



Department of Social and Organizational Psychology

Dual Identity and Ingroup Bias: Moderation by Relevance of the Superordinate Category and Relative Status

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“All things are difficult before they are easy” - Todas as coisas são difíceis antes de se tornarem fáceis.

Thomas Fuller

*Ao Fernando
Pelo teu amor cúmplice, pela tua dedicação
e compreensão nos momentos
em que não estive “presente”.*

*Aos meus pais e à minha tia
Por acreditarem em mim.*

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Resumo

Esta investigação incidiu sobre as relações intergrupais e as implicações de uma categorização mais inclusiva na redução ou aumento do preconceito endogrupal. Dois modelos recolheram evidências sobre as consequências de ter uma dupla identidade grupal. Contudo, as predições dos dois modelos são diferentes. De um lado, o Modelo da Identidade Comum que postula que via saliência da categoria de um grupo comum as relações entre grupos podem ser melhoradas. De outro lado, o Modelo da Projecção Endogrupal que prevê que os grupos tendem a projectar os seus próprios atributos na categoria inclusiva, supraordenada, deste modo tornando-se mais prototípicos do que os outros grupos para a categoria supraordenada. Adressando a evidência contraditória, propusemos a relevância da categoria supraordenada e o estatuto como moderadores da relação entre a dupla identidade e a discriminação endogrupal. Num estudo ($N = 125$) manipulámos a relevância ao salientar diferentes contextos de comparação (Bolonha ou Empregabilidade) de um grupo comum constante e natural (categoria supraordenada, os estudantes do ISCTE). A relevância da categoria supraordenada não moderou a relação entre a dupla identidade e a discriminação endogrupal. No entanto, para a percepção relativa de estatuto, diferente do predicto, a moderação foi entre as percepções de estatuto de igualdade versus desigualdade. Apenas obtivemos resultados significativos para a mediação indirecta da prototypicalidade na relação entre a identificação endogrupal e a discriminação endogrupal na condição de desigualdade de estatuto. Apesar disso, o resultados da condição de desigualdade de estatuto sugeriram o aumento da discriminação endogrupal como proposto pelo Modelo da Projecção Endogrupal e uma moderação mediação.

Palavras-chave: discriminação endogrupal; prototypicalidade; dupla identidade; projecção endogrupal; categoria supraordenada; estatuto; relevância.

Classificação da tese nas categorias definidas pela American Psychological Association: 3000 Psicologia Social; 3020 Processos Grupais e Interpessoais.

Abstract

This research focused on intergroup relations and implications of dual identity, in reducing or increasing ingroup bias. Two models gathered evidence about the consequences of dual group identity. However, the predictions of the two models are different. On the one hand, the Common Ingroup Identity Model postulates that via salience of a common ingroup category the relations between groups may be improved. On the other hand, the Ingroup Projection Model predicts that groups tend to project their own attributes onto the inclusive, superordinate category, rendering the ingroup more prototypical than the outgroups for the superordinate category. Addressing the contradictory evidence, we proposed relevance of the superordinate category and relative ingroup status as moderators between dual identity and ingroup bias. In a study ($N=125$), we manipulated the relevance by salient different contexts of comparisons (Bologna or Employability) of a constant and natural common ingroup (the superordinate category, students of ISCTE). The relevance of the superordinate category did not moderate the relation between dual identity and ingroup bias. However, for relative status perception different from what was predicted, the moderation was between equal vs. unequal status perception. We only obtained significant results for the indirect mediation of the prototypicality in the relation between ingroup identification and ingroup bias in the unequal status condition. Despite of that, the results of the unequal status condition suggested the increase of ingroup bias as proposed by the Ingroup Projection Model and a moderation mediation.

Key-words: ingroup bias; prototypicality; dual identity; ingroup projection; superordinate category. status, relevance.

Classification of the thesis according to the categories defined by the American Psychological Association: 3000 Social Psychology; 3020 Group & Interpersonal Processes.

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Intergroup Conflict

Despite of important advances in human rights, conflict is still present in our daily lives in several parts of the world. Conflicts occur almost between any type of groups such as different ethnic, racial, religious and national groups or even between more trivial groups such as business associations, sport fans, political parties. Some intergroup conflicts take a violent form like the incident between China and Tibet or Middle East tensions, but other intergroup conflicts may also take different forms, like gender conflicts or the denial of minority rights such as marriage or adoption for homosexual couples.

In order to explain intergroup conflict, social psychologists consider affiliation and identifications as key notions. According to Social Identity Theory (SIT; Tajfel & Turner, 1979), an important source of people's identity derives from internalization of their group membership as an aspect of their self-concept: they must be subjectively identified with a relevant ingroup in comparison with other relevant groups, in a way that permits positive distinctiveness.

Important amount of research studied the influence of the perception of group memberships in determining our attitudes, stereotypes and behavior in intergroup contexts (for a review, see Brewer & Brown 1998). Under some circumstances, the simple categorization of people into distinct groups appears to be sufficient to induce intergroup bias (Tajfel, Billig, Bundy, & Flament, 1971) and to arouse intergroup conflict (Brewer & Brown, 1998).

Our research was designed to study a particular form of identification and its consequences on intergroup relations, namely dual identity. The latter can be defined as people's simultaneous identification with a subgroup and with a more inclusive group that encompasses both an ingroup and a relevant outgroup. As the ultimate aim of studying intergroup relations is to improve them, dual identities were initially studied in this respect¹ (Hornsey & Hogg, 2000; Gaertner & Dovidio, 2000). Nevertheless accumulated evidence on this research field is rather divergent: there is little agreement whether dual identities

¹ The dual identity benefits were comment in the Gaertner et al. paper (1989) before theoretical formulations concerning dual identity.

ameliorate or worsen intergroup relations. The present research is focused on two models that put dual identities at their predictive core. On one hand, there is the Common Ingroup Identity Model (CIIM; Gaertner & Dovidio, 2000; Gaertner, Dovidio, Anastasio, Bachman & Rust, 1993) that claims that a dual identity is beneficial for intergroup relations. On the other hand there is the Ingroup Projection Model (IPM; Mummendey & Wenzel, 1999) that in contrast argues that under some conditions dual identity is detrimental for intergroup harmony.

Our main goal for the present work is to provide new evidence that can resolve inconsistencies between these two models. To achieve this goal we developed a study that takes into account previous results concerning the role of the intergroup situation and the role of the relevance of a superordinate group in dual identity consequences.

The remaining of this work is organized as it follows. In the first part we introduce the relevant theoretical background for the research questions and specify the main hypotheses. Because of its contribution for the subsequent research in intergroup relations and for field interventions, we start the theoretical background of this work with a brief review of the contact hypothesis. A significant finding of research on intergroup relations was also the effect of dual identity on prejudice, which plays a central role in later formulations of CIIM and in IPM. Therefore, in the light of CIIM and IPM research, dual identity and its consequences are discussed. Finally, we introduce status and relevance, as possible moderators in order to explain the divergent propositions and gathered evidence of CIIM and IPM.

In a second part we present the empirical study (method and results) that we designed with the aim of testing the role of superordinate category relevance and subgroups' status in moderating the of dual identity effects on intergroup bias. The results of our study and their implications for the two models in particular and for intergroup relations in general will be discussed in the third part.

Theoretical Background

Intergroup Bias and the Contact Hypothesis

There is a strong agreement in the literature that group members have a systematic tendency to favor own membership groups relatively to groups they don't belong to (e.g., Hewstone, Rubin, & Willis, 2002). This phenomenon is called intergroup bias. It was shown to occur even when people are assigned *ad hoc* to groups on arbitrary criteria (e.g., Tajfel & Turner, 1979). The pervasiveness of intergroup bias was related to prejudice and discrimination. Social psychologists were interested in finding strategies for intergroup bias reduction. The contact hypothesis emerges like a path for intergroup relations' improvement and was proposed by Gordon Allport (1954).

According to Allport (1954) through promoting contact between groups, negative stereotypes and attitudes toward outgroup could be challenged. Nevertheless, some conditions should be satisfied for contact to be successful. Cook (1984) summarized the Allport's optimal contact conditions (1954) in five basics as follows: contact should be prolonged, pleasant, meaningful, cooperative and egalitarian. The interaction between different groups under these positive conditions was advanced as an effective way to improve intergroup relations. These propositions extensively inspired researchers to design studies with various groups and intergroup situations². In a meta-analysis paper, Pettigrew and Tropp (2006) used 713 independent samples from 515 studies to study the impact of immediate contact situations and of non-immediate contact situations on the reduction of prejudice. The authors concluded that intergroup contact itself may be helpful and have positive impact when most or all of Allport's optimal contact conditions were satisfied. However, even when the optimal conditions were not satisfied the contact still reduced prejudice.

Field studies accompanying interventions explored the idea that the interactions between members of different groups promote a better knowledge of the outgroup and changed the groups' members' perception of difference between them (e.g. "Now that I

² This was the case of CIIM, which initially explored the contact situations. We will return to this point later.

know you, I realized that we are not as different as I thought”). In Portugal some of these interventions proved to be successful, for example the inclusion of disabled children in general schools. However, in interventions with gypsy children the inclusion has not always been peaceful. Gypsy children were frequently not accepted and target of prejudice and discrimination by other ethnic groups.

In fact, it may be fundamental defining under which circumstances the contact is successful and - in order to solve intergroup conflicts - even more important, under which circumstances the contact is not successful.

As a main interest of this dissertation, we focus on the two sides of research on intergroup relations, namely positive and negative determinants of intergroup relations.

Social categorization is a basic social process that determines intergroup relations.

Social Categorization and Strategies to Improve Intergroup Relations

A pioneering idea that Allport (1954) advanced is that negative feelings towards outgroups can be rooted in basic cognitive processes. One of these processes is social categorization, which can be simple illustrated as people’s classification in terms of ingroup pronouns (“we” and “us”) and outgroup pronouns (“they” and “them”). Students, for instance can be categorized as a function of the subjects they study.

On one hand, natural sciences students can classify other natural science students as members of the same group applying the proposition “we”, when referring to the ingroup (i.e., natural sciences). On the other hand they refer to members of different groups (e.g., social sciences) as “they” or outgroup. Social categorization may be considered a prerequisite for intergroup bias to take place (Hall & Crisp, 2005). Consequently, researchers inferred that altering categorization should be a way for intergroup bias reduction. Based on this reasoning, important strategies were proposed to reduce bias for instance, decategorization, mutual differentiation and recategorization (e.g., Gonzalez & Brown, 2006).

Decategorization encourages people to conceive themselves as separate individuals rather than members of groups, the salience of original group boundaries being, thus, decreased (DM; Decategorization Model, Brewer & Miller, 1984). Mutual differentiation

maintains the emphasis on the original group boundaries and member's perception of different groups, however, groups should have cooperative interdependence so that groups could perceive the groups superiorities and inferiorities (MIDM; Mutual Intergroup Differentiation Model, Hewstone & Brown, 1986). Recategorization consists of eliminating intergroup boundaries by reclassifying one's own group and other groups into a single, superordinate common group, including both groups (CIIM, Gaertner & Dovidio, 2000; Gaertner et al., 1993). In our research we considered the role of dual identity in intergroup relations. Consequently, because DM put the emphasis on individual level, it is not further discussed in this thesis. Alternatively, we are interested in theoretical frameworks underlying the importance of a common identity on the one hand and of subgroup identities on the other hand. In this respect CIIM and MIDM notions are highly informative. Whereas CIIM emphasizes the benefits of changing categorical boundaries towards a common ingroup, MIDM assumes that group differentiation on the subgroup level should be salient in positive contact situations in order to facilitate generalizations from the contact situation to attitudes towards the outgroup as a whole. It stresses, however, the importance of the positive interdependence in the contact situation. According to Gonzalez and Brown (2006), the later formulations of the CIIM acknowledge dual identity as a way to reduce prejudice, based on a combination between CIIM and MIDM assumptions. In this respect, the more recent version of the CIIM (developed in the next point of the introduction) makes explicit predictions about the relation between dual identity and intergroup bias.

Dual identity and Intergroup Bias: CIIM and IPM Perspective

CIIM and Dual Identity

Based on Social Identity Theory (SIT, Tajfel & Turner, 1979) and Self-Categorization Theory (SCT, Turner, Hogg, Oakes, Reicheir & Wetherell, 1987), CIIM has the explicit aim of reducing intergroup bias. Importantly, CIIM explains how contact conditions lead to intergroup bias reduction by specifying the antecedents, the outcomes and the mediating processes. The contact conditions (i.e., intergroup interdependence, group differentiation, environmental context, pre-contact experience) are the antecedents

that influence the cognitive representations of the intergroup situation, which in turn predict intergroup bias. The mediating processes are the different cognitive representations: depending on the contact conditions, the situation can be perceived more or less as shared common ingroup identification, which means recategorization as one group, as two separate group identities (categorization), as separate individuals rather than groups (decategorization), as two subgroups within a group³ (dual identity).

When the contact conditions are satisfied and the cognitive group representation is one common group or two subgroups within one group, the outcome is the reduction of intergroup bias. On the contrary, the group representations of two separate groups and only individuals were related to more ingroup bias.

In an initial study, Gaertner, Mann, Murrell and Dovidio (1989) directly investigated how the cognitive representations mediated the relationship between contact conditions and intergroup bias. They divided the subjects in two three-person groups. Subjects first participated in a group problem solving task⁴, then different representations of the intergroup situation were induced through various structural interventions that changed the contact situation either to continue to categorize themselves as two groups, to decategorize themselves (separate individuals) or to recategorize themselves as one superordinate group composed of the total of six subjects. The contact situation was manipulated by having a seating position (i.e., integrated, segregated or separated seating pattern), by wearing specific kinds of T-shirts, by assigning names (i.e. assigning a group name to represent all six subjects, maintaining the two earlier three-person group names, or using six different nicknames to represent the six subjects) and by having complementary roles (manipulation of the nature of interdependence). Through these experimental procedures the authors intended to make a common group membership salient, which would lead to a recategorization process. The results showed lower levels of bias for the one-group-condition compared with the two-groups-condition. The authors argued that the one group representation reduced bias by increasing the attractiveness of former outgroups members.

³ In the previously CIIM formulation this representation was not considered.

⁴ The participants were asked to imagine a crash landing of their plane in the woods of Minnesota in Mid January and they had to order ten items salvaged from the plane in terms of their importance to survive. This group-solving problem is named by “Winter Survival Task” – for more detailed information see Johnson & Johnson (1975).

The afore mentioned results along with a series of similar studies (see also Gaertner, Mann, Dovidio, Murrell, & Pomare, 1990) gave reasons to Gaertner and colleagues for arguing that recategorization permits to extend benefits of ingroup bias to outgroup members and thus positive group relations may be obtained. In other words, through the recategorization process group members come to identify themselves as members of a more inclusive, higher order superordinate group (that also includes a relevant outgroup). Let's take again the student example. The tendency for students in natural sciences to favor their own group in comparison with the social sciences group should be reduced if both are induced to perceive themselves as all playing in the same football team (i.e., here "team" is the superordinate category).

Several laboratory and field studies in a range of intergroup settings support the value of creating a one-group representation for reducing intergroup bias. In an intergroup context formed by stepfamilies in which the first marriage families represented the subgroups and the new recomposed family the superordinate category, Banker and Gaertner (1998) conducted a study with the purpose of examining factors involved in positive contact (e.g., cooperativeness). It was predicted that contact favorable conditions were related to increased perceptions of family as one group representation, and to increased harmony in the stepfamily's relations. With capital importance to CIIM model, favorable conditions of contact predicted more representations of one common group and by contrast less representations of two subgroups within one group and two separate groups. In addition, the one common group representation predicted higher levels of stepfamily harmony.

Despite of the empirical evidence supporting CIIM predictions, it has been shown that under some conditions the recategorization in one group is not always related to positive consequences. Moreover, there is evidence revealing that recategorization in one group can have unexpected negative consequences, prompting even greater bias between groups. For instance, Hornsey and Hogg (2000b) examined relations between groups of university students enrolled in humanities and math science faculties (subgroups) and found greater intergroup bias when participants were categorized exclusively as university students (one group representation) than when only their faculty area subgroups were made salient (two groups).

The type of results obtained by Hornsey and Hogg (2000b) suggests that the one group representation has some limitations. First, an inclusive common identity tends to be unstable because as suggested in Brewer's Optimal Distinctiveness Theory (Brewer, 1991), it may compromise the groups' needs of distinctiveness. Distinctive subgroup identities would re-emerge over time as a result of this distinctiveness threat. For instance, in cases such as corporate mergers (Backman, 1993; cited in Wenzel, Mummendey, Weber & Waldzus, 2003), the subgroups are reluctant to forsake old strong identities for accepting the new common group, which is not a likely context for positive relations. Second, the one-group strategy is considered by some authors (Brown & Hewstone, 2005) as having weak effects of the generalization of positive contact effects to non contact situations.

In the new formulation of their model Gaertner and Dovidio (2000) acknowledged the potential drawbacks in the influence of the one group representation (see also Gaertner et al., 2007). In order to overcome these limitations they admitted that recategorization does not necessarily imply to completely give up subgroup identifications. Thus they propose that recategorization can take the shape of "two groups in one group" or dual identity. As a reminder, dual identity means simultaneously identifying with superordinate group and subgroup. According to Hornsey & Hogg (2000a), dual identities are beneficial to intergroup relations because the superordinate identification leads to perceptions of outgroup members as belonging to a common ingroup while subgroup identification protects the ingroup's distinctiveness. It is considered that dual identity will lead to intergroup bias reduction as the recategorization process alone does (Dovidio, Gaertner, & Validzic, 1998). Moreover this strategy is claimed to be beneficial in highly significant intergroup context: "the benefits of a dual identity may be particularly relevant to interracial and interethnic contexts" (Dovidio, Gaertner, Neimann, & Snider, 2001, p.179).

The evidences from one survey study in a multi-ethnic high-school appear to be consistent with the positive consequences of a dual identity on intergroup bias (Gaertner, Rust, Dovidio, Backman, & Anastasio, 1994). The sample of 1357 students was composed by different ethnics groups such as Blacks, Chinese, Hispanic, Japanese, Korean, and Vietnamese Students. Gaertner and colleagues asked students to mention the groups that applied to themselves and used a measure to access students' perceptions of the student body. This measure assessed the cognitive representations of the intergroup situation: one

group perception item (“Despite of the different groups at school it is frequently the sense that we are all just one group”), one item for perception of separate groups (“At the school, it usually feels as though we belong to different groups”), one item for separate individuals perception (“At schools, it usually feels as though we are individuals and not members of a particular group”), and a dual identity item (“Although there are different groups of students at this school, it feels though we are playing on the same team”). Results showed that the more the student body was perceived in terms of different ethnic subgroups, but all playing in the same team (i.e., school), and also the more the students identified themselves with both subgroup (i.e., ethnic group) and superordinate category (i.e., school) the lower was bias.

Despite these important findings, there are also studies in different intergroup contexts with results that point in another direction. In a bank-merger study (Backman, 1993, cited in Wenzel et al., 2003) for instance, the degree to which the representation of the new merged organization reflect "two groups within one group" – which corresponds to dual identity - was positively correlated with work related intergroup bias. Moreover, the degree of the representation as one common ingroup without any further salience of subgroup distinctions reduced intergroup bias.

To sum up, according to CIIM research, the dual identity had different effects in different intergroup settings. While in the multi-ethnic high schools, a stronger sense of dual identity was related to less bias, in other contexts such as mergers, dual identity was related to more bias.

IPM and Dual Identity

The findings showing that dual identity does not consistently lead to intergroup bias reduction are consistent with predictions made by the Ingroup Projection Model (IPM, Mummendey & Wenzel, 1999). IPM postulates that in some contexts, dual identity will lead to discrimination rather than tolerance.

Similarly to CIIM, IPM is also rooted in Social Identity Theory (SIT, Tajfel & Turner, 1979) and Self Categorization Theory (SCT, Turner et al., 1987). According to SCT ingroup and outgroup are compared in terms of a superordinate category's

dimensions. Once the groups are in a comparison process, the differences between them will emerge. Deriving from SIT the concept of Ingroup Distinctiveness plays a central role in the IPM. Ingroup Distinctiveness is a result of individuals' motivations to achieve of positive self-esteem from ingroup membership. The ingroup must be viewed as being distinct from other groups (Mlicki & Ellemers, 1996). The ingroup distinctiveness threat perception is the belief that the outgroup is similar to the ingroup and for that reason the ingroup's positive distinctiveness can be lost, for instance, in terms of ingroup values, status, morality or competition over resources (Riek, Mania & Gaertner, 2006). Thus, it is not surprising that high ingroup identifiers are most defensive relative to the ingroup image (e.g. Spears, Doosje & Ellemers, 1997). IPM assumes that subgroups are thought to be motivated to see the superordinate group as holding their distinctive characteristics. This process is at the core of the IPM model and is called ingroup projection. Mummendey and Wenzel (1999) define ingroup projection as the tendency to perceive the ingroup as more prototypical for the superordinate category than it is seen by the outgroup. If the ingroup is claimed prototypical for the positively evaluated superordinate category standard, the outgroup is seen as different or deviating from it. Ingroup projection determines the evaluation of the outgroup's difference.

Wenzel, Mummendey, Weber and Waldzus (2003; Study 1) measured the ingroups' relative prototypicality perceptions within a trivial and salient intergroup situation. The subgroups were business administration students and psychology students, sharing the same inclusive group of students. Statistical analyses were performed using profile dissimilarity measures of each subgroup in respect to the inclusive category. A significant interaction effect of group membership and target group indicated a divergent perception of prototypicality. Psychology students perceived psychology students to be more prototypical for the superordinate category than business administration students did, and business administration students perceived business administration students to be more prototypical than psychology students did.

Waldzus, Mummendey, Wenzel and Boettcher (2004) found the same divergent perception of relative prototypicality within the superordinate categories of motor bikers (the chopper bikers vs. sport bikers), teachers (primary school vs. high school) and Germans (West Germans vs. East Germans).

Because shared categories do not only provide dimensions for group comparison but also norms and values that determine the outcome of this comparison process, perceived relative ingroup prototypicality (compared to the outgroup) is associated with more negative attitudes toward the outgroup (Mummendey & Wenzel, 1999; Waldzus, Mummendey, Wenzel, & Weber, 2003).

According to Wenzel, Mummendey and Waldzus (2007) “Ingroup projection is not an automatic or ubiquitous process but rather depends on certain conditions” (p. 338.); and they also advanced two classes of predictors for ingroup projection: social identity and representational features of the superordinate category. IPM postulates that in order to projection to take place, one essential condition should be fulfilled, namely that the group members should be strongly identified with both the subgroup and the superordinate category. The role of dual identity in determining projection is supported by findings that demonstrated that ingroup projection is intensified by higher levels of subgroup identification and higher levels of superordinate group identification – dual identity. Dual identity and its consequences were studied in different intergroup contexts, The Wenzel et al. paper (2003) is an example of that. In Study 1 the subgroups were business administration students and psychology students, both included in the superordinate category ‘students’. In Study 2 the outgroup was Poles and the ingroup was Germans. For the statistical analyses median splits were performed and the sample was divided into four groups, differentiating between high and low identification on the subgroup level and on the superordinate level. The results of both studies indicated that group members who strongly identified with the subgroup and the superordinate category exhibited higher rates of relative ingroup prototypicality than the other three sub-samples. These studies also found a negative correlation between perceived relative ingroup prototypicality and attitudes towards the outgroup. The more the ingroup was seen as relatively prototypic, the more negative were attitudes towards the outgroup. Waldzus et al., 2003 replicated these results.

To sum up, IPM defends the idea that only emphasizing a superordinate identity is not enough for intergroup conflict reduction. In some situations the superordinate identity is a fertile arena for groups to express mutual superiorities and inferiorities (Hewstone & Brown, 1986, cited in Wenzel et al. 2006). Because individuals identify both with ingroup

and superordinate category, stronger intergroup bias is likely to occur as a consequence of ingroup projection process.

Aims of this Research: Towards Reconciliation between CIIM and IPM - Possible Moderators

Taking together the evidence presented above indicates that dual identity influences intergroup mutual evaluation. Dual identity and its effects on intergroup evaluation and behaviors have been considered by CIIM and IPM.

Despite of common theoretical assumptions, these two models make opposite predictions in this respect. CIIM predicts positive consequence in having a common ingroup identification. In contrast, IPM predicts that a common ingroup identification produces negative consequences. Both models are supported empirically. This is a contradictory state of knowledge, the question is: Are these models mutually exclusive? Or are they applying to different intergroup situations? In order to look for answers to these questions, we believe that the conditions of applications of research should be defined and for that purpose we intend to study a set of moderating factors. More specifically, in our study we attempt to provide new evidence that can resolve inconsistencies between the CIIM and IPM by identifying moderators that describe under which circumstances one or the other model would apply.

Recent research has shown that the nature of the common ingroup is a key moderator that can resolve inconsistencies between the CIIM and the IPM (Meiser, Mummendey & Waldzus, 2006).

Relevance of Superordinate Category

Only a few researches investigated the moderation effect of relevance of the superordinate category between dual identity and ingroup bias. Among these, some studies demonstrated that the relevance of a superordinate category for the actual intergroup comparison determines the effects that an inclusive common ingroup has on intergroup

relations (e.g., Mullen, Brown, & Smith, 1992; Meiser et al., 2006). The superordinate category is relevant if it is important for comparisons between ingroup and outgroup, that is, if it provides relevant dimensions of comparison. For instance, “Sociology students” and “Psychology students” are only comparable because they are both included in the superordinate group of social science students and this common group provides relevant comparison dimensions (e.g., relational focus). However, if we compare the two groups in terms of healthy people, the superordinate group of healthy people is irrelevant because it does not provide relevant dimensions for mutual comparisons.

Meiser and colleagues (2006) focused on the effects of structural aspects and the contents of a common ingroup identity on intergroup relations. Specifically, they conducted an experiment where they made salient two different superordinate categories, namely, Natural Sciences (relevant for mutual comparisons between the ingroup of chemistry students and the outgroup of biology students) and student body of Jena University (irrelevant for mutual comparisons). Additionally they considered a baseline condition where no superordinate category was salient. Partial correlations showed that the level of agreement with the representation with “one group” or “two groups within one group” was negatively correlated with ingroup bias in the baseline condition. That is congruent with CIIM results, both one group representation and the dual identity representation were related to reduced ingroup bias. In high relevant condition the dual identity representation was positively correlated to the ingroup bias, composing the IPM “picture” of the dual identity as a predictor of ingroup bias. For the less relevant condition the correlations were negative but only marginal significant.

Thus, there is preliminary evidence that the nature of the common ingroup could be an important moderator in resolving the contradictory results between CIIM and IPM.

Relative Status

Following the SIT (Tajfel & Turner, 1986), low and high status groups have different motives in what regards to their group identity. While low status groups are concerned about the identity enhancement, high status group evade the association with the low status group, protecting their identity.

As we discussed previously, a dual identity representation remains salient subgroups memberships and do not threat the positive distinctiveness need. However, Gaertner and colleagues (2007) point out that with respect to dual identity “majority and minority⁵ members may have different preferences” (p.303). According to CIIM, for low status groups, dual identity would reduce the ingroup bias.

In the multi-ethnic school study that we presented previously, Gaertner and colleagues (1996) also supported this point. Among students, the minority members (e.g., ethnicities subgroups) who identify both with subgroup and the superordinate group (i.e., American) reported lower levels of intergroup bias compared to those who only reported identification on the ethnic, subgroup level. Some recent research points in the same direction. González and Brown (2006, study 1) varied group size (minority, majority) and whether the groups were in a contact or non-contact situation. In the contact situation independently of the group perception (common group or dual identity) more bias was related to minority groups. However, in the non contact situation, the ingroup bias related to minority was reduced among dual identifiers. For the majority members none of categorization strategies was effective in generalized bias. In another experiment, González and Brown (2006, study 2) varied not only the group size but also group status within the two contact conditions (contact vs. non-contact situation).⁶ In both conditions, results for the majority and high status group revealed higher levels of bias compared to minority and low-status group for all the categorization strategies. For the minority and low status group, perceptions of dual identity led to a reduction in ingroup bias.

IPM offers complementary information about status groups. Because the high status members project they own group’s attributes onto to the superordinate category, they assume to be more representative to the superordinate category relative to the low status group. That is to say, that the low status attributes still at risk in the dual identity representation and it would produce stronger bias for both groups.

Johnson, Gaertner and Dovidio (2001) tested status as a moderator of the relation between dual identities and ingroup bias with university students (i.e. inclusive group). Higher

⁵ The authors’ understanding of minority and majority include differences in group size, status and power. Differences in status perception are most pertinent for our analyses.

⁶ In reality this kind of equal distribution of size and status within a group is not linear.

perceptions of dual identity predicted significantly more bias for high status members (i.e. students in the prestigious honors program) than for low status members (i.e. regular students).

Conclusion

Wenzel, Mummendey and Waldzus (2007) remark that positive effects of dual identity occurred, “whenever the presumed superordinate category is not fully inclusive of the subgroups, but rather more like an alternative, cross cutting categorization” (p.356). To illustrate the idea, the authors gave an example of the Gaertner’s multi-ethnic high school study (Gaertner et al. 1994). In that case ethnic groups were the subgroups extended beyond the inclusive category (school). Therefore, school became an irrelevant context of comparison for subgroups, by providing an alternative identification, shared in a given context (e.g. school).

In our opinion, because relevance of a superordinate category is not dissociated from the intergroup context, the context of the superordinate category may also be fundamental to understand the results obtained previously in the intergroup bias research.

Previous research (Meiser et al., 2006) operationalized the relevance of the superordinate category by changing the superordinate category. In our opinion, different superordinate categories may not induce the same kind of comparison. In order to address this weakness, in our experiment we manipulated the relevance of the same superordinate category by emphasizing different contexts. In reality we have many examples where superordinate category may play a different role, more or less relevant for intergroup comparisons depending of the context. For instance, the environmental associations in Portugal, “Quercus” and “Oikos” share the same SC (environmental associations) and both climate changes and animal protection are relevant comparison contexts which may evoke more ingroup bias. Different dimensions of the superordinate category may become salient in different contexts and therefore, having an effect on the kind of subgroups comparisons.

In Meiser and colleagues (2006) study the authors used a different superordinate category in the high and in the low relevance condition. In our study we thought that an alternative way of manipulating the SC relevance (students of ISCTE) is to keep constant the SC but vary the context of SC function (Bologna or Employability Context) we

maintained the same superordinate category and changed the intergroup situation or context⁷.

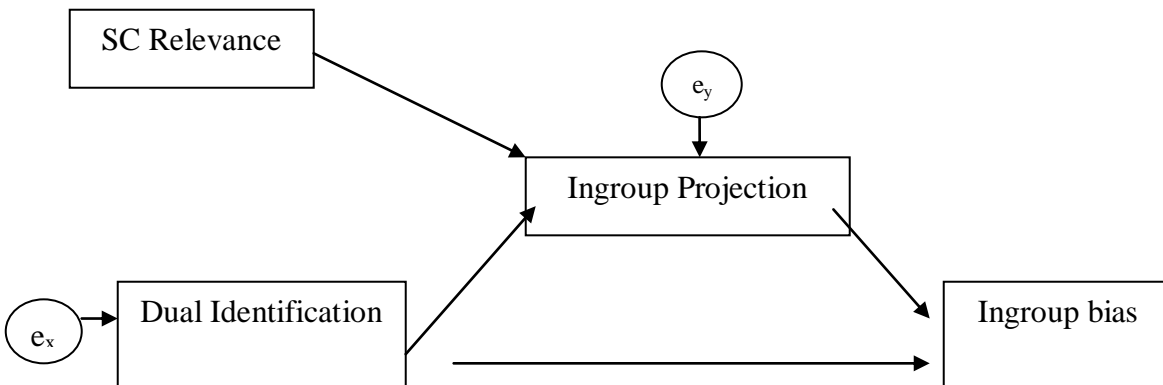
We hypothesized that SC's relevance moderates the relation between dual identity and ingroup bias (Hypothesis 1). Likewise we tested this hypothesis in two conditions by manipulating the salience of the context toward another context that is not salient. In the relevant condition, one of the contexts is salient. In the irrelevant condition one of the two contexts are not salient. (i.e. Bologna Relevant and Employability Irrelevant: Bologna salient, Employment not salient; Employability Relevant and Bologna Irrelevant: Employability Salient, Bologna not salient).

We also hypothesized that the group status perception moderates the relation between dual identity and ingroup bias (Hypothesis 2).

Additionally we test the hypothesis that relative ingroup prototypicality mediates the relation between dual identity and ingroup bias (Hypothesis 3).

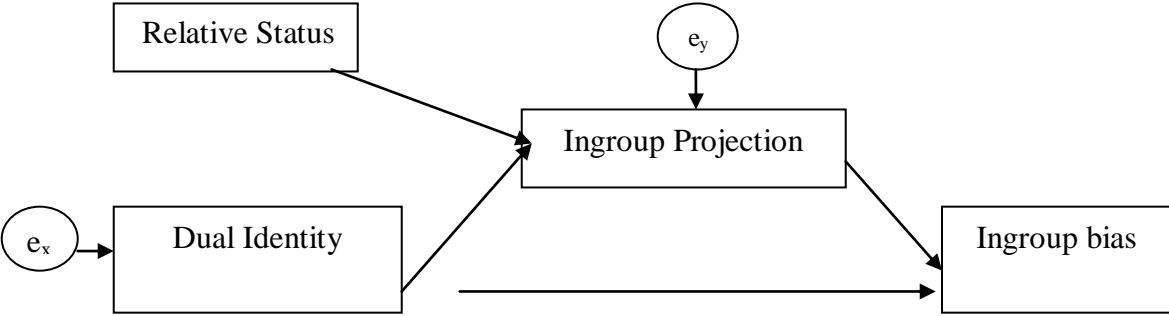
In order to explain the relationship between dual identity and ingroup bias we draw a model for the hypotheses (See Figure 1 and 2).

Figure 1. Moderation Mediation with Relevance



⁷ In this research we treated the words intergroup situation, intergroup context as interchangeable terms.

Figure 2. Moderation Mediation with Status



Study

To test our hypotheses we conducted an on-line study. Participants were Human Resources students and Psychology students of the Instituto Superior de Ciências do Trabalho e da Empresa; ISCTE⁸.

In order to define the two contexts of the superordinate category we previously collected important groups' life situations in informal interviews with the two involved groups. The so called Bologna process and Employability were often spontaneously emphasized by ISCTE students. ISCTE students are part of the process of uniformization of the higher education system within Europe, which has meanwhile been dubbed "Bologna". At the same time the Employability rate associated to ISCTE means a lot for the students.

For our research interests we manipulated the SC's relevance by making salient just one of the two contexts in each condition. We assumed that when the Bologna context is made salient, the SC (ISCTE students) is relevant for subgroup comparisons in terms of the Bologna context but not comparisons in terms of Employability and that when the Employability context is made salient, the SC is relevant for comparisons in terms of the Employability context but not in for comparisons in terms of the Bologna context. Attitudes were measured with reference to both contexts (e.g. salient context and non-salient context).

Method

Participants

A hundred and twenty five participants completed the online study. Participants were Psychology and Human Resources students of ISCTE, mostly female (75.4%), with ages between 18 and 53 years ($M = 22.8$, $SD = 5.45$).

⁸ Public University Institute in Lisbon.

Participants were recruited by the diffusion of an email in ISCTE students' community. The study was introduced as investigation about the "perceptions of ISCTE students". Participants were provided with a web link⁹ on which the questionnaire was available to be filled in. Students participated on voluntary basis and as an incentive they participated in a lottery: one of them could win a price of 100 Euro. The winner was randomly selected and the money paid out after the experiment was entirely completed.

Design

Of the 1144 students that visited the webpage developed for the experiment's purpose, only the Psychology and Human Resources (HR) students were allowed to answer the questionnaire. Participants were randomly assigned to the cells of the 2 (context relevance: Bologna vs. Employability) x 2 (participant group: HR vs. Psychology) x 2 (order: ingroup first vs. outgroup first) design. The first one was the relevant context and had the 2 conditions "Bologna" (Bologna relevant and Employability irrelevant) versus "Employability" (Employability relevant and Bologna irrelevant). We have also 2 conditions as a function of the participant's group membership: HR versus Psychology. Finally, we also manipulated the order of ingroup and outgroup judgments, following the suggestions of Otten (2002) that the order of ingroup and outgroup judgments may influence the intergroup evaluations; if the outgroup is evaluated first, ingroup favoritism is stronger¹⁰.

Procedure

After accessing the questionnaire webpage participants were guided by displayed instructions on the screen. On the first page instructions were introduced and responses' confidentiality was guaranteed. Before the beginning of the study, participants had to express formal acceptance of their participation. The first part of the questionnaire referred

⁹ <http://mrrr.dpsso.iscte.pt>

¹⁰ In our study, independently of the order manipulation, ingroup and outgroup measures always preceded measures of the superordinate category (e.g. identity measure, profile measure and attitudes measure).

to socio-demographic variables, such as age, gender, specialization and the degree. In order to control differences in identification with the ingroup we also asked the participants whether they had frequented other subjects¹¹. As mentioned previously, only Psychology and Human Resources students were invited to take part in the online study. A dialog box with the message “Thank you but we have sufficient data of people with the same profile” was presented to participants of other subjects of ISCTE.

To respond to items participants had to click on the scale point corresponding to their choice. The questionnaire had six versions as a function of the independent variables. In order to manipulate the context relevance, participants were provided with a text to be read. In the “Bologna” condition the text described the objectives and the methods of the application of the Bologna framework to the learning in ISCTE. In the “Employability” condition the text emphasized the fact that ISCTE students had in previous years a high rate of Employability. The texts were meant to create a difference in the relevance of the superordinate category “ISCTE” in different contexts by making one of the contexts more salient. In order to enhance the respective salience, participants were also asked to produce some thoughts. They had to type into an open text field what comes to their minds when thinking of the Bologna process (versus Employability) and of how ISCTE Psychology and Human resources students deal with to the Bologna process (the Employability). (For full description of the instructions see appendix).

In the following pages participants had to fill in the items concerning ingroup identification and the identification with the superordinate category. Representation of the intergroup setting was the next measure. After representation of the intergroup setting 3 measures of relative prototypicality were applied: profile measure, graphic measure and declarative measure. To collect attributes for the profile similarity measure, we conducted a pre-test¹². Before applying the measures of prototypicality we provided some information that social categorization would be acceptable in this study by telling the participants: “Every person is different, however, we have some ideas about the groups in general that

¹¹ Only a few participants have frequented other courses. We do not treat this question further because none of the participants had frequented the outgroup course.

¹² See appendix

result of our need of orientation in the social world". The order of IG or OG prototypicality was counterbalanced.

Next, participants had to respond to items assessing IG and OG attitudes. In the introduction of each block, it was made clear that the items dealt with what they think about the IG versus OG either in terms of the Bologna process or in terms of Employability on the job market. Irrespective of the condition they were assigned to, participants had to respond to two blocks of inter-group attitudes. In one block participants had to evaluate the two subgroups in the Bologna context and in the other block in the Employability context. The order of the blocks was counterbalanced across participants but the order of items within blocks was kept constant. These two blocks were used to measure attitudes in the relevant context (Bologna related attitudes in the "Bologna" condition, Employability related attitudes in the "Employability" condition) and in the irrelevant context (e.g., Bologna in the "Employability" condition). The order of contexts was always the same: first attitudes related to the relevant context followed by attitudes related to the irrelevant context.

Relative status perception was measured followed by manipulations checks of relevant context. At the end of the questionnaire we thanked for participation and invited participants to feel free to write down comments in an open field.¹³ The comments showed that participants were not aware of the purpose of the study and of hypotheses.

Finally, participants were invited to leave their e-mail in order to take part in the lottery and to receive the debriefing. After finishing the study, the winner of the lottery was randomly chosen and received the promised 100 Euro voucher.

¹³ See appendix for the internet version of questionnaire.

Measures

Identification with the Ingroup and with the Superordinate Category

We used Leach et al.'s (2008) identification scale¹⁴, which contained items corresponding to five distinct components of ingroup identification: individual self-stereotyping, ingroup homogeneity, solidarity, satisfaction and centrality. Following the classic sociological theory (CST), there are two ways to identify with an ingroup, namely by self-definition and self investment. According to Leach et al. (2008), this scale measures five components, which converge into two general and more abstract, higher-order dimensions (self definition and self investment). The self definition dimension incorporates self-stereotyping and homogeneity. The self investment dimension refers to solidarity, satisfaction and centrality

One example item of self-stereotyping as a result of depersonalization was: "I am similar to the average ingroup person". Ingroup homogeneity, which means that the individuals see themselves as members of the ingroup sharing commonalities, comprised items such as: "Ingroup people have a lot in common with each other". We presented also to Solidarity (e.g., "I feel solidarity with ingroup"), satisfaction with the membership (e.g. "I am glad to be a member of the ingroup") and centrality (e.g. "The fact that I am ingroup is an important part of my identity"). The scale comprised 14 items rated on a 7 point Likert-type response scale that ranged from completely disagree to completely agree.

To ensure that the original measure did not lose validity, items were translated from English to Portuguese and then back-translated from Portuguese to English. The back translation was done by a bilingual social psychologist. The scales proved to be reliable for both the ingroup ($\alpha = .90$) and the SC ($\alpha = .92$).

¹⁴ We choose this scale, because it was developed with the propose of establishing consensus in identification conceptualization and measurement thus, it is based on multi-components approaches.

Group Representation

To assess participants' representation of the intergroup situation, we employed the items classically used in CIIM research (see Gartner et al., 1989). In this measure, as a first step, participants had to select the representation that best characterized their impressions of the Psychology and Human resources students in ISCTE: (a) forming one common group, (b) forming two subgroups within a common group, (c) forming two entirely separate groups, or (d) forming no groups at all but consisting of individuals only. As a second step, participants had to indicate the degree of application on a 5 point scale (from “do not apply” to “applies totally”) for each of the four sentences).

Relative Prototypicality

Relative prototypicality was accessed by three measures: a profile similarity measure, a pictorial measure and a declarative measure. The first two measures represent indirect measures of relative prototypicality, whereas the declarative measure corresponds to a direct measure of relative prototypicality.

Profile Similarity Measure

The profile similarity measure is based on Wenzel and colleagues (2003). A pre-test was carried out to select a set of stereotypic attributes of Human Resources students and Psychology students. With this purpose, we collected data from 20 Human Resources students and 20 Psychology students (N=40).

During the pre-test, participants were asked to indicate attributes (adjectives) that characterized both groups and the common ingroup (i.e., ISCTE). At the end, participants had to evaluate the attributes' valence as positive, neutral or negative. The attributes most frequently mentioned were chosen as it follows: Three attributes characteristic for each subgroup and three characteristic for the superordinate group were selected from the results of the pre-test. The attributes were as balanced as possible in terms of prototypicality and also in terms of valence. The more typical attributes mentioned for HR student were

“communicative”, as a positive attribute, “arrogant” and “materialistic” as negative attributes. For Psychology students the more typical attributes mentioned were “human” as positive attribute and “insecure” and “unorganized” as negatives attributes. In order to characterize the ISCTE students the most mentioned attributes were “updated” and “dynamic” as positive attributes and “formal” as a neutral attribute. Participants did not generate negative attributes for characterizing the ISCTE students. Consequently, we were forced to select a neutral trait.¹⁵

In the main study, participants rated the applicability of the 9 attributes selected on the basis of the pretest for the ingroup, the outgroup and the SC on a 7-point Likert-scale (completely disagree to completely agree). Based on these attribute ratings a profile-distance measure of relative prototypicality was created. We computed the Euclidean distance between the ratings of the ingroup and the superordinate category and between the ratings of the outgroup and the superordinate category as measures of the profile dissimilarity between the ingroup and the superordinate category and between the outgroup and the superordinate category, respectively¹⁶. High values represent lower prototypicality. The difference between the outgroup’s and the ingroup’s distance scores was computed as the profile distance measure of relative ingroup prototypicality (see Wenzel et al., 2003).

Pictorial Measure

The pictorial measure was based on Schubert and Otten (2002). In each graphical image the ingroup (Human Resources students or Psychology students) or outgroup were represented by a small circle, and the superordinate category (“ISCTE students”) was represented by a bigger circle. Those 2 circles were placed on a horizontal line and were more or less close to each other. There were 7 different pictures representing different

¹⁵ Pre-test results in appendix.

¹⁶ Profile dissimilarity measures for the ingroup and the outgroup were calculated as follows:

$$d_{sc-gp} = [d(x_{sc}^i - x_{gp}^i)]^{1/2},$$

Where d = profile dissimilarity, sc = superordinate category, gp = sub-group (ingroup or outgroup), xi = value for attribute i.

distances between the circles. The circles appeared far apart in the first line (coded 1) and successively approached each other until inclusion was complete in the seventh line (coded 7). Participants chose the line that best represented the proximity between the ingroup and the SC and then, using a similar picture, the line that best represented the proximity between the outgroup and the SC. Proximity values are prototypicality measures of the groups. For the relative prototypicality we calculated the difference between ingroup's and outgroup's proximity to the SC.

Declarative Measure of Relative Prototypicality

We used 2 items in a declarative measure of relative prototypicality in a 7 point scale ranged for 1- always ingroup to 7- always outgroup (reverse coded). “In order to describe the ISCTE students in general, I would use as an example...”; “When I think about ISCTE students I think first ...” ($\alpha = .80$).

Relative Group Status Perception

The perception of relative status was measured by the participants' comparisons of ingroup status and outgroup status on two items (“The IG has a social status...”; “Within ISCTE, the IG has a status...”) on a scale from 1 (much lower than the [outgroup]) to 7 (much higher than the [outgroup]).

Similarity between Groups

Adapted from Schubert and Otten (2002), we applied one graphical item of similarity between groups. This item represents 7 graphical pictures with 2 circles of the same size placed on a horizontal line. The participants were asked to select the figure that better reflected the similarity between the ingroup and outgroup, in our study similarity between Human Resources students and Psychology students, or vice-versa, depending on the participant group. Values could range from 1 to 7, representing the graphical pictures, in which higher values indicate a higher similarity between groups.

Intergroup attitudes in the context of Employability and in the context of Bologna

We assessed intergroup attitudes for the relevant context and then for the non salient context. On the instructions we entered each context. With reference to the Bologna context the instructions were “the following affirmations refer to Human Resources students (or Psychology students) and the implementation of the Bologna process in ISCTE (e.g. superordinate category). For each affirmation indicate your degree of agreement”. With reference to the Employability context the instructions were “the following affirmations related the Human Resources students (or Psychology students) and Employability associated to ISCTE (e.g. superordinate category). For each affirmation indicate your degree of agreement”. Each participant had to rate 4 attitude items blocks, referring to the two salient contexts and depending on the target (ingroup and outgroup).

Intergroup attitudes were measured on two 7 point Likert-type scales (1= *completely disagree* to 7 = *completely agree*) of 8 items (identical for the ingroup and the outgroup).

In line with previous research on ingroup projection (Wenzel et al., 2003), we used items quantifying 4 aspects of attitudes towards groups: sympathy (e.g., “The group of [ingroup / outgroup] pleases me.”), desirability of contact (e.g., “I like to interact with [ingroup / outgroup].”), positive behavioral intentions (e.g., “If I heard [ingroup /outgroup] being severely criticized, I would defend them.”) and positive evaluation of differences or tolerance (e.g., “I believe [ingroup’s / outgroup’s] characteristics add value to [SC].”).

All measures used for assessing attitudes toward the outgroup as well as ingroup in the given context proved to be reliable (For attitudes toward the ingroup and the outgroup in the context of Bologna: $\alpha = .87$ and $\alpha = .80$, respectively; attitudes toward the ingroup and the outgroup in the context of Employability: $\alpha = .86$ and $\alpha = .78$, respectively).

Manipulation Check

Participants rated on a 7 point Likert-scale (1= *completely disagree* to 7 = *completely agree*) 4 items assessing the relevance of the two contexts. To assess relevance of the

Employability context ($\alpha = .76$), we presented to participants the following items: “When I think about IG of ISCTE the employment seems very important to me” and “When I think about OG of ISCTE the Employability seems very important to me”. For the Bologna context ($\alpha = .95$) we presented similar items, as follows: “When I think about IG of ISCTE, learning of Bologna seems very important to me” and “When I think about OG of ISCTE, learning of Bologna seems very important to me”.

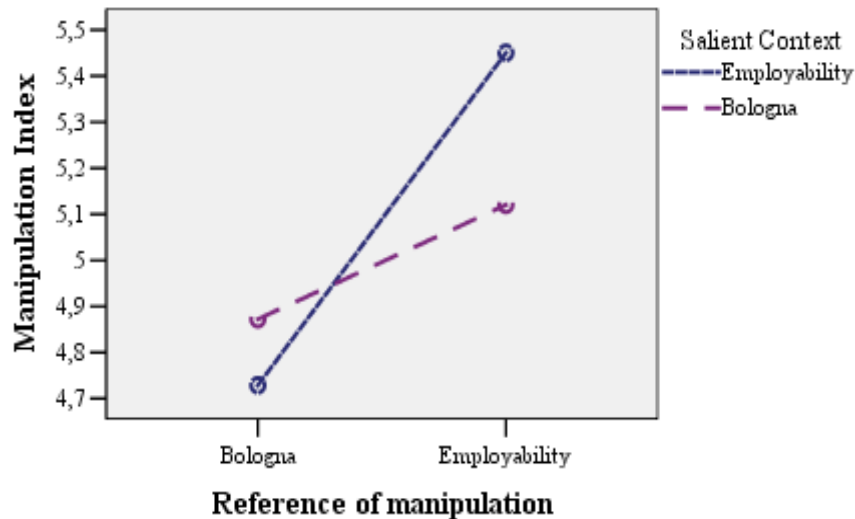
Results

Manipulation Check

In order to test the effectiveness of the manipulation of relevance we conducted a 2 (reference of manipulation check: context of ‘Bologna’ vs. context of ‘Employability’) x 2 (manipulation of salient context: Bologna vs. Employability) x 2 (order: IG/OG vs. OG/IG) vs. 2 (course: Human Resources vs. Psychology) mixed ANOVA with reference of manipulation check as within subject factor and the other factors as between subject factors.

Importantly, we obtained a main effect of context to which manipulation check was related, $F(1, 117) = 30.74, p < .001$ and an interaction effect of the salient context and the context reference of manipulation check, $F(1, 117) = 7.32, p < .001$. The context made salient through manipulation was rated as more relevant than the other one not salient (See Figure 3).

Figure 3. Effect of Reference on Manipulation Check of Salient Contexts.

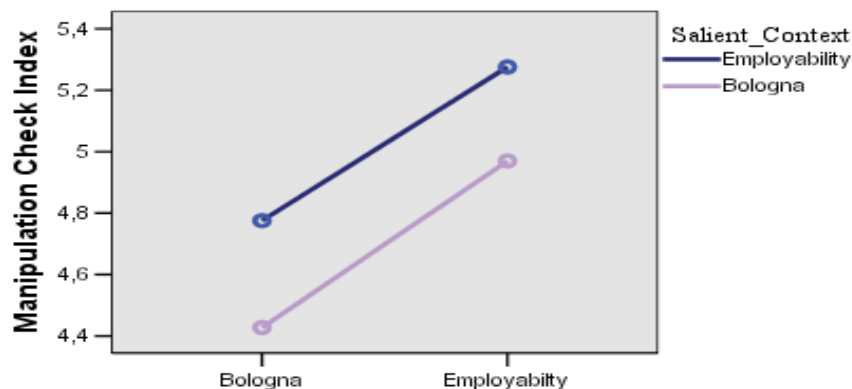


Thus, when Bologna context was made salient it was rated as more relevant than Employability ($M_{Bologna} = 4.87, SD = .127, M_{Employability} = 4.73, SD = .151$) and when Employability context was made salient it was also rated as more relevant than Bologna

context. ($M_{Employability} = 5.45, SD = .134, M_{Bologna} = 5.12, SD = .113$). Based on the ultimate results, we could conclude the success of manipulation. However, we have higher order effects, as we describe next.

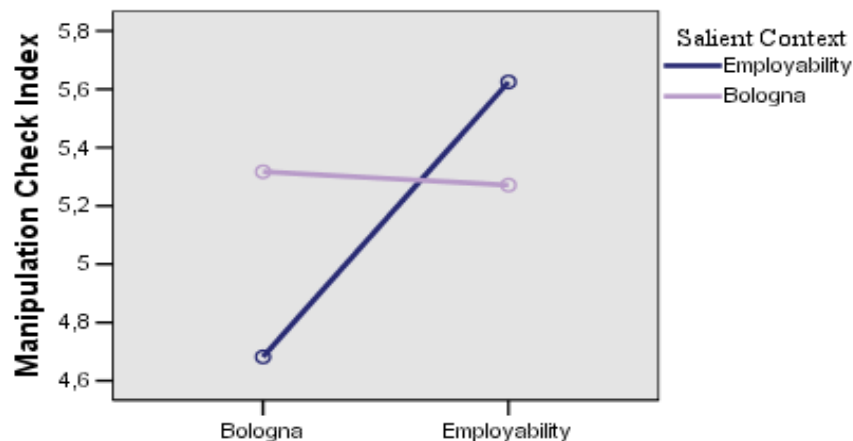
We obtained a significant three-way interaction of salient context of manipulation and context reference of manipulation check, with order $F(1, 117) = 8.68, p = .004$, meaning that, order also influenced the effect of salient context on the participants' answers in the manipulation check. The interaction with order shows that the manipulation was not equally successful in the two order conditions. With the purpose of understanding the differences with order, we repeated the analysis separately for the two orders of OG-IG and IG-OG evaluation (See figure 4 and figure 5).

Figure 4. Results of Manipulation Check in the Condition of Evaluation of the Ingroup First.



When the ingroup was evaluated first, the analysis revealed a main effect of area of attitudes only, $F(1,55) = 19.98, p < .001$. Specifically, for participants with order ingroup first, the context of Employability was seen as more relevant ($M = 5.03, SD = 0.19$) than was the context of Bologna ($M = 4.70, SD = 0.18$).

Figure 5. Results of Manipulation Check in the Condition of Evaluation of the Outgroup First.



When the outgroup was evaluated first, the main effect of manipulation, $F(1,55) = 11.91$; $p < .001$ was qualified by an interaction between area of attitudes and manipulation, $F(1,55) = 14.45$; $p < .001$. While in the conditions with salient context of Employability, the Employability was seen as significantly, $F(1,23) = 23.19$, $p < .001$, more relevant ($M = 5.62$, $SD = .15$) than the Bologna context ($M = 4.68$, $SD = 0.21$), this difference disappeared $F(1,39) = .080$; *ns.* in the condition of salient context of Bologna, ($M_{Employability} = 5.27$, $SD = .14$, $M_{Bologna} = 5.32$, $SD = .16$). Consequently, we considered that the manipulation was only completely successful when the outgroup was evaluated first. However, the interaction effect of manipulation, reference of manipulation check, order and course was also significant, $F(1, 117) = 4.41$, $p = .038$.

To sum up, because we did not expect effects of order and course on manipulation, the manipulation was not fully successful. The manipulation worked effectively in the condition in which the outgroup attitudes were measured first. These results of the manipulation check will be taken into account for the discussion of our main results.

Identification with the Ingroup and with the Superordinate Category

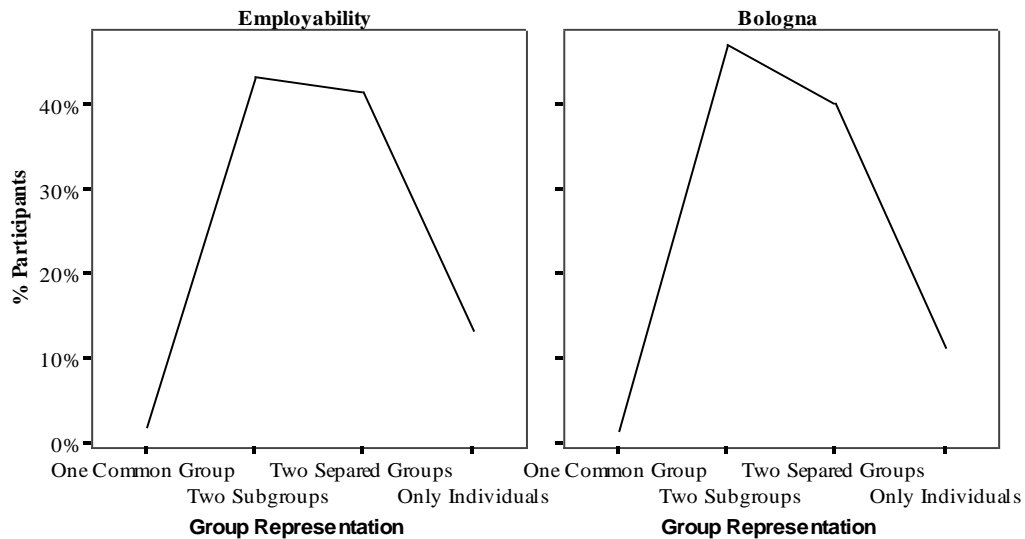
Independently of the relevant condition the participants were assigned to, in general, participants were highly identified with both the ingroup ($M_{\text{Employability}} = 5.21, SD = .61; M_{\text{Bologna}} = 5.02, SD = .86$) and the superordinate category (i.e., ISCTE) ($M_{\text{Employability}} = 4.97, SD = .74; M_{\text{Bologna}} = 4.73, SD = .82$). Thus, both Bologna and Employability were effective contexts for inducing participants' to identify at the two categorical levels of interest, the subgroup and the superordinate group of ISCTE students. As it is shown in the table 1, under each relevant condition, the levels of identification with the ingroup, as well as with SC, were significantly above the mid-point (i.e., 4), for identification with ingroup $t(124) = 18.82, p < .001$ two tailed, identification with SC $t(124) = 13.11, p < .001$ two tailed. The high levels of identification with IG and SC provided the adequate conditions for testing the effects of dual identity on the ingroup bias. However, participants exhibited higher levels of ingroup identification with subgroups ($M = 5.10, SD = .76$) than SC identification ($M = 4.83, SD = .79$). The difference between means of IG identification and SC identification was significant, $t(124) = 4.74, p < .001$ two tailed.

Group Representation

Regarding the group representations results (e.g., choosing the best group representation) 46% of participants in both conditions chose the dual identity representation (i.e., “two groups within one group”) as best describing the intergroup representation. When taking into account the two context conditions, dual identity representation was chosen by 47.2 % of participants in the Bologna context and by 43.4 % of participants in the Employability context (see figure 3). Even though the proportion of the dual representation choice was in agreement with our expectations, we were surprised to notice that the “two separate groups’ representation” was chosen too by a significant percentage of participants. Also, a low percentage of participants chose separate individuals representation in the Employability condition (13.2%), as in the Bologna condition (11.1%). In this last case, the lower percentage indicated that the group level was maintained and the memberships were salient. Moreover, the fact that almost nobody chose

the one-group representation indicated that the subgroup categorizations were rarely substituted by full recategorization as a common ingroup. Although the reported results above indicated some variance between the group variances, in fact we would not be able to test the effect of dual identity if we did not corroborate some variance of the predictor.

Figure 6. Divergent perceptions of Group Representations by Relevant Condition of Employability and Relevant Condition of Bologna



Means concerning the rating measure of group representation (i.e., the level of participants' agreement with the group representations) are displayed in Table 1. Results on this measure are not entirely coherent with the percentage pattern described earlier. That is to say, means of dual identity representation were higher in the Bologna condition than in the Employability one ($M_{Bologna} = 3.24$, $SD = 1.32$; $M_{Employability} = 2.64$, $SD = 1.23$; $t(124) = 2.94$, $p < .005$). Therefore, the separate group representation was the most chosen by participants in the Employability condition ($M = 2.85$, $SD = 1.32$).

The results pattern obtained (more separate groups representation agreement in the Employability context and more dual representation agreement in Bologna context) could be indicative that SC categories' effects depend on the context they are inserted in.

Table 1
Means and Standard Deviations of Identification and Group Representation 2 as Function of Relevant Conditions.

	Relevant Context			
	Employability		Bologna	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Identification Measures				
Ingroup Identification	5.21	.61	5.02	.86
SC Identification	4.97	.74	4.73	.82
Group Representation (#item 2-rating)				
One Common Group	1.72	.79	1.97	.92
Two Subgroups	2.64	1.23	3.24	1.32
Two Separate Groups	2.85	1.32	2.53	1.23
Only Individuals	2.21	1.31	1.90	.98

Group's Prototypicality and Relative Prototypicality

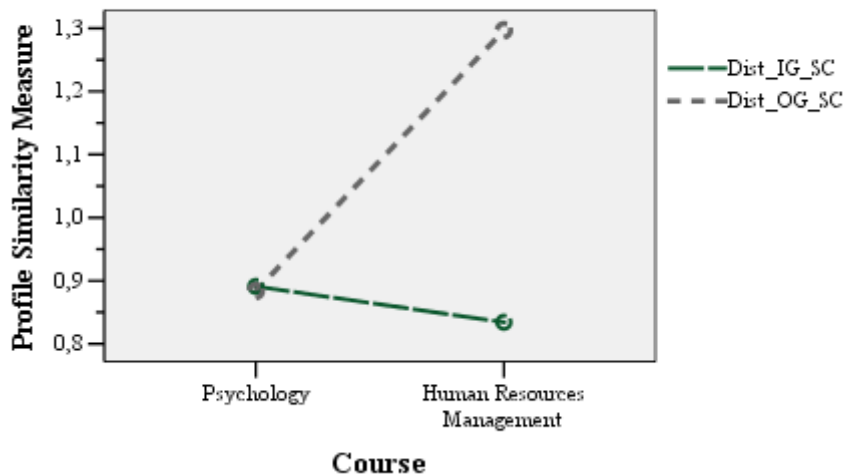
Profile Measure

In a 2 (target: ingroup vs. outgroup) x 2 (course: HR vs. Psychology) x 2 (order: ingroup first vs. outgroup first) x 2 (manipulation: Bologna vs. Employability) mixed-model ANOVA with the target as within-subjects factor and profile distance as dependent variable we found a significant main effect of target, $F(1, 117) = 20.76$; $p < .001$, which was qualified by an interaction of target with course, $F(1, 117) = 22.12$; $p < .001$. All the other effects were non significant.

As shown in the Figure 7, Human Resources students ($M = .84$, $SD = .40$) perceived themselves as more prototypical of the SC, and Psychology students as less prototypical to

the SC ($M = 1.29$, $SD = .59$). Conversely, Psychology students saw their ingroup ($M = .90$, $SD = .63$) and Human Resources students ($M = .88$, $SD = .63$) as equally prototypical of the SC.

Figure 7. Means of Ingroup' and Outgroup' Similarity to the Superordinate Category by Groups.

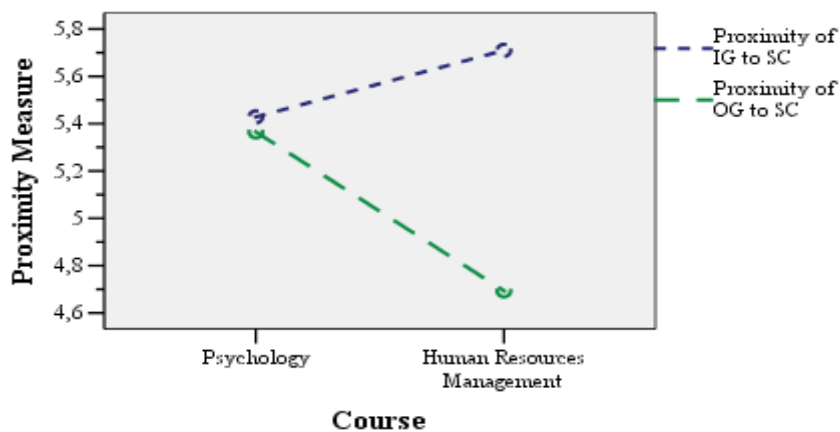


Pictorial Measure

In a 2 (target: ingroup vs. outgroup) x 2 (course: HR vs. Psychology) x 2 (order: ingroup first vs. outgroup first) x 2 (manipulation: Bologna vs. Employability) mixed-model ANOVA with the target as within-subjects factor and pictorial prototypicality as dependent variable we found a significant main effect of target, $F(1, 117) = 21.95$, $p < .001$, which was qualified by an interaction of target by course, $F(1, 114) = 18.05$; $p < .001$ and target by manipulation, $F(1, 114) = 5.06$; $p = .026$. All the other effects were non significant. The means of ingroup and outgroup proximity to the SC for each course were above the middle point of the scale (4), indicating that HR and Psychology students exhibited higher levels of prototypicality for the superordinate category of ISCTE students.

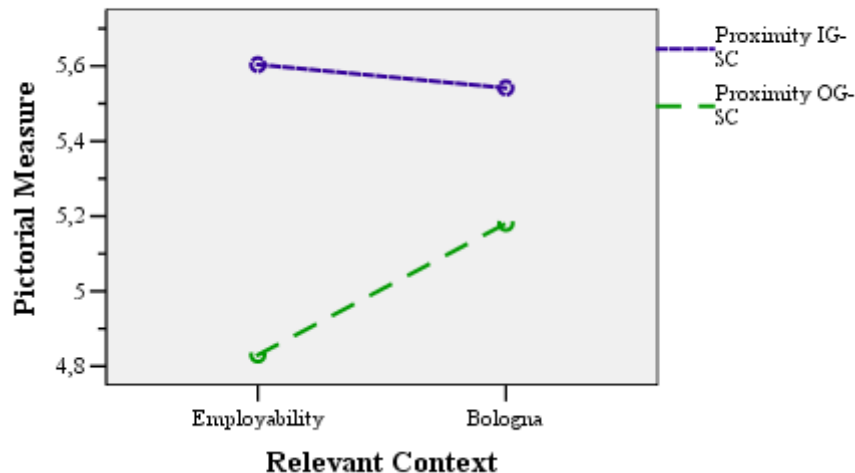
Replicating the findings of the profile measure, in comparison to the Psychology students, HR students allocated themselves closer to the superordinate category ($M = 5.71$, $SD = 1.35$), while Psychology students allocated their ingroup ($M = 5.43$, $SD = 1.74$) and the HR students equally ($M = 5.37$, $SD = 1.66$) close to the superordinate category (cf. Figure 8).

Figure 8. Means of Ingroup' and Outgroup' Proximity to the Superordinate Category by Groups.



Furthermore, as Figure 9 shows, the interaction with the manipulation of relevant context indicated that when the Bologna context was salient the outgroup' SC proximity was larger ($M = 5.18$, $SD = 1.34$) than when the Employability context was salient ($M = 4.83$, $SD = 1.73$).

Figure 9. Means Of Ingroup' and Outgroup' Proximity to the Superordinate Category by Relevant Condition.



Declarative Measure

Both students groups when thinking about the SC, were more likely to think first of their own group (#item 1). The means were below the mid-point (4, note that lower values represent higher prototypicality), for HR students ($M = 2.56$, $SD = .97$) and Psychology students. ($M = 2.63$, $SD = 1.05$).

When asked about which group they would use as an example if they have to describe the SC (#item 2), the participants revealed also the tendency to use to their own group for the description of SC.

In order to consider the declarative measure in the further analyses, we computed the index of the means of two items. As figure 10 shows, results were lower for HR students ($M = 2.67$ $SD = .93$) than for Psychology students ($M = 2.87$ $SD = 1.06$). The results were consistent with the results reported previously, in both items, HR students perceived their ingroup as more prototypical relative to the Psychology students (cf. table 2).

Figure 10. Means of Declarative Measure of Prototypicality by Course.

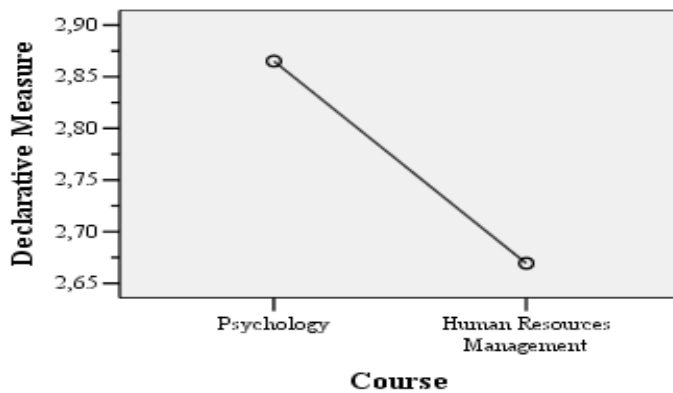


Table 2

Means and Standard Deviations of Prototypicality Measures as Function of Course.

Prototypicality Measures	PSY		HR	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Profile Similarity Measure				
<i>Distance ingroup – SC</i>	.90	.47	.84	.40
<i>Distance outgroup – SC</i>	.88	.63	1.29	.59
Relative ingroup prototypicality (dist. outgroup- dist. ingroup)	-.01	.51	.44	.56
Pictorial Measure				
<i>Proximity ingroup to SC</i>	5.43	1.74	5.71	1.35
<i>Proximity outgroup to SC</i>	5.37	1.66	4.69	1.56
Relative ingroup prototypicality (prox. ingroup- prox. outgroup)	.06	1.52	1.02	1.03
Declarative Measure				
Item 1	2.63	1.05	2.55	.97
Item 2	3.10	1.29	2.79	1.01
Declarative Index	2.87	1.06	2.67	.93

Attitudes towards the Ingroup and the Outgroup

All participants' attitudes towards the ingroup and towards the outgroup were assessed in both contexts, namely the context which was salient and also in the context that was not salient. Therefore, we created 4 indexes for the attitudes measures¹⁷, to be precise, an index for attitudes towards the ingroup in the context of Bologna, an index for attitudes towards the outgroup in the context of Bologna, as well as an index for attitudes toward the ingroup in the context of Employability and an index for attitudes toward the ingroup in the context of Employability.

All the means for both ingroup attitudes and outgroup attitudes were significantly above the mid-point (4). Put it otherwise, groups evaluated each other in positive terms, when the attitudes reference was Bologna the participants evaluated positively the own group ($M = 5.17$, $SD = .91$), $t(124) = 14.43$, $p < .001$ and positively evaluated as well the outgroup ($M = 4.51$, $SD = .56$), $t(124) = 10.29$, $p < .001$. The same happened when the attitudes reference was Employability and participants evaluated the ingroup, ($M = 5.37$, $SD = .87$), $t(124) = 17.54$, $p < .001$ as well as the outgroup ($M = 4.39$, $SD = .57$), $t(124) = 7.54$, $p < .001$. above the mid-point

However, in line with previous research on ingroup bias, groups tended to favor social group they belong to (ingroups) over group they do not belong to (outgroups). We reduced the four indexes of attitudes by computing in two variables, ingroup attitudes and outgroup attitudes. By this procedure we concluded that attitudes were more positive in the ingroup scales, ($M = 5.26$, $SD = .82$) than in the outgroup scales ($M = 4.45$, $SD = .48$, $t(124) = 11.94$, $p < .001$

¹⁷ We computed the mean of the eight items for each measure

Ingroup Bias and Order

To compose the ingroup bias measures, we computed the mean differences between attitudes toward the ingroup and toward the outgroup in the Bologna context. We repeated this process as well for attitudes toward the ingroup and toward the outgroup in the Employability context.

In a 2 (reference of attitudes: Bologna vs. Employability) x 2 (course: HR vs. Psychology) x 2 (order: ingroup first vs. outgroup first) x 2 (manipulation: Bologna vs. Employability) mixed-model ANOVA with the target as within-subjects factor and ingroup bias measures as dependent variables we found significant main effects of reference of attitudes, $F(1, 117) = 25.93, p < .001.$, order, $F(1, 117) = 8.36, p < .001$ and course, $F(1, 117) = 15.67, p < .001.$ Ingroup bias was stronger when the attitudes reference was Employability ($M = .98, SD = .862$), also stronger when the outgroup is evaluated first ($M = .74, SD = .116$), and finally also stronger for HR students ($M = .77, SD = .134$), see Table 3.

Table 3

Means and Standard Deviations of Ingroup bias as Function of Order and Course.

		Bologna		Employability	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Order	Outgroup First	.79	.70	1.16	.89
	Ingroup First	.51	.77	.78	.79
Course	Psychology	.55	.78	.62	.72
	Human Resources Management	.77	.69	1.34	.84

Interestingly, the two-way interaction of order and reference of attitudes, $F(1, 117) = 11.16, p < .001$, indicated stronger ingroup bias when attitudes reference was Employability context but only when the outgroup is evaluated first. Additionally, a two-way interaction

between course and attitudes' reference $F(1, 117) = 15.41, p < .001$, indicated stronger ingroup bias for HR students when the attitudes' reference was the Employability context. The two interactions were qualified by a three way interaction of order, course and reference of attitudes $F(1, 117) = 9.94, p < .001$. The ingroup bias was higher for HR but only when the outgroup was evaluated first and the context of Employability was salient.

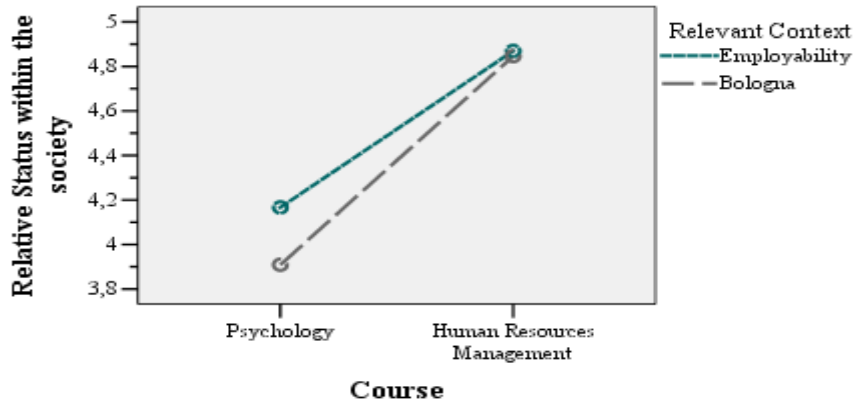
Regarding to the manipulation, non significant main effects or interaction effects on ingroup bias were found.

Divergence of Perceptions of Relative Status as Function of Groups and Salient Conditions

Independently of the relevant context there were significant differences between groups. Human Resources students reported perceptions of higher status within the society ($M = 4.90, SD = .89$), while Psychology Students reported perception of equal status ($M = 4.03, SD = .80$), $t(121) = 4.61, p < .001$. The same pattern was obtained in the item 2(i.e. perceptions of status within ISCTE), Human Resources students ($M = 4.66, SD = .801$), Psychology Students ($M = 4.39, SD = .689$), $t(124) = 3.04, p < .001$.

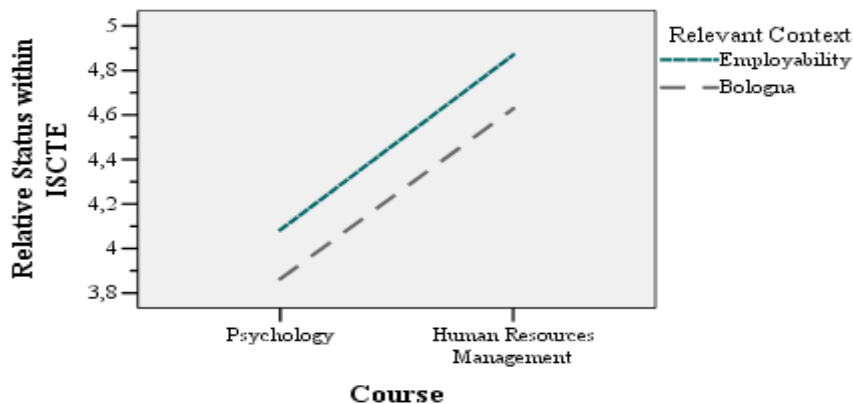
Regarding to the perception of status differences within society as function of context and course, as displayed in figure 11, we found that equal status perception Psychology students was more expressive in the relevant context of Bologna ($M_{\text{Bologna}} = 3.91, SD = .68$; $M_{\text{Employability}} = 4.87, SD = .913, t(121) = 2.09, p < .05$) but for Human Resources students the higher perception of status was similar in the contexts ($M_{\text{Bologna}} = 4.92, SD = .97$; $M_{\text{Employability}} = 4.87, SD = .920, t(121) = .29, p = .77$), non significantly higher in the Bologna condition.

Figure 11. Relative Status within the Society as Function of Groups and Relevant Conditions



Furthermore, the analyses of perception of status within the ISCTE (#item 2) among the relevant context and course, as it is displayed in figure 12, allowed us to conclude that the higher perception of status by HR students is even more higher in the relevant context of Employability ($M_{\text{Employability}} = 4.92$, $SD = .967$; $M_{\text{Bologna}} = 4.87$, $SD = .76$, $t(121) = 13.11$, $p < .001$.) The equal status perception Psychology students was more expressive in the relevant context of Bologna ($M_{\text{Bologna}} = 3.91$, $SD = .68$; $M_{\text{Employability}} = 4.17$, $SD = .91$, $t(121) = 13.11$, $p < .001$.)

Figure 12. Relative Status within ISCTE as Function of Groups and Relevant Conditions



The Effect of Dual Identity on Ingroup Bias: Moderation Analyses

In order to test of the moderation hypothesis we performed hierarchical multiple regression analyses following the Aiken & West (1991) recommendations. We centered categorical variables, created dummy variables for continuous variables and interaction terms represented by product-scores, described in advanced.

Relevance as Moderator

The first hypothesis predicted that relevance moderate the relation between dual identity and ingroup bias. Dual identity measures include the measures usually applied by CIIM, namely group representation and IPM, ingroup and superordinate identification measures.

We start with the report of the results over dual identity representation (i.e. Group representation) as the predictor in our analyses and ingroup bias measures as dependent variables.

In the first step of the moderation analysis, we regressed ingroup bias measures on dummy-coded variables representing SC Relevant Context (Bologna= 1, Employability= 0), Order (OG/IG = 0, IG/OG = 1), Course (PSY = 0, HR = 1 and on dual representation centered).

The regression model of the first step was not significantly predicting ingroup bias related to Bologna, $R^2_{adjusted} = .06$, $Fchange(4, 120) = 1.98$; $p = .10$. The only significant predictor was order ($\beta = -.20$, $p = .03$), indicating that ingroup bias related to Bologna was stronger in the condition with outgroup measures first. Following we entered the two-way interactions as additional predictors which did not significantly increase the explained variance, $Fchange(1, 119) < 1$; $p = .90$.

Regarding to the regression predicting ingroup bias related to Employability, in the first step the regression was significant, $R^2_{adjusted} = .24$, $Fchange(4, 120) = 9.62$; $p < .001$. The significant predictors were course ($\beta = .43$; $p < .001$) and again order ($\beta = -.20$; $p = .02$). However, the second step did not significantly increase the explained variance, $Fchange(1, 119) < 1$, $p = .60$.

To sum up, the data did not support the first hypothesis as dual identity representation was unrelated to ingroup bias, neither in the condition in which the context was relevant, nor in the condition when the context was irrelevant.

Concerning to identification measures we follow the steps for test moderation as we did for dual identity representation. First, we regressed ingroup bias measures on dummy-coded variables representing SC Relevant Context (Bologna= 1, Employability= 0), Order (IG/OG = 1, OG/IG = 0), Course (PSY = 0, HR = 1) and the centered variables of ingroup identification and superordinate identification. In the second step we entered the two way interactions of relevant context and the identification measures as well as the interaction between the two identification measures as a predictors. In the third step, the three way interactions entered as a predictors.

For ingroup bias related to Bologna, in the first step, $R^2_{adjusted} = .22$, $F_{change}(5, 119) = 6.88$, $p < .001$, the only significant predictor was ingroup identification ($\beta = .39$, $p = .002$). For ingroup bias related to Employability, in the first step, $R^2_{adjusted} = .35$, $F_{change}(5, 119) = 12.78$, $p < .001$, the significant predictors were ingroup identification ($\beta = .34$, $p = .003$), course ($\beta = .44$, $p < .001$) and order ($\beta = -.16$, $p = .04$).

For both favoritism measures, neither the second nor the third step increased the explained variance.

To sum up, again we did not find support for the first hypothesis, because the interaction between the two identification measures was not related to ingroup bias and did not interact with the relevance manipulation.

Status as Moderator

Before inserting status in the equations we created a new variable relative status with the average of the original two measures of relative status (within SC and within society). Next, we recoded this variable into three different categories: lower status (<4), equal status (4) and higher status (>4). Subsequently, we recoded the status into status dummy variables. In order to test the effect of dual identification and ingroup bias among participants with equal status perceptions we created a dummy variable considering the equal status importance toward the unequal status conditions of lower and higher status

perceptions (0,1,0). For testing the effect of dual identification and ingroup bias among participants with high status perception we created a second dummy variable (0,0,1).

Following we present the results of the regression with group representation measures as predictors, for each dependent variable, namely, ingroup bias measures (i.e. related to Employability; related to Bologna).

In the first step, considering the divergent perception of status between Courses obtained in the preliminary results, we entered in the regression Course as a control variable as well as Order, and Relevant Context and other Group Representation variables than dual identity (Only Individuals, Two Separate Groups, and One Common Group). The regression was significant with both dependent variables, ingroup bias related to Bologna with $F(6,118) = 2.65; p = .019$ explaining 7.4% of variance and for the ingroup bias related to Employability with $F(6,118) = 7.21; p < .001$ explaining variance for 23.1%.

In the next step we entered in the regression Dual Identity Representation and the two status dummy variables representing the equal vs. unequal status conditions and the higher status vs. equal/lower status conditions. This step did not significantly increase the explained variance for ingroup bias related to Bologna, with $F_{change}(3,115) = 1.94; p = .127$, but it did marginally significant for ingroup bias related to Employability, with $F_{change}(3,115) = 2.589; p = .056$, with the regression explaining 26.1% of variance, $F(9,115) = 5.87; p < .001$.

In the final step we introduced the following interaction terms: equal status dummy variable* dual identity representation centered variable and higher status dummy variable * dual identity representation centered variable. For ingroup bias related to Employability the last step did not significantly increase the explained variance, with $F_{change}(2,113) = 1.49; p = .230$. It did, however, marginally significantly increase explained variance of ingroup bias related to Bologna $F_{change}(2,113) = 1.94; p = .072$, with the final regression explaining 12.1% of variance, $F(11,113) = 2.56; p = .006$. In the last step, the coefficient analyses indicated that the interaction between the equal status dummy variable and dual identity representation was negatively predicting ingroup bias with reference to Bologna ($\beta = -.340; p = .024$) and, though only marginally ingroup bias with reference to Employability ($\beta = -.23; p = .090$).

The interaction between higher status dummy and dual identity representation was not significant, neither for ingroup favoritism referring to Bologna ($\beta = -.212$; $p = .189$), nor for ingroup favoritism referring to Employability ($\beta = -.197$; $p = .182$).

Separate regression analyses revealed that dual identity representation increased ingroup bias referring to Bologna ($\beta = .50$; $p = .001$) and Employability ($\beta = .30$; $p = .028$) for participants with unequal status perception and decreased ingroup favoritism referring to Bologna ($\beta = -.53$; $p = .033$), but not referring to Employability ($\beta = -.04$; $p = .87$), for those with equal status perception.

Next, we present the results of the regression with identification measures as predictors.

In the first step we entered Course, Order, and Relevant Context and Ingroup and Superordinate Identification centred variables as predictors in the regression, which was significant with both dependent variables, ingroup bias related to Bologna with $Fchange(7,117) = 5.28$; $p < .001$ and 19.5 % of explained variance and ingroup bias related to Employability with $Fchange(7,117) = 9.67$; $p < .001$; $R^2_{adjusted} = .329$. In the second step we added the following the interaction terms created previously: Equal Status dummy variable* Ingroup Identification centred variable; Equal Status dummy variable* Superordinate Identification centred variable; Higher Status dummy variable * Ingroup Identification centred variable; Higher Status dummy variable * Superordinate Identification centred variable. The second step increased the explained variance of ingroup favouritism related to Bologna marginally, $Fchange(5,112) = 1.96$; $p = .090$, but not for Ingroup bias related to Employability, $Fchange(5,112) = 1.53$; $p = .185$. The increase for ingroup favouritism related to Bologna in the second step, $Fchange(14,110) = 3.76$, $p < .001$, $R^2_{adjusted} = .24$, was due to a significant interaction between the equal status dummy variable and identification with the superordinate category ($\beta = .50$; $p = .013$)

In a third model we entered the interaction terms representing the three way interactions, namely, Equal Status dummy variable * Ingroup Identification centered variable*Superordinate Identification centered variable, higher status dummy variable * Ingroup Identification centered variable*Superordinate Identification centered variable. The three interaction terms combined one of the Status variable and the equivalent of a dual

identity which corresponds to the ingroup identification and superordinate category. We did not find significant effects of the three-way interactions meaning that there is no evidence for the moderation of dual identification effects by status regarding to ingroup bias with reference to Bologna, $F_{change}(2,110) = 1.81; p = .168$ or to Ingroup bias related to Employability, $F_{change}(2,110) = 0.52; p = .594$.

To sum up, the results of the effect upon the identification measures were not as informative as those obtained when analyzing the group representation measures. For the representation measures we could not find evidence supporting our second hypothesis. However, we found an interesting, though unpredicted, moderation by equal vs. unequal status perception. For participants perceiving equal status dual identity representation decreased ingroup favoritism as predicted by the CIIM, however, only when the measures referred to the Bologna context, not when they referred to the Employability context. For participants perceiving unequal status, that is either higher or lower relative ingroup status, dual identity representation increased ingroup favoritism as predicted by the IPM, and this applied to both attitudes referring to Bologna and attitudes referring to Employability.

The Effect of Dual Identity on Ingroup Bias: Mediation of Prototypicality

According to our third hypothesis, we expected that relative prototypicality mediates the relation between dual identity and ingroup bias. Therefore mediation analyses were conducted following the Baron & Kenny's recommendations for mediation analyses (1986). In order to test the hypothesis 3 we created one composite score of relative prototypicality, as a combination of the three measures of relative prototypicality (e.g. profile measure, pictorial measure and declarative measure). Once prototypicality measures had different metrics we standardized¹⁸ them. The mean of the standardized measures served as new composite measure, which was entered as mediator variable in the regression.

For the test of mediation we composed an index of both ingroup favoritism measures and entered it as dependent variable in the regression. We also took into account the results

¹⁸ Standardization is linear transformation of raw scores, so that the new distribution has a mean of 0 and a standard deviation of 1. calculate: $z_i = (x_i - M_x) / DP_x$

of the moderation analyses and, thus, separated the analyses for participants with unequal and equal status perception.

Dual Identity Representation as predictor

Although for the test of hypothesis 3, we only were interested in the dual identity representation, in order to control the other group representations we entered all group representations in the regression and also Course, Relevant Context and Order as covariates.

The first regression, with group representation predicting the ingroup bias was significant only for participants with unequal status perception with $F(7,70) = 6.54$; $p < .001$; $R^2_{adjusted} = .335$, with significant results for dual identity representation ($\beta = .44$; $p < .005$) and two separate groups representation ($\beta = .47$; $p < .001$).

For participants with unequal status perception, group representation predicted also prototypicality in a second regression, $F_{change}(7,70) = 4.87$; $p < .001$; $R^2_{adjusted} = .260$, with significant effects of course ($\beta = .51$; $p < .001$) and dual identity representation. ($\beta = .29$; $p = .041$).

Dual identity representation did not predict prototypicality for participants with equal status perception ($\beta = .12$; $p = .61$), as the significant regression, $F_{change}(7,39) = 2.54$; $p = .030$; $R^2_{adjusted} = .190$, only indicated significant effects of Course ($\beta = .28$; $p = .048$) and Salient Context ($\beta = -.29$; $p = .049$).

When we entered ingroup bias as dependent variable, the covariates and group representation measures as predictors and additionally the mediator Prototypicality, the regression was significant for participants with unequal status perception, $F_{change}(8,69) = 6.37$; $p < .001$; $R^2_{adjusted} = .358$. Apart from significant effects of the two separate groups representation ($\beta = .42$; $p < .001$), Course ($\beta = .27$; $p = .018$) and Order ($\beta = -.214$; $p = .039$), prototypicality had only a marginal effect ($\beta = .21$; $p = .065$) and the effect of dual identification on ingroup bias was still significant, ($\beta = .38$; $p = .007$). The *Sobel test* revealed that the indirect effect of dual identity representation on ingroup bias via relative ingroup prototypicality was not significant, $t = 1.39$, $p = .16$. Although the pattern was

consistent with hypothesis 3, we did not find support for mediation as results were not significant for the overall sample.

Identification Measures as predictor

Similarly to the test of hypothesis 3 with group representation measures, we entered the Course, Salient Context and Order as covariates in the regression with identification measures (IG and SC identification) as predictors.

The first regression results proved that identification measures predict more the ingroup bias in unequal status conditions with $Fchange(5,72) = 10.80$; $p < .001$; $R^2_{adjusted} = .389$ than in equal status condition with $Fchange(5,41) = 3.60$; $p = .009$; $R^2_{adjusted} = .220$. When we look for the coefficients significance, while the IG identification was significant in the unequal conditions, the SC identification was significant in the equal condition and both always increased ingroup bias. Therefore, the first step of the regression adding the product term representing the dual identity (interaction between IG and SC identification) was not significant neither for unequal conditions, $Fchange(1,71) = 1.14$; $p = .288$; $R^2_{adjusted} = .390$, or for equal condition, $Fchange(1,40) = .34$; $p = .562$; $R^2_{adjusted} = .207$.

Identification measures predicted also prototypicality in a second regression. The unequal status conditions with $Fchange(5,72) = 9.39$; $p < .001$; $R^2_{adjusted} = .353$, yield significant effects for IG identification ($\beta = .30$; $p = .035$) and for Course ($\beta = .50$; $p < .001$). The equal status condition with $Fchange(5,41) = 2.80$; $p = .029$; $R^2_{adjusted} = .164$, yield significant effects of Salient Context ($\beta = .29$; $p = .041$). The second regression with dual identity interaction term was also significant for both conditions, meaning that dual identity predicted prototypicality, independently of the status condition. For unequal status conditions $Fchange(1,71) = 6.70$; $p = 0.12$; $R^2_{adjusted} = .400$; dual identity significant ($\beta = .31$; $p = .012$). For equal condition, $Fchange(1,40) = 4.72$; $p = .036$; $R^2_{adjusted} = .233$, dual identity significant ($\beta = .32$; $p = .036$).

When we entered in the first regression model identification measures as predictors and the mediator Prototypicality, and ingroup bias as dependent, the regression was significant for unequal status condition with $Fchange(6,71) = 9.32$; $p < .001$; $R^2_{adjusted} =$

.393 and not significant for equal condition with $Fchange(6,40) = 3.66; p < .005; R^2_{adjusted} = .272$. In what regards to the regression with dual identity term, the regression was once more not significant neither for unequal $Fchange(1,70) = .55; p = .461; R^2_{adjusted} = .389$, or equal status condition $Fchange(1,39) = .01; p = .973; R^2_{adjusted} = .253$. Consistent with the mediation hypothesis, relative ingroup prototypicality predicted marginally ingroup favoritism of participants with equal status perception ($\beta = .29; p = .070$). However, the *Sobel test* revealed that the indirect effect of the interaction between the two identification variables on ingroup favoritism via prototypicality was not significant, $t = 1.41, p = .16$. Thus, the prototypicality mediation hypothesis was not confirmed in the relation between dual identity and ingroup bias.

However, as the first and second regression yielded significant results for IG identification for participants with unequal status perception, we tested an indirect effect of mediation applying the *Sobel Test*. In fact the *Sobel test* confirmed an indirect effect of IG identification on Ingroup bias mediated by relative ingroup prototypicality among group members with unequal status perceptions, $t = 2.32; p = .020$.

General Discussion

The starting point of this master dissertation was the contradictory results obtained in research combining dual identity and ingroup bias, namely CIIM and IPM. Although the two models were extensively validated with a large number of studies in different intergroup contexts and present common theoretical roots (SCT), they make opposite predictions about the consequences of having a common ingroup identity for intergroup relations. We addressed the question of inconsistency results between models take into account moderator variables, specifically, relevance of the superordinate category and perception of relative status.

Contrary from what we expected in the first hypothesis, the evidence did not indicate relevance of the superordinate category as a moderator of the relation between dual identity and ingroup bias. Although the contexts made salient were previous selected and manipulation of relevance was successful, the impact of each context in the participants may be discussed in the light of the manipulation check results: the interesting finding is that the Bologna context was never more important than the Employability context. We can speculate that despite our assumption of comparable levels of the relevance of the contexts, the Employability context can be considered to be in general more relevant (without making it salient). In addition preliminary results of prototypicality indicate more proximity to the superordinate category in Employability context. Bologna might be function as cooperative context did and Employability, in turns, as a more competitive context. More research about relevance of the superordinate category and specifically the intergroup context in which the superordinate category remains, may be important. As stressed by Mummendey and Wenzel (1999) Germans generally have negative attitudes toward Turks living in Germany, but when the context was holidays in Turkey, they might have more positive attitudes toward Turks.

In what regards to the moderation of status on relation between dual identity and ingroup bias, although we did not found direct evidence for the second hypothesis, more detailed analyses yield interesting results for unequal and equal status perceptions.

The interesting finding was that among unequal status members dual representation measure usually applied by CIIM was the only dual identity measure significant, increasing ingroup bias either related to Bologna either related to Employability, which is contrary to the CIIM and in accordance with IPM propositions.

Among equal status members moderation results were in line with Allport's Contact Hypothesis of positive contact between groups in equal conditions, latter followed by CIIM. Equal status dual identity representation decreased ingroup bias but only for Bologna Condition.

Using the dual representation measure or dual identification measure prototypicality mediation was not confirmed as a mediator between the relation between dual identity and ingroup bias. Despite of this fact, we believe that in the unequal status conditions the results were suggestive of mediation, because the regression of the dual identification was significantly predicting ingroup bias, and it was also for prototypicality predicting bias. We might consider that the non significant result of prototypicality was due to the high significances of order, course and relevance. Otherwise, the results could be in the direction of a moderation mediation.

Last but not least, evidence support an indirect effect of prototypicality mediation in the relation between ingroup identification and ingroup bias, which was again in a positive direction, meaning that for participants of unequal status that exhibited ingroup identification project they own attributes onto the superordinate category and thus to a stronger ingroup bias.

Overall the more expressive results were according to the IPM model, dual identification always increased bias for unequal status group. The unequal and the equal groups should be more clearly addressed in further research.

Strengths and Limitations of the Study

From a methodological point, we look for scales extensively tested. The identification measure used for the ingroup identification and used as well for the common ingroup

identification was carefully selected and several reasons were intrinsic to this selection. First, as an independent variable dual identity is not easy to operate and even more difficult for manipulation. The operationalization theoretically includes additive effects (like two main effects of IG and SC) as well as non-additive effects (such as interaction). Waldzus and colleagues (2003) used median-splits for both variables and then the authors build a contrast variable with 3 for the condition high-high and -1 for the other conditions (low-low, high-low, low-high). However, median-splits can produce false interaction effects and one also loses information. They are particularly problematic when the two variables are correlated. Further research is necessary to develop and validate direct measures of dual identity.

Second, the identification itself is a rich concept with emotional and behavioral antecedents and consequents. For that reason we chose a very recent measure, which is based in multi-components tested previously.

In what concerns to the attitudes measures, the participants had to rate four different scales which only vary as function of context and target group. Perhaps reducing the number of items the participants could be necessary.

A limitation of the presented experiment is related to an ambitious design, it was an eight cell conditions design, which might be restricted the power of the study. An alternative to this issue should be keeping constant the order as outgroup first. In fact the effect of order in the groups' evaluation was validated in a considerable number of studies (e.g. Otten, 2002).

Based on the present research, overall IPM was the prevalent model.

Questions related to the opposite evidence gathered for both models, CIIM and IPM remain without an effective answer. However, we believe that the results of unequal and equal conditions provided valuable information for intergroup relations research in general and specifically in direction of resolve inconsistencies between the two models.

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