .160

	Competence	β = .105	β = .078
	Morality	β = .091	β = .067
	Dissimilarity threat	-	β = -.244**
	Evaluative threat	-	β = .070
	Realistic threat	-	β = .054
	Symbolic threat	-	β = -.117
Willingness to perspective-take			
	Visibility	β = -.001	β = -.003
	Entitativity	β = -.079	β = -.088
	Responsibility	β = -.004	β = -.011
	Politicisation	β = -.060	β = -.043
	Warmth	β = .148	β = .119
	Competence	β = .313***	β = .305***
	Morality	β = .085	β = .040
	Dissimilarity threat	-	β = -.157*
	Evaluative threat	-	β = -.148
	Realistic threat	-	β = -.006
	Symbolic threat	-	β = .044

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 17

Beta Weights and Significance of Perceptions and Perspective-Taking Towards People From Low Socioeconomic Backgrounds

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .020	β = .014

	Entitativity	β = .135	β = .175*
	Responsibility	β = .040	β = .053
	Politicisation	β = -.114	β = -.110
	Warmth	β = .251**	β = .174*
	Competence	β = .194*	β = .086
	Morality	β = .087	β = .094
	Dissimilarity threat	-	β = -.212**
	Evaluative threat	-	β = -.116
	Realistic threat	-	β = .034
	Symbolic threat	-	β = -.200**
Willingness to perspective-take			
	Visibility	β = -.029	β = -.034
	Entitativity	β = -.011	β = -.012
	Responsibility	β = -.018	β = .012
	Politicisation	β = -.010	β = -.010
	Warmth	β = .087	β = .059
	Competence	β = .443***	β = .351***
	Morality	β = .010	β = .008
	Dissimilarity threat	-	β = -.168*
	Evaluative threat	-	β = -.002
	Realistic threat	-	β = -.113
	Symbolic threat	-	β = -.074

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 18

Beta Weights and Significance of Perceptions and Perspective-Taking Towards Unemployed People

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .070	β = .034
	Entitativity	β = -.050	β = .016
	Responsibility	β = .128	β = .133
	Politicisation	β = -.003	β = .009
	Warmth	β = .267**	β = .221**
	Competence	β = .165	β = .090
	Morality	β = .023	β = .006
	Dissimilarity threat	-	β = -.267***
	Evaluative threat	-	β = -.041
	Realistic threat	-	β = -.102
	Symbolic threat	-	β = -.057
Willingness to perspective-take			
	Visibility	β = -.042	β = -.066
	Entitativity	β = -.094	β = -.049
	Responsibility	β = .076	β = .061
	Politicisation	β = -.088	β = -.075
	Warmth	β = .116	β = .051
	Competence	β = .368***	β = .342***
	Morality	β = -.019	β = -.018
	Dissimilarity threat	-	β = -.155*

	Evaluative threat	-	β = -.018
	Realistic threat	-	β = .082
	Symbolic threat	-	β = -.182*

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 19

Beta Weights and Significance of Perceptions and Perspective-Taking Towards Homeless People

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .102	β = .120
	Entitativity	β = -.044	β = -.023
	Responsibility	β = .051	β = .075
	Politicisation	β = .076	β = .088
	Warmth	β = .243**	β = .196*
	Competence	β = .163	β = .126
	Morality	β = .159	β = .112
	Dissimilarity threat	-	β = -.170*
	Evaluative threat	-	β = -.089
	Realistic threat	-	β = .066
	Symbolic threat	-	β = -.150*
Willingness to perspective-take			
	Visibility	β = -.030	β = -.032
	Entitativity	β = -.066	β = -.042
	Responsibility	β = .027	β = .061
	Politicisation	β = -.001	β = -.003
	Warmth	β = .152	β = .124

	Competence	β = .388***	β = .376***
	Morality	β = .066	β = .033
	Dissimilarity threat	-	β = -.053
	Evaluative threat	-	β = -.047
	Realistic threat	-	β = .015
	Symbolic threat	-	β = -.190**

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 20

Beta Weights and Significance of Perceptions and Perspective-Taking Towards People with a Multicultural Heritage

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .021	β = -.013
	Entitativity	β = -.027	β = .017
	Responsibility	β = .100	β = .091
	Politicisation	β = -.014	β = .007
	Warmth	β = .129	β = .096
	Competence	β = -.061	β = -.051
	Morality	β = .160	β = .131
	Dissimilarity threat	-	β = -.384***
	Evaluative threat	-	β = -.159
	Realistic threat	-	β = .132
	Symbolic threat	-	β = -.088
Willingness to perspective-take			
	Visibility	β = .029	β = .047

	Entitativity	β = -.092	β = -.085
	Responsibility	β = -.067	β = -.053
	Politicisation	β = .021	β = .035
	Warmth	β = .077	β = .050
	Competence	β = .227**	β = .238**
	Morality	β = .162	β = .154
	Dissimilarity threat	-	β = -.048
	Evaluative threat	-	β = -.166*
	Realistic threat	-	β = -.008
	Symbolic threat	-	β = .021

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 21

Beta Weights and Significance of Perceptions and Perspective-Taking Towards Non-English Speaking People

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .074	β = .021
	Entitativity	β = .005	β = .005
	Responsibility	β = -.005	β = .012
	Politicisation	β = .068	β = .088
	Warmth	β = .132	β = .104
	Competence	β = .019	β = -.043
	Morality	β = .172	β = .171
	Dissimilarity threat	-	β = -.249**
	Evaluative threat	-	β = .008

	Realistic threat	-	β = .042
	Symbolic threat	-	β = -.161
Willingness to perspective-take			
	Visibility	β = .053	β = .028
	Entitativity	β = -.040	β = -.016
	Responsibility	β = -.119	β = -.099
	Politicisation	β = -.038	β = -.018
	Warmth	β = .155	β = .112
	Competence	β = .226**	β = .187*
	Morality	β = .212*	β = .218**
	Dissimilarity threat	-	β = -.107
	Evaluative threat	-	β = -.123
	Realistic threat	-	β = .011
	Symbolic threat	-	β = -.154*

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 22

Beta Weights and Significance of Perceptions and Perspective-Taking Towards Labourers and Tradespeople

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .138	β = .122
	Entitativity	β = .103	β = .078
	Responsibility	β = -.058	β = -.089
	Politicisation	β = -.088	β = -.048
	Warmth	β = .048	β = .025

	Competence	β = .149	β = .123
	Morality	β = .188*	β = .148
	Dissimilarity threat	-	β = -.224**
	Evaluative threat	-	β = -.012
	Realistic threat	-	β = .044
	Symbolic threat	-	β = -.244**
Willingness to perspective-take			
	Visibility	β = .107	β = .092
	Entitativity	β = .015	β = .002
	Responsibility	β = -.017	β = -.046
	Politicisation	β = -.136	β = -.095
	Warmth	β = .234**	β = .212**
	Competence	β = .247**	β = .217**
	Morality	β = -.034	β = -.057
	Dissimilarity threat	-	β = -.153*
	Evaluative threat	-	β = -.016
	Realistic threat	-	β = -.032
	Symbolic threat	-	β = -.174*

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Table 23

Beta Weights and Significance of Perceptions and Perspective-Taking Towards European/Caucasian Australians

Outcome Variable	Predictors	Model 1	Model 2
Ability to perspective-take			
	Visibility	β = .091	β = .047

	Entitativity	β = -.187*	β = -.135
	Responsibility	β = -.064	β = -.057
	Politicisation	β = -.041	β = .061
	Warmth	β = .063	β = .008
	Competence	β = .208*	β = .189*
	Morality	β = .164	β = .058
	Dissimilarity threat	-	β = -.338***
	Evaluative threat	-	β = -.121
	Realistic threat	-	β = -.069
	Symbolic threat	-	β = .000
Willingness to perspective-take			
	Visibility	β = .123	β = .098
	Entitativity	β = -.111	β = -.082
	Responsibility	β = -.115	β = -.101
	Politicisation	β = -.048	β = .020
	Warmth	β = .097	β = .074
	Competence	β = .335***	β = .309***
	Morality	β = .047	β = .007
	Dissimilarity threat	-	β = -.146
	Evaluative threat	-	β = -.011
	Realistic threat	-	β = -.193**
	Symbolic threat	-	β = .001

Note. * denotes $p < .05$, ** denotes $p < .01$, *** denotes $p < .001$.

Appendix B

Chapter 3: Study 1 Supplementary Materials

Study 3: Comparing the effects of different perspective-taking conditions on hostile versus supportive attitudes and behaviours

We observed a different pattern of results when examining the effects of perspective-taking instructions on outcome valency. Imagine-other (individual) instructions had a small facilitative effect on reducing hostile, and increasing supportive, attitudes and behaviours. Imagine-self and imagine-other (group) instructions do not have an effect on reducing hostile attitudes and behaviours. But imagine-self has a very small facilitative effect on increasing supportive attitudes and behaviours. Similarly, imagine-other (group) has a small-to-medium facilitative effect on increasing supportive attitudes and behaviours.

In terms of determining which instructions have the strongest effects based on outcome valency; imagine-other (group) instructions have a stronger effect on increasing supportive attitudes compared to imagine-self instructions. But there are no significant differences in effects of imagine-other (group) versus imagine-other (individual) instructions on supportive attitudes and behaviours. Additionally, there are no differences between imagine-other (individual) versus imagine-self instructions on supportive attitudes and behaviours. Furthermore, imagine-other (individual) instructions had a stronger effect on increasing supportive attitudes and behaviours compared to reducing hostile attitudes and behaviours.

We can derive the three conclusions from these results: Firstly, that all perspective-taking conditions lead to increased supportive attitudes and behaviours. Secondly, imagine-other (group) does not facilitate increased feelings of solidarity. Thirdly, imagine-other (individual) perspective-taking is the only condition which demonstrated a reliable impact on hostile and supportive attitudes and actions, and solidarity.

Table 4

The Effect of Different Perspective-Taking Instructions on Outcomes

Perspective-taking Instruction	Type of Outcome	*n*	Hedge's *g* [CI]	*SE*	*p*-value
Imagine-Self	Attitudes and Behaviours	49	0.07 [-0.19, 0.16]	0.05	.124
	Hostile	24	0.02 [-0.12, 0.16]	0.07	.785
	Supportive	38	0.11 [0.01, 0.21]	0.05	.033*
	Solidarity	9	0.36 [0.19, 0.53]	0.09	< .001*
Imagine-Other (Individual)	Attitudes and Behaviours	99	0.24 [0.17, 0.31]	0.04	< .001*
	Hostile	61	0.22 [0.11, 0.38]	0.06	< .001*
	Supportive	57	0.26 [0.17, 0.35]	0.05	< .001*
	Solidarity	13	0.33 [0.13, 0.52]	0.10	.001*
Imagine-Other (Group)	Attitudes and Behaviours	16	0.39 [0.20, 0.59]	0.10	< .001*
	Hostile	5	0.00 [-0.25, 0.24]	0.13	.974
	Supportive	14	0.47 [0.24, 0.70]	0.12	< .001*
	Solidarity	2	0.41 [-0.15, 0.97]	0.29	.146

Note. * denotes statistically significant result to level of $\alpha = .05$

We observe a different pattern of results when considering reductions in hostile attitudes and behaviours. That is, imagine-other (individual) was the only perspective-taking condition which led to a reduction in hostile attitudes and behaviours. As such, we observe additional evidence

supporting the positive-negative asymmetry effect (Mummendey & Otten, 1998) when exploring the effects based on different perspective-taking conditions. That is, imagine-self and imagine-other (group) instructions had no effect on reducing hostile attitudes and behaviours. But imagine-self and imagine-other (group) had a very small and small-to-medium effect (respectively), on increasing supportive attitudes and behaviours. The results are also consistent with other studies that have observed relative difficulties in reducing hostility compared to increased support (e.g., Barlow et al., 2012; Mummendey & Otten, 1998; Paolini & McIntyre, 2019). The findings also support the argument put forward by Barth & Sturmer (2016) that adopting the perspective of an identifiable outgroup member has a stronger effect on attitudes. Additionally, adopting the perspective of an outgroup member has stronger effects on attitudes and behaviours than imagining yourself as the outgroup member. Therefore, the findings provide evidence that imagine-other perspective-taking conditions have stronger effects than imagine-self conditions (e.g., Batson et al., 1997; Davis et al., 2004).