

Do you get us?

A multi-experiment, meta-analytic test of the effect of felt understanding in intergroup
relations

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Abstract

Felt understanding is a key determinant of positive inter-personal relations, but its role and potential benefits in intergroup relations have been neglected. In the first multi-study, pre-registered test of its intergroup effects, we manipulated intergroup felt understanding (understood vs. misunderstood by an outgroup) in six studies ($N = 1195$) and meta-analyzed its effects. The results in most intergroup contexts supported the prediction that feeling understood (vs. misunderstood) would lead to more positive intergroup orientations ($r = .25$) and action intentions ($r = .12$). These effects were distinct from the effects of feeling liked by an outgroup, which was also manipulated in each study. An important caveat was that the felt understanding manipulation's effect reversed when the outgroup was stereotypically low in competence, but high in warmth (older adults). Overall, the findings indicate the value of incorporating felt understanding into models of intergroup relations and how those relations can be improved.

Keywords: Felt understanding; intergroup relations; conflict; meta-perceptions; felt liking

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“This is one of the most rewarding of human experiences... It is such a relief, such a blessed relaxation of defenses, to find oneself understood”

(Rogers, 2011, p323)

‘Having buried the stress and trauma for 16 years, I thought that it would be useless and without purpose to examine and look at it all again. Never having had an opportunity to share the experience with people, *who could understand how it felt*, left me feeling isolated and literally frozen emotionally.’

(participant in a victims’ program in Northern Ireland; de Vries & de Paor, 2005; emphasis added)

The first quote above from Carl Rogers echoes evidence that feeling understood – the belief that an other understands one’s own needs, abilities, traits, wishes, beliefs, and preferences (Reis et al., 2017) – is a key determinant of relationship quality and satisfaction in interpersonal relations, and of positive social relations more generally. However, the positive potential of felt understanding has not been systematically examined in intergroup relations, despite its intuitive importance in reconciliation processes, for example. As the second quote above from a participant in an intergroup dialogue program in Northern Ireland highlights, others’ understanding of one’s own experiences of conflict can be critical to the ability to move beyond those experiences (de Vries & de Paor, 2005). In this paper, we start to address this shortfall by reporting the first multi-study experimental test of the causal effect of felt understanding on intergroup relations. We tested the effect of felt understanding in six studies following a pre-registered design, hypotheses, and analyses across different intergroup

contexts. We then present a meta-analysis across these studies of the hypothesis that felt understanding can have a positive effect on intergroup relationships.

Felt understanding as a driver of positive social relations

The positive effects of feeling understood on interpersonal relations – and close relationships in particular – are well documented (Oishi et al., 2010; Reis et al., 2017). Felt understanding is associated with perceptions of relationship quality and satisfaction (Lun et al., 2008; Reis et al., 2000), with wellbeing (Oishi, Akimoto, et al., 2013), and even with greater tolerance of stressors such as physical pain (Oishi, Schiller, et al., 2013). It is a highly-positive experience associated with activation of neural regions associated with reward and social connection (Morelli et al., 2014), and with emotions such as relief and joy (Van Kaam, 1959). Crucially, feeling understood has also been argued to increase openness to *improve* relations with others (Van Kaam, 1959), providing a basis for relationship repair and consolidation (Reis et al., 2017; Weger, 2005).

In contrast, felt understanding has been largely absent from research on intergroup relations (cf. Mallett et al., 2016; Shelton et al., 2014), especially in terms of the positive effects it may have on outcomes such as intergroup evaluations and trust. This is important because improving intergroup relations – especially in post-conflict reconciliation – involves addressing the misunderstandings that characterize and drive conflict (Demoulin et al., 2009). As a first step in remedying this, we define felt understanding in intergroup terms as the belief that members of an outgroup understand and accept the perspectives of ingroup members, including ingroup members' beliefs, values, experiences, and self-definition/identity: it is experienced when we believe outgroup members 'get' what we think and why we think it (even if they may disagree with it). As we have suggested previously (Livingstone et al., 2019), the term 'accept' in this definition specifically means the belief that outgroup members accept ingroup members' perspectives as authentic and subjectively

valid ('you really believe/feel/experienced that' as opposed to 'you say that you think/feel X, but we don't think you do'), and having a non-judgmental/non-dismissive stance towards those perspectives (e.g., not in the same breath dismissing ingroup perspectives as silly, unworthy, or needing to be fixed), even if outgroup members disagree with those perspectives. Thus, 'accept' does not (necessarily) mean outgroup agreement with ingroup perspectives, so much as outgroup recognition that they are genuinely held and subjectively important to 'us' (Rogers, 1995). This adapts the interpersonal definition of felt understanding (Oishi et al., 2010; Reis et al., 2017) for contexts in which social identities are salient: It refers to whether others understand ingroup members' perspectives that are relevant to the intergroup context, in addition to one's own perspectives as an ingroup member.

By examining felt understanding in intergroup settings, the present studies build upon a growing body of research on the importance of meta-perceptions in intergroup relations (Frey & Tropp, 2006); i.e., perceptions of outgroup perceptions (of us). The common theme in this previous research is that group members are concerned with the perceptions and image that members of outgroups have of an ingroup. These include meta-stereotypes (Vorauer et al., 1998), meta-prejudice (Owuamalam et al., 2014; Putra, 2014; Putra & Wagner, 2017), and meta-dehumanization (Kteily et al., 2016). These each address ingroup perspectives on outgroup perspectives (of us), and have been shown to shape intergroup attitudes and behavior. For instance, meta-prejudice (believing that an outgroup is prejudiced towards an ingroup; Putra, 2014) has been found to predict negative perceptions and even hostility in turn towards that outgroup (e.g., Kteily et al., 2016; Owuamalam et al., 2014; Putra & Wagner, 2017). On the other hand, believing that an outgroup has a positive image of an ingroup (i.e., a positive meta-stereotype) has been found to facilitate positive expectations about intergroup contact (Vezzali, 2017).

To the extent that felt understanding addresses ‘our’ perspectives on ‘their’ perspectives, it shares common ground with meta-perceptions such as meta-prejudice. But felt understanding goes beyond this in crucial ways too because it involves beliefs about *how one’s own (or one’s ingroup’s) perspectives* are viewed by members of another group. In other words, it involves at least third-order intentionality, or second-order theory of mind (Dennett, 1989; Liddle & Nettle, 2006; Perner & Wimmer, 1985): the ultimate object is one’s own (or one’s ingroup’s) perspectives in the minds of outgroup members. This is what distinguishes felt understanding from variables that address beliefs about outgroups *per se* (including established predictors such as threat perceptions, stereotypes, etc.), but also from variables that involve meta-perceptions (perceptions of outgroup perceptions, including of us). In contrast, felt understanding addresses ingroup perspectives on outgroup perspectives *on our perspectives* – ‘they do/do not get what is important to us’, as opposed to simply ‘they like/dislike us’. In this sense, felt understanding has been described as a meta-meta perspective (Gillespie & Cornish, 2010; Laing et al., 1966). It addresses a level of perception that has been argued to be critical for language-based communication (e.g., Grice, 1957; 1969) and inter-subjectivity (mutual agreement, or perceived agreement, in people’s perspectives on an object; e.g., Gillespie & Cornish, 2010). From an evolutionary perspective, it is also essential to all the unique hallmarks of human sociality in terms of complex culture, storytelling, and large-scale cooperation and organization (Corballis, 2014; Dunbar, 2003; O’Grady et al., 2015; Sperber, 2000; Tomasello, 2008). Examining felt understanding thus represents an important extension of meta-perception research in intergroup relations by explicitly examining the higher-order ‘meta-meta’ level of perception that is already accepted as crucial in interpersonal relations and communication.

In support of the proposition that felt understanding can have positive effects on intergroup relations, there is some prior evidence indicating positive effects of perceptions of

how outgroups see an ingroup's perspectives, for example in the form of perceived perspective taking or perceived empathy (Bruneau & Saxe, 2012; Goldstein et al., 2014; Nadler & Liviatan, 2006; Vorauer & Quesnel, 2016). However, this prior research has not systematically manipulated felt understanding by an outgroup, which is likely to be the critical, positive experience that perceived perspective taking and empathy should produce. The only existing research to examine the predictive role of intergroup felt understanding in cross-sectional surveys (Livingstone et al., 2019) has found that felt understanding consistently and strongly predicted intergroup outcomes such as trust, action intentions, and political separatism, even when adjusting for negative beliefs (stereotypes) and meta-beliefs (meta-stereotypes) about the target outgroup. Felt understanding was also a unique predictor of outgroup trust and forgiveness between Catholics and Protestants in Northern Ireland, and was a powerful predictor of political separatism even when controlling for specific, relational appraisals including negative interdependence and identity threat in the Basque region of Spain. The key challenge we address in this paper is to move beyond cross-sectional designs to get a greater handle on the causal role of felt understanding by directly manipulating it in different intergroup contexts, and testing the pre-registered hypothesis that felt understanding (vs. misunderstanding) would lead to more positive intergroup perceptions (outgroup evaluations; perceptions of the ingroup-outgroup relationship) and action intentions.

Distinguishing effects of felt understanding and felt liking

In the present studies, we aimed not only to test the effect of feeling (mis)understood by an outgroup *per se*, but also to examine its effect as distinct from the effect of merely feeling (*dis*)liked by an outgroup. We did so by orthogonally manipulating both felt understanding (understood vs. misunderstood by the outgroup) and felt liking (liked vs. disliked by the outgroup) in order to examine their respective main effects, and particularly whether the former has an effect when taking the latter's separate effect and their interaction

into account. Felt liking involves beliefs about an outgroup's views of an ingroup, but differs crucially from felt understanding because it does not address the ingroup's own perspectives in the eyes of the outgroup. A challenge in testing the specific effect of felt understanding is therefore in ensuring that an effect of a felt understanding manipulation is not simply due to felt liking, which would also be predicted to affect intergroup orientations (e.g., Owuamalam et al., 2014; Putra & Wagner, 2017). Likewise, a critical test of the role of felt understanding is whether feeling that an ingroup's perspectives are *understood* has positive effects over and above the positive effects of simply feeling that an ingroup is liked, which does not necessarily require third-order intentionality or second-order theory of mind.

Overview of hypotheses and studies

As outlined in the pre-registration protocols (Study 1: https://osf.io/cm5tp/?view_only=d354b5505497414089f03248fd26271f; updated for Study 6: https://osf.io/7mek5/?view_only=9506d313934a4bd0ad2659ffd75535a1), the main predictions were of separate main effects of felt understanding and felt liking on intergroup orientations and action intentions. In each case, more positive intergroup outcomes were expected in the felt understanding compared to the felt misunderstanding conditions, and in the felt liking conditions compared to the felt disliking conditions. No interaction effect was predicted, but was included in the full factorial analysis in each study. We tested these hypotheses in six studies (total $N = 1195$) focused on intergroup contexts including gender relations, political views ('leave' and 'remain' voters in the UK 'Brexit' referendum), inter-university relations, and inter-generational relations. We then meta-analyzed the pre-registered, study-level tests of the main effect of felt understanding on intergroup orientations (e.g., evaluations of the outgroup; trust) and action intentions (e.g., avoidance; approach). We also tested the meta-analytic main effect of felt liking on the same outcomes.

Our approach thus involved close conceptual replication of the same tests across quite varied intergroup contexts. This reflects our assumption that the processes we test – and especially the importance of the experience of feeling understood by an outgroup – have general applicability, while also allowing a critical (though not definitive) test of this assumption. The intergroup relationships between different political groupings (Study 6) or generational groups (Studies 1 and 5) are different in important ways to that between women and men (Study 3), for example, with the latter involving much more everyday contact and between-‘group’ interactions and relationships. Study 4 in turn examines a context that melds the two by focusing on the extent to which men are felt by feminist women to understand why women support feminism. While there are numerous other dimensions to intergroup relationships that the studies do not directly examine (and which we address further in the Discussion), our approach thus functions as a first test of a basic assumption of generalisability across different intergroup settings.

Method

Pre-registration details

The hypotheses, design, methods, and analysis plan for Study 1 were pre-registered at https://osf.io/cm5tp/?view_only=d354b5505497414089f03248fd26271f. The numbering of studies reflects their chronological order. Each of Studies 2-5 followed the pre-registered design, hypotheses, and analysis plan but varied in terms of the intergroup context, sample size, stimuli, and data collection method. These variations are summarized in Table 1. The pre-registration plan was then updated prior to Study 6 (https://osf.io/7mek5/?view_only=9506d313934a4bd0ad2659ffd75535a1) to specifically cover the sampling and methods plan for this study, as well as hypotheses, design, and analysis plan.

Study inclusion and contexts

The six studies reported here represent all of the pre-registered studies we have conducted with this design that successfully manipulated felt understanding and felt liking. One further study ($N = 206$), focusing on relations between university students and local residents and conducted concurrently with Studies 4 and 5, did not successfully manipulate felt understanding (i.e., the felt understanding manipulation did not have a discernible effect on the manipulation check). We therefore excluded this study from the present analyses, but have also made the data available (as ‘Study 7’) on the project OSF page.

As detailed in Table 1, the studies addressed a range of intergroup contexts. Studies 1 and 5 addressed intergenerational relations, with young adults as the ingroup. Study 3 addressed relations between different universities. Study 3 addressed relations between genders, with female-identified people as the ingroup, while Study 4 addressed gender relations but in terms of support for feminism: women who supported feminism were the ingroup, and men were the outgroup. Study 6 focused on relations between ‘Leave’ and ‘Remain’ voters in the context of the 2016 referendum in the UK on its membership of the European Union.

Participants

The analyzed sample sizes of Studies 1-6 were 240, 95, 117, 211, 212, and 320 respectively following the exclusions described below, giving a total N of 1195. We confirm that for each study, data collection was completed before any statistical analyses were conducted. Participants gave informed consent prior to participation in all cases, and the research was approved by the ethics committee of the authors’ department. Sample characteristics are summarized in Table 1. In each case, sample size was maximized given the resources available, including participant payment budget (Studies 1 and 6) and time (Studies 2-5, for which data collection was completed by a set date in each case). We therefore conducted sensitivity power analyses on each sample to determine the smallest population

effect that could be detected with 80% power ($\alpha = .05$, $df_{\text{num}} = 1$); these are summarized in Table 1, and ranged from $f = .29$ ($\eta^2_p = .078$) in Study 2 to $f = .16$ ($\eta^2_p = .024$) in Study 6.

Analysis of missing data indicated that fewer than 1.86% of values were missing in any given sample, and these values were replaced using the expectation-maximization (EM) method in SPSS (Graham, 2009).

Exclusions. Fourteen participants' data were excluded from the Study 1 sample; 10 of these were because of > 50% missing values, while four others were over the age of 30 and therefore did not meet the age inclusion criterion specific to this study, as the ingroup was defined as adults under the age of 30. Seven participants' data were excluded from the Study 4 sample (ingroup = feminist women) because these participants indicated on a check item that they disagreed with feminism. Two participants' data were excluded from the Study 6 sample because of > 50% missing values.

Design

Each study had a 2(felt understanding: understood vs. misunderstood) X 2(felt liking: liked vs. disliked) between-participants design, as specified in the pre-registration plan of Study 1 and the updated plan of Study 6. Two sets of dependent variables were assessed. The first were intergroup orientations, consisting of evaluation of the outgroup and perceptions of the ingroup-outgroup relationship. The second were action intentions, consisting of positive approach, avoidance, and confrontation.

Materials

Materials for each study can be found on the project OSF site: https://osf.io/3ye72/?view_only=13a1c3aef3044bc78d94b6ca9c8cf05a.

Stimuli. The manipulations in each study were operationalized by way of a fabricated online news article from a national media outlet (Studies 1, 3, 5, & 6) or student media outlet (Study 2), or a report on the findings of research on the outgroup's views of the ingroup in the

case of Study 4. In each case the stimulus article was identical across conditions apart from small wording changes that emphasized that the outgroup either understood or misunderstood the ingroup's perspectives, and either liked or disliked the ingroup. For example, in Study 1 the news article's headline read that the outgroup's understanding of the ingroup was 'highly accurate' (understood condition) or 'highly inaccurate' (misunderstood condition). The closing quote in the understood condition read that 'it does seem clear that most over 50s really do 'get' prevailing beliefs and values amongst the younger generation on a range of issues', while in the misunderstood condition it read, 'it does seem clear that most over 50s really do not 'get' prevailing beliefs and values amongst the younger generation on a range of issues'. To vary felt liking, the article stated that 'First off, it is very clear that over 50s do have a positive view of those under 30 – there is plenty of fondness for the younger generation' in the liked condition, whereas in the disliked condition it stated that, 'First off, it is very clear that over 50s do not have a particularly positive view of those under 30 – there is little fondness for the younger generation'.

Measures. Each study included the following scales. Cronbach's α values for each scale in each study are summarized more fully in Table 1 of the supplementary materials. Unless otherwise stated, participants responded on 7-point scales ranging from 1 or -3 (completely disagree) through 4 or 0 (neither) to 7 or 3 (completely agree).

Manipulation checks. Felt understanding was assessed using a 9-item scale in Study 1, and on 6-, 7- or 8-item scales in subsequent studies (these variations can be seen in the materials on the project OSF page, and all items used in each study were included in the scale score). The scale was based on previous research (Livingstone et al., 2019); α s = .80 – .96. Example items include "In general, (outgroup members) do not 'get' (ingroup members') views" (reverse scored), "In general, (outgroup members) have a very good understanding of the views of

(ingroup members)”, and “In general, (outgroup members) have a good understanding of what (ingroup members) think”.

Felt liking was assessed using a 6-item scale, $\alpha s = .82 - .96$. Example items include “In general, (outgroup members) don't like (ingroup members)” (reverse scored), “In general, (outgroup members) have positive views about (ingroup members)”, and “In general, (outgroup members) like (ingroup members)”.

Intergroup orientations: Perception of ingroup-outgroup relations (Studies 1-6).

Perceptions of the ingroup's relationship with the outgroup were measured on a scale ($\alpha s = .88 - .96$) composed of eight (Study 1) or seven (Studies 2-6) semantic differential items (e.g., negative/positive; cold/warm; tense/relaxed) measured from -3 (negative anchor) to 3 (positive anchor). These were preceded by the statement “The relationship between (outgroup) and (ingroup) is...”. Note that this scale is referred to as ‘Perceived quality of the relationship between the ingroup and the outgroup’ in the pre-registration of Study 1.

Intergroup orientations: Feelings thermometer (Studies 2-6). Participants were asked to rate their general feelings towards the outgroup using a feelings thermometer measure, on a scale of 1 to 100 (Nelson, 2008). This was included from Study 2 onwards in place of the social distance measure described below, because it offered a more direct evaluation of the outgroup, rather than a representation of the ingroup-outgroup relationship, which was already assessed on the perception of ingroup-outgroup relations scale.

Intergroup orientations: Outgroup trust (Studies 1 and 6). Trust in the outgroup was assessed using six items ($\alpha s = .78$ and $.82$) adapted from Noor, Brown, and Prentice, (2008) and Noor, Brown, Gonzalez, Manzi, and Lewis (2008). These included statements such as ‘Most (outgroup members) try to be fair’; ‘Most (outgroup members) cannot be trusted to act in the interests of (ingroup members)’; and ‘Most (outgroup members) can be trusted’. Three items were negatively phrased, and scores on these were subsequently reversed.

Intergroup orientations: Ingroup-outgroup closeness (Study 1). Study 1 also included a measure of perceived closeness between the ingroup and outgroup. This was a pictorial measure based on work by Aron et al., (1992), Schubert and Otten (2002), and Tropp and Wright (2001), and represented the ingroup as a circle and the outgroup as another circle placed along a horizontal line. There were seven versions of this image, with the circles' position ranging from opposite ends of the line (greatest distance; scored as 1) through to almost completely overlapping (least distance; scored as 7). Participants were asked to select the image that best represented the relationship between the ingroup and the outgroup.

Action intentions. Action intentions towards the outgroup were assessed using 10 items adapted from Mackie, Devos, and Smith (2000). These included a 3-item scale ($\alpha s = .69 - .83$) of intentions to confront the outgroup (confront/argue with/oppose), a 3-item scale ($\alpha s = .75 - .91$) of intentions to avoid the outgroup (avoid/having nothing to do with/keep them at a distance), and a 4-item scale ($\alpha s = .83 - .94$) of intentions to positively approach the outgroup (be friendly with/find out more about/spend time with/talk to them). Participants responded on a 7-point scale ranging from 1 (not at all) to 7 (completely).

Additional measures. With the exception of Study 1, each study also included 7- or 8-item scales assessing the valence of the stereotype of the outgroup ($\alpha s = .86 - .94$), and a similar scale assessing the valence of the meta-stereotype ($\alpha s = .84 - .96$). These scales consisted of semantic differential items that assessed core evaluative dimensions of warmth (e.g., warm-cold; likeable-dislikeable), morality (e.g., honest-dishonest; moral-immoral), and competence (e.g., competent-incompetent; hard working-lazy). These scales were included to permit secondary tests of the effect of measured felt understanding while adjusting for more global beliefs and meta-beliefs about the outgroup, which allows more direct comparison of these effects with earlier research that also adjusted for stereotypes and meta-stereotypes when assessing the predictive role of felt understanding. These analyses were not part of the pre-

registered set reported below, and data on these scales are included in the relevant data files on OSF.

Results

Data files for each study can be found at the project OSF site:

https://osf.io/3ye72/?view_only=13a1c3aef3044bc78d94b6ca9c8cf05a .

Manipulation checks

The felt understanding and felt liking manipulations in each study were checked by way of two-way ANOVAs on the respective manipulation check scales. These were judged to have been successful if (1) the main effect of the manipulation on its corresponding check was significant at the .05 level and in the appropriate direction; (2) the main effect of the other manipulation on that check (e.g., the effect of felt understanding on the felt liking check) was not significant and/or was of much smaller magnitude; and (3) the interaction effect was not significant. The results of these analyses are summarized in Table 2 in supplementary materials.

The checks in each study indicated successful manipulations by these criteria, with the exception of Study 1. In the case of Study 1, the main effect of felt liking on the felt understanding check was significant and larger than the main effect of felt understanding, violating criterion (2). In addition, we also noted that the size of the effects in the manipulation check analyses of Study 5 were modest ($\eta^2_p = .03$ for both effects) even though they met all three criteria. On the basis that Study 1 met criteria (1) and (3) and was the original pre-registered study in the series, we proceeded with its inclusion in the analyses.

Analysis strategy

The overall analysis strategy was to (1) conduct study-level analyses following the pre-registration plans to test hypotheses and estimate effect sizes, and then (2) to conduct a meta-analysis of the effect sizes across studies in order to draw inferences about the effects of

felt understanding and felt liking (Cumming, 2014). The main hypothesis-testing analytic strategy described in the pre-registration of Study 1 was to conduct two-way MANOVAs on different sets of outcome variables, including one on intergroup orientations (e.g., evaluations of the outgroup; trust), and one on action intentions. Each analysis thus tested the main effects of felt understanding and felt liking along with their interaction.

The rationale for this strategy was that it enables us to draw sounder, more robust inferences about the effects of the felt understanding manipulation because, relative to single outcome variable and single study tests, it is less dependent on the idiosyncrasies of particular outcome scales at a study level (via MANOVAs), and less dependent on the particularities of different intergroup contexts at a cross-study level.

Pre-registered analyses: MANOVA of intergroup orientations

The MANOVA on intergroup orientations in Study 1 included the perception of ingroup-outgroup relations scale, the outgroup trust scale, and the social distance scale. The analyses in Studies 2-5 included the perception of ingroup-outgroup relations scale and the feelings thermometer scale. The analysis in Study 6 included the perception of ingroup-outgroup relations scale, the feelings thermometer scale, and the outgroup trust scale. Descriptive statistics for each scale and study broken down by felt understanding condition and felt liking condition are reported in Table 2. Inferential statistics and effect size estimates from the MANOVAs are also summarized in Table 2, and a further breakdown by individual scale in each study is contained in Table 3 of supplementary materials.

Main effect of felt understanding. The main effect of felt understanding was significant at the .05 level and in the predicted direction in Studies 2, 4, and 6. It was not significant in Study 3, but the raw difference was in the expected direction. It was not significant in Study 1, and tended in the opposite direction to that predicted (i.e., intergroup orientations were more positive in the misunderstanding condition than in the understanding

condition). The main effect of felt understanding was also significant in Study 5, but in the opposite direction to that predicted. We noted at this stage that the two studies (1 and 5) which showed effects tending in the opposite direction to that predicted both focused on older adults as an outgroup, and young adults as the ingroup. The nature of the outgroup in each study is addressed as a moderator in the meta-analysis below.

Main effect of felt liking. The main effect of felt liking was in the predicted direction in all six studies, and this was significant at the .05 level in all cases with the exception of Study 3, in which the raw difference was still in the predicted direction.

Interaction effect. The interaction between felt understanding and felt liking was not significant in any of the studies, Wilks' $\lambda_s = .976 - .998$, $F_s \leq 1.42$, $p_s \geq .237$, $\eta^2_{ps} \leq .024$.

Pre-registered analyses: MANOVA of action tendencies

The MANOVA on action intentions in each study included the avoidance, approach, and confrontation scales. Descriptive statistics for each condition broken down by scale and study are reported in Table 2. Inferential statistics and effect size estimates from the MANOVAs are also summarized in Table 2, and a further breakdown by individual scale in each study is contained in Table 4 of supplementary materials.

Main effect of felt understanding. The main effect of felt understanding was significant at the .05 level and in the predicted direction in Study 2. It was not significant in Studies 3, 4, or 6, but the raw difference was in the expected direction. The main effect of felt understanding was also significant in Studies 1 and 5, but again in the opposite direction to that predicted.

Main effect of felt liking. The main effect of felt liking was in the predicted direction in all six studies, and this was significant in all cases with the exception of Studies 3 and 5, in which the raw differences were nevertheless in the predicted direction.

Interaction effect. The interaction between felt understanding and felt liking was not significant in any of the studies, Wilks' $\lambda_s = .961 - 1.00$, $F_s \leq 1.21$, $p_s \geq .311$, $\eta^2_{ps} \leq .039$.

Meta-analysis: intergroup orientations

The next step of the analysis was to meta-analyze the main effects of felt understanding and felt liking across the six studies. This was done using a combination of resources developed by Goh, Hall, and Rosenthal (2016) and Wilson (2005), while forest plots were produced using the meta-analysis module in the JASP statistical package (JASP Team, 2018). Each meta-analysis included the MANOVA effect size from each study, providing six effect sizes in each case (one per study). Effect sizes in the meta-analyses involved converting η^2_{ps} into r values (as the most directly-related 'variance explained' effect size measure), and then Fisher's z -transforming the r values. We first report analyses of the (fixed) effect of felt understanding on intergroup orientations, and then report the corresponding analysis of the effect of felt liking. We then report similar analyses of the action tendency outcomes. Because no interaction was predicted in the pre-registration plans, and no interaction effect was significant at the .05 level in any study, we did not meta-analyze the interaction effects.

We also entered outgroup type (older adults = 1; other types of outgroup = 2) as a fixed effects moderator in each meta-analysis. This was in part a data-dependent decision, and partly theory driven. Our interim explanation for the reversed effects of felt understanding in Studies 1 and 5 was that the target outgroup – older adults – was, uniquely among the outgroups studied, an outgroup that is typically perceived as being low in competence but high in warmth, reflecting their low status and dependent, non-competitive relationship with other groups (e.g., Cuddy, Fiske, & Glick, 2007, 2008). In other words, the reversed effect of the felt understanding manipulation in Studies 1 and 5 likely indicates the effect of a third variable, which in our view is most likely to be the salience of the outgroup's

stable low social status or dependence. This is in line with the stereotype content model's characterization of elderly people as a group with a high-warmth, low-competence stereotype. Outgroups viewed in this way tend to evoke relatively benevolent (but patronizing) responses among perceivers (Cuddy et al., 2007), and the stable low status of an outgroup has been shown in other research to paradoxically produce more ostensibly benevolent, positive responses when such an outgroup presents some sort of challenge to the ingroup. This patronizing benevolence effect has been shown to serve strategic, status-maintaining functions (e.g., (Braun & Gollwitzer, 2016; Jackman, 1994; Livingstone et al., 2015; Saguy et al., 2008),

We reasoned that the felt *mis*understanding condition in particular inadvertently signaled and made salient the low-status, dependent image of elderly adults as low in competence and high in warmth. Whereas an outgroup's lack of understanding of an ingroup may normally be a source of negative perceptions of that outgroup (perhaps signaling negative intent on their part, for example), a non-threatening, low competence-but-high-warmth outgroup's lack of understanding of an ingroup – or indeed, of anything more generally – may also highlight the key stereotypic characteristic of poor comprehension. The felt misunderstanding condition then leads to an ostensibly more positive response as a form of patronizing benevolence, in line with other studies that have found the challenges from relatively low-status, non-threatening groups can actually lead to strategic 'positive' responses.

This explanation would also help to explain the fact that the felt liking manipulation had effects that were more consistent across the different intergroup contexts. Unlike the felt understanding manipulation, the felt liking manipulation did not directly invoke comprehension or intellectual capacity. Instead, the felt liking manipulation focuses more straightforwardly on the valence of 'their' attitudes towards 'us', and not on the extent to

which the outgroup ‘get’ something (our perspectives, specifically). It is this latter feature that we believe signalled the outgroup’s low status, low-competence-high-warmth image in the felt understanding manipulation. The partly data-dependent nature of the analysis and the relatively large sample size also meant that we set the alpha level for indicating an effect at a stringent .001 (Lakens et al., 2018).

Felt understanding. The analysis of effects of the felt understanding manipulation on intergroup orientations revealed an overall effect size of $r = .10$, $se = .03$, $p < .001$, 99.9% CIs [.008, .197]. However, there was also considerable heterogeneity, $Q = 44.26$, $df = 5$, $p < .001$, reflecting the fact that in the two studies in which older adults were the outgroup (Studies 1 and 5), the effect of the manipulation was in the opposite direction to that predicted. Accordingly, the analysis indicated that the effect of felt understanding on intergroup orientations was significantly different depending on outgroup type, $Q_{\text{between}} = 41.39$, $df = 1$, $p < .001$. Furthermore, tests of homogeneity within the two groups of effects ($Q_w = 2.53$, $df = 3$, $p = .470$ for other outgroups; $Q_w = 0.35$, $df = 1$, $p = .555$ for older outgroup) indicated consistency within, but differences between the two sets of effects.

Across the four studies that involved outgroups other than older adults, the overall effect of felt understanding was $r = .25$, $se = .04$, $p < .001$, 99.9% CIs [.128, .356], and in the predicted direction. In contrast, the effect of felt understanding across the two studies that included older adults as the outgroup was negative. Although it did not reach the stringent .001 criterion, it would have been significant at the .005 level, $r = -.14$, $se = .05$, $p = .004$, 99.9% CIs [-.284, .020]. A forest plot summarizing this analysis is provided in the upper panel of Figure 1.

Felt liking. A similar analysis of the effect of felt liking revealed an overall effect size of $r = .24$, $se = .03$, $p < .001$, 99.9% CIs [.146, .326]. The test of homogeneity also indicated heterogeneity across studies, $Q = 35.83$, $df = 5$, $p < .001$. However, unlike the effect of felt

understanding, this heterogeneity was not due to the difference between studies involving older adults as the outgroup and studies involving other outgroups, $Q_{\text{between}} = 0.15$, $df = 1$, $p = .698$. The effect of felt liking was very similar in studies involving older adults as the outgroup, $r = .23$, $se = .05$, $p < .001$, 99.9% *CI*s [.072, .366], and studies involving other types of outgroup, $r = .25$, $se = .04$, $p < .001$, 99.9% *CI*s [.129, .357]. Instead, the heterogeneity detected in the effects across studies is likely to be due to the large effect size estimate in Study 2, which is likely to be a considerable over-estimate of the population effect size. Overall, felt liking had a consistent effect in the direction predicted on intergroup orientations. A forest plot summarizing this analysis is provided in the upper panel of Figure 2.

Meta-analysis: action tendencies

Felt understanding. The analysis of effects of felt understanding on intergroup orientations revealed an overall effect size of $r = .00$, $se = .03$, $p = .995$, 99.9% *CI*s [-.095, .096]. As with the intergroup orientation outcomes, there was considerable heterogeneity, $Q = 35.62$, $df = 5$, $p < .001$, reflecting the fact that in the two studies in which older adults were the outgroup (Studies 1 and 5), the effect was in the opposite direction to that predicted. Again, the analysis indicated that the effect of felt understanding on action tendencies was significantly different depending on outgroup type, $Q_{\text{between}} = 31.19$, $df = 1$, $p < .001$. Furthermore, tests of homogeneity within the two groups of effects were non-significant ($Q_w = 4.36$, $df = 3$, $p = .225$ for other outgroups; $Q_w = 0.07$, $df = 1$, $p = .792$ for older adult outgroup), indicating consistency within, but differences between the two sets of effects.

Across the four studies that involved outgroups other than older adults, the overall effect of felt understanding was significant, $r = .12$, $se = .04$, $p < .001$, 99.9% *CI*s [.006, .244], and in the predicted direction. In contrast, the effect of felt understanding across the two studies that included older adults as the outgroup was negative, $r = -.21$, $se = .05$, $p <$

.001, 99.9% *CI*s [-.349, -.052]. A forest plot summarizing this analysis is provided in the lower panel of Figure 1.

Felt liking. A similar analysis of the effect of felt liking revealed an overall effect size of $r = .22$, $se = .03$, $p < .001$, 99.9% *CI*s [.119, .302]. The test of homogeneity did not indicate heterogeneity across studies, $Q = 7.31$, $df = 5$, $p = .198$, and there was thus no indication that the effect differed across outgroup type, $Q_{\text{between}} = 0.76$, $df = 1$, $p = .387$. The effect of felt liking was very similar in studies involving older adults as the outgroup, $r = .18$, $se = .05$, $p < .001$, 99.9% *CI*s [.027, .327], and studies involving other types of outgroup, $r = .24$, $se = .04$, $p < .001$, 99.9% *CI*s [.113, .342]. Overall, felt liking had a consistent effect in the direction predicted on action tendencies. A forest plot summarizing this analysis is provided in the lower panel of Figure 2.

Secondary analysis (1): The moderating effect of stereotype content in Study 5

Our interim explanation for the reversal of the effect of the felt understanding manipulation was that it represented a benevolent and possibly strategic response to an outgroup (elderly adults) that is typically characterized as low in competence and high in warmth. In addition to the moderating effect of group type in the meta-analyses, the data in Study 5 also allowed a relatively direct test of this explanation because stereotype dimensions of warmth and competence (and morality) were measured (this was not the case in Study 1). We reasoned that if our working explanation was accurate, then the effect of the felt understanding manipulation in Study 5 should be moderated by stereotype content. More precisely, the ‘reversed’ effect of the felt understanding manipulation should be observed specifically when the outgroup stereotype was of relatively high warmth and low competence, in line with the typical stereotype of elderly adults.

To test this possibility, we re-ran the two-way (felt understanding X felt liking) MANOVA on intergroup orientations, but with standardized scores of outgroup competence

(one item: competent-incompetent) and outgroup warmth (three items; $\alpha = .93$) added as continuous moderators. Thus, the MANOVA had a fully-factorial four-way design that included a specific test of whether the effect of the felt understanding manipulation varied depending on the combination of outgroup warmth and competence perceptions (i.e., the three-way interaction between these factors). All effects in this analysis are summarized in Table 5 of the supplementary materials.

Consistent with our interim explanation, the three-way interaction between the felt understanding manipulation, outgroup warmth, and outgroup competence was significant, Wilks' $\lambda = .942$, $F = 5.98$, $p = .003$, $\eta^2_p = .058$.¹ Simple main effects analysis indicated that the effect of the felt understanding manipulation was significant only when perceived outgroup warmth was high (estimated at +1) and perceived outgroup competence was low (estimated at -1), Wilks' $\lambda = .944$, $F = 5.76$, $p = .004$, $\eta^2_p = .056$ (Wilks' λ s = .973 – .986, F s ≤ 2.72 , $ps \geq .068$, $\eta^2_{ps} \leq .027$ in all other combinations of perceived warmth and competence). Also of note was that in the combination of low warmth and high competence – the most counter-stereotypical combination for elderly adults and the most adversarial overall – the effect of felt understanding descriptively reversed to match that in Studies 2-4 and 6. Although the overall effect was not significant, Wilks' $\lambda = .976$, $F = 2.43$, $p = .091$, $\eta^2_p = .024$, estimated values of perceived ingroup-outgroup relations (M s = -.13 and -.96; ses = .25 and .28) and outgroup evaluations on the feelings thermometer (M s = 56.93 and 50.92; ses =

¹ A figure illustrating the three-way interaction on an ad-hoc DV – computed by standardizing and then averaging the intergroup perceptions and feelings thermometer measures – can be found in supplementary materials (Figure 1).

4.71 and 5.24) were each more positive in the understood condition than in the misunderstood condition.

Secondary analysis (2): Associations between measured felt understanding and outcome variables.

If the reversed effect of the felt understanding manipulation in Studies 1 and 5 reflected a benevolent reflex to challenge by a high-warmth, low-competence outgroup, then it is also possible that participants' *actual* levels of felt (mis)understanding were predictive of intergroup outcomes in a similar manner to that observed in Studies 2-4 and 6. In other words, while the *manipulation* of felt understanding appears to have been sensitive to characteristics of the target outgroup, *actual self-reported* felt understanding should be associated with more positive intergroup outcomes in Studies 1 and 5, in the same manner as the other studies. If so, this would suggest that (1) actually feeling understood has a more consistent association with intergroup outcomes than the analysis of the manipulations suggests, and (2) that the manipulations of felt understanding in Studies 1 and 5 were therefore also producing a secondary effect that was *not* related to felt understanding *per se*.

Associations in Study 1. In line with our reasoning, the zero-order correlations between measured felt understanding and intergroup orientations and action intentions in the Study 1 data ranged from (+/-) .224 to .564, all $ps < .001$.² In each case, felt understanding was associated with more *positive* intergroup outcomes.

Associations in Study 5. Likewise, the zero-order correlations between measured felt understanding and intergroup orientations and action intentions in the Study 5 data ranged from (+/-) .206 to .278, all $ps \leq .003$, with the exception of the tendency to confront the

² Zero-order correlations between the measures of felt understanding and felt liking were also assessed, and indicated consistent, strong associations across studies; $rs = .669, .530, .557, .590, .408$, and $.606$ in Studies 1-6 respectively, $ps < .001$

outgroup, $r = -.133$, $p = .053$. This association was also the weakest in the Study 1 data. In each case, felt understanding was again associated with more positive intergroup outcomes.

Secondary analysis (3): Did self-reported felt understanding suppress the effect of the felt understanding manipulation in Studies 1 and 5?

The final set of analyses tested whether actual felt understanding suppressed the (negative) effect of the felt understanding manipulation in Studies 1 and 5. The analyses so far have established (1) that the effect of the felt understanding manipulation reversed when elderly adults were the outgroup; (2) that this ‘reversed’ effect was specific to that group’s stereotype of high warmth and low competence; and (3) that actual (measured) felt understanding had consistent associations with intergroup outcomes across all outgroup targets. This in turn suggests that the manipulation of felt understanding in Studies 1 and 5 in fact had two countervailing effects on intergroup outcomes. On the one hand, it affected actual felt understanding, which in turn predicted positive intergroup outcomes. On the other hand, it had a direct, negative effect on those outcomes. As argued above, this negative effect likely indicates the effect of a third variable, which in our view is most likely to be the salience of the outgroup’s stable low social status or dependence, in line with the stereotype content model’s characterization of elderly people as a group with a high-warmth, low-competence stereotype. Importantly, the stable low status of an outgroup has been shown in other research to paradoxically produce more ostensibly benevolent, positive responses when such an outgroup presents some sort of challenge to the ingroup. This patronizing benevolence effect has been shown to serve strategic, status-maintaining functions (e.g., (Braun & Gollwitzer, 2016; Jackman, 1994; Livingstone et al., 2015; Saguy et al., 2008), and

echoes the effect in Study 5 in particular: the apparently more negative condition (they misunderstand us) produces the more ‘positive’ response..

Our reasoning here suggests that the reversal effect in Studies 1 and 5 does not reflect an effect of felt understanding *per se*, but rather the effect of what the manipulation unintentionally did *in addition* to varying felt understanding (namely, signal low status and dependence). If this is the case, then measured felt understanding – the most direct assessment of this key construct – may suppress the countervailing negative effect of the manipulation. In analytic terms, adding measured felt understanding as a covariate to the pre-registered MANOVA model should thus *increase* the effect size of the felt understanding manipulation, amplifying the (negative) effects already reported for Studies 1 and 5. This contrasts with the typical pattern one would expect from a manipulation and measure (manipulation check) of a construct, in that the latter would *reduce* the effect of the manipulation, consistent with a mediated effect.

Suppression effects in Study 1. When measured felt understanding was added as a covariate to the Study 1 MANOVA model for intergroup orientations, the main effect of the felt understanding manipulation increased from $\eta^2_p = .012$ to $\eta^2_p = .062$ (Wilks’ $\lambda = .938$, $F = 5.11$, $p = .002$ for the latter effect). Likewise, the action intentions MANCOVA indicated that the main effect of the felt understanding manipulation increased from $\eta^2_p = .047$ to $\eta^2_p = .073$ (Wilks’ $\lambda = .928$, $F = 6.04$, $p = .001$ for the latter effect). In both cases, the predictive effect of measured felt understanding was highly significant and in the opposite direction to that of the manipulation – that is, feeling understood predicted more positive intergroup orientations, Wilks’ $\lambda = .599$, $F = 51.99$, $p < .001$, $\eta^2_p = .40$, and action intentions, Wilks’ $\lambda = .817$, $F = 17.42$, $p < .001$, $\eta^2_p = .18$.

Suppression effects in Study 5. A similar pattern emerged for the Study 5 data. When measured felt understanding was added as a covariate to the MANOVA model for

intergroup orientations, the main effect of the felt understanding manipulation increased from $\eta^2_p = .027$ to $\eta^2_p = .051$ (Wilks' $\lambda = .949$, $F = 5.58$, $p = .004$ for the latter effect). Likewise, the action intentions MANCOVA indicated that the main effect of the felt understanding manipulation increased from $\eta^2_p = .037$ to $\eta^2_p = .050$ (Wilks' $\lambda = .950$, $F = 3.63$, $p = .014$ for the latter effect). In both cases the predictive effect of measured felt understanding was highly significant and in the opposite direction to that of the manipulation: actually feeling understood predicted more positive intergroup orientations, Wilks' $\lambda = .891$, $F = 12.55$, $p < .001$, $\eta^2_p = .11$, and action intentions, Wilks' $\lambda = .904$, $F = 7.23$, $p < .001$, $\eta^2_p = .096$.

Discussion

In this paper we have reported the first multi-study, pre-registered test of the causal effect of felt understanding in intergroup relations. The role of felt understanding in shaping relations between groups has been widely neglected, despite evidence that it is a critical feature of positive social relations at an interpersonal level (Morelli et al., 2014; Oishi et al., 2010; Reis et al., 2017; Van Kaam, 1959). Defining intergroup felt understanding as the belief that members of an outgroup understand and accept the perspectives of ingroup members, we manipulated felt understanding (understood vs. misunderstood by an outgroup) in six studies and meta-analytically tested its effects on intergroup orientations and action tendencies. The design of each study also included an orthogonal manipulation of felt liking (ingroup liked vs. disliked by the outgroup), which allowed the effect of felt understanding to be distinguished from the potential effect of merely feeling (dis)liked by the outgroup.

Consistent with predictions, the results provided evidence for the distinct effect of felt understanding on intergroup outcomes and action intentions across multiple intergroup contexts including gender relations (Studies 3 and 4), political views in the context of the UK's 'Brexit' referendum (Study 6), and inter-university rivalry (Study 2). In these contexts, the felt understanding manipulation consistently had the expected effect: feeling understood

rather than misunderstood led to more positive intergroup orientations (a medium-magnitude effect in the meta-analysis), and more positive action intentions (a small-to-medium-magnitude effect in the meta-analysis).

There was nevertheless one unexpected caveat: in the studies in which the outgroup was older adults (a category that is stereotypically low in competence and high in warmth), the effect of the felt understanding manipulation actually reversed. Our best explanation for this is that the felt understanding manipulation in Studies 1 and 5 signaled the low-status, dependent position of the outgroup by invoking the outgroup's capacity to understand information (about the ingroup's perspectives in this case). Such lack of comprehension is a key component of (low) competence judgments. Combined with the non-threatening, high-warmth element of the stereotype of older adults (Cuddy et al., 2007, 2008), this outgroup's lack of understanding of the ingroup's perspectives was potentially seen as an endearing expression of confusion or lack of more general comprehension and agency. While this unexpected pattern has no direct analogue in the literature on felt understanding at an interpersonal level, it does echoes other research demonstrating that potential challenges or transgressions by lower-status outgroups can be strategically met with relatively *positive*, benevolent reactions by ingroup members (Braun & Gollwitzer, 2016; Jackman, 1994; Livingstone et al., 2015; Saguy et al., 2008): in Study 5 in particular, the apparently more negative condition (they misunderstand us) produced the more 'positive' response. In contrast, all of the other intergroup contexts involved outgroups (e.g., men; rival universities; opposing political groupings) who are typically viewed differently in terms of status and dependence, and thus stereotyped quite differently in terms of competence and warmth.

Exploratory analyses offered converging support for this interpretation, indicating that (1) the 'reversed' effect of the felt understanding manipulation in Study 5 only occurred under the low-competence, high-warmth combination of stereotype content; (2) actual

(measured) felt understanding had consistent associations with positive intergroup outcomes even when the felt understanding manipulation produced the opposite effect; and (3) actual (measured) felt understanding suppressed, rather than explained the effect of the manipulation on outcome variables. These findings together suggest that in Studies 1 and 5, the felt understanding manipulation had unexpected ‘reversed’ effects *despite* its effect on feeling understood, rather than because of its effect on feeling understood. Accordingly, the extent to which participants self-reported actually feeling understood was associated with more positive intergroup outcomes across all of the studies.

While these data are highly encouraging regarding the positive role that felt understanding may play in intergroup relations, they thus also serve up a warning to researchers and practitioners as to the practical challenges that may be faced in trying to systematically vary felt understanding via manipulations or interventions. They also underline the value of our approach of meta-analyzing close, conceptual replications of the same design, analysis plan, and predicted effects across different intergroup contexts. On the one hand it has provided confirmatory support for our main hypothesis, while on the other hand it has helped to identify a potential boundary condition for the effect of a felt understanding manipulation in particular types of intergroup relationship. We return to the question of how felt understanding manipulations could be developed later in this discussion.

Importantly, the effects of felt understanding were distinct from the concurrent main effects of felt liking, increasing our confidence that it is the extent to which felt understanding involves ‘our’ perspectives in the eyes of outgroup members that explains its positive effects, as distinct from the likewise positive effects of simply being seen positively by an outgroup *per se*. An alternative design that did not orthogonally manipulate felt understanding and felt liking would therefore have provided less clarity about whether any effect of felt understanding was due to the meta-meta perspective (our perspective on their perspectives on

our perspectives) that it involves, or was more straightforwardly explicable in terms of the lower-order (meta-) perception of felt liking (e.g., Owuamalam et al., 2014; Putra & Wagner, 2017). More broadly, the present findings are consistent with the only other work on the predictive effects of felt understanding, which showed that it predicted outcomes such as trust, political separatism, and post-conflict forgiveness over and above predictors such as stereotypes, meta-stereotypes, and different forms of threat perception in cross-sectional surveys (Livingstone et al., 2019). The present findings extend this earlier work by indicating a reliable causal effect of felt understanding in multiple intergroup contexts.

Future research directions

While the present findings are highly encouraging regarding the positive effect of felt understanding in intergroup relations, one limitation of the present studies was the vignette-based manipulation of felt understanding. In particular, the manipulations of felt understanding in the present studies referred, out of necessity, to relatively generic claims about the extent to which the outgroup understood ingroup perspectives etc., without reference to *particular* aspects of those perspectives (e.g., specific values, experiences, or beliefs) that would be relevant in each case. This was clearly effective in most cases for our current purposes and had the advantages of control and comparability across studies, but future work should extend this ‘empty’ method of manipulating felt understanding by focusing on specific, situationally-relevant perspectives, ideally generated by ingroup members.

Extending this further, the basic effects demonstrated in the present studies could be further tested in procedures in which there is actual communication and interaction (indirect or even face-to-face) between members of different groups. For instance, this could involve (1) asking members of one group to articulate or summarise perspectives, beliefs, values, experiences that are important to the ingroup; (2) asking members of a second group to

generate responses to those perspectives, and (3) communicating those responses in some form back to members of the first group. When those responses convey understanding (vs. misunderstanding) of the perspective generated in step (1), we would expect more positive responses by members of the first group on outcomes such as trust and willingness to meet or communicate further with members of the second group.

This would be beneficial for ecological validity, but more importantly it also recognizes that felt understanding is likely to develop primarily as a communicative process (Fisher, 1993; Reis et al., 2000; Weger, 2005). For example, advocates of reflective listening approaches to communication in therapeutic (Rogers, 2011) and organizational (Fisher, 1993) contexts emphasize how communicative dynamics are critical to building a sense of feeling understood and empathized with. Likewise, communicative processes in close relationships are an important predictor of intimacy and relationship satisfaction, with self-disclosure and partner disclosure predicting perceived partner responsiveness, which in turn predicts positive relational outcomes (Laurenceau et al., 1998, 2005). A focus on communicative processes would also provide a point of connection between our current work on felt understanding and the broad literature on intergroup contact (Allport, 1954; Dixon et al., 2005; Pettigrew & Tropp, 2006). Addressing the characteristics of communication and interaction that do or do not foster felt understanding and the benefits it can bring would offer a fresh perspective on the questions of when and why contact (face-to-face or otherwise) can improve intergroup relations – especially in view of evidence that intergroup communication and dialogue *in itself* may not be sufficient to improve relations between groups (Paluck, 2010; see also Barlow et al., 2012).

While the present studies allowed for a basic test of generalizability across a limited range of intergroup contexts, future research would do well to conduct tests of other potential boundary conditions based on features of intergroup relationships that were not examined

here. Critical tests would include whether felt understanding has similar effects (1) in post-violent conflict settings where negative perceptions, mistrust, and sense of victimhood may be deeply entrenched (Bilali & Vollhardt, 2019), and (2) in settings marked by more pronounced status and/or power differences where there may conceivably be limits to the extent to which the outgroup's perspectives are even seen to matter if an ingroup has much higher power and status (Talaifar et al., 2020). Future research could also include a confirmatory test of the reversal effect evident here when the outgroup was stereotypically high in warmth and low in competence. It may be fruitful for such a test to be conducted with another outgroup from the high-warmth, low-competence quadrant of the stereotype content model, given that age is itself an unusual categorization because of the transition most people make between age groups, making each a potential or former ingroup as well as outgroup. Alternatively, another testable implication is that if the relationship between the same groups was framed to be more adversarial (e.g., not elderly adults, but 'Boomers'), then the effects should be more in line with those of other groups because (presumably) the content of the outgroup stereotype would change.

In terms of theoretical development, further research should also address the process through which felt understanding affects intergroup orientations, and the role of felt liking within this. The present studies have shown that felt understanding and felt liking have distinct effects when they are pulled apart through orthogonal manipulation. But, other theorizing on how felt understanding helps to improve relationships suggests that it may also be *through* perceived positive regard that felt understanding shapes positive orientations towards outgroups (Morelli et al., 2014; Carl Ransom Rogers, 1989). In more concrete terms, feeling understood helps to satisfy a need for positive regard, leading to a sense of liking by the outgroup, which then opens ingroup members up to more positive relations with the outgroup in the form of trust, cooperativeness, and openness, among other outcomes (c/f

Rogers, 1989). While this possibility could conceivably be tested (weakly) in the present data using the measured felt understanding and felt liking variables, a more fruitful next step would be to test this process in studies that do not orthogonally separate felt understanding and felt liking, for example by manipulating felt understanding only and measuring felt liking as a mediator.

In the meantime, the present findings signal the importance of incorporating group members' concerns about how their beliefs, values, experiences, and identity are perceived and understood by outgroup members into our theories of intergroup relations. They also offer encouraging evidence that felt understanding could in turn be harnessed as a force to improve those relations. Perhaps more importantly, we emphasize that the value of studying felt understanding is not simply in adding another variable to the intergroup relations canon. Rather, it is critical because of how – uniquely among commonly-studied predictors in intergroup relations – it reflects the higher-order intentionality and recursive perception that are cornerstones of human sociality (Corballis, 2014; Dennett, 1989; Sperber, 2000; Tomasello, 2008).

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Table 1

Summary of study characteristics

Study	<i>N</i>	Context	η^2_p detectable with 80% power	<i>M</i> _{age} (<i>SD</i>)	% female (male; other)	Data collection and recruitment method	Inclusion criteria
1	240	Inter-generational relations: Young adults (ingroup) & older adults	.032	24.22 (3.46)	68 (31; 1)	Online (Prolific Academic). Participants were each paid £2 (\$2.50).	UK resident under 30 years of age.
2	95	Inter-University relations (UK)	.078	Not recorded	Not recorded	Pen and paper; face-to-face recruitment on an opportunity sampling basis on university campus. No remuneration.	Current student of ingroup university
3	117	Gender relations: Women (ingroup) & men	.064	21.00 (5.82)	100 (0; 0)	Pen and paper; face-to-face recruitment on an opportunity sampling basis on university campus and via other interpersonal contacts. No remuneration.	Self-identify as a woman
4	211	Gender relations: Feminist women (ingroup) & men	.036	22.83 (9.58)	99 (0; 1)	Pen and paper; face-to-face recruitment on an opportunity sampling basis on university campus and via other interpersonal contacts. No remuneration.	Self-identify as a woman and be in favour of feminism
5	212	Inter-generational relations: Young adults (ingroup) & older adults	.036	19.92 (1.43)	57 (43; 0)	Pen and paper; face-to-face recruitment on an opportunity sampling basis on university campus. No remuneration.	UK resident under 30 years of age.
6	320	'Brexit' vote: Leave & Remain voters	.024	37.46 (15.02)	67 (33; 0)	Online (Prolific Academic). Participants were each paid £1.35 (\$1.70).	Must have voted in the 2016 EU membership referendum in the UK.

Table 2

MANOVA results, and descriptive statistics for each outcome variable broken down by felt understanding condition and felt liking condition

Study	MANOVA analysis	Main effect of felt			Individual scales	Understood <i>M (SD)</i>	Misunderstood <i>M (SD)</i>	Liked <i>M (SD)</i>	Disliked <i>M (SD)</i>
		understanding (FU)	Main effect of felt liking (FL)	FU X FL interaction					
1	Intergroup orientations	$\lambda = .988,$ $F(3, 234) = 0.97,$ $p = .409, \eta^2_p = .012$	$\lambda = .918,$ $F(3, 234) = 6.94,$ $p < .001, \eta^2_p = .082$	$\lambda = .982,$ $F(3, 234) = 1.42,$ $p = .237, \eta^2_p = .018$	Perception of ingroup-outgroup relations (IGR)	3.83 (1.21)	3.88 (1.32)	4.17 (1.33)	3.58 (1.14)
					Outgroup trust	4.00 (1.17)	4.07 (1.07)	4.31 (1.24)	3.79 (0.94)
					Social distance	3.01 (1.34)	2.86 (1.29)	3.15 (1.35)	2.75 (1.25)
	Action intentions	$\lambda = .953,$ $F(3, 234) = 3.85,$ $p = .010, \eta^2_p = .047$	$\lambda = .935,$ $F(3, 234) = 5.40,$ $p = .001, \eta^2_p = .065$	$\lambda = .999,$ $F(3, 234) = 0.08,$ $p = .969, \eta^2_p = .001$	Avoid	3.01 (1.41)	2.82 (1.52)	2.65 (1.40)	3.16 (1.48)
					Approach	4.47 (1.21)	4.67 (1.36)	4.83 (1.27)	4.33 (1.26)
					Confront	2.82 (1.38)	3.20 (1.49)	2.71 (1.33)	3.28 (1.49)
2	Intergroup orientations	$\lambda = .862,$ $F(2, 90) = 7.16,$ $p = .001, \eta^2_p = .138$	$\lambda = .550,$ $F(2, 90) = 36.82,$ $p < .001, \eta^2_p = .450$	$\lambda = .976,$ $F(2, 90) = 1.09,$ $p = .342, \eta^2_p = .024$	Perception of IGR	0.51 (1.33)	-0.32 (1.24)	0.92 (1.11)	-0.85 (0.91)
					Feelings therm.	60.40 (19.79)	50.58 (17.77)	61.85 (17.47)	48.52 (19.42)
	Action intentions	$\lambda = .912,$ $F(3, 89) = 2.87,$ $p = .041, \eta^2_p = .088$	$\lambda = .847,$ $F(3, 89) = 5.37,$ $p = .002, \eta^2_p = .153$	$\lambda = .961,$ $F(3, 89) = 1.21,$ $p = .311, \eta^2_p = .039$	Avoid	2.08 (1.23)	2.29 (1.21)	1.98 (0.94)	2.42 (1.47)
					Approach	4.63 (1.55)	3.60 (1.78)	4.72 (1.57)	3.47 (1.69)
					Confront	1.94 (1.21)	1.93 (1.05)	1.73 (0.92)	2.19 (1.32)
	3	Intergroup orientations	$\lambda = .970,$ $F(2, 112) = 1.73,$ $p = .182, \eta^2_p = .030$	$\lambda = .985,$ $F(2, 112) = 0.83,$ $p = .440, \eta^2_p = .015$	$\lambda = .997,$ $F(2, 112) = 0.17,$ $p = .845, \eta^2_p = .003$	Perception of IGR	1.05 (1.02)	0.73 (1.04)	0.82 (1.14)
					Feelings therm.	70.54 (16.50)	71.61 (17.13)	72.46 (16.99)	69.78 (16.58)
Action intentions		$\lambda = .985,$ $F(3, 111) = 0.56,$	$\lambda = .966,$ $F(3, 111) = 1.30,$	$\lambda = .979,$ $F(3, 111) = 0.81,$	Avoid	2.52 (1.29)	2.44 (1.15)	2.40 (1.12)	2.55 (1.31)
					Approach	5.22 (1.19)	5.18 (1.16)	5.39 (1.08)	5.03 (1.23)
					Confront	3.07 (1.45)	3.32 (1.33)	3.31 (1.48)	3.09 (1.31)

		$p = .646, \eta^2_p = .015$	$p = .277, \eta^2_p = .034$	$p = .491, \eta^2_p = .021$					
4	Intergroup orientations	$\lambda = .949,$ $F(2, 206) = 5.54,$ $p = .005, \eta^2_p = .051$	$\lambda = .973,$ $F(2, 206) = 2.86,$ $p = .060, \eta^2_p = .027$	$\lambda = .998,$ $F(2, 206) = 0.24,$ $p = .789, \eta^2_p = .002$	Perception of IGR	-0.37 (1.00)	-0.76 (0.77)	-0.42 (0.96)	-0.69 (0.85)
					Feelings therm.	69.94 (16.94)	69.95 (18.52)	70.88 (18.77)	69.00 (16.51)
4	Action intentions	$\lambda = .998,$ $F(3, 205) = 0.16,$ $p = .923, \eta^2_p = .002$	$\lambda = .948,$ $F(3, 205) = 3.72,$ $p = .012, \eta^2_p = .052$	$\lambda = .997,$ $F(3, 205) = 0.24,$ $p = .871, \eta^2_p = .003$	Avoid	2.44 (1.21)	2.48 (1.17)	2.34 (1.14)	2.59 (1.23)
					Approach	5.05 (1.17)	5.14 (1.22)	5.36 (1.18)	4.82 (1.15)
					Confront	3.19 (1.41)	3.22 (1.34)	3.16 (1.42)	3.25 (1.33)
5	Intergroup orientations	$\lambda = .973,$ $F(2, 207) = 2.82,$ $p = .062, \eta^2_p = .027$	$\lambda = .977,$ $F(2, 207) = 2.39,$ $p = .094, \eta^2_p = .023$	$\lambda = .994,$ $F(2, 207) = 0.61,$ $p = .543, \eta^2_p = .006$	Perception of IGR	0.29 (0.84)	0.49 (0.89)	0.51 (0.85)	0.26 (0.88)
					Feelings therm.	70.55 (16.92)	75.11 (15.41)	73.95 (16.71)	71.50 (15.92)
5	Action intentions	$\lambda = .963,$ $F(3, 206) = 2.67, p$ $= .049, \eta^2_p = .037$	$\lambda = .991,$ $F(3, 206) = 0.60, p$ $= .616, \eta^2_p = .009$	$\lambda = .979,$ $F(3, 206) = 1.46, p$ $= .227, \eta^2_p = .021$	Avoid	2.33 (1.08)	2.30 (1.18)	2.22 (1.09)	2.42 (1.16)
					Approach	4.80 (1.29)	5.10 (1.12)	5.01 (1.17)	4.88 (1.26)
					Confront	2.62 (1.15)	2.32 (1.24)	2.48 (1.23)	2.47 (1.18)
6	Intergroup orientations	$\lambda = .940,$ $F(3, 314) = 6.67,$ $p < .001, \eta^2_p = .060$	$\lambda = .964,$ $F(3, 314) = 3.95,$ $p = .009, \eta^2_p = .036$	$\lambda = .997,$ $F(3, 314) = 0.33,$ $p = .802, \eta^2_p = .003$	Perception of IGR	3.14 (1.12)	2.59 (1.07)	3.09 (1.07)	2.64 (1.15)
					Feelings therm.	42.79 (25.24)	35.88 (24.76)	42.47 (21.78)	36.22 (28.04)
6	Action intentions	$\lambda = .983,$ $F(3, 314) = 1.78,$ $p = .152, \eta^2_p = .017$	$\lambda = .960,$ $F(3, 314) = 4.38,$ $p = .005, \eta^2_p = .040$	$\lambda = 1.00,$ $F(3, 314) = 0.02,$ $p = .998, \eta^2_p = .000$	Avoid	3.29 (1.58)	3.57 (1.78)	3.15 (1.67)	3.72 (1.66)
					Approach	4.02 (1.27)	3.67 (1.29)	4.10 (1.26)	3.59 (1.27)
					Confront	3.32 (1.53)	3.61 (1.64)	3.32 (1.51)	3.61 (1.66)
					Outgroup trust	3.63 (1.13)	3.17 (1.08)	3.57 (1.14)	3.23 (1.10)

Figure 1.

Forest plot of effect sizes (Fisher-transformed r) and 95% CIs of the main effect of felt understanding on intergroup orientations (upper panel) and action tendencies (lower panel). Gray diamonds indicate estimates in studies involving older adults as the outgroup (Studies 1 and 5) and studies involving other outgroups (Studies 2-4 and 6).

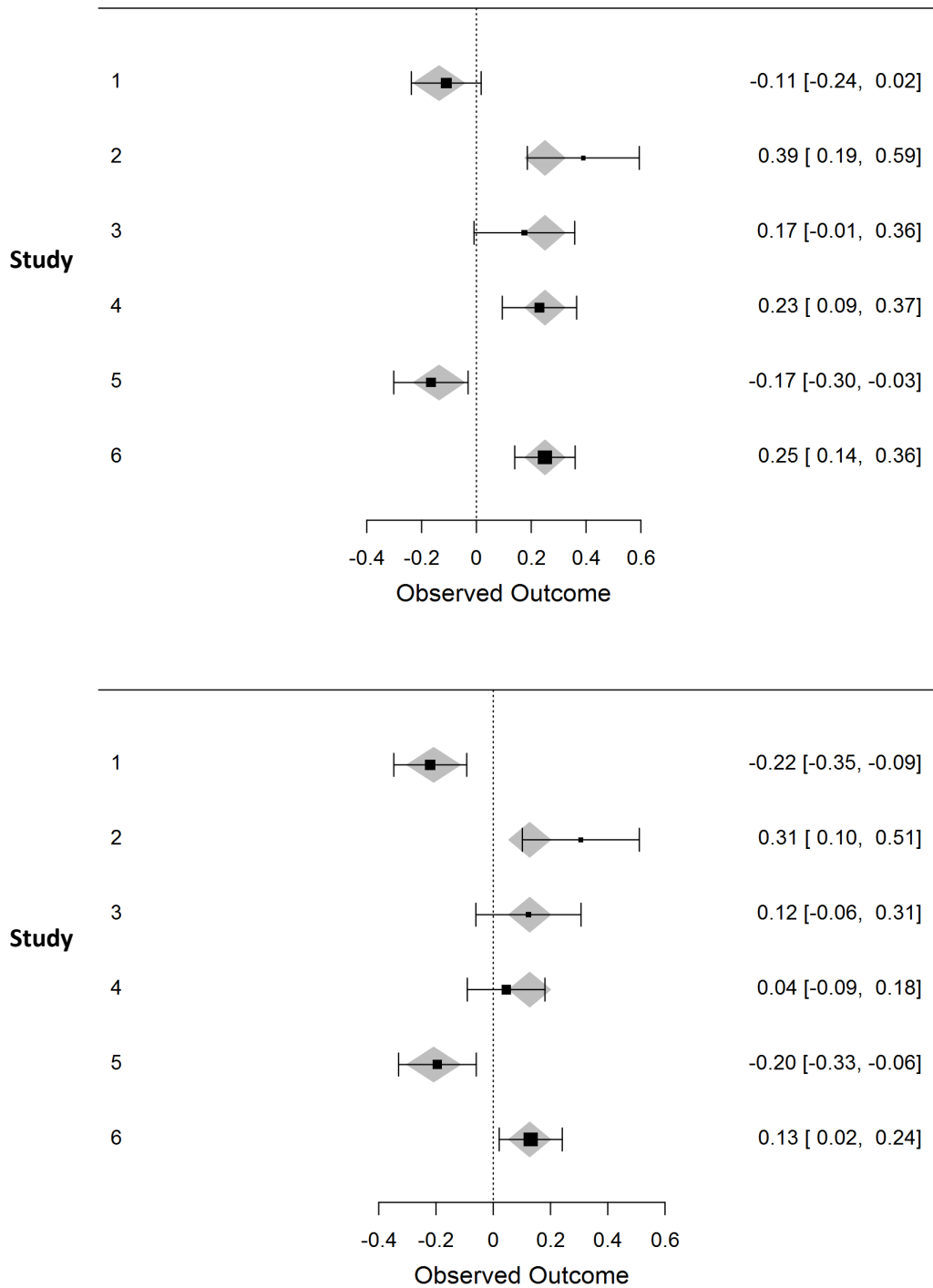


Figure 2.

Forest plot of effect sizes (Fisher-transformed r) and 95% CIs of the main effect of felt liking on intergroup orientations (upper panel) and action tendencies (lower panel). Gray diamonds indicate estimates in studies involving older adults as the outgroup (Studies 1 and 5) and studies involving other outgroups (Studies 2-4 and 6).

