Repositório ISCTE-IUL

Abstract

Based on the premise that groups' social standing and regard depend on their prototypicality for superordinate categories, minorities can be understood to suffer from the fact that they are considered as less prototypical than majorities. Previous research has shown that complex (vs simple) representations of superordinate categories can reduce majority members' tendency to perceive their ingroup as more prototypical than the outgroup. The current research tested whether such complex representations also increase minorities' own perceived relative ingroup prototypicality (RIP), leading to more balanced prototypicality judgments from both majorities and minorities. In Study 1 ($N = 76$), an experiment with two artificial groups of unequal status, a complex representation of a superordinate category increased the comparatively low RIP of the lower-status subgroup. Consistently, in Study 2 ($N = 192$), a correlational study with natural groups, the relation between perceived complexity of the superordinate category and RIP was positive for members of the lower-status group but negative for members of the higher-status comparison group. In Study 3 ($N = 160$), an experiment with natural groups, a more complex representation of the superordinate category led lower and higher-status groups to perceive greater equality in terms of relative prototypicality not only for a positive but also for a negatively valued superordinate category. These results have important implications for the understanding of social change: As superordinate identity complexity implies that included subgroups are more equally prototypical, it offers a normative alternative that helps minorities to challenge asymmetric status relations vis-à-vis majorities, but also promotes hope that majorities show bipartisanship in supporting such social change.

What does it mean to be American? What does it mean to be European? What does it mean to be human? Far from being vain navel-gazing, endeavours to define our identity have critical implications for our social and political life: they determine who is in and who is outside the group, and who represents more or less what is valued about our group. They imply the scope of our moral community and to whom we extend justice concerns (Opotow, 1990), as well as the relative status, influence and entitlements of those included (Wenzel, 2004). They define shared, similar values that may determine unshared, differentiating privileges.

According to self-categorization theory (Turner, 1987) (sub-)groups are evaluated, and attitudes towards them differ, in terms of their relative prototypicality for superordinate categories (i.e., categories inclusive of these groups). Therefore, to the degree that prototypicality beliefs are shared within such superordinate groups they provide the basis for the legitimization of social status differences between groups: More prototypical subgroups are seen as more deserving of what membership in the superordinate category has to offer, for instance in terms of prestige, access to resources or social power (Weber, Mummendey, & Waldzus, 2002; Wenzel, 2004). Minorities (numerically underrepresented and/or socially disadvantaged) often suffer from the fact that they are seen as non-prototypical and thus of lower status and less deserving of resources, privileges and power. The current research seeks to identify conditions under which minorities may escape this predicament by plausibly claiming higher prototypicality, towards being seen to be equally prototypical as the majority.

The point of departure of our analysis is that the prototypicality of social groups is not carved in stone. Prototypicality judgments are dynamic and adaptive, depending on socio-cognitive and motivational factors (see Oakes, Haslam, & Turner, 1998; Wenzel, Waldzus, & Steffens, in press). The perceived prototypicality of a specific subgroup depends, for instance, on the frame of reference used for intergroup comparisons (Haslam, Turner, Oakes, McGarty,

& Hayes, 1992; Waldzus, Mummendey, & Wenzel, 2005), on the cognitive availability of subgroup prototype information (Machunsky & Meiser, 2014) and on group members' level of identification with their subgroup and the superordinate category (Waldzus, Mummendey, Wenzel, & Weber, 2003; Wenzel, Mummendey, Weber, & Waldzus, 2003). Because of their social relevance, public prototypicality claims also depend on political objectives, that is, on the function that high or low relative prototypicality of a certain group has in a specific political context (e.g., in contexts involving separatist tendencies; Sindic & Reicher, 2008). Of the several factors determining subgroups' relative prototypicality, three are addressed in the current research: Ingroup projection, relative social status and the complexity of the representation of the superordinate category.

Ingroup Projection

According to social identity theory (Tajfel & Turner, 1979) members of a given group establish the value or positive distinctiveness of their ingroup by comparing it with one or more outgroup(s) on relevant valued comparison dimensions. Social categorization, as a dynamic process, has therefore an important identity function, but also the potential to establish psychological divisions between groups. According to the ingroup projection model (Mummendey & Wenzel, 1999) groups often use the prototype of a superordinate category as an ethnocentric comparison standard, either by projecting their distinctive ingroup attributes to the prototype of the superordinate category, or by holding an ingroup stereotype that is more similar to this superordinate prototype than the outgroup's is. Whether the process goes one way (endorsing a superordinate prototype that is more similar to the ingroup) or the other (endorsing an ingroup stereotype that is more similar to the superordinate prototype), the result is that members tend to view their own subgroup as relatively prototypical. The term ingroup projection is used "as a short general label for the perception, or claim, of the

ingroup's greater relative prototypicality for the superordinate group" (Wenzel, Mummendey & Waldzus, 2007, p. 337).

Research has supported this assumption. For example, Devos and Banaji (2005) found that White Americans regarded the prototype of Americans as being White (see also Devos & Heng, 2009). In a study by Peker, Crisp, and Hogg (2010), when characterizing "Britishness" White English participants reported values and attitudes typically associated with White English. Bianchi, Mummendey, Steffens and Yzerbyt (2010) showed that both German and Italian participants implicitly associated more attributes of their ingroup with the word European than the respective other group of participants did. And Imhoff, Dotsch, Bianchi, Banse, and Wigboldus (2011) found in a reversed correlation paradigm that German participants' imagination of a typically European face resembled more a typically German face than Portuguese participants' imagination of a typically European face did. Overall, there is good evidence that prototypicality judgments depend on group membership, with a general tendency of ingroup projection (Waldzus, Mummendey, Wenzel & Boetcher, 2004; Waldzus et al., 2005).

Ingroup projection has a motivational component as it serves to achieve positive ingroup distinctiveness, but it can also be the basis for ingroup favouritism and lead to negative attitudes towards outgroups, which are seen as rather non-prototypical and thus as deviant within the superordinate category (Waldzus & Mummendey, 2004; Waldzus et al., 2005; Waldzus et al., 2003; Wenzel et al., 2003). It is therefore in the interest of group members to see their ingroup as rather prototypical. Accordingly, Mummendey and Wenzel (1999) propose, and research has found (Waldzus et al., 2003; Wenzel et al., 2003), that if members identify strongly with both the superordinate category and their ingroup they are more likely to seek their ingroup's positive distinctiveness in terms of prototypicality for the superordinate category. Thus, they are particularly biased towards portraying their own group

as relatively prototypical and engage in ingroup projection, accommodating their group's stereotype to the prototype of the inclusive category, or assimilating the prototype of the inclusive category to their group's stereotype (Wenzel et al., 2007). Hence, highly identified White Americans may portray the prototype of Americans as even 'Whiter', whereas highly identified African Americans may regard it as more 'Black'. Or, highly identified Germans in particular may perceive themselves as more prototypically European than others see them (Bianchi et al., 2010; see also Imhoff et al., 2011; Waldzus et al., 2003).

Relative Status

Group members, however, are not completely free in the level of prototypicality they can claim for their ingroup. Their claims are constrained by group members' perception of 'social reality' (Ellemers, van Rijswijk, Roefs, & Simons, 1997). Within superordinate categories members tend to hold and, to a certain degree, share between subgroups beliefs about social reality, including the relative prototypicality of subgroups.

Majorities have for several reasons an advantage with regard to prototypicality claims when compared with minority subgroups. As social categories are socially constructed, group members may rely in their prototypicality judgments on several cues that are consensually considered as informative to subgroups' prototypicality, such as exposure to or familiarity with subgroup members (giving an advantage to numerical majorities) or the subgroups' relative social status (giving an advantage to more highly regarded groups). Moreover, based on existing power differences and dominant narratives or ideologies, members of higher-status groups may be more influential than lower-status groups in framing the shared belief system in terms of their own tendency of ingroup projection (Waldzus et al., 2004).

In contrast, members of lower-status groups are more likely to concede and accept a belief in social reality that is biased towards the higher status group's prototypicality. In line with this reasoning, research has shown that in asymmetric status relations ingroup projection

is limited by consensual asymmetries in prototypicality. For instance, in a study by Waldzus et al. (2004) both East-Germans and West-Germans agreed that West-Germans were more prototypically German than East-Germans were (while there still was, consistent with the ingroup projection model, a certain disagreement between the groups about the degree of West-Germans' higher prototypicality). In another study, Devos and Banaji (2005) showed that different American subgroups (Asian Americans, Black Americans, White Americans) associated White Americans more strongly than Asian Americans with the category of America. Thus, the degree of relative prototypicality that lower status groups can claim, or believe in, is often limited by asymmetric status relations that are taken for granted as part of social reality.

Complexity of Representation of the Superordinate Category

Ingroup projection manifests itself in disagreement between groups about their relative prototypicality and therefore may result in potentially problematic intergroup conflict. From this perspective, consensual beliefs about the superordinate identity and the subgroups' relative prototypicality would be a welcome antidote against such intergroup disagreement and conflict (Wenzel et al., in press). However, when the consensual beliefs entail higher prototypicality of the socially advantaged they may also legitimize social inequality and discrimination, as discussed. That is, people may tend to accept the unequal treatment of people based on their membership in a social group such as race, ethnicity, gender, sexual orientation, nationality and so on, because they buy into the narrative of unequal prototypicality between groups (Jost & Hunyady, 2002). It is therefore important for social psychology to identify conditions under which groups may develop more balanced judgments of relative prototypicality between groups.

One important determinant of group members' prototypicality judgments is the form in which superordinate categories are cognitively represented. According to Mummendey and

Wenzel (1999) a complex (vs. simple) representation of the superordinate category, one that is defined by multiple prototypical positions on relevant comparison dimensions, should reduce group members' tendency to perceive their ingroup as more prototypical than the outgroup. For a complex superordinate category no group occupying one such position could alone represent the whole inclusive category; in other words, the subgroups would be equally "indispensable" for the representation of the superordinate category (Verkuyten, Martinovic, & Smeekes, 2014). Research has supported this hypothesis. For example, when German participants were instructed to think about and describe what constitutes the diversity of Europe (as compared to the unity of Europe in the control condition), thus making salient a complex representation of the inclusive category, their perceptions of relative ingroup prototypicality (RIP) were reduced and, mediated by RIP, their attitudes towards the salient outgroup (Poles) improved (Waldzus et al., 2003; see also Peker et al., 2010; Waldzus et al., 2005).

The Current Research

As suggested by Mummendey and Wenzel (1999), complex representations of superordinate categories should reduce members' inclination to see their own group as *more* prototypical than the outgroup, thus decreasing social discrimination and increasing tolerance. However, their analysis decidedly focused on the common perpetrators of social discrimination and intolerance, and did not consider the case of minorities who would view themselves as relatively low in prototypicality to start with. Extending the ingroup projection model to the case of asymmetric status relations we propose that the effects of complex representations of superordinate categories on the perceived RIP of minorities should be opposite to those for majority, high-status groups: Complex representations should increase rather than decrease the perceived RIP of minorities. To the extent that eliciting complex representations render subgroups more equally necessary and indispensable for the

superordinate identity, minority members should start seeing their ingroup as more prototypical, and the majority as less prototypical, compared with a simple representation that tends to be dominated by the majority. Minority members should be emboldened to regard their own group as equally prototypical.

This argument is consistent with research findings on majorities' and minorities' preferences for more or less complex representations of superordinate categories. According to social identity theory (Tajfel & Turner, 1979), when asymmetric status relations are insecure (unstable and/or illegitimate) majority group members should be motivated to preserve a system that advantages them whereas minority group members can be expected to try to enhance their status, for instance by engaging in action for social change and social competition. Such motivations have been found to have direct implications for preferred group representations. For instance, research on the common ingroup identity model (Gaertner & Dovidio, 2000) has found that members of higher-status groups are likely to endorse a one-group representation of the intergroup situation, while members of lower status groups rather endorse a dual-identity representation. For example, Ryan, Hunt, Weible, Peterson and Casas (2007) found stronger preferences for one-group representations for Whites and dual-identity representations for Blacks, particularly among those more highly identified with their group (Dovidio, Gaertner, & Kafati, 2000). Arguably, a one-group representation corresponds to a less complex representation than a dual-identity, in which both common ingroup identity and subgroup identity are equally salient (Dovidio, Gaertner, & Saguy, 2009). In line with these findings, in a set of studies with adolescents and young adults in Europe, Verkuyten (2006) found consistently that minority group members supported multiculturalism (implying a complex representation) more than majority group members did. Finally, there is evidence that majority group members and participants who consider their ingroup prototypical of the superordinate group show uneasiness or feel

threatened when confronted with the idea of increasing diversity of a superordinate category (Craig & Richeson, 2014; Danbold & Huo, 2015; Ehrke, Bethold, & Steffens, 2014; Outten, Schmitt, Miller, & Garcia, 2012). Complex representations of superordinate categories might be threatening to higher-status groups under some circumstances because they have the potential to eliminate legitimizing beliefs in asymmetric prototypicality by both reducing majorities' and increasing minorities' relative prototypicality.

Although higher-status groups might be resisting it to a certain degree, if a complex representation of the superordinate category is induced successfully higher-status groups' members are likely to concede that their group alone does not represent the superordinate category, that there are multiple prototypical positions equally valid for the inclusive group. Conversely, members of lower-status groups will see a complex superordinate category as an invitation to contest their traditionally lower prototypicality. Thus, complexity of inclusive categories may reduce inequality in terms of prototypicality, but that does not necessarily mean that the included subgroups would be more humble, conciliatory, harmony-oriented or consensus-seeking in their prototypicality claims. As complex representations of the inclusive category not only undermine the higher-status group's ethnocentric self-perception but also relieve established 'reality constraints' for lower-status groups, they can be seen as a strategy to induce social change (see Dixon, Levine, Reicher, & Durrheim, 2012).

In sum, we hypothesize that the effect of complex representations of a self-relevant superordinate category on RIP will be moderated by status. More specifically, a more complex representation of a positive superordinate category is expected to decrease RIP for higher-status groups, but increase it for lower-status groups. These hypotheses are tested in the first two studies. Study 3 will then extend the investigation to situations where the inclusive category is negatively valued and the meaning of prototypicality reverses.

Study 1

In a laboratory experiment, participants were made believe to be members of an artificial ingroup and an artificial inclusive category, which also included an artificial outgroup. Relative group status and complexity of the representation of the inclusive category were manipulated and perceptions of ingroup and outgroup prototypicality were measured.

Method

  Participants. The study was conducted online with Portuguese participants and in Portuguese language. Participants were recruited on a voluntary basis. An announcement of the study including a small description of the study and the link to the respective webpage was sent to several electronic mailing lists at a Portuguese university (e.g., undergraduate students). Out of 316 visitors, 138 completed the study. From these 138 we excluded the data of participants who indicated at the end that they did not take the study seriously and/or did not identify with either the inclusive category or the subgroup (indicated by identification ratings that were not higher than the scale midpoint). This decision was based on Mummendey and Wenzel's (1999) assumption that sufficient identification with both subgroup and inclusive category is necessary for ingroup projection (Waldzus et al., 2003; Wenzel et al., 2003). The final sample consisted of 76 participants with a mean age of 30.1 years ($SD = 9.90$), 64.5 % female.

  Procedure. The online study was created just for the purpose of our research by a software programmer. He used programming languages html and php. When participants opened the webpage they were shown the informed consent form. After agreeing to participate by clicking a button on this webpage they were introduced to the study. The study was announced as being on emotional intelligence and success on the job market. Participants were asked to participate in an alleged test of their Emotional Intelligence Quotient (EIQ). After answering the alleged test items, they were given false feedback that they were

members of the group of people with a high EIQ. This group was used as the shared inclusive category in the study. After a brief and general description of this category, a second alleged emotional intelligence test was performed. Through false feedback on the test results, participants learned about their membership in one of two subgroups within the High EIQ group: the Inductive Emotional Intelligent group or Deductive Emotional Intelligent group. Following this, relative ingroup status and cognitive representation of the shared inclusive category were manipulated and the dependent measures as well as the manipulation checks were presented. As an incentive for participating in the study participants were given the chance to win a EUR150 gift card. After the study finished, all participants were debriefed via email and the gift card was given to a randomly selected participant.

Design. Participants were randomly assigned to one of eight conditions of a 2 (relative ingroup status: lower vs. higher) X 2 (representation of the inclusive category: simple vs. complex) X 2 (subgroup categorization: inductive vs. deductive) design. The Inductive versus Deductive labels had no theoretical meaning, but they were included in the analyses to control for group-name effects.

Manipulations.

Relative ingroup status. Participants were informed about the relative status of their sub-group (after having been randomly assigned to either the Inductive Emotional Intelligent group or the Deductive Emotional Intelligent group). In the higher-status [lower-status] condition participants read the following text: "A great majority [Only a small number] of people belongs to the same subgroup as you. We have also been verifying that people belonging to the (ingroup) are socially more [less] valued than (outgroup) members; as a consequence the likelihood of being selected in job interviews is higher [lower] and (ingroup) members more [less] frequently achieve leadership positions".

Complex representation of the inclusive category. Adopting a manipulation tested in previous studies (Waldzus et al., 2003, Study 2; Waldzus et al., 2005), in the complex condition a more complex representation was primed by the following instruction: "Imagine that you have to explain to another person the diversity of the group of high EIQ people. Which are the main characteristics that you think you need to mention? Even if this diversity idea is not an important issue for you or even if you do not have a very clear idea of the diversity of this group, think for a while about which characteristics you think you should mention in order to describe the diversity of people with a High EIQ". In the simple condition participants were simply asked to produce a brief description of the inclusive category: "Imagine that you have to explain to another person what the high EIQ group is like. Even if you do not have a very clear idea about this issue, think for a while about which characteristics you think you should mention in order to describe what this group is like." Participants wrote down their answers in an open text field.

Measures.

Manipulation checks. *Relative ingroup status* was measured by four items ($\alpha = .69$) using 7-point scales (e.g., "In comparison to (outgroup) members, the status of (ingroup) members is…"; 1 = *clearly lower*; to 7 = *clearly higher*; "In terms of social value, in comparison to (outgroup) members, (ingroup) members have…"; 1 = *clearly less social value*; to 7 = *clearly more social value*.)

Five items were used to measure the *complexity of the inclusive category*, including two that were reversed-coded (e.g., "I think that there is not a single type of highly emotionally intelligent people"; "When I am thinking of a highly emotionally intelligent person a typical person comes easily to my mind", reversed coded, $\alpha = .50$). Responses were provided on a 7-point scale ranging from 1 (*completely disagree*) to 7 (*completely agree*). Higher scores indicate a more complex representation of the inclusive category.

Relative ingroup prototypicality. RIP was assessed by three different measures: (1) An indirect *profile distance measure* was adapted from the profile distance across attribute ratings used by Wenzel et al. (2003). Before running this experiment, 30 undergraduate students were asked to list attributes characterizing highly emotionally intelligent people. From all collected attributes we chose the 6 most frequently cited positive (e.g., comprehensive, calm) and the 6 most frequently cited negative attributes (e.g., intolerant, insensitive). Participants were asked to indicate on 7-point scales (1 = *doesn't apply at all*; to 7 = *applies totally*) the extent to which each attribute applied to the outgroup, the ingroup and, lastly, the inclusive category. Using an Euclidian Distance metric, that is, the square root of the mean of squared differences between the attribute ratings of each subgroup and the inclusive category, two profile distance scores were calculated: one representing the dissimilarity between the ingroup and the inclusive category (i.e., the non-prototypicality of the ingroup) and the other representing the dissimilarity between the outgroup and the inclusive category (i.e., the non-prototypicality of the outgroup). (2) A *pictorial measure,* originally used by Waldzus and Mummendey (2004), was based on graphic representations (see also Schubert & Otten, 2002). Participants were shown seven pictures in which a small circle, symbolizing the outgroup, varied in its distance to a big circle, symbolizing the inclusive category. Pictures were ordered vertically on the screen with increasing closeness/overlap towards the lower end of the screen. Participants rated how they perceived the similarity of the outgroup to the inclusive category by ticking the picture best representing their opinion. Pictures were coded from 1 (*low prototypicality*) to 7 (*high prototypicality*) according to the closeness/overlap of the circles. The typicality of the ingroup was measured in the same way. (3) A *pictorial interactive prototypicality measure* similar to the pictorial measure described before used a more interactive technique. A big circle, symbolizing the inclusive category was presented on top of the right extreme of a 7-point scale; every time

that participants clicked one of the options of the 7-point scale, a small circle symbolizing the outgroup (ingroup) appeared. The distance to the circle of the inclusive category varied according to the point of the scale that was clicked on; that is with repeated clicks participants could move the outgroup (ingroup) circle towards or away from the inclusive circle. By doing this they could visualize the distance of the outgroup (ingroup) from the inclusive category. After visualizing several or all the options participants decided on the most adequate option of the 7-point scale, with higher values representing higher prototypicality.

Assuming that the three different measures have specific errors due to the different response format but share common variance of a latent prototypicality factor, two separate factor analyses were performed (Gorsuch, 1983) with the 3 measures of ingroup prototypicality and the three measures of outgroup prototypicality. Using a maximum likelihood extraction a single factor was extracted in both factor analyses, with eigenvalues of 1.72 and 2.00 and explaining 41.1% and 57.4% of the variance of ingroup and outgroup prototypicality, respectively. The factor scores were used as indicators of ingroup and outgroup prototypicality with higher scores indicating higher prototypicality.

Identification. Three items measured *subgroup identification* (e.g., "Being (ingroup) member is not an important part of my identity", reversed coded) on a 7-point Likert scale from 1 (*completely disagree*) to 7 (*completely agree*). An index with the 3 items was computed by recoding the two reversed items and averaging responses ($\alpha = .68$). *Identification with the inclusive category* was measured with the same items but adapted to the inclusive category ($\alpha = .74$).

Results

Manipulation checks. First, a 2 (representation of the inclusive category: simple vs. complex) x 2 (relative ingroup status: low vs. high) x 2 (subgroup categorization: inductive vs. deductive) univariate GLM was performed for the manipulation check of the complex

representation of the inclusive category. The only significant result was the expected main effect of the manipulation of the representation of the inclusive category, $F(1, 68) = 7.17$, $p = .009$, $\eta_p^2 = .10$: In the complex condition participants perceived the shared inclusive category as being more complex ($M = 4.16$, $SD = 0.66$) than in the simple condition ($M = 3.71$, $SD = 0.75$), indicating successful manipulation.

A similar univariate GLM was performed with the status manipulation check as dependent variable. The only significant result was the expected main effect of status, $F(1, 68) = 22.1$, $p < .001$, $\eta_p^2 = .24$. Participants allocated to the higher-status condition perceived the ingroup as having a higher relative status ($M = 4.44$, $SD = 0.66$) than participants allocated to the lower-status condition ($M = 3.74$, $SD = 0.67$), again indicating successful manipulation.

Effects of complexity of the inclusive category. The hypothesis was tested in a mixed 2 (prototypicality: ingroup vs. outgroup) x 2 (representation of the inclusive category: simple vs. complex) x 2 (relative ingroup status: low vs. high) x 2 (subgroup categorization: inductive vs. deductive) GLM with prototypicality as within subject factor. Effects on relative ingroup prototypicality are indicated by interactions with the prototypicality factor. Prototypicality interacted with relative ingroup status, $F(1, 68) = 5.27$, $p = .02$, $\eta_p^2 = .07$. More importantly, we found the predicted significant interaction between relative ingroup status, representation of the inclusive category and prototypicality (ingroup vs. outgroup), $F(1, 68) = 8.93$, $p = .004$, $\eta_p^2 = .12$. No other effect was significant.

Running separate GLMs, we found that the interaction between status (high vs. low) and prototypicality (ingroup vs. outgroup) was, as predicted, only significant in the simple condition, $F(1,33) = 14.69$, $p = .001$, $\eta_p^2 = .31$, but not in the complex condition, $F(1,35) = 0.23$, $p = .64$. Simple mean comparisons showed that in the simple condition members of the lower-status group perceived the ingroup as being less prototypical

(M_{ingroup} = -0.28, SD = 0.63, $F(1,33)$ = 6.82, p = .013, η_p^2 = .17) and the outgroup as being

more prototypical (M_{outgroup} = 0.35, SD = 0.65, $F(1,33)$ = 2.94, p = .096, η_p^2 = .08) than

members of the higher-status group did (M_{ingroup} = 0.29, SD = 0.67, M_{outgroup} = -0.18,

SD = 1.10). As predicted, in the complex condition these differences disappeared (lower-

status: M_{ingroup} = 0.08, SD = 0.74, M_{outgroup} = 0.03, SD = 1.13; higher-status: M_{ingroup} = -0.13,

SD = 1.18, M_{outgroup} = -0.14, SD = 1.00; ps > .50).

Inspecting the three-way interaction from a different perspective, separate GLMs for

the two status conditions revealed a marginal interaction between the complexity

manipulation and prototypicality (ingroup vs. outgroup) for the higher-status group, $F(1,36)$

= 3.41, p = .073, η_p^2 = .09. As predicted, this interaction was reversed and significant for the

lower-status group, $F(1,32)$ = 6.05, p = .02, η_p^2 = .16 (see Figure 1 for effects on RIP).

[Insert Figure 1]

Finally, in order to examine whether the three-way interaction was driven more by

changes in ingroup prototypicality or by changes in outgroup prototypicality we ran separate

GLMs with each of these two indices as dependent variables. For effects on ingroup

prototypicality we found a marginal interaction between status and complexity, $F(1,68)$ =

3.96, p = .05, η_p^2 = .06. This interaction was the opposite, but not significant for outgroup

prototypicality, $F(1,68)$ = 0.91, p = .35, η_p^2 = .01. Thus, effects seemed to be driven more

strongly by changes in ingroup prototypicality.

Discussion

Study 1 used artificial groups to test whether relative status moderates the effect of a

complex representation of a common inclusive category on the perception of RIP. The

findings support our general hypothesis: Increasing the complexity of the representation of a

shared inclusive category had the opposite effect on perceptions of RIP for the lower-status as

compared to the higher-status group. We conclude that if a simpler representation of the inclusive category is made salient, members of a lower-status group conform to the social status hierarchy assuming relatively low ingroup prototypicality, which can reflect how social construction of reality affects groups holding inferior status positions (Ellemers et al., 1997; Major & O'Brien, 2005; Ufkes, Otten, Van der Zee, Giebels, & Dovidio, 2012). In contrast, when a more complex representation of that inclusive category is activated, lower-status group members may sense that the higher-status group cannot reasonably and legitimately assume to represent that category and its prototype alone. The prototype is not unitary but rather manifold: diverse groups can be normative. In the context of a complex representation of the inclusive category lower-status groups can claim greater equality in relative prototypicality; likewise, higher-status groups would concede such greater equality. For lower-status groups this implies that complexity of the inclusive category increases their claim for prototypicality, while for higher-status groups it reduces such claims.

Study 2

In order to test the external validity of these results we conducted a second study using real-life groups. Previous research had found complexity effects with natural groups (Waldzus et al., 2003, Waldzus et al., 2005), but so far only with majorities. The aim of Study 2 is, therefore, to test the same hypothesis as in Study 1 but in a real-life context, namely in the relations between immigrant groups and the host community in Portugal.

Method

Design. Relative ingroup status was varied quasi-experimentally (lower-status immigrant group vs. higher-status Portuguese group) and complex representation of the shared inclusive category was measured.

Participants and procedure. Participants were recruited in different suburbs of Lisbon (Portugal) with a high concentration of immigrant population. The total sample was

composed by 192 participants from different groups: Cape Verdeans (N = 58), Brazilians (N = 79) and Portuguese (N = 55). Participants were informed that these labels referred in this particular questionnaire to people living in Portugal but with Cape Verdean, Brazilian or Portuguese origin, respectively. The mean age was 32 (SD = 9.9); 111 were female and 77 male (4 participants did not indicate their sex) [1].

The researcher invited participants individually to fill in a questionnaire about social groups that live in Portugal. The inclusive category used in this study – "group of people living in Portugal" - was chosen based on results of a set of interviews that we conducted previously with experts of different minority groups living in Portugal with the purpose of obtaining a contextualized and ecologically valid operationalization of our main variables.

Participants were asked to give their opinions about different social groups. Minority groups were asked to compare themselves with members of the higher-status group (Portuguese) while Portuguese participants were asked to compare themselves either with Cape Verdeans (N = 25) or with Brazilians (N = 30). At the end participants were rewarded with a 5-Euro voucher.

Measures.

Representation of the inclusive category. Participants were asked to rate on 7-point Likert scales how complex they perceived the inclusive category to be (e.g., "One of the characteristics of Portugal is its diversity"). Two items were reversed-coded (e.g., "When thinking of people living in Portugal, one type of person comes easily to my mind"). A scale score was created by averaging the responses on all three items (α = .60). A higher score indicated a complex representation of the superordinate category.

Relative ingroup status and power perceptions. Four pictorial measures were developed to measure intergroup status and power perceptions. Each pictorial measure showed a vertical arrow pointing to the top, with 7 horizontal lines. For the measures of status

[power] perceptions, the bottom line represented the lowest and the upper line the highest status [power] position. Participants were asked to indicate on each of the vertical 7-point scales the perceived status [power] of ingroup and outgroup. A score of relative ingroup status [power] was created as the difference of ingroup status [power] and outgroup status [power].

        Relative ingroup prototypicality. Three different measures were used. First, we used a pictorial measure as described in Study 1 and calculated a RIP index by subtracting the outgroup prototypicality from the ingroup prototypicality. The second measure was an explicit ingroup prototypicality measure composed of three items (e.g., "When I think of the "true" people that live in Portugal I think of the…") using 7-point scales, with 1 indicating *[Outgroup] as the most prototypical* and 7 *[Ingroup] as the most prototypical*. Responses were averaged across the three items ($\alpha = .78$). The third measure was a profile distance measure similar to the one used in Study 1 but with different attributes[2], depending on the given immigrant group: For comparisons between Cape Verdean immigrants and Portuguese the attributes were *happy, quarrelsome, aggressive, cultural, irresponsible, hard-working, intelligent, racist.* For comparisons between Brazilian immigrants and Portuguese the attributes were *happy, closed-minded, hard-working, serious, cold, extroverted, unpleasant, funny*. The content of the attributes was chosen in order to cover ecologically valid comparison dimensions. Note, however, that what is important for the measure itself is not the content of the attributes but rather the extent to which these attributes apply to the different social categories. Therefore, using a 7-point scale (1 = *does not apply at all* to 7 = *applies totally*), participants were asked to indicate the extent to which each attribute applied to the outgroup, the ingroup and, lastly, the shared inclusive category. Similar to Study 1, two profile distance scores were calculated as the square root of the mean of squared attribute differences between the ratings of each subgroup and the common inclusive category,

representing the dissimilarity between the ingroup/outgroup and the inclusive category. A RIP score was calculated by subtracting the profile distance score of the ingroup from the one of the outgroup.

A factor analysis with the three different measures of relative prototypicality was performed. Using a maximum likelihood extraction only one factor was retained with an eigenvalue of 1.36 explaining 45.24% of the variance. The factor score was used as indicator of RIP with higher values indicating higher ingroup and lower outgroup prototypicality.

Identification. Ten items each measured identification with the subgroup ($\alpha = .88$) and the inclusive category, ($\alpha = .90$); for example, "Being (ingroup) member [member of the group of people living in Portugal] is an important part of my identity". The answers were provided on a 7-point Likert scale from 1 (*completely disagree*) to 7 (*completely agree*).

Results

Identification. Identification with the ingroup and with the inclusive category were both above the scale midpoint ($M_{ingroup} = 5.47$, $SD = 1.1$; $M_{inclusive\ category} = 4.54$, $SD = 1.2$).

Check of status differences. We created a new variable labeled 'relative group status' with two categories representing membership in either the group of Portuguese (1) or in one of the immigrant groups (0). In order to control for eventual differences between the two intergroup contexts, another categorical variable labeled 'intergroup context' was created and coded 0 for participants who were Brazilian immigrants or Portuguese comparing themselves with Brazilians and coded 1 for participants who were Cape Verdean immigrants or Portuguese comparing themselves with Cape Verdeans.

In order to check the expected status and power asymmetries we performed 2 (relative group status: Portuguese vs. immigrant group) x 2 (intergroup context: Cape Verdeans vs. Brazilians) univariate GLMs with the indexes of perceived relative ingroup status and power as dependent measures. Results showed the expected significant main effect of relative group

status on perceived relative status, $F(1, 180) = 115.60$, $p < .001$, $\eta_p^2 = .39$), and on perceived

power, $F(1, 180) = 163.80$, $p < .001$, $\eta_p^2 = .48$. As expected immigrant participants perceived

the ingroup as having a lower relative status position ($M = -1.0$, $SD = 1.9$) and as having

relatively less power ($M = -1.8$, $SD = 1.9$) than participants of the Portuguese group did ($M =$

1.9, $SD = 1.6$, and $M = 2.3$, $SD = 2.1$, respectively). We also found a main effect of

intergroup context on relative status, $F(1, 180) = 6.50$, $p = .012$, $\eta_p^2 = .03$, but not for power,

$F(1, 180) = 0.15$, $p = .70$, and a marginal interaction effect between both factors on relative

status, $F(1, 180) = 3.70$, $p = .06$, $\eta_p^2 = .02$. This effect means that Brazilians perceived the

ingroup as having a better status position ($M = -0.47$, $SD = 2.1$) than Cape Verdeans did ($M =$

-1.7, $SD = 1.4$). Despite the difference between the two immigrant groups, however, they

both perceived the ingroup as having a lower status than Portuguese, $ts(78) > 2.36$, $ps < .02$.

Testing the moderation hypothesis. Following Aiken and West (1991) we included

complexity of the inclusive category (centred), relative ingroup status and intergroup context

(both dummy coded) as predictors of RIP in the first step of a hierarchical multiple regression

analysis, adjusted $R^2 = .342$, $F(3, 178) = 31.72$, $p < .001$. Adding the two-way interactions

(product scores) as predictors in the second step, adjusted $R^2 = .41$, $F(6, 175) = 20.17$, $p <$

$.001$, increased significantly the explained variance of RIP, $\Delta R^2 = .06$, $F_{change}(3, 175) = 5.97$,

$p = .001$. Both relative ingroup status ($\beta = .56$, $p < .001$) and perceived complexity ($\beta = .18$, p

$= .022$) were significant predictors. More importantly, in line with our hypothesis, the

interaction between measured complexity and relative group status was highly significant, β

$= -.27$, $p < .001$. As expected, adding the three-way interaction in a final model (model 3) as

predictor did not increase the explained variance, $F_{change}(1, 180) = 1.90$, $p = .17$, $\Delta R^2 < .01$,

indicating that the findings did not differ significantly between immigrant contexts.

Results of separate linear regressions for the higher and the lower-status groups were

in line with our hypothesis: A more complex representation of the common inclusive

category was negatively related with RIP for higher-status group's members, $\beta = -.31$, $p = .022$, but positively related with RIP for lower status groups' members, $\beta = .34$, $p < .001$. The latter applied to both, Brazilian ($\beta = .27$, $p = .025$) and Cape Verdean participants ($\beta = .47$, $p < .001$).

We examined, as in Study 1, whether the predicted interaction for relative prototypicality was more strongly driven by differences in ingroup prototypicality or in outgroup prototypicality. However, we could not use the explicit prototypicality measure as it pitted these two already against each other on the item level. Thus, we subtracted the scores of the profile distance measure of prototypicality from 7 so that that they had the same scale from 1 to 7 (with higher scores indicating higher prototypicality) as the pictorial prototypicality measure. Then we created two composite prototypicality measures by averaging the pictorial and the profile distance measures of the ingroup and of the outgroup separately. Multiple regressions on these two indexes replicated results from Study 1: The interaction between status and complexity was in the predicted direction and significant for ingroup prototypicality ($\beta = -.20$, $p = .008$) but not significantly different from zero for outgroup prototypicality ($\beta = -.08$, $p = .34$).

Discussion

Study 2 aimed to test our hypotheses in a paradigm with greater external validity than in Study 1. The correlational analysis revealed the expected pattern of results. The relation between more complex perceptions of the inclusive category and RIP perceptions was positive for lower-status groups' members and negative for higher-status group's members.

Although inclusive categories are usually positively valued, it is also true that people can belong to negatively stigmatized ones, such as, for instance, criminals, prostitutes, drug addicts, or the homeless. Like positive categories, such negative self-categories can contain subgroups, and some of these subgroups are likely to be perceived as more prototypical of

those negative inclusive categories than others. The United States, for example, are characterized as a country with a relatively high crime rate, and African Americans are seen by many as more prototypical of criminals than European Americans (Correll, Park, Judd, & Wittenbrink, 2002; Eberhardt, Goff, Purdie, & Davies, 2004).

Whereas members of dominant groups tend to have the power to distance themselves from negatively valued inclusive categories, this is usually more difficult for members of dominated groups. Thus, as in the example of African Americans' prototypicality for criminal Americans, minority groups often carry the stigma of being highly prototypical for negatively valued inclusive categories. The question is whether a complex representation of such categories can be a way to challenge this negative stereotype of minorities.

In order to answer this question we conducted another study to complement Studies 1 and 2 by (1) analysing the moderating role of status asymmetries for RIP in contexts in which an inclusive category is negatively valued as compared to contexts in which it is positively valued, and (2) the differential effect of complex representations of a self-relevant negative – as compared to a positive - inclusive category for both lower and higher-status groups. We expected that lower-status groups would perceive themselves, and would be perceived by higher-status groups, to be more prototypical for a negatively valued shared inclusive category but only when the representation of this category is simple (vs. complex).

Study 3

The experiment was conducted with social sciences students (Sociology and Psychology) and natural sciences students (Engineering, Physics, and Applied Mathematics) of three Portuguese public universities. In the Portuguese context there is a tendency to attribute different status to these two groups. Accordingly, as we expected that natural science students would be consensually seen as having higher status than social science

students we intended to use course as an equivalent of relative status. The inclusive category was "Undergraduate students from public Portuguese universities".

Method

  Design. A 2 (representation of the inclusive category: complex vs. simple) X 2 (valence of the inclusive category: positive vs. negative) X 2 (relative ingroup status: higher vs. lower) between-subjects design was used. Participants from the two groups were randomly assigned to one of the four experimental conditions.

  Participants and procedure. Participants were 160 undergraduate students from public Portuguese universities, 65 from social sciences and 95 from natural sciences (56.9% female) with a mean age of 22 years ($SD = 3.0$).

  Participants were invited to fill in a questionnaire about undergraduate students from public Portuguese universities. After some initial general questions for demographic data such as sex, age, and some academic information (Faculty/University and attendance year), the valence of the inclusive category was manipulated, followed by the manipulation of the representation of the inclusive category, manipulation checks and measures of the dependent variables. At the end students were thanked and after completion of the study they were debriefed by email.

  Manipulations.

  Valence of the inclusive category. A fake quotation from an article of a well-known Portuguese newspaper was presented reflecting on the employment situation of undergraduate students as well as the discrepancy between what students learn at university and actual demands of the job market. After that, a task was presented: "We all know that there are different opinions about undergraduate students from Portuguese public universities. Imagine that you are the responsible person of the human resources department at a certain enterprise…". In the condition of negative [positive] valence, participants were asked to

justify in a written statement why they would reject [choose] a student of a Portuguese public

university who had applied for a job.

Representation of the inclusive category. This variable was manipulated adapting the

manipulation used by Waldzus et al. (2003, 2005) and in Study 1: Participants were to

imagine that a tourist asked them what undergraduate students from public Portuguese

universities were like. Depending on whether a complex [simple] representation was primed,

they were asked to write down how they would explain the diversity of undergraduate

students [what the typical undergraduate students are like] in public Portuguese universities.

Measures.

Manipulation checks. *Valence of the inclusive category* was measured with a single

item ("Generally speaking, the image that I have about undergraduate students from public

Portuguese universities is"…) on a Likert-type scale from 1 (*completely negative*) to 7

(*completely positive*). Three items (e.g., "There is not just one type of students", $\alpha = .57$), two

of them reversed coded, were used to measure *complexity of the representation of the*

inclusive category on a scale from 1 (*completely disagree*) to 7 (*completely agree*).

Relative ingroup status. Two pictorial measures were used to measure ingroup and

outgroup status perceptions. Each measure consisted of a vertical arrow pointing to the top,

with seven horizontal lines, from the lowest (1) to the highest (7) status position. Participants

were asked to indicate on each of the vertical scales their perceptions of each group's status.

Relative ingroup status was the difference between ingroup status and outgroup status.

Relative ingroup prototypicality. Two different measures of RIP were used, namely

(1) a *pictorial measure*, and (2) an *attribute based measure*. The pictorial measure was the

same as the pictorial measure in Study 1. The attribute based measure was adopted from

previous studies on complexity effects (Waldzus et al., 2003). In a first step, participants were

asked to list up to four attributes that were characteristic for subgroup members belonging to

the ingroup (i.e., students of social sciences or students of natural sciences) as compared to

the outgroup. In a second step they were asked to list up to four attributes that were

characteristic for members of the outgroup as compared to the ingroup. Finally, they were

asked to rate on a scale ranging from 1 (*does not apply at all*) to 7 (*applies absolutely*) how

much these ingroup typical and outgroup typical attributes applied to members of the

superordinate category (i.e., undergraduate students in public higher education). The average

of ratings on ingroup [outgroup] typical attributes was an indicator of ingroup [outgroup]

prototypicality. Relative ingroup prototypicality indices were calculated for both measures

by subtracting outgroup prototypicality from ingroup prototypicality. As preliminary analysis

did not indicate any interaction with type of measure a composite score was calculated by z-

standardizing and averaging the two relative ingroup prototypicality indices.

Results

       Manipulation checks. Three univariate GLMs were performed with valence,

representation of the inclusive category and course as factors. First, results showed a

marginally significant main effect of the valence manipulation on the valence manipulation

check, $F(1, 152) = 3.5$, $p = .06$, $\eta_p^2 = .023$. In the positive valence condition the inclusive

category was evaluated more positively ($M = 4.97$, $SD = 0.99$), than in the negative valence

condition ($M = 4.69$, $SD = 0.93$).

       Second, representation of the inclusive category had a significant main effect on the

manipulation check of this variable, $F(1, 152) = 5.88$, $p = .02$, $\eta_p^2 = .037$. No other significant

effects were found. Participants in the high complexity condition tended to perceive the inclusive

category as being more diverse ($M = 5.08$, $SD = 0.82$) than participants in the low complexity

condition ($M = 4.70$, $SD = 1.00$). Thus, we considered that both manipulations were successful.

       The third GLM showed a main effect of group status on measured relative ingroup status,

$F(1, 152) = 106.30$, $p < .001$, $\eta_p^2 = .41$. As predicted, social science students were overall seen

as having lower-status (M = -0.87, SD = 1.28) than natural science students (M = 1.72, SD = 1.7), unqualified by participant group. However, unexpectedly not all participants shared the view that natural science students have higher status than social science students as 28% of them saw either equal status or the reversed status relation. Since group status was not an experimental, but a quasi-experimental variable, we therefore created a new categorical group status variable coded -1 if the ingroup was seen by the participant as having lower status than the outgroup and coded 1 in all other cases, that is, equal or higher relative status of the ingroup compared to the outgroup.[3]

Effects on relative ingroup prototypicality. The hypothesis was tested in a 2 (valence of the inclusive category: positive vs. negative) x 2 (representation of the inclusive category: simple vs. complex) x 2 (relative ingroup status: low vs. equal/high) GLM with the composite measure of relative ingroup prototypicality as dependent variable. In order to account for non-normality of the dependent variable we applied bootstrapping with 1000 bootstrap samples and used bias-corrected accelerated confidence intervals when estimating mean comparisons. Results showed the predicted significant 3-way interaction between representation of the inclusive category, relative ingroup status and valence, $F(1, 152) = 7.04$, $p = .009$, $\eta_p^2 = .044$ (Table 1, Figure 2). No other effect was significant, Fs (1, 152) < 1.20, ps > .27. In order to understand the interaction effect we performed separate GLMs in the simple and complex conditions. As expected, the valence x status interaction was significant in the simple condition, $F(1, 77) = 6.80$, $p = .011$, $\eta_p^2 = .08$, but not in the complex condition, $F(1, 75) = 1.53$, $p = .22$, $\eta_p^2 = .02$. Simple mean comparisons indicated that in the condition where a simple representation of the inclusive category was primed members of the lower-status group tended to perceive their ingroup as being more relatively prototypical for a negative inclusive category than the members of the equal/higher status groups did (*Difference* = 0.42, *SE* = 0.21, $p = .037$, *95%* CI [0.05, 0.81]) whereas members of the equal/higher status groups tended to perceive their ingroup as

being more relatively prototypical for a positive inclusive category than the members of the
lower status groups did (*Difference* = 0.54, *SE* = 0.24, *p* = .025, *95%* CI [0.07, 1.05]). There
were no differences between status groups in the complex condition (*p*s >.168). In the simple
condition, negative as compared to positive valence of the inclusive category marginally
decreased relative ingroup prototypicality for members of the equal/higher status group
(*Difference* = -0.36, *SE* = 0.21, *p* = .098, *95%* CI [-0.78, 0.07]) and increased it for members of
the lower status group (*Difference* = 0.61, *SE* = 0.33, *p* = .068, *95%* CI [-0.05, 1.26]). There was
no valence effect in the complex condition (*p*s >.185). Finally, the effect of complexity of the
inclusive category for members of the lower status group was significantly negative for a
negative inclusive category (*Difference* = -0.61, *SE* = 0.24, *p* = .014, *95%* CI [-1.08, -0.14]) and
marginally positive for a positive inclusive category (*Difference* = 0.44, *SE* = 0.24, *p* = .062,
95% CI [-0.01, 0.93]). For members of the equal/higher status group the effects were the
opposite but not significant, (*Difference* = 0.14, *SE* = 0.21, *p* = .497, *95%* CI [-0.23, 0.55]) and
(*Difference* = -0.29, *SE* = 0.26, *p* = .27, *95%* CI [-0.79, 0.15]), respectively.

Separate tests for ingroup prototypicality and outgroup prototypicality measures revealed
that the three-way interaction was marginal for ingroup prototypicality, $F(1, 152) = 2.79$, $p =$
.097, $\eta_p^2 = .018$, and the opposite, but not significant for outgroup prototypicality, $F(1, 152) =$
2.26, $p = .135$, $\eta_p^2 = .015$. Nevertheless, differences in effect sizes are negligible so that in this
study the target interaction on relative prototypicality seems to be driven by ingroup and
outgroup prototypicality effects equally.

[insert Figure 2]

[insert Table 1]

Discussion

Study 3 had the twofold goal of (1) testing the moderating role of status asymmetries
for RIP in contexts in which an inclusive category is negatively as compared to positively

valued, and (2) analysing the differential effect of complex (vs. simple) representations of a given negatively valued (vs. positively valued) inclusive category for both lower and higher-status groups. Consistent with Studies 1 and 2, members of the higher-status group perceived themselves as relatively more prototypical of the positively valued inclusive category than members of the lower-status group did, and this difference was eliminated by priming complexity of this inclusive category. As expected, the pattern was reversed for the negatively valued inclusive category. Prototypicality judgments are therefore context-dependent and affected by reality constraints (e.g., Spears, Jetten, & Doosje, 2001; Ufkes et al., 2012). These results replicate, but also go beyond, previous research (Devos & Banaji, 2005; Devos, Gavin, & Quintana, 2010; Waldzus et al., 2004) as they show such constraints for prototypicality also within negative inclusive categories.

Moreover, Study 3 shows that a more complex representation of a given inclusive category led lower-status groups to claim, and higher-status groups to admit, more equality in terms of relative prototypicality not only for positive but also for negative inclusive categories.

Although prototypicality claims are not always directly motivated by the intergroup relation (Machunsky, Meiser, & Mummendey, 2009; Rosa & Waldzus, 2012), lower-status groups may use complexity strategically to cope with a negative social identity (Kessler & Mummendey, 2002; Kessler et al., 2010): Compared to a simple (or well-defined) inclusive category, a complex representation provides them with a chance to distance themselves from such a negative category (e.g., Branscombe, Ellemers, Spears, & Doosje,1999) and consequently shun a negative group image that confirms negative stereotypes. Moreover, in line with Sindic and Reicher (2008) one might argue that projection varies according to group interests: Claiming non-prototypicality of negative inclusive categories may provide group members with a better strategic position in the relevant social context (e.g., the job market).

General Discussion

The purpose of the current paper was to test whether complex representations of inclusive categories can help groups to reduce differences in terms of intergroup prototypicality perceptions for shared inclusive categories when such categories are positively and negatively valued. While previous research had shown such effect for higher status groups' RIP for positive inclusive categories, the three studies reported in this paper show that a different but complementary process can be observed for lower-status groups. Additionally, results of Study 3 show that this dynamic is context dependent, as a complex representation of the inclusive category also reduced the reversed RIP differences between a higher-status and a lower-status group for a negatively valued inclusive category.

Our results have several theoretical and practical implications. First they support the argument that, in order to fully understand intergroup dynamics, our theoretical models need to take into account the differential perspectives of advantaged and disadvantaged groups (e.g., Dovidio et al., 2008; Dovidio et al., 2009; Demoulin, Leyens, & Dovidio, 2009; Wright, Taylor, & Moghaddam, 1990).

Secondly, when relating these very specific results to a broader social identity perspective, complex inclusive categories seem to have a particular function in the identity management of lower-status groups that helps to overcome some of the negative implications of such a lower-status position (e.g., Ellemers et al., 1997). One might argue that making salient that groups share an inclusive category can help lower-status groups' members to believe that there might be a chance for mobility toward the higher-status group that belongs to the shared inclusive category (e.g., González & Brown, 2005) or to have a better relation with members of the higher-status group (e.g., Ellemers, Doosje, van Knippenberg, & Wilke, 1992). However, this might not be enough as pervasive differences in prototypicality can prevent social mobility and perpetuate disadvantage that is implied in holding the lower-

status position. Research on social identity theory has shown that in secure intergroup relations (with stable, legitimate status differences) lower-status groups often use social creativity strategies when there is little chance for social change (e.g., Jackson, Sullivan, Harnish, & Hodge, 1996; Mummendey et al., 1999; Terry, Carey, & Callan, 2001). We argue that complex inclusive categories can play a central role for lower-status groups in particular. As prototypicality is a basis of legitimate social status (Weber et al., 2002) as well as group privileges and entitlements (Wenzel, 2004), complex inclusive categories may be a way to turn a secure (stable, legitimate) asymmetric intergroup relation into an insecure one, opening the door for social change, and consequently for increasing the in-group's social status.

Thirdly, it is particularly encouraging that complexity has an impact on both higher and lower-status groups' prototypicality perceptions, as such social change via complexity may theoretically even be driven by consensus between the two groups rather than by conflict (see, however, Dixon et al., 2012). Beliefs in asymmetric relative prototypicality, whether shared between higher and lower-status groups or controversial (e.g., Waldzus et al., 2004), may be influenced by increasing the complexity of representations of inclusive categories towards a converging, consensual belief in equal prototypicality of both groups. Several historical developments such as reduction in institutionalized racism and sexism and the decriminalization of homosexuals in several societies can be understood from such a perspective (e.g., Subasic, Reynolds, & Turner, 2008). Those developments would not have been possible without the establishment of equality norms that are shared by a large proportion of members of both higher and lower-status groups. Complex representations of inclusive categories can facilitate the establishment of such norms. More research is therefore needed that investigates the emergence of complex superordinate identity representations and their effects on the normative bases of intergroup behaviour.

Although the use of different groups and methods in the three studies may allow a certain generalization of our results, two other limitations require additional research on the role of complexity of inclusive categories. First, we did not address the question whether higher and lower-status groups hold already by default different representations of inclusive categories. Several recent studies suggest such differences. For instance, adopting Berry's (1984) cultural relations model, Dovidio and colleagues (2008) report several studies that show that majority members usually prefer a one-group model (assimilationist), whereas minority members hold a more pluralistic integration representation of that category (see also Leach, Brown, & Worden, 2008). One could speculate that complex representations may only have the potential to change intergroup relations if they are consensually shared by both, the higher and the lower-status group. Second, in our studies we intentionally confounded numerical with social status for reasons of simplicity. Although social status seems to be a more central determinant of intergroup relations than group size (e.g., Ellemers et al., 1992; Tajfel, 1978) with regard to ingroup bias (e.g., Ellemers & Barreto, 2001; González & Brown, 2006), different effects of these two variables might be expected on relative prototypicality perceptions. Future studies may be able to disentangle both variables by orthogonally manipulating social status and the groups' numerical size.

Overall, our findings suggest that it may be beneficial to encourage groups involved in undesired but pervasive intergroup inequalities to consider the normative-comparative context to be complex and multifaceted. For instance, Sibley and Barlow (2009) examined to what extent members of two majority groups (ethnically European Australians and New Zealanders) considered minority groups (Aboriginal Australians and Maori, respectively) in their cognitive representations of nationhood. Similar to other studies (e.g., Devos & Banaji, 2005; Devos et al., 2010), they found that European Australians automatically associate their ingroup more strongly than the outgroup with the inclusive category "Australia". More

interestingly, however, European New Zealanders associated both their own group and the minority group (Maori) with the shared inclusive category (New Zealand). These findings highlight what important implications sociocultural and normative differences have for intergroup relations. Particularly, they show that it is possible to change the representation of a given inclusive category in a way that fosters inclusion and social recognition of minority groups. Increasing the representation of minority groups in public institutions and in the media, by promoting symbolic markers of those groups, for example, can be seen as a promising way of changing the cognitive representation of inclusive categories (Sibley & Barlow, 2009).

Research on identity complexity (e.g, Brewer & Pierce, 2005; Roccas & Brewer, 2002), multiple categorizations (e.g., Crisp, 2006; Crisp & Hewstone, 2007, Crisp, Hewstone, & Rubin, 2001; Deschamps & Doise, 1978; Hall & Crisp, 2005) or multicultural ideological beliefs (Correll, Park, & Smith, 2008; Park & Judd, 2005; Wolsko, Park, & Judd, 2006) have been examples of approaches toprejudice reduction. Our research contributes to this broader line of research on the advantages that complex representations and identities can have when searching for ways to prevent intergroup discrimination and conflict. Ehrke et al. (2014) recently demonstrated that it is possible to design interventions based on the theoretical assumption that increased perceived diversity of superordinate groups improve outgroup attitudes, with improvement not only shown in the short term but also with longer-lasting effects. Superordinate complexity seems to carry the potential for both contesting problematic intergroup relations and reaching intergroup consensus at a higher-order societal level, and may present a constructive answer to the challenge of increasing diversity in our society.

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Authors' Note

Joana D. Alexandre and Sven Waldzus, Lisbon University Institute (ISCTE-IUL), CIS-IUL. Michael Wenzel, Flinders University, Adelaide, Australia.

Footnotes

1   Because this study used a natural intergroup context and identification levels were considerably high for most participants, we did not exclude participants with low identification scores.

2   The attributes correspond to self-generated attributes from a pre-test. Participants generated a maximum of four items that characterize either ingroup or outgroup members. The eight attributes most frequently mentioned were used for developing the profile dissimilarity measure of the current study.

3   Participants with equal and higher status perceptions were joined in this latter category. One reason was that there were not enough participants claiming equal status to test effects for them separately. More importantly, however, based on the ingroup projection model we expected them to show the same tendencies as higher status groups, that is claiming high vs. low relative ingroup prototypicality for positive vs. negative superordinate categories, respectively, and an attenuation of these claims by inducing a complex superordinate category.

Figure Caption

Figure 1. Relative ingroup prototypicality (difference between ingroup and outgroup prototypicality) according to participants in the different experimental conditions in Study 1.
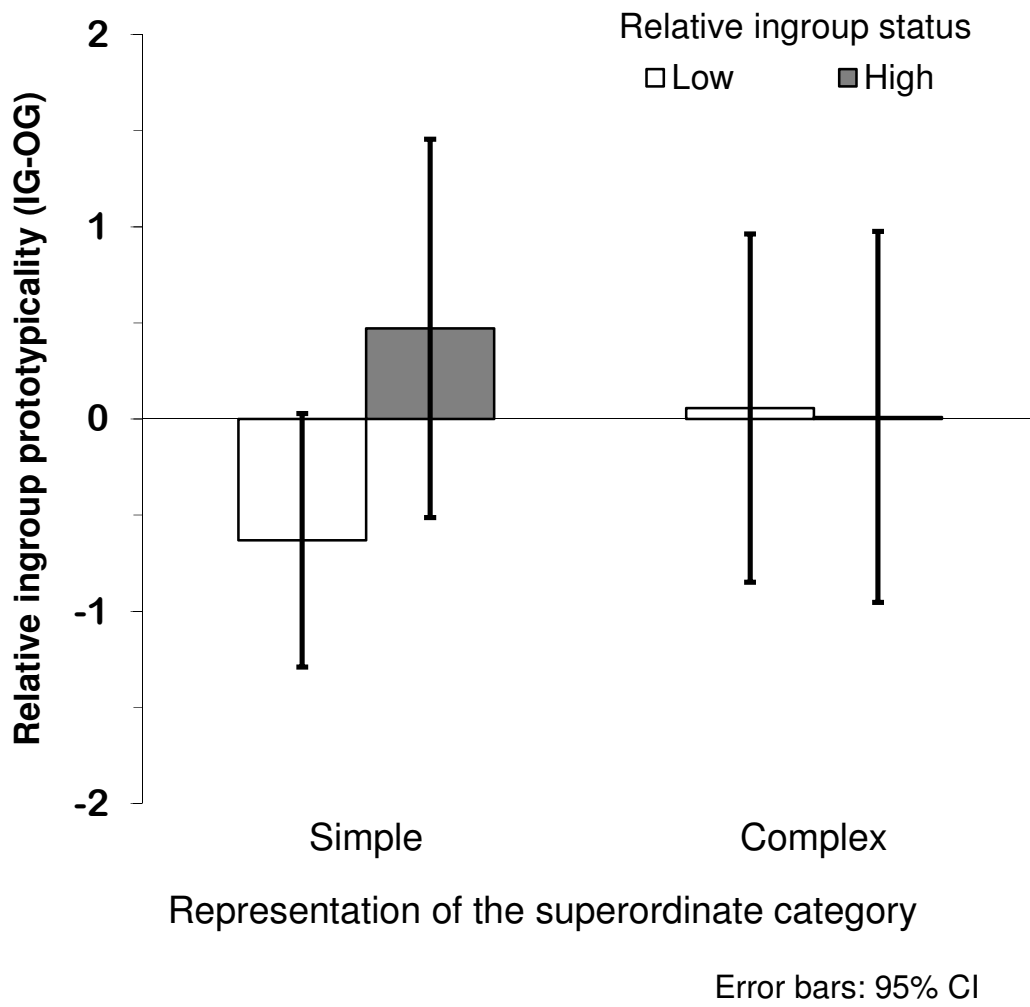
Figure Caption

Figure 2. Estimated marginal means and 95% confidence intervals of relative prototypicality of the ingroup (mean differences between the ingroup and the outgroup) for the equal/higher and lower-status group as a function of valence and complexity of the inclusive category.

Equal/higher status group
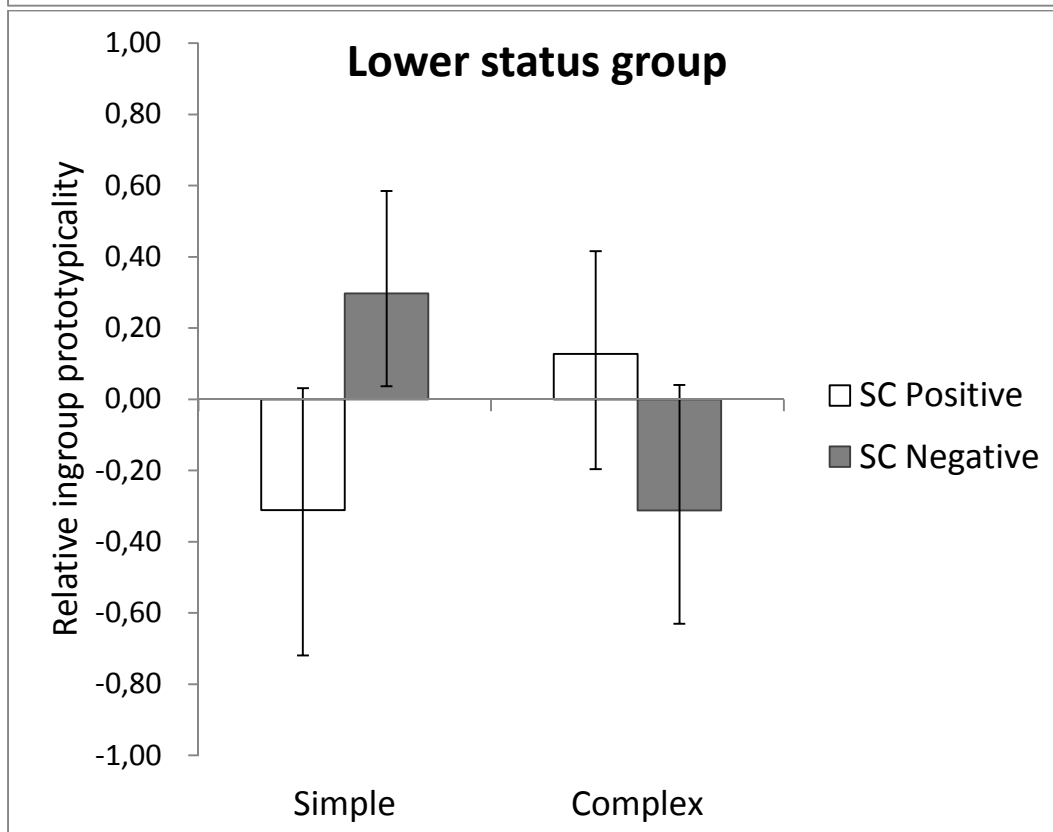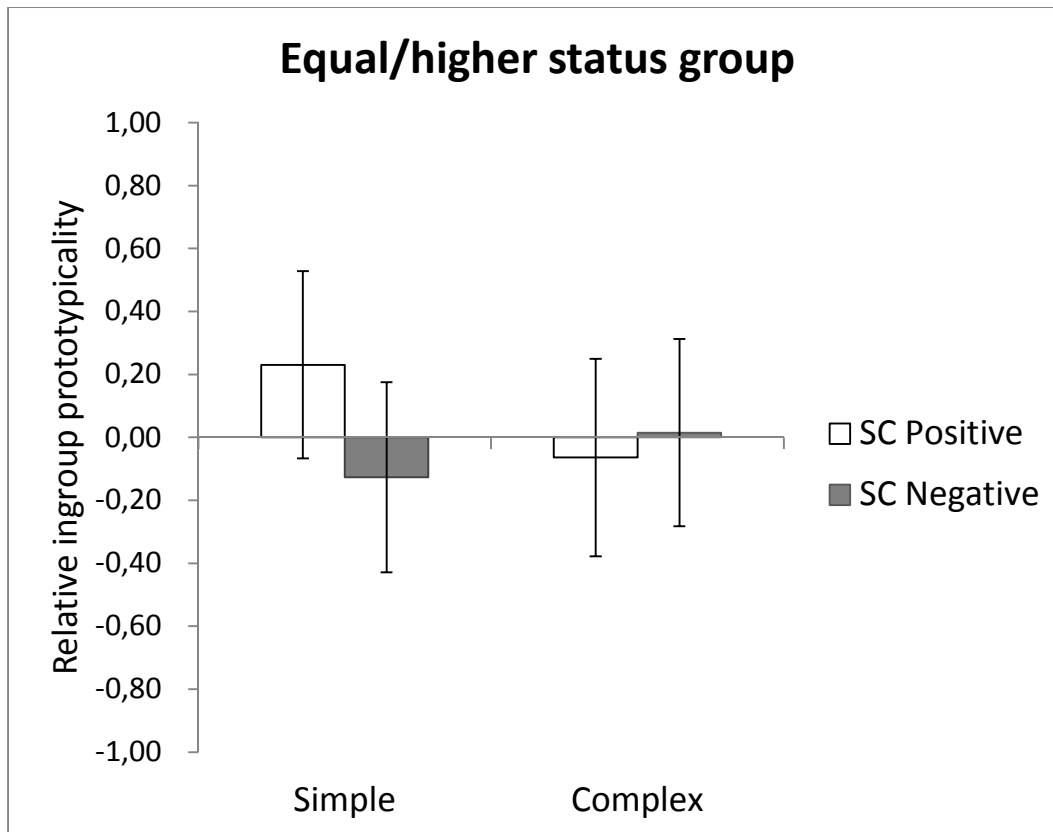
Lower status group

Table 1

Ingroup (IG) and outgroup (OG) prototypicality for members of groups with lower and equal/higher relative status depending on manipulated complexity of the negatively or positively valued inclusive category for the attribute based and the pictorial prototypicality measure.

		Valence of the inclusive category							
		Positive				Negative			
		Inclusive category representation				Inclusive category representation			
		Simple		Complex		Simple		Complex	
		IG	OG	IG	OG	IG	OG	IG	OG
Ingroup Status		Prototypicality (attribute-based)							
Lower	M	4.27	4.57	4.69	4.19	4.77	4.44	4.52	4.93
	SD	0.91	0.70	0.81	0.61	0.78	0.72	1.02	0.80
Equal/higher	M	4.49	4.08	4.32	4.22	4.61	4.49	4.56	4.44
	SD	0.97	0.76	0.89	1.02	0.84	0.80	0.76	1.02
		Prototypicality (pictorial)							
Lower	M	4.42	4.58	4.50	4.42	5.42	4.67	4.67	4.67
	SD	1.16	1.24	1.62	1.56	1.16	1.61	1.37	1.97
Equal/higher	M	4.62	4.14	4.65	4.62	4.71	4.89	5.24	5.03
	SD	1.47	1.38	1.81	1.60	1.54	1.29	1.64	1.61