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Abstract

This field experiment tested whether inducing common inclusive representations (i.e., one-group, dual-identity) during contact influences intergroup relations differently for ethnic majority and minority children by changing their meta-perceptions and intergroup emotions differently. White (N=113) and Black (N=111) 8 to 10-year old children were exposed to interactive mixed-ethnicity sessions in schools emphasizing either categorization as one-group (national group), dual-identity (national group with ethnic subgroups) or two ethnic groups. Overall, as predicted, for White children, one-group, but not dual-identity perceptions, improved behavioral intentions by influencing meta-perceptions. For Black children, dual-identity, but not one-group perceptions improved behavioral intentions through meta-perceptions. Contrary to the expected, both dual-identity and one-group perceptions were associated with White and Black children's intergroup emotions.

Keywords: common ingroup identity, meta-perceptions, intergroup emotions, majority versus minority status

Little "*We's*": how common identities improve behavior differently for ethnic majority

and minority children

Schools are a privileged setting for promoting the well-known social psychological

benefits of positive intergroup contact between different ethnic groups (Pettigrew & Tropp,

2006; Turner & Cameron, 2016). Yet, ethnic diversity also poses challenges to minority youth,

with research showing they are at higher risk of social exclusion, discrimination, and poorer

psychological adjustment and well-being (Baysu, Phalet, & Brown, 2014; Brown, et al., 2013;

Dimitrova, Chasiotis, & van de Vijver, 2016; Umaña-Taylor, 2016).

Recent meta-analyses show there are several effective ways of reducing prejudice and

ameliorating intergroup relations in childhood (Beelmann & Heinemann, 2014), and that anti-

prejudice programs applied in schools are effective (Ülger, Hagenmeyer, Reichle, & Gaertner,

2017). However, mirroring the results found for adults (Barlow, Hornsey, Thai, Sengupta, &

Sibley, 2013; Binder et al., 2009, Tropp & Pettigrew, 2005) the effects of prejudice reduction

strategies differ between ethnic majority and minority groups (Aboud et al., 2012; Beelmann &

Heinemann, 2014; Feddes, Noack, & Rutland, 2009). Research examining the potential

processes that account for this asymmetry in childhood is limited. For instance, anxiety has been

identified in some studies as a key mechanism of contact effects for majority groups only

(Binder et al., 2009), for minority groups only (Jasinskaja-Lahti, Mähönen, & Liebkind, 2011),

while other research shows that it is a key process for both majorities and minorities (Vezzali,

Giovannini, & Capozza, 2010).

Addressing this gap, the current study extends previous research by examining, for the

first time, if inducing recategorization as one-group or dual-identity during inter-ethnic contact in

a school context impact Black and White children's perceptions of how outgroup children

stereotype them (i.e., meta-perceptions), and their positive or negative intergroup emotions, which in turn trigger behavioral intentions toward these outgroup children. Indeed, while most research on the common ingroup identity examined its direct effects on a variety of intergroup outcomes, considerably less research has explored the mediating mechanisms through which different group representations impact intergroup attitudes and behaviors among majority and minority groups. Identifying the potential mediators of the impact of inclusive group representations on downstream outcomes is critical to understanding the differential effects of these representations on minority and majority groups. This research extends the existing work with children on the common ingroup identity model (CIIM, Gaertner & Dovidio, 2000; 2012; Gaertner, Guerra, Rebelo, Dovidio, Hehman, & Deegan, 2016) by a) identifying new cognitive (i.e., meta-perceptions) and emotional (i.e., intergroup emotions) mechanisms of recategorization effects among ethnic majority and minority children, b) proposing that the previously identified differential effects of recategorization (e.g., Guerra et al., 2010) might be related to different cognitions and emotions induced by one-group and dual-identity representations for majority and minority ethnic children.

Common ingroup identity: little *We's*

The CIIM proposes that prejudice can be reduced if members of different groups are induced to think of themselves as either a single more inclusive group (e.g., a nation), or as two groups playing on the same team. Both of these recategorizations have in common that previous outgroup members are seen as ingroup members on a more inclusive categorization level. The specificity of the latter one is that it implies a more complex dual-identity representation, in which original group identities remain salient within the more inclusive superordinate entity (Gaertner & Dovidio, 2000; 2012). There is strong empirical evidence with adults supporting the

positive effects of both the one-group and dual-identity representations for intergroup relations (Dovidio, Gaertner & Saguy, 2009; Dovidio, Gaertner, Ufkes, Saguy, & Pearson, 2016). Importantly, there is also evidence that creating a common group identity reduces overt expressions of prejudice among young children (Gaertner, et al., 2008; Gaertner et al., 2016).

Generally, research conducted with children illustrates the effectiveness of inducing different forms of recategorization via direct or extended contact to improve children's intergroup attitudes (Cameron, Rutland, Brown, & Douch, 2006; Cameron, Rutland, Hossain, & Petley, 2011; Guerra, et al., 2010; Guerra, Rebelo, Monteiro, & Gaertner, 2013; Houlette, Gaertner, Johnson, Banker, Riek & Dovidio, 2004). However, research also showed inconsistent effects of the differential impact of one-group and dual-identity perceptions both with adults and with children (Gonzalez & Brown, 2003; 2006; Guerra et al., 2010; Hornsey & Hogg, 2000). That is, neither one-group representation nor dual-identity work for every group in the same way. Studies with adults revealed that dual-identity, relative to a one-group identity, is particularly effective for ethnic minority groups (Dovidio, Gaertner, Niemann and Snider, 2001; Gonzalez & Brown, 2006; Ryan, Hunt, Weible, Peterson, & Casas, 2007), and that interventions emphasizing a one-group or dual-identity are differentially effective depending on the national context (Esses, Wagner, Wolf, Preiser & Wilbur, 2006) or on which of these representations most effectively promotes the group's integration goals (Hehman, et al., 2012).

Research with children and adolescents that specifically focused on direct rather than extended forms of contact also showed mixed findings. In some studies one-group was more beneficial for majorities than for minorities (Beaton et al., 2012), whereas dual-identity was more beneficial for minorities (Gaertner et al., 1996). Other studies found that for Black minority children experimentally inducing a one-group representation was consistently more effective at

reducing bias than inducing a dual-identity (Guerra et al., 2010; 2013). The latter research found for White majority children that either dual-identity was more effective than one-group (Guerra et al., 2010), or both representations were equally beneficial to reduce bias (Guerra et al., 2013). The fact that the positive effects of one-group and dual-identity differ among children of different ethnicity is consistent with research showing that majority and minority groups have different concerns and expectations when they engage in intergroup contact (Bergsieker, Shelton, & Richeson, 2010; Plant, 2004; Shelton, 2003; Shnabel & Nadler, 2008; Trawalter & Richeson, 2008).

To advance towards theoretically meaningful explanations of these differential effects of one-group and dual-identity perceptions for majority and minority children it is crucial to identify the mechanisms underlying the impact of different group representations on intergroup outcomes. The present study extends the scope of the common ingroup identity research with children by proposing that one-group and dual-identity differentially impact majority and minority children's awareness of positive or negative perceptions held by outgroup members (i.e., meta-perceptions). Also, building on intergroup emotions theory (Mackie, Devos, & Smith, 2000; Mackie & Smith, 2015), we further proposed that one-group and dual-identity will differentially impact children's intergroup emotions and in turn relate to specific behavioral intentions.

What *We* think *They* think about *Us*. Building upon Frey and Tropp's (2006) proposal about the critical role meta-perceptions play in intergroup relations, we propose that one-group and dual-identity improve children's intergroup relations, at least in part, because they increase the favorability of the meta-perceptions children in different groups hold about each other. Developmental research reveals that meta-perceptions are important psychological mechanisms

that account for peer victimization and exclusion (Bellmore & Cillessen, 2006), as well as

stereotype threat (McKnown & Strambler, 2009, Hartley & Sutton, 2013). Early theorization

regarding the ability of children to coordinate and integrate social information about the self,

others and self-others relations proposed that this cognitive ability emerges between 7 and 12

years (Selman, 1980). Indeed, research shows that 8-year old children are already able to

perceive what others think and feel, and are sensitive to the multiple links between thoughts,

feelings, and behavior (Abrams, Rutland, Pelletier, & Ferrell, 2009). Also, most 10-years old are

aware of the stereotypes endorsed by others and able to infer how others' stereotype them

(McKnown & Stramble, 2009; McKown & Weinstein, 2003).

Most research on children's ability to infer what others think of them (i.e., meta-

perceptions) has focused on how accurate those interpersonal perceptions are, and what factors

influence this meta-accuracy (Cillessen & Bellmore, 2011; Malloy, Albright, & Scarpati, 2007;

Neal, Neal, & Cappella, 2016). Despite the strong empirical findings regarding the importance of

meta-perceptions for children and adolescents interpersonal relations, there are almost no studies

that examine its impact on children's intergroup relations.

In adults, this stereotype consciousness is widely referred to as meta-stereotypes, and it

has important negative consequences for intergroup relations (Vorauer, 2008; Vorauer & Sasaki,

2009). Children's and adolescent's awareness of the stereotypes held by others impacts their

interpersonal peer relations and also their performance in stereotype threat situations. Consistent

with our reasoning that certain intergroup conditions can change the favorability of meta-

perceptions, research conducted with 6-9 year old children found that the negative effect of

meta-stereotypes on boys academic performance (i.e., that adults think that girls are

academically superior) can be reversed simply by providing children with information that

counteracts the meta-perceptions (i.e., informing children that there were no group-based differences in performance) (Hartley & Sutton, 2013). Also, research conducted with adolescents revealed that vicarious intergroup contact improved evaluations of the outgroup, partially by improving meta-stereotypes (Gomez & Huici, 2008).

Importantly however, the role of meta-perceptions can be different for minority and majority groups. Research focusing on interpersonal perceptions shows that several situational (e.g., class size) and individual variables (e.g., gender) impact children's meta-perceptions (e.g., Cillessen & Bellmore, 1999; Neal, et al., 2016). We propose that, at the intergroup level, children's ethnic group status is a key variable that impacts minority and majority children's meta-perceptions. However, to the best of our knowledge, there are no studies examining the impact of meta-perceptions among ethnically diverse children. Research conducted with adults shows that low status, powerless groups, are more attentive to negative meta-stereotypes (Lammers, Gordijn & Otten, 2008). In line with these findings, research showed that Black Portuguese youth had a predominantly negative perception of how the White Portuguese majority portrays them (i.e., perceiving more negative than positive traits) (Lopes, 2003).

Also in line with of our proposal that ethnic status impacts meta-perceptions, research shows that majority and minority groups hold different perspectives and concerns, which trigger specific emotional and relational consequences (Doerr, Plant, Kunstman, & Buck, 2011; Shelton, 2003; Plant, 2004; Trawalter & Richeson, 2008). For instance, minorities tend to fear being discriminated against (Shelton, 2003; Trawalter & Richeson, 2008) whereas majorities are more concerned about being perceived as prejudiced (Doerr, et al., 2011; Plant, 2004).

Building on these findings, we propose that dual-identity and one-group representations will impact meta-perceptions of majority and minority children in different ways. We propose

that a one-group perception should positively impact meta-perceptions of majority children as it

deemphasizes intergroup differences focusing only on commonalities (Dovidio et al., 2009;

Saguy & Dovidio, 2013; Saguy, Dovidio, & Pratto, 2008). For minority children, however, dual-

identity perceptions should have a more positive impact on their meta-perceptions, because they

emphasize simultaneously commonalities and differences, conveying the possibility that

outgroup members accept them as members of a more diverse common ingroup of which the

salient ethnic subgroups are both part of, and in which their subgroup distinctiveness is

recognized, accepted and valued (Alexandre, Waldzus & Wenzel, 2016). Dual-identity's impact

for majority children will be more ambiguous, because majority, high status, groups prefer to

focus on commonalities only rather than on group differences (e.g., Saguy, et al., 2008; Saguy et

al., 2013). In general, once majority and minority children expect former outgroup members to

perceive them more positively, they should feel more at ease and reciprocate, which improves

intergroup relations. To the best of our knowledge, the current study is the first exploration of

children's positive and negative meta-perception as a potential mediating mechanism of the

effects of different forms of recategorization on intergroup relations.

How *We* feel about *Them*

Besides cognitive factors (e.g., perceived similarities, Stathi, Cameron, Hartley, &

Bradford, 2014), emotional factors have been identified as a key psychological mechanism that

explains the positive impact of intergroup contact and cross-group friendships in children (see

Cameron & Turner, 2016 for a review; Juggert & Feddes, 2017; Tropp & Ramiah, 2017).

Research shows that different forms of positive contact (e.g., direct contact, cross-group

friendships, extended and imagined contact) improve children's attitudes towards a variety of

outgroups partially by reducing anxiety (e.g., Turner, Hewstone, & Vocci, 2007), and

increasing empathy (Swart, Hewstone, Christ, & Vocci, 2011). The interplay between cognitive and emotional factors on understanding intergroup attitudes and relations is addressed by the intergroup emotions theory, which proposes for the first time that emotions are also a group-level phenomenon, driven by group-level factors (for a review see Mackie & Smith, 2015; 2017).

According to intergroup emotions theory (IET), emotions can be experienced on the basis of group membership. Such group based emotions are assumed to be elicited by cognitive appraisals of the ingroup-outgroup relationship, specifically of whether certain events or experiences constitute an advantage or a threat for the ingroup, given the specific characteristics of the intergroup relation (e.g., differential power and status, or goal incompatibility) (Mackie, et al., 2000). These emotions, in turn, evoke distinct intergroup behavioral intentions such as avoiding or confronting the outgroup (Dumont, Yzerbyt, Wigboldus, & Gordijn, 2003; Mackie et al., 2000; Yzerbyt, Dumont, Wigboldus, & Gordijn, 2003). Group based emotions are powerful predictors of intragroup processes, predicting stronger commitment to the group and also motivating group members for action (see Mackie & Smith, 2017 for a review). Importantly, there is a strong body of research conducted with adults illustrating the impact of group based emotions on intergroup relations. For example, experiencing intergroup anger predicts the intention to harm the outgroup (Mackie et al., 2000; Yzerbyt, et al., 2003), while intergroup fear elicits a desire to avoid the outgroup (Dumont, et al., 2003).

While there is extensive support for the role of intergroup emotions in intergroup behavior among adults (Mackie & Smith, 2015; 2017), very few studies examined the impact of group-based emotions in children. Most studies focused on children's intergroup emotions in bullying episodes (Jones, Livingstone, & Manstead, 2017), showing that children's emotions depend on their ingroup's position in intergroup relations. For instance, children aged 9-11

presented with a bullying scenario where they were either member of the perpetrator's group, of the victim's group, or neither group, experienced different group-based emotions of pride and anger, which predicted different action tendencies of affiliating with the group and tell an adult, respectively (Jones, Manstead, & Livingstone, 2009).

Overall, research conducted with both adults and children demonstrates that intergroup emotions play an important role in intergroup relations and impact behavioral intentions. Research conducted with adults also found that changing an individual's self-categorization influences the emotions that he or she feels about a specific event (e.g., Doosje, Branscombe, Spears, & Manstead, 1998; Gordijn, Yzerbyt, Wigboldus, & Dumont, 2006; Ray, Mackie, Rydell, & Smith, 2008). For instance, when American students were categorized as Americans (vs. as students), they reported significantly more anger and less respect in response to Muslims and less anger and more respect towards policemen (Ray, et al., 2008). We therefore propose that recategorization of children's social identity will have an impact on their group based emotions. Given the previous findings illustrating the impact of group status on the efficacy of positive intergroup contact and common ingroup identities (e.g., Cameron et al., 2006; Guerra et al., 2010; 2013), we will explore if one-group and dual-identity perceptions differentially influence behavioral intentions of majority and minority children by changing their positive and negative intergroup emotions.

Overview of the Present Research

In the current study Black and White children interacted in ethnically mixed sessions at school under conditions emphasizing one of three social categorizations: one-group (emphasizing the children's national identity), dual-identity (emphasizing both ethnic and national identities) or two-groups (emphasizing ethnic identities). Following the intergroup

interaction (as one-group, dual-identity or separate groups), we assessed children's perceptions

of the intergroup situation, meta-perceptions, intergroup emotions and behavioral intentions.

Theoretically, the difference between inducing a single common one-group or a more complex

dual-identity lies in the degree of salience of the original subgroup identities. Thus, we

hypothesized that, compared to the two-group condition, one-group and dual-identity conditions

should both increase the perception of the intergroup situation as one-group and as dual-identity.

However, perceptions of the salience of the original (i.e., ethnic) ingroup should be stronger in

the dual-identity, relative to the one-group condition (H1). In line with our theoretical reasoning,

we propose that the previously identified differential effects of one-group and dual-identity

representations (Cameron et al., 2006; Guerra et al., 2010; 2013) might be related to different

appraisals and emotions induced by these representations for majority and minority ethnic

children. Specifically, we examined if one-group and dual-identity indirectly impact majority

and minority children's behavioral intentions, by changing their meta-perceptions (i.e.,

stereotype consciousness) (H2) and intergroup emotions (H3). Given the different preferences of

majority and minority groups to focus on commonalities and differences, we expect that dual-

identity will be particularly beneficial for changing meta-perceptions and intergroup emotions of

minorities, because it simultaneously offers the possibility of being accepted by the majority,

while still recognizing their subgroup distinctiveness. On the other hand, a one-group perception

should be particularly beneficial for meta-perceptions and intergroup emotions of majority

children as it focuses on commonalities rather than differences. Specifically, we predict that for

White children, both recategorization conditions will impact behavioral intentions (e.g., playing

with outgroup) via increased one-group representations. The more White children endorse a one-

group representation, the less negative (and more positive) meta-perceptions (H2a) and

intergroup emotions (e.g., joy) they will hold (H3a) which then relate to less negative (and more positive) behavioral intentions towards the outgroup. In contrast, for the Black minority children, the recategorization conditions will impact behavioral intentions via increased dual-identity representations. The more Black children endorse a dual-identity representation, the less negative (and more positive) meta-perceptions (H2b) and intergroup emotions they hold (H3b), which will in turn be related to behavioral intentions towards the outgroup.

Method

Participants and Design

Participants were 228 4th grade White (N=114, 51% female, M_{age}=9.33) and Black (N=114, 49.2% female, M_{age}=9.58) children, 8 to 10-years old. Participants were recruited from 19 classes in eight Portuguese elementary urban public schools. The ethnic composition of schools was kept constant and reflected the general pattern of urban public elementary schools in Portugal (i.e., approximately 80% of White and 20% of non-White children). Children's ethnic origin was determined by previous information provided by the teachers regarding the country of birth for both children and their parents. Thirty eight groups of children (6 persons per session), were randomly selected and assigned to each of the three treatment conditions.

The experimental design was a 3 (treatment: one-group vs. dual-identity vs. two groups) x 2 (ethnic status: White Portuguese vs. Black Portuguese)[1]. Data of 4 participants were excluded from analysis because they had accidentally be given a wrong questionnaire, leaving a final sample of N=224. Children who had parental consent but could not be paired in a 6-person session (and therefore were not included in this study) participated in a short version of the

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[1] N by treatment condition and ethnic group: Two-groups (39 White Portuguese, 37 Black Portuguese children); One-group (30 White Portuguese, 30 Black Portuguese children); Dual-identity (44 White Portuguese, 44 Black Portuguese children)

survival game conducted by the experimenters, but not involving the categorization

manipulation.

Procedure and materials

This study was conducted in agreement with the Ethics Guidelines issued by [host

institution]. Children's' participation was voluntary and parental permission (i.e., signed

informed consistent) was obtained for all children. At the end of session, all children were

debriefed and rewarded with small gifts (e.g., candy bar). Specifically, children in all conditions

were informed that their group solutions for the task were very good and effective to solve the

survival challenge. This was particularly important in the two groups' condition, to guarantee

that both groups were valued and addressed together, equally contributing to help the research

team.

We adapted Guerra et al.'s (2010; 2013) procedure, which replicated the original

Gaertner and colleagues (1989) laboratory procedure created for adult participants. Generally,

the experimental sessions lasted approximately 40 minutes and were conducted in rooms made

available by each of the participating schools. At the beginning of each experimental session

children agreed to be divided in two 3-person groups based in their ethnic origin. Each group

then met in a separate area of the same room to work on an age-adapted version of the Winter

Survival Problem (Johnson & Johnson, 1975). To perform this task, the experimenters assigned

each group a different color tag (brown for Black and white for White children) and a visible

label with a different name (their own ethnic origin). This first step of the procedure was the

same across all three treatment conditions.

Experimental manipulations. After this first step, the experimenters brought the two

groups together and manipulated their group representations by varying the way in which

participants were positioned during the interaction (segregated vs. integrated seating), their group labels and color tags. In the two-group condition, the two groups were seated in a segregated way (i.e., facing each other seated at different tables) and maintained their original ethnic group names (Children of Portuguese origin for White children and Children of African origin for Black children) and color tags. Then, each group worked on a second solution for the survival problem, discussed their new solutions, and presented them to each other. Contrary to Guerra et al. (2010), we did not introduce competition involving a prize for the best performance out of the two groups. We believe this represents a better control condition because only the categorization level varies across conditions, whereas the nature of the interdependence (i.e., cooperation) was kept constant, avoiding confounding effects.

In the one-group condition the initial subgroups were structurally dissolved (e.g., White and Black children sat alternately around the same table) and the original color tags were removed. The interaction was framed as a second part of the survival task, occurring within a new 6-person group (5-person group in 4 sessions), with a new name (the Portuguese group) and a new common color tag. The new group worked on a second solution of the survival task, now as the Portuguese group.

In the dual-identity condition, the initial subgroups were not dissolved and participants were seated in a segregated seating pattern as they solved the second part of the survival task as a new team composed by two subgroups (facing each other at two tables). The new team had a new common color tag, which was added to the original subgroups tags and a new name assigned (the Portuguese children of Portuguese and African origin).

Following the experimental manipulations, participants individually completed a questionnaire containing items related to perception of the intergroup situation, meta-

perceptions, intergroup evaluations and prototypicality (not analyzed for the purpose of this paper), intergroup emotions and behavioral intentions. Then they were debriefed and rewarded with small gifts.

Measures. All measures used child adapted 5-point scales (small balloon, coded 1 = *not at all* to large balloon coded 5 = *very much*) (see supplemental material). Perceptions of the intergroup situation were obtained by asking participants *"To what extent, during the game, you felt like":* 'The group of African [Portuguese] origin'(ethnic ingroup), 'The Portuguese group' (one-group) and 'The Portuguese group of African and Portuguese origin' (dual-identity).

Negative and positive meta-perceptions were assessed by asking participants to what extent they thought the other group thought they were (e.g., "*Do you think the group of Portuguese origin thinks the group of African origin is ...*"), mean and dumb, overall $r = .60$, $p <.001$, and intelligent and nice, overall $r = .53$, $p =.003$. No differences were found between the reliability of negative and positive meta-perceptions of Black and White participants (negative: $r_{Black} = .61$, $p < .001$; $r_{White} = .52$, $p < .001$; $Z = -.98$, $p = .33$; positive: $r_{Black} = .58$, $p < .001$; $r_{White} = .48$, $p < .001$; $Z = 1.03$, $p = .30$).

Negative and positive intergroup emotions were assessed by asking to what extent they felt sad, angry, fearful (overall $\alpha_{negative}= .85$) and content, joyful, and at ease (overall $\alpha_{positive}= .72$), respectively, when they interacted with the outgroup (adapted from De Amicis, 2009) *(e.g., "Think about the group of African origin. When you are together do you feel…").* Each emotion was accompanied by a drawing representing a character experiencing the specific emotion (see supplemental material). No differences were found between the reliability of negative and positive emotions of Black and White children (negative: $\alpha_{Black} = .67$, $\alpha_{White} = .79$; $\chi^2 (1) = 2.79$, $p = .10$; positive: $\alpha_{Black} = .83$, $\alpha_{White} = .88$; $\chi^2 (1) = 1.66$, $p = .20$).

Finally, negative and positive behavioral intentions were assessed by asking children to what extent they wanted to call "outgroup members" names and beat them, overall $r = .65$, p <.001, and play with them, and invite them over to their place, overall $r = .57$, p <.001 *("Think about "outgroup". Do you want to…")*. No differences were found between the reliability of negative and positive behavioral intentions of Black and White participants (negative: $r_{Black} = .62$, $p < .001$; $r_{White} = .71$, $p < .001$; $Z = -1.2$, $p = .23$; positive: $r_{Black} = .66$, $p < .001$; $r_{White} = .50$, $p < .001$; $Z = 1.8$, $p = .07$). As valence has been found to be relevant for intergroup bias in many settings (Mummendey, Otten, Berger, & Kessler, 2000) we report results on positive and negative measures separately in our analyses.

Results

The structure of the collected data implied potential interdependency on various levels: school, class within each school, session within each class and participant within each session. Thus, data were checked for the adequacy of applying multilevel modelling. ICC's were calculated for each of the variables using Mplus 7 (Muthén & Muthén, 2012) (ICC's, correlations and descriptive data for all the dependent variables can be seen in supplemental material – Table 3). The ICC's estimations show that there is not enough remaining variance above and beyond the individual level that allows testing our hypotheses at higher levels of aggregation. Hence, multilevel analyses were not advisable and individual-level analyses were run (Musca, Kamiejski, Nugier, Méot, Er-Rafiy, Brauer, 2011). Our main hypotheses were tested by estimating the path models depicted on Figures 1 and 2 on Mplus 7.

Manipulation effects on perception of the intergroup situation

We started by testing the effects of the manipulation and its potential interaction with ethnic group status (ethnicity) in a repeated measures GLM with a 3 (experimental condition:

one-group vs. dual-identity vs. two-groups) x 3 (perception: national one-group vs. dual-identity

vs. ethnic ingroup identity) x 2 (ethnic group status: White Portuguese, Black Portuguese) mixed

design with perception of the intergroup situation as within-subject factor and the remaining

factors as between-subjects. We found the expected two-way interaction between experimental

condition and perception, $F(4, 436) = 5.29$, $p = .001$, $\eta_p^2 = .046$, indicating that the manipulation

indeed changed the perception of the intergroup situation (see Table 1). Planned contrast analysis

testing the joint effect of one-group and dual-identity conditions vs. the two- groups condition

(contrast coding 1 1 -2) showed that, as predicted (H1), the one-group and dual-identity

conditions increased perceptions of the intergroup situation as a national one-group (coded 1)

and dual-identity (coded 1) relative to perceptions of salience of the ethnic-ingroup identity

(coded -2), $F(1,218) = 14.65$, $p < .001$, $\eta_p^2 = .063$, $B = 1.92$, $SE = 0.50$, 95% CI [0.932, 2.911].

Additional contrasts testing the effects on the different perceptions of the intergroup situation

separately (each of them coded 1 while the others were coded 0) revealed that the previous effect

on the relative perception was entirely due to an increase of the national one-group perception

$F(1,218) = 11.91$, $p = .001$, $\eta_p^2 = .052$, $B = 1.00$, $SE = 0.29$, 95% CI [0.428, 1.568] and the dual-

identity perception $F(1,218) = 5.45$, $p = .021$, $\eta_p^2 = .024$, $B = 0.74$, $SE = 0.32$, 95% CI [0.114,

1.358], while perceptions as ethnic in-group identity were unaffected $F(1,218) = 0.12$, $p = .73$,

$\eta_p^2 = .001$, $B = -0.09$, $SE = 0.27$, 95% CI [-0.631, 0.444].

Also supportive of H1, as can be seen in Table 1, the planned contrast for the effect of

one-group condition (coded 1) vs. dual-identity condition (coded -1; with the two-group

condition coded 0), showed that in the one-group condition, the salience of the ethnic-ingroup

identity perception (coded -2) relative to the national one-group (coded 1) and dual-identity

perceptions (coded 1) was significantly lower than in the dual-identity condition, $F(1,218) =$

6.24, $p = .013$, $\eta_p^2 = .028$, $B = 0.65$, $SE = 0.26$, 95% CI [0.137, 1.163]. This effect on relative

perception was mainly due to a marginal effect on the ethnic in-group identity perception,

$F(1,218) = 3.50$, $p = .063$, $\eta_p^2 = .016$, $B = -0.265$, $SE = 0.141$, $t(218) = -1.88$, $p = .061$, 95% CI [-

0.544, 0.014], whereas neither the national one-group perception, $F(1,218) = 0.10$, $p = .76$, $\eta_p^2 <$

.001, $B = 0.05$, $SE = 0.15$, 95% CI [-0.249, 0.342], nor the dual-identity perception, $F(1,218) =$

0.21, $p = .65$, $\eta_p^2 = .001$, $B = 0.07$, $SE = 0.16$, 95% CI [-0.248, 0.397], differed between the one-

group and the dual-identity conditions. In sum, supportive of H1, one-group and dual-identity

experimental conditions jointly increased both perceptions of the intergroup situation as a

national one-group and dual-identity, relative to a two-group condition. The difference between

one-group and dual-identity experimental conditions resided in the capacity of one-group

condition, relative to the dual-identity condition, to decrease the salience of the ethnic-ingroup

identity perception. The interaction between experimental condition and perception of the

intergroup situation was not qualified by a three-way interaction with ethnicity, $F(4, 436) = 1.40$,

$p = .23$. Thus, the effects of the manipulation on the perceived intergroup relation did not differ

between Black and White participants.

Majority and minority behavioral intentions: the indirect effects of perceived intergroup

situation, meta-perceptions, and intergroup emotions. We used Mplus 7 (Muthén & Muthén,

2012) to perform a multi-group path analysis, examining the associations between the

experimental manipulations (i.e., a contrast for the *one-group vs dual-identity* conditions –

contrast 1 –, and a contrast of *one-group and dual-identity vs two-group* condition – contrast 2)

and the variables depicted in Figures 1 and 2 across the two ethnic status groups. In each model,

and beyond the direct paths depicted in the Figures, we also estimated indirect paths in line with

our hypotheses (H2, H3). These indirect paths were as follows: total indirect paths from contrasts

to positive and negative behavioral intentions; indirect paths from contrast 1 / contrast 2, one-group perceptions / dual-identity perceptions, group positive meta-perceptions to positive behavioral intentions; indirect paths from contrast 1 / contrast 2, one-group perceptions / dual-identity perceptions, group negative meta-perceptions to negative behavioral intentions; indirect paths from contrast 1 / contrast 2, one-group perceptions / dual-identity perceptions, intergroup positive emotions to positive behavioral intentions; and indirect paths from contrast 1 / contrast 2, one-group perceptions / dual-identity perceptions, intergroup negative emotions to negative behavioral intentions. We used the Maximum Likelihood Robust (MLR) estimator, since it allows for parameter estimation with standard errors and a chi-square test statistic that are robust to non-normality and non-independence of observations (Yuan & Bentler, 2000). Moreover, MLR replaces the use of bootstrap procedures (Muthén & Muthén, 2012).

For each model depicted in Figures 1 and 2, two alternative models were tested: a constrained model, where specific paths were constrained to equality between White and Black children; and a totally unconstrained model where paths were allowed to vary freely between the two groups. In the constrained model, and consistent with our theoretical reasoning, specific constraints were set. These constraints set specific paths of our model to be equally estimated for Black and White children (e.g., contrasts were expected to relate to one group or dual-identity perceptions equally for both ethnic groups) (see Figures 1 and 2 for the specific constraints applied). Thus, in these cases we did not have theoretical reasons to expect estimation differences to be found across groups[2].

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[2] Additional constraints for equality were applied regarding the indirect paths of both models for White and Black children: (c8) one-group vs. dual-identity→one-group perceptions→positive meta-perceptions→positive behavior; (c9) one-group vs. dual-identity→dual-identity perceptions→positive meta-perceptions→positive behavior; (c10) one-group vs. dual-identity→one-group perceptions→negative meta-perceptions→negative behavior; (c11) one-group vs. dual-identity→dual-identity perceptions→negative meta-perceptions→negative behavior.

A chi-square difference test using the Satorra-Bentler scaled Chi-Square (Satorra &

Bentler, 2010) was performed to compare the constrained *versus* the totally unconstrained model.

A non-significant chi-square difference between models means a stable model fit across White

and Black children, while a significant chi-square difference between models means unstable

model fits (cf. Byrne, 2012).

Regarding the model analyzing the associations between positive and negative meta-

perceptions and positive and negative behavioral intentions, as well as the model analyzing the

association between positive and negative intergroup emotions and positive and negative

behavioral intentions, the Satorra-Bentler scaled Chi-Square difference tests comparing the

constrained models with specific regression weights set to equality for White and Black children

with the totally unconstrained models did not result in significant increase in model fits, (meta-

perceptions: $\Delta\chi2 = 4.01$, $\Delta df = 7$, $p = .73$; intergroup emotions: $\Delta\chi2 = 7.56$, $\Delta df = 7$, $p = .33$).

Since there were no differences between these models, we opted for the analysis of the results of

the constrained models, as they are more in line with the literature reviewed previously and our

hypotheses.

The main results for the hypothesized models (Figures 1 and 2) are presented in Table 2

(indirect and total path estimations) and in Figures 3 and 4 (direct path estimations). These

results regard the constrained models only, and only the indirect paths that yielded significant

results are shown. For White children (see Figure 3, top panel), results showed the predicted

positive direct effects of the one-group and dual-identity vs. the two-groups condition contrast on

perceptions of the intergroup situation as a national one-group, $\beta = .23$, $p < .01$, and dual-

identity, $\beta = .17$, $p < .05$. Results also showed a positive, $\beta = .13$, $p < .05$, and negative, $\beta = -.23$,

$p < .001$, direct effect of the one-group and dual-identity vs. the two-groups contrast on

behavioral intentions, suggesting that one-group and dual-identity conditions triggered more positive behavioral intentions relative to a two-groups condition. In line with our hypothesis, the experimental manipulations affected White children's group representations, especially the one-group representation, and also their behavioral intentions. Moreover, supportive of our hypotheses (H2a), the one-group representation was positively associated with positive meta-perceptions, $\beta = .34$, $p < .05$; positive meta-perceptions were associated with positive behavioral intentions, $\beta = .31$, $p < .001$ (H2a); and negative meta-perceptions were associated with negative behavioral intentions, $\beta = .34$, $p < .01$ (H2a).

For Black children (see Figure 3, bottom panel), and replicating the findings for White participants, significant direct effects of the one-group and dual-identity vs. two groups condition contrast on the one group, $\beta = .17$, $p < .01$, and dual-identity, $\beta = .15$, $p < .05$, intergroup perceptions showed that the experimental manipulation affected group representations similarly. Additionally, there was a significant direct effect of the dual-identity vs. one group contrast on the negative behavioral intentions, $\beta = .17$, $p < .01$. Importantly, and supportive of our hypotheses, only dual-identity representations were positively associated with positive meta-perceptions, $\beta = .38$, $p < .001$, and negatively associated with negative meta-perceptions, $\beta = -.24$, $p < .01$ (H2b). Additionally, positive meta-perceptions were associated with positive behavioral intentions, $\beta = .38$, $p < .001$ and negative meta-perceptions were associated with negative behavioral intentions, $\beta = .62$, $p < .001$ (H2b).

For White children, the expected indirect path from the contrast *one-group and dual-identity vs. two-groups* to positive behavioral intentions via one-group perceptions and positive meta-perceptions (H2), approached significance, $\beta = .02$, $.10 < p > .05$. However, the indirect path for negative behavioral intentions was not significant ($p > .10$). Nonetheless, consistent with

our hypotheses, none of the indirect effects through dual-identity perceptions was significant for White children (see Table 2, model 1).

For Black children, results showed the predicted indirect effect, albeit marginally significant, of the contrast *one-group and dual-identity vs. two-groups* on positive behavioral intentions via increased dual-identity perceptions and positive meta-perceptions, $\beta = .02, .10 < p > .05$. The expected indirect effect of the contrast *one-group and dual-identity vs. two-groups* on negative behavioral intentions via dual-identity perceptions and negative meta-perceptions was also found, $\beta = -.02, .10 < p > .05$, but it was again marginally significant. As predicted, no indirect effects through one-group perceptions were significant for Black children (see Table 2, model 1).

Regarding the model testing the association of positive and negative emotions with positive and negative behavioral intentions, and for White children (see Figure 4, top panel), results show, as predicted (H3a), that the one-group perception was positively associated with positive intergroup emotions, $\beta = .32, p < .01$. Contrary to the expected, however, dual-identity representations were negatively associated with negative intergroup emotions, $\beta = -.43, p < .001$. As predicted, positive intergroup emotions were also associated with positive behavioral intentions, $\beta = .61, p < .001$ (H3a); and negative intergroup emotions were associated with negative behavioral intentions, $\beta = .39, p < .01$ (H3a).

For Black children (see Figure 4, bottom panel), dual-identity representations were only associated with positive intergroup emotions, $\beta = .41, p < .001$ (partially supporting H3b). Contrary to the expected, one-group representations however were positively associated with positive intergroup emotions, $\beta = .26, p < .01$, and negatively associated with negative intergroup emotions, $\beta = -.30, p < .05$). As predicted, positive intergroup emotions were associated with

positive behavioral intentions, $\beta = .59$, $p < .001$ (H3b); negative intergroup emotions were associated with negative behavioral intentions, $\beta = .52$, $p < .001$ (H3b).

Regarding the indirect effects in Model 2, and for White children, the expected indirect path from the contrast *one-group and dual-identity vs. two-groups* to positive behavioral intentions via one-group perceptions and positive intergroup emotions approached significance, $\beta = .03$, $.10 < p > .05$. None of the indirect effects through dual-identity perceptions was significant. For Black children, the indirect paths from the contrast *one-group and dual-identity vs. two-groups* to positive behavioral intentions via dual-identity perceptions and positive intergroup emotions approached significance, $\beta = .04$, $.10 < p > .05$. However, even if not predicted, the path via one-group perceptions and positive intergroup emotions was significance, $\beta = .03$, $p < .05$. Additionally, consistent with our hypotheses, the path from the contrast *one-group and dual-identity vs. two-groups* to positive behavioral intentions via dual-identity perceptions and negative intergroup emotions also approached significance, $\beta = -.02$, $.10 < p > .05$ (see Table 2, model 2).

Discussion

The present study examined how the salience of different group representations during contact influences differently majority and minority children's meta-perceptions, intergroup emotions and, through those, children's behavioral intentions. Our results show that, as predicted, different forms of recategorization differently impact majority and minority children, extending previous research and highlighting the complex picture of children's ethnic majority and minority relations.

Overall, as predicted, the mechanisms underlying the effects of one-group and dual-identity manipulations differed for majority and minority children. While the pattern of findings

for the mediating role of children's meta-perceptions generally supported our hypotheses, the findings regarding the differential impact of one-group and dual-identity on children's intergroup emotions was more complex. Specifically, consistent with previous findings (e.g., Beaton, et al., 2012; Gonzalez & Brown, 2006), for White children, the manipulation effects on their behavioral intentions towards the outgroup were mainly driven by increased perceptions of one-group, but not dual-identity. Consistent with our hypotheses, for majority children, the induction of a common identity, either by one-group or by dual-identity interventions, resulted in stronger perceptions of the ingroup and outgroup as a single national group, which then related to significantly more positive meta-perceptions and more positive intergroup emotions. Perceived dual-identity, although also affected by the experimental manipulations, was only negatively related to negative intergroup emotions, having no other significant impact on White children's indicators of the intergroup relation. Overall, most of the direct relations between one-group perceptions and meta-perceptions supported our hypotheses, but the predicted indirect effects of inducing one-group and dual-identities were either marginally significant or non-significant. This is further discussed in the limitations section.

Contrary to our predictions for White children, one-group perceptions of the intergroup situation were not significantly related to negative meta-perceptions or negative intergroup emotions. Indeed, the results regarding the impact of these group representations on White children's intergroup emotions were less consistent, varying depending on the valence of those indicators. This is consistent with the idea that valence is relevant for intergroup bias, and future studies could further explore the effectiveness of common identity on both negative and positive aspects of children's intergroup relations (Mummendey, et al., 2000).

For the Black minority children, the effects of inducing a common identity were, as predicted, driven by an increase of dual-identity perceptions, but only regarding its relation with meta-perceptions. Similar to the findings for White children, the results regarding the relation of dual-identity perceptions and intergroup emotions were more complex and only partially supportive of our hypotheses. Consistent with our hypotheses, only increased dual-identity perceptions related to less negative and more positive meta-perceptions, which then related to negative and positive behavioral intentions. Importantly, these results supported our reasoning that dual-identity, but not one-group, perceptions are particularly important for meta-perceptions of minorities because they convey the possibility that outgroup members accept them as members of the common-ingroup, while at the same time recognizing their distinctiveness.

Indeed, an important contribution of these results is that they illustrate the importance of change in meta-perceptions as a key process in intergroup contact that may account for the differential effects of group perceptions on intergroup relations for majorities and minorities. This extends previous research, illustrating the key role of meta-perceptions for children and adolescents' interpersonal relations (e.g., Malloy et al., 2007). These findings are also consistent with research showing that the positive effect of vicarious intergroup contact is partially driven by improving meta-stereotypes (Gomez & Huici, 2008). Indeed, children's intergroup relations from a certain developmental point on are not just driven by consistency or positive distinctiveness, but are attuned to the relational constellation of their social environment, including how others think about them. Future research could test age effects to assess the developmental process involved in the emergence of meta-perceptions as relevant appraisals in intergroup relations.

Importantly, and mirroring the findings for White children, the impact of group perceptions on Black children's intergroup emotions was not exclusively due to dual-identity representations. For Black children, while, as expected, dual-identity perceptions were related to more positive intergroup emotions, one-group perceptions of the intergroup situation were also related to more positive and less negative emotions. Together these findings suggest that, as mentioned above, valence of intergroup indicators is an important variable to account for in future studies. It is important to explore if the differential effects of one-group and dual-identities for majority and minority children are also dependent on the content and valence of the specific intergroup indicator that is used.

In conclusion, some aspects of children's intergroup relations, such as meta-perceptions and children's group based emotions, clearly depend on the different positions children have in asymmetric status relations. The search for explanations for differences between minority and majority children might gain from taking into account more relational and functional aspects of intergroup relations, rather than focus on intra-individual cognitive and motivational principles. Also, such relational aspects are probably context dependent, and the same child that is a majority in one context might be a minority in another one, which highlights the importance of considering a functional approach for intergroup relations (Hehman et al., 2012). For instance, college students generally preferred assimilationist policies when their ethnic group comprised a majority, and this held for both White and Black participants. On the contrary, in contexts (i.e., campus) where they constituted the minority, both White and Black students favored pluralistic policies. These results support a functional perspective of intergroup relations, where the numerical representation of the group influences its policy preferences (Hehman et al., 2012). Previous research conducted with children (Kinket & Verkuyten, 1999) shows a similar pattern,

with both majority and minority children revealing a positive relation between ethnic

identification and intergroup bias in contexts where they constituted a numerical minority in the

classroom. Ethnic composition is an important factor accounting for children's intergroup

relations (Kinket & Verkuyten, 1999; Durkin et al., 2012; see Thijs & Verkuyten, 2014 for a

review), and future studies could examine if and how it impacts the efficacy of developing

common identities in ethnic diverse contexts.

Beyond theoretical implications, these findings suggest that interventions to reduce

prejudice, even if targeting cognitive representations of intergroup situations (such as those

inspired by the CIIM), do not only impact how children think about others (e.g., outgroups), but

also what they think others think about them. Interestingly, our findings suggest that the key is

not whether to do it by inducing one-group or dual identity, or even whether to do it differently

for majority and minority children. Thus, more important than debating which strategy (one-

group or dual-identity) could be used, is rather how the targets of these interventions interpret the

situation, so it might be important to monitor such perceptions and interpretations during the

process.

Limitations and conclusions

The study has several limitations, such as the fact that relations between most variables

that were presented were simply based on cross-sectional correlational relations. The theoretical

model we tested was complex and involved several indirect effects. Thus, more studies are

necessary to test the hypothesized causal links experimentally or longitudinally. Also, the

indirect effects were small and most marginally significant or not significant. Future studies

could increase sample size to guarantee sufficient power to test the expected chain mediation,

and also rely on longitudinal designs to provide more robust tests for the indirect effects.

Nonetheless, the direct effects and relations were all significant (and moderate to strong). Also, we believe the use of a field experiment, recruiting children and conducting complex manipulations in a real life setting like school is a major strength.

Finally, the study was conducted in a particular socio-cultural and legal national context. As a consequence, for instance, ethnicity was confounded with both position in an asymmetric status relation and membership in a numerical majority or minority. Although these variables are empirically correlated in the real-life context in which the current studies were conducted, and although such a constellation is not even untypical for diverse societies, they are not only analytically distinguishable but also related in different ways in other contexts. Conducting similar studies in such different contexts is important, not only to determine the limits of generalizability, but also to examine the unique contribution of each of these concepts to children's meta-perceptual concerns in their inter-ethnic relations. We also have to note that previous research conducted with children in the same socio-cultural context found partially different effects for one-group and dual-identity conditions on outgroup attitudes among White and Black children (Guerra et al., 2010). However, previous studies did not account for the impact of the perceptual consequences of recategorization (i.e., the extent to which both groups felt like one-group and dual-identity), but rather on differential effects of the one-group and dual-identity manipulations per se (i.e., condition) on outgroup attitudes. By assuming differential effects for majority and minority children on the mediating process (i.e., perceived intergroup relation, meta-perceptions, intergroup emotions) rather than differential effects of the manipulated intergroup situation per se our proposed model offers a reconciliation of the earlier mentioned inconsistent results for effects of one-group and dual-identity conditions (Dovidio et al, 2001; Guerra et al., 2010). Depending on the specific context, recategorization condition

might have triggered more effectively one-group and dual-identity perceptions in previous

studies. What mattered, however, was probably the perceived one-group perception for majority

children and the perceived dual-identity for minority children. Additionally, two other

differences between the current study and the earlier ones might also account the different

patterns involving the effects of one-group and dual-identity for White majority and Black

minority children. First, the measures of bias were different, that is, previous findings were found

for evaluation bias, while the current were found for emotional and behavioral intentions. Our

findings suggest that one-group and dual-identity may relate differently to children's appraisals

and emotions, and future studies could explore this possibility. Second, a more challenging

hypothesis relates to the social changes that occurred following the passage of a new citizenship

law. Until 2006, immigrant descendent children, even if born in Portugal, were not citizens.

After the new law, access is based on civic contributions and less ethnic aspects. Immigrant

children are now much often citizens, i.e., members of the national group. This might legitimate

their belonging to the national group and consequently majority children feel more positive

towards them when activating that single inclusive identity. This reasoning could also explain

why, contrary to Guerra et al., (2010; 2013), dual-identity condition was effective at improving

Black children outcomes. If citizenship induced minority children to feel greater belonging to the

national group is now more legitimate because they are citizens, then they might feel more

secure in keeping their original ethnic identities salient during contact with other groups. Future

research could explore the impact of children's citizenship perceptions as well as replicate these

findings in other national contexts and different majority-minority children.

Despite these limitations, the current research significantly contributes to the

understanding of children's asymmetric intergroup relations in diverse contexts. It extends

previous research, by a) showing the overall positive effects of inclusive group representations on both majority and minority children's behavioral intentions; b) highlighting for the first time the key role of meta-perceptions as an underlying mechanism accounting for the positive effects of one-group representations on intergroup relations for majorities and of dual-identity representations for minorities; c) while suggesting that the underlying role of children's intergroup emotions is more complex and may depend on the valence of intergroup indicators.

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